

Date MAR 24 1987

STATE OF VERMONT AGENCY OF TRANSPORTATION

F. R. LAFAYETTE, INC.
Contractor

Elaine P. Lafayette
Signature

Vice President
Title

Joe C. Crampton
Transportation Secretary's Signature

PROPOSED IMPROVEMENT

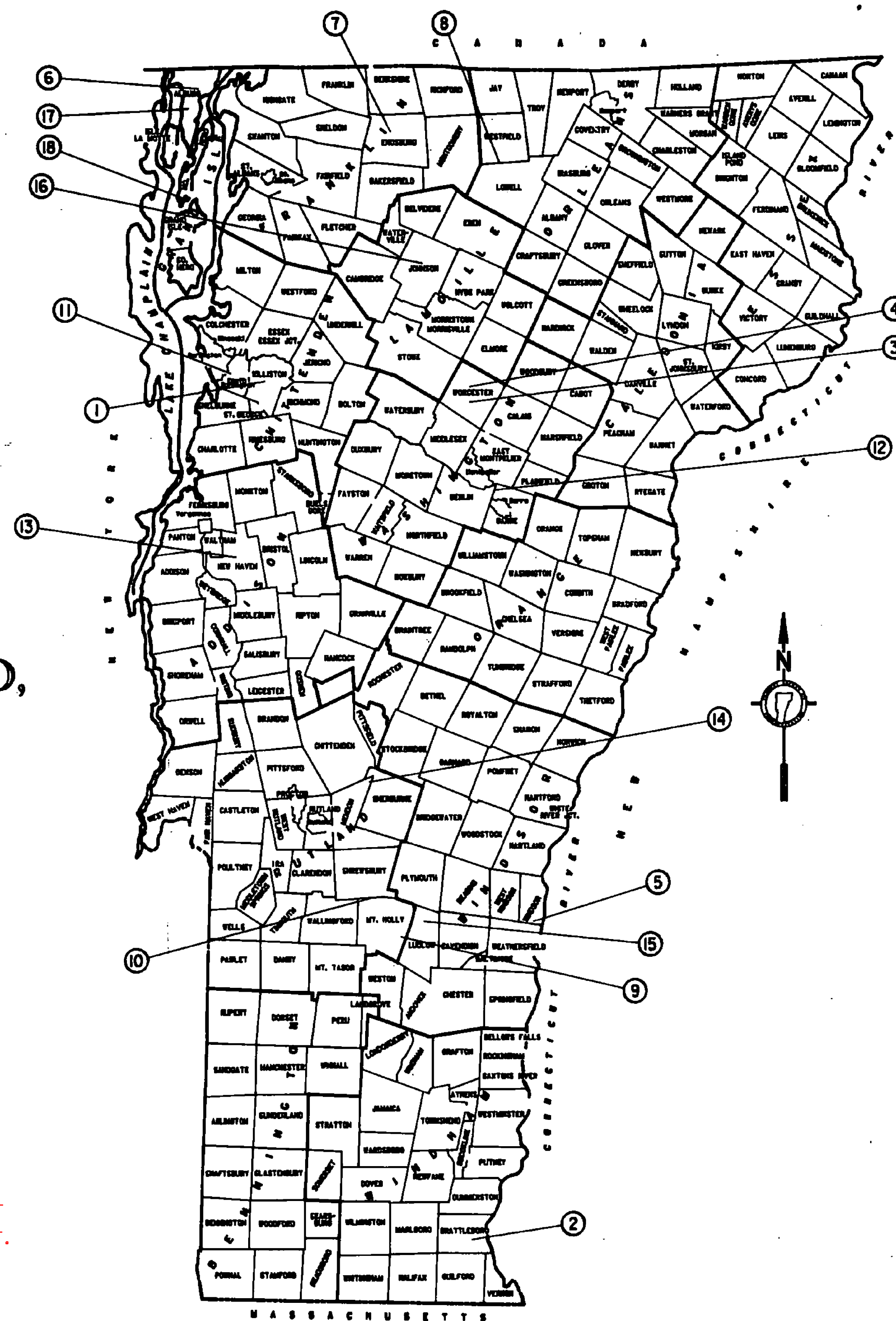
TOWNS OF WILLISTON, BRATTLEBORO, NEW HAVEN, WORCESTER, NORTH HERO-GRAND ISLE, BERLIN- BARRE, WEATHERSFIELD-WINDSOR, ALBURG, LUDLOW- MT. HOLLY-SHREWSBURY, ENOSBURG-LOWELL-WESTFIELD, SO. BURLINGTON, MENDON-SHERBURNE, AND JOHNSON

WORK PERFORMED UNDER THIS PROJECT INCLUDES UPGRADING SUBSTANDARD GUARD RAIL, UPGRADING SUBSTANDARD BRIDGE RAIL, LEDGE REMOVAL OR LEDGE PROTECTION, TREE CUTTING, UPGRADING SIGNS AND SIGN SUPPORTS, AND OTHER SAFETY IMPROVEMENTS WITHIN THE LIMITS OF THE 1985 PAVING PROGRAM.

- 1 WILLISTON VT 2-A MM 0.000-1.528
- 2 BRATTLEBORO US 5 MM 4.519-5.497
- 3 WORCESTER SECT.1 VT 12 MM 1.400-1.761
- 4 WORCESTER SECT.2 VT 12 MM 1.903-3.973
- 5 WEATHERSFIELD-WINDSOR US 5 WEATHERSFIELD MM 6.389 TO WINDSOR MM 1.278
- 6 ALBURG US 2 MM 2.759-3.422
- 7 ENOSBURG VT 105 MM 0.000-0.464
- 8 LOWELL-WESTFIELD VT 100 LOWELL MM 2.650 TO WESTFIELD MM 4.686
- 9 LUDLOW-MT HOLLY-SHREWSBURY VT 103 SECT 1 LUDLOW MM 4.059 TO MT HOLLY MM 1.626
- 10 LUDLOW-MT HOLLY-SHREWSBURY VT 103 SECT 2 SHREWSBURY MM 2.176-3.942
- 11 SOUTH BURLINGTON US 7 MM 0.529-1.738
- 12 BERLIN-BARRE VT 63 BERLIN MM 0.000 TO BARRE MM 2.910
- 13 NEW HAVEN VT 17 MM 3.455-5.000
- 14 MENDON-SHERBURNE US 4 MENDON MM 1.254 TO SHERBURNE MM 2.350
- 15 LUDLOW VT 100 MM 5.040-5.191
- 16 JOHNSON VT 15 MM 3.927-4.277
- 17 ALBURG US 2 MM 4.683-4.825
- 18 NORTH HERO - GRAND ISLE US 2 NORTH HERO MM 9.050 TO GRAND ISLE MM 0.200

CONTRACT PLANS

THESE PLANS DO NOT REFLECT
CHANGES MADE ON THE PROJECT.



- #### CONVENTIONAL SIGNS
- COUNTY LINE ————
 - TOWN LINE ————
 - LIMITS OF ACCESS ————
 - POINT OF ACCESS X
 - FENCE LINE ————
 - STONE WALL ————
 - TRAVELED WAY ————
 - GUARD RAIL ————
 - RAILROAD ————
 - SURVEY LINE ————
 - CULVERT ————
 - POWER POLE ————
 - TELEPHONE POLE ————
 - TREES ————
 - CONTROL OF ACCESS ————
 - PROPERTY LINE ————
 - R.O.W TAKING LINE ————
 - SLOPE RIGHTS ————
 - TOP OF CUT ————
 - TOE OF SLOPE ————

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FHWA OR THE DIRECTOR OF PLANNING AND PRECONSTRUCTION DEPT. CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1986, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON NOVEMBER 21, 1985 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD

APPROVED Arthur J. Ross DATE 12-8-86
DIRECTOR OF PLANNING AND PRECONSTRUCTION DEPT.
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR

PROJECT F SFTY (85) S
RS # SFTY (85) M
M SFTY (85) S
SHEET 1 OF 200 SHEETS

PLANNING 44-111-10000-1

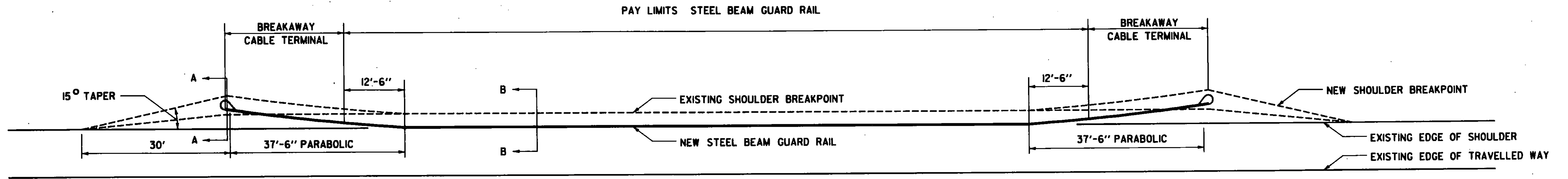
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193	G-1D STEEL BEAM GUARDRAIL	10-31-85 R	
194	G-4 PLANK GUARDRAIL	6-25-82 R	
195	G-14 BREAKAWAY CABLE TERMINAL	10-31-85 R	
196	G-16 GUARD RAIL TO BRIDGE DETAILS	11-25-80 R	
197	SCB-DI-75 GENERAL BRIDGE NOTES	9-14-81 R	
198	SB-R4A-82 BOX BEAM BRIDGE RAILING	12-13-84 R	
199	SB-R4B-82 GUARDRAIL APPROACH SECTION	12-13-84 R	
200	SB-116-82 STEEL BEAM BRIDGE RAIL	12-13-84 R	

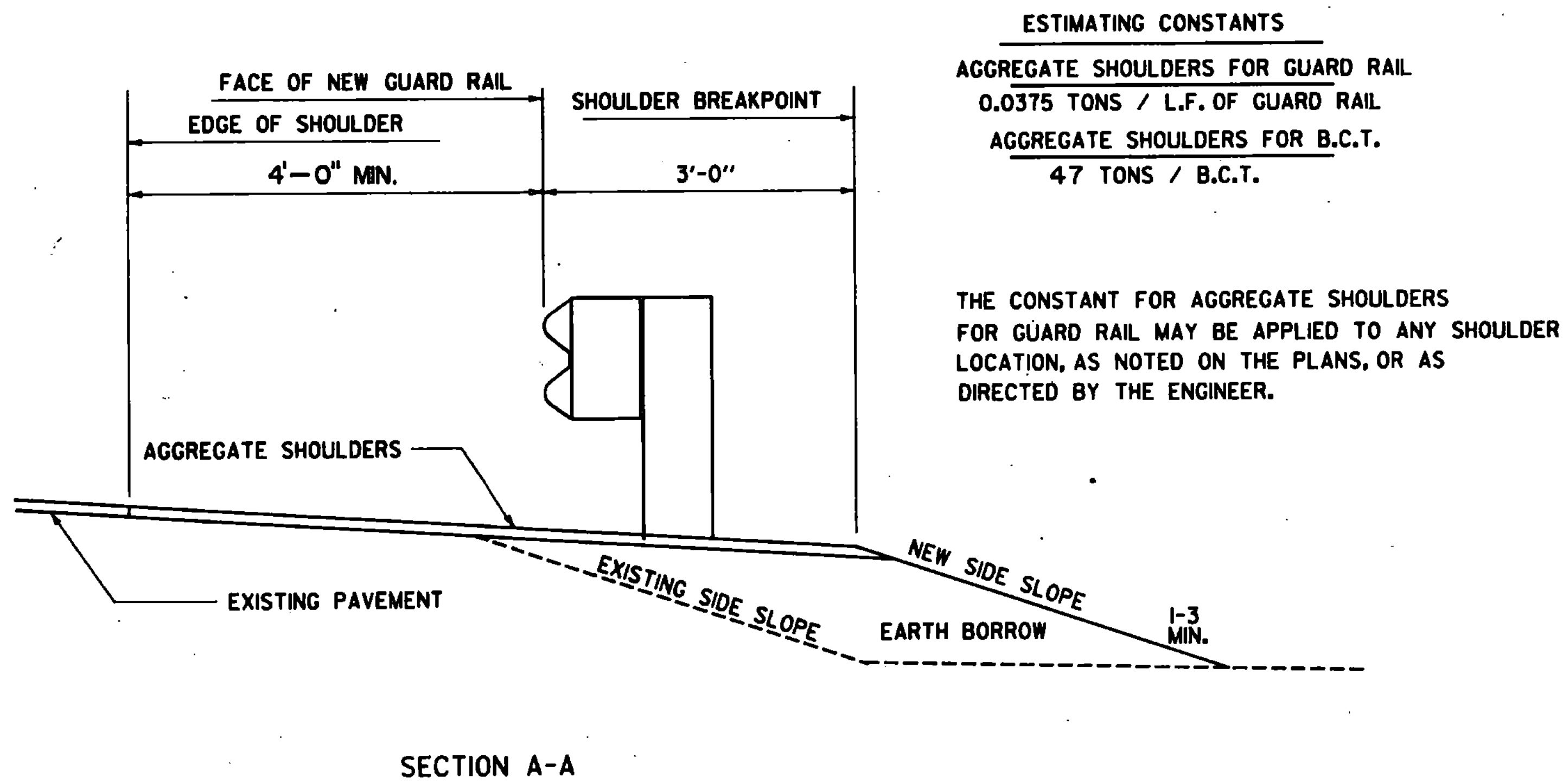
DATUM
 VERTICAL _____
 HORIZONTAL _____

SURVEYED BY _____ DATE _____
 DRAWN BY BEYOR DATE 3-88
 TRACED BY _____ DATE _____
 1985 STATEWIDE SAFETY PROJECT
 PROJ. NO. _____
 SHEET 2 OF 200

GUARD RAIL DETAILS

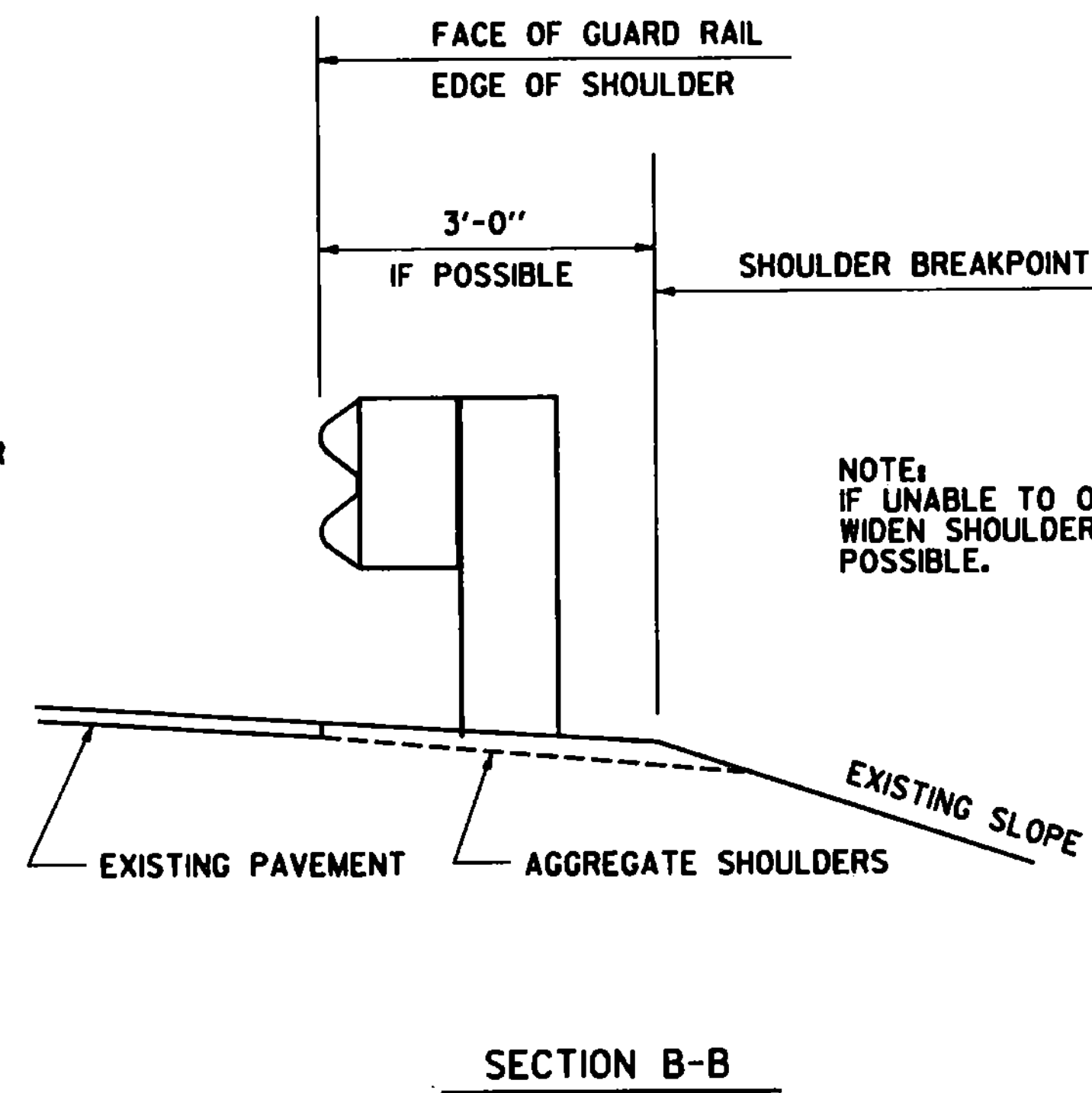


TYPICAL GUARD RAIL INSTALLATION

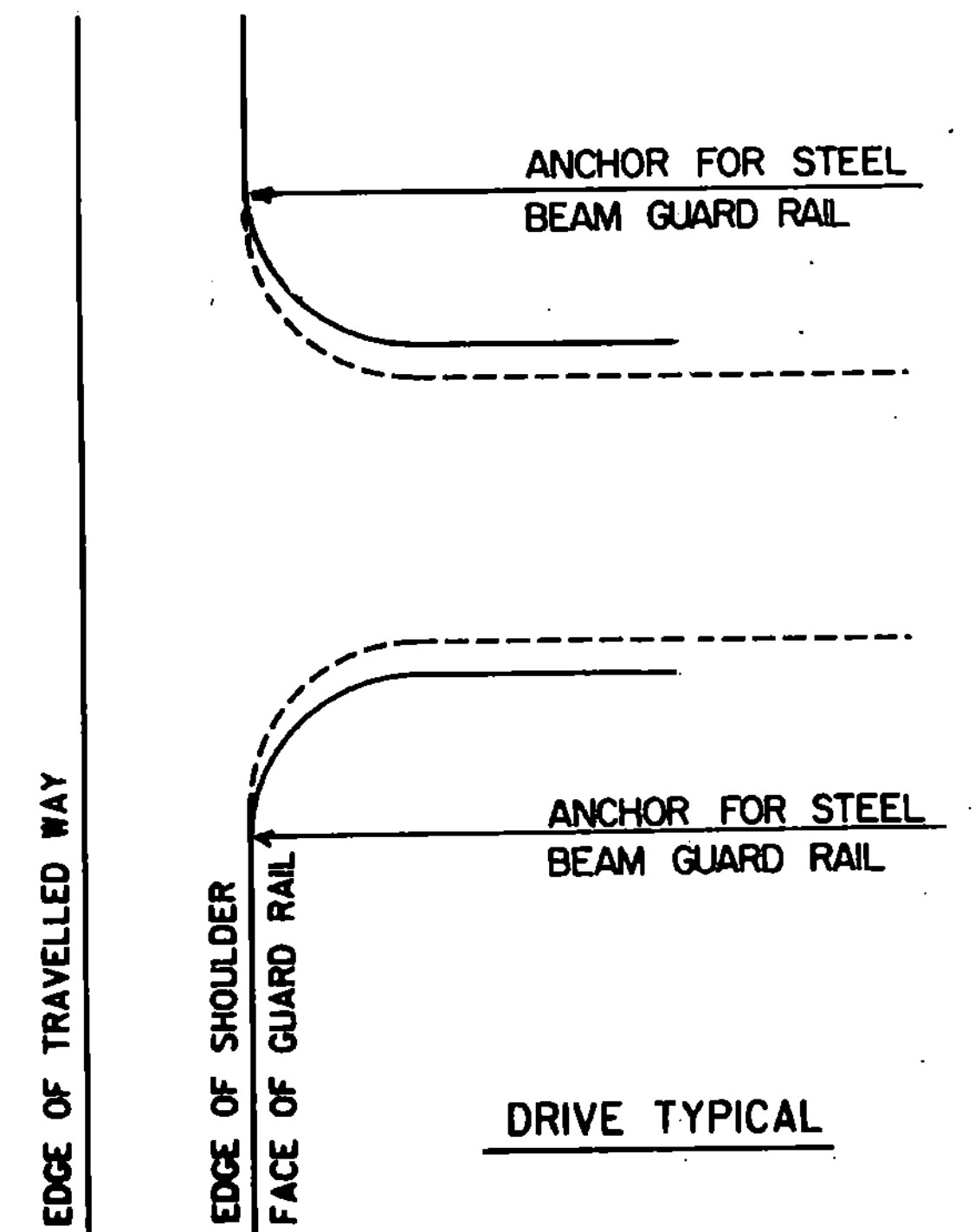


ESTIMATING CONSTANTS
 AGGREGATE SHOULDERS FOR GUARD RAIL
 0.0375 TONS / L.F. OF GUARD RAIL
 AGGREGATE SHOULDERS FOR B.C.T.
 47 TONS / B.C.T.

THE CONSTANT FOR AGGREGATE SHOULDERS FOR GUARD RAIL MAY BE APPLIED TO ANY SHOULDER LOCATION, AS NOTED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.



NOTE:
 IF UNABLE TO OBTAIN 3' WIDTH WIDEN SHOULDER AS MUCH AS POSSIBLE.

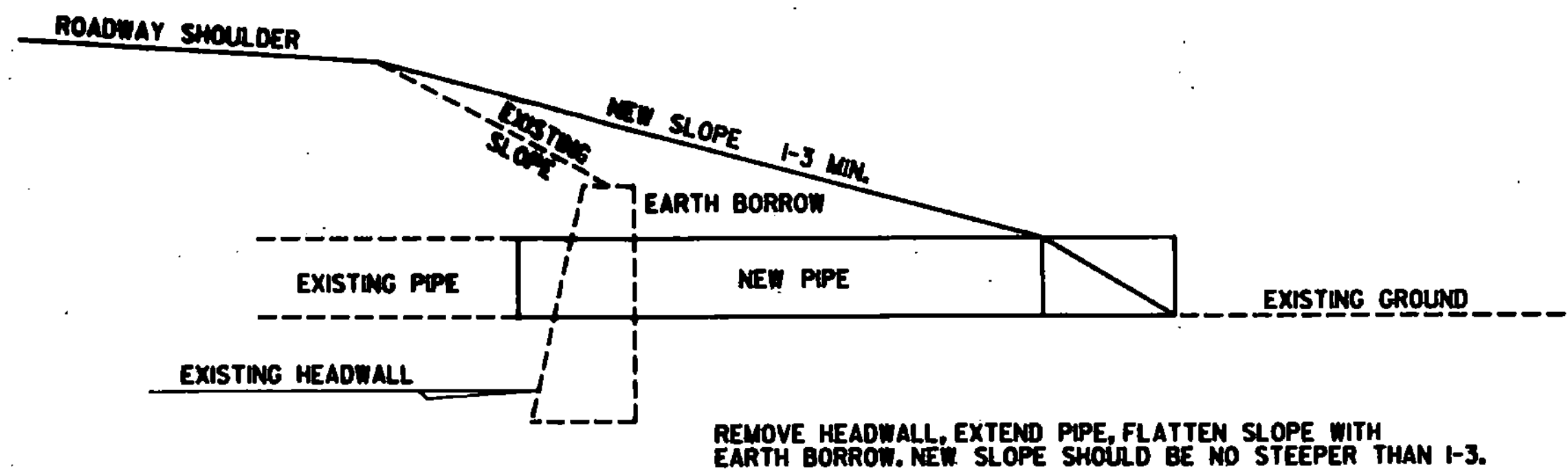


NOTE:
 CONTRACTOR WILL ENSURE THAT DRAINAGE WILL FLOW THROUGH GUARD RAIL TERMINAL WIDENING AREAS.

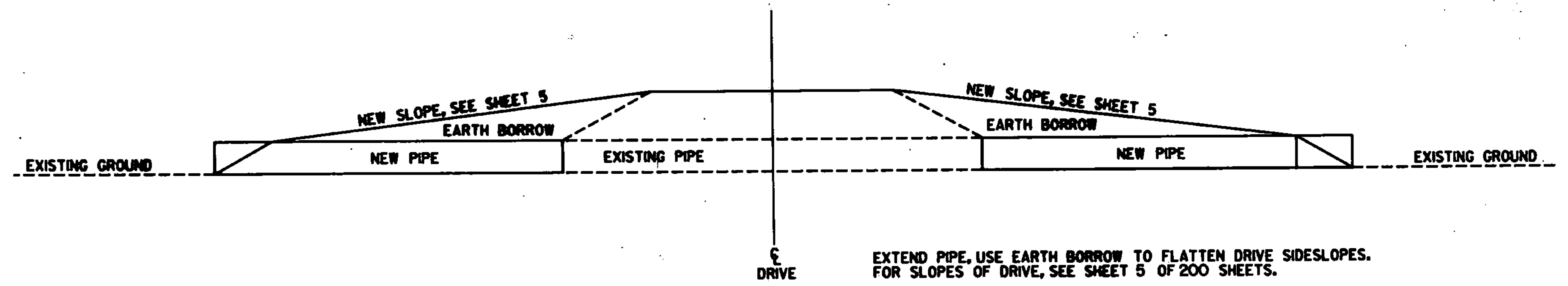
DATUM	
VERTICAL	_____
HORIZONTAL	_____

SURVEYED BY	DATE
DRAWN BY BEYOR	DATE 6-85
TRACED BY	DATE
STATEWIDE SAFETY PROJECT	
PROJ. F SFTY (85)S	
SHEET 3 of 200	

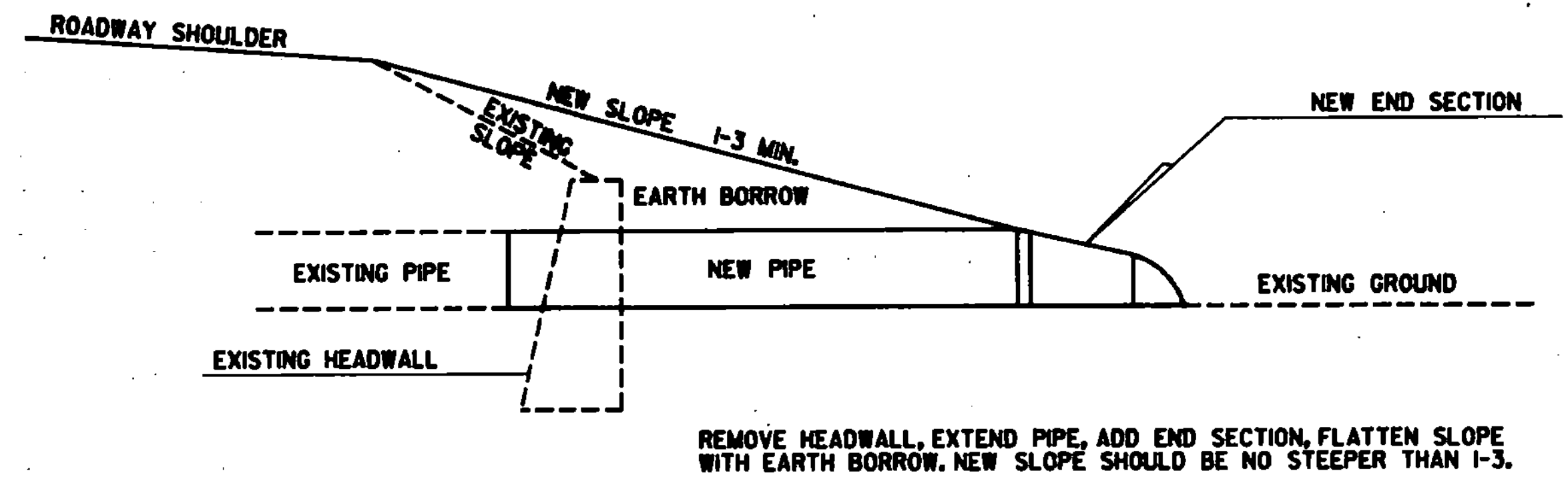
DRAINAGE DETAILS



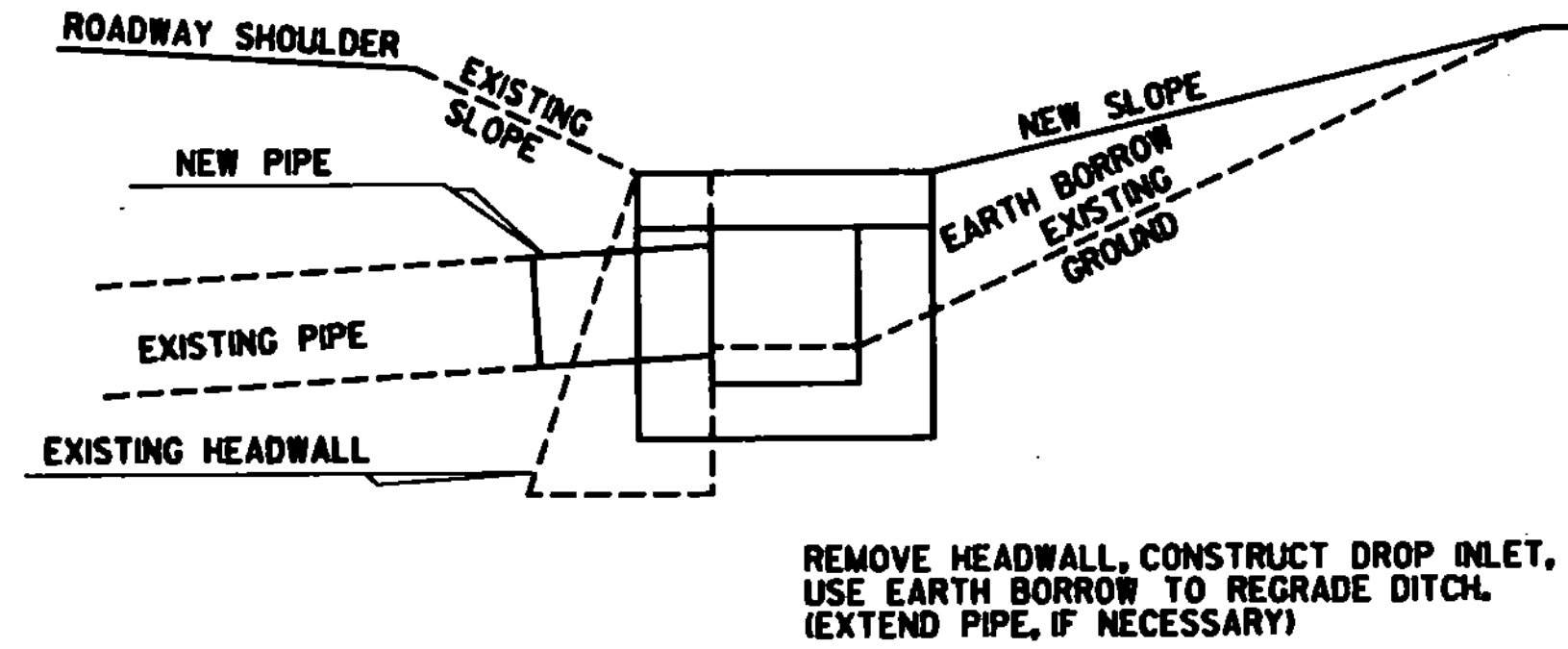
DRAINAGE DETAIL "A"



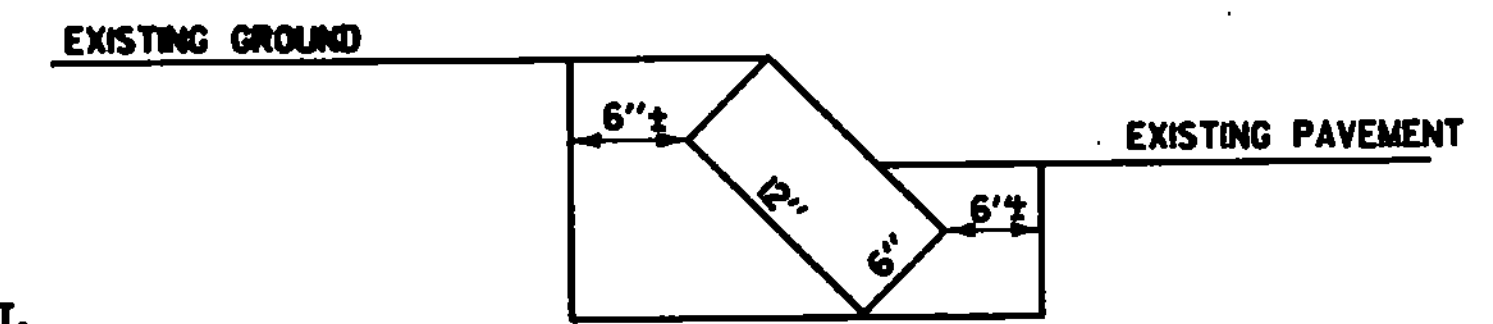
DRAINAGE DETAIL "D"



DRAINAGE DETAIL "B"



DRAINAGE DETAIL "E"



NOTE: EXISTING SLOPE EDGING WHICH FORMS A "BULLNOSE" AT OFF RAMPS OF SIDEROADS SHALL BE REMOVED. PAYMENT FOR REMOVAL SHALL BE TRENCH ROCK AT THE RATE OF 1.68 SQ. FEET PER LINEAR FOOT OF CURB. EARTH BORROW SHALL BE USED TO REGRADE THE AREA.

CURB DETAIL

NOTE: METAL END SECTIONS OF THE NECESSARY SIZE MAY BE USED IN PLACE OF REINFORCED CONCRETE END SECTIONS, AND PAID AS METAL END SECTIONS AT THE DISCRETION OF THE RESIDENT ENGINEER.

SEEDING FORMULA , ITEM 651.10 RURAL AREAS

% WT.	LBS./A.	NAME	PUR %	GERM %
3.33	2	CROWN VETCH	97	75
50.00	30	CREeping RED FESCUE	98	85
8.33	5	TIMOTHY	99	85
16.67	10	PERENNIAL RYE GRASS (VAR. PENNFINE)	95	85
8.34	5	ALFAFA (VAR. SARANAC)	99	85
8.33	5	BIRDSFOOT TREFOIL (VAR. EMPIRE)	98	85
5.00	3	HIGHLAND BENT GRASS	92	85
100.00	60			

THE SEED MIXTURE SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS WEED SEED.

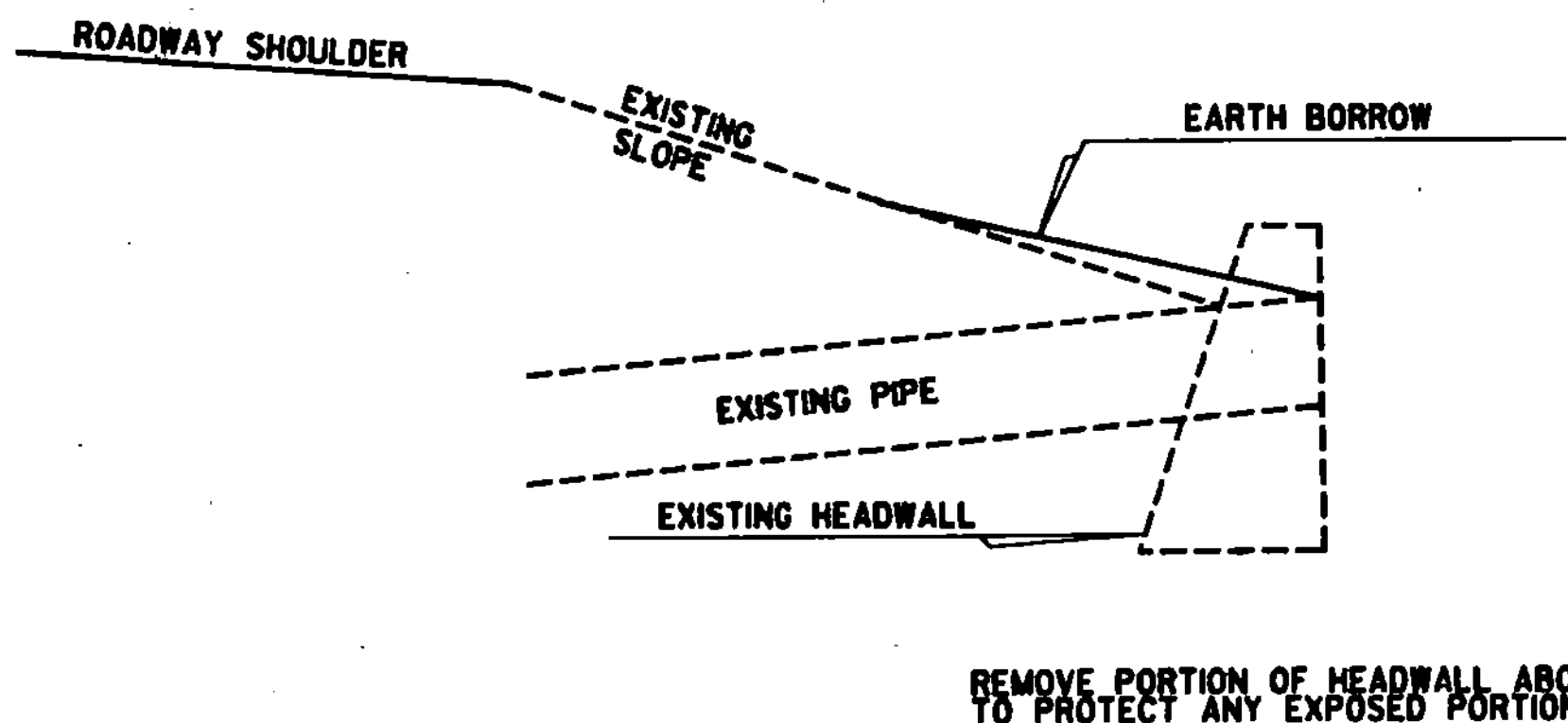
SEED- TO BE APPLIED PER SEEDING FORMULAS DIRECTED BY THE ENGINEER.

FERTILIZER- FORMULA 10-20-10 TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE.

AGRICULTURAL LIMESTONE- TO BE APPLIED AT THE RATE OF 2 TONS/ACRE OR AS DIRECTED BY THE ENGINEER.

HAY MULCH- TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

ALL AREAS WHERE SOIL IS DISTURBED TO BE SEEDDED PER THIS FORMULA. COST TO BE SUBSIDIARY TO OTHER ITEMS ON THIS PROJECT.



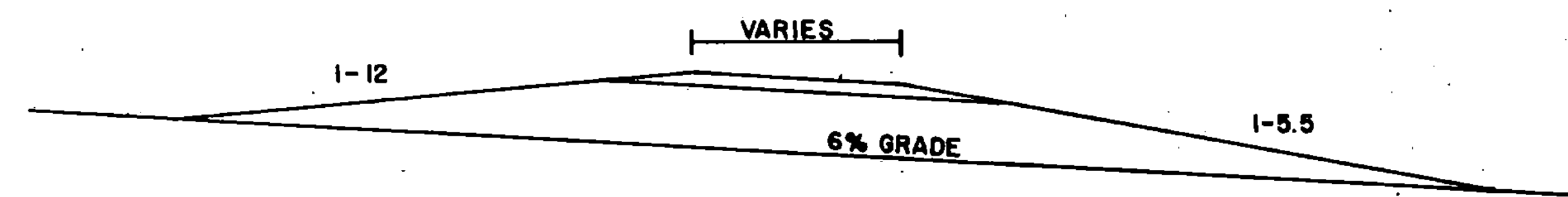
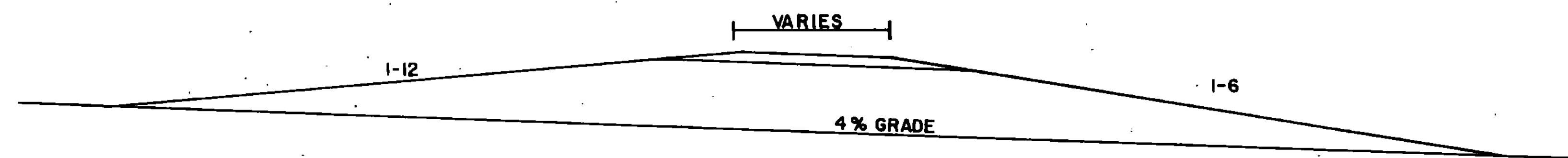
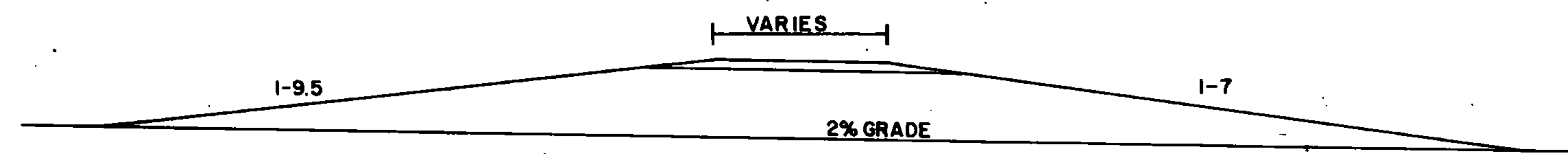
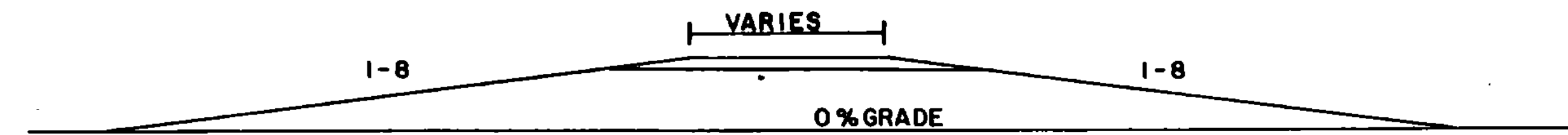
DRAINAGE DETAIL "C"

DATUM
 VERTICAL _____
 HORIZONTAL _____

SURVEYED BY _____ DATE _____
 DRAWN BY REDMOND DATE 5-86
 TRACED BY BEYOR DATE 6-86
 STATEWIDE SAFETY PROJECT
 PROJ. F SFTY (85)
 SHEET 4 of 200

SUGGESTED DRIVEWAY TYPICALS

NOTE: SIDESLOPES TO BE CONSTRUCTED AT A 1-8 (12.5%) SLOPE RELATIVE TO MAIN HIGHWAY GRADELINE. HOWEVER, IN NO CASE WILL THE SIDESLOPE DRAIN AT A RATE OF LESS THAN 1-12 (8.3%). TYPICALS ON THIS SHEET ARE FOR REFERENCE ONLY.



NOTE: IF THE SURFACE OF A DRIVE IS DISRUPTED DURING CONSTRUCTION IT SHALL BE REPAIRED. ROUNDINGS OF ITEM 402.12 AGGREGATE SHOULDERS AND ITEM 406.25, BITUMINOUS CONCRETE PAVEMENT HAVE BEEN ADDED TO PROJECT QUANTITIES FOR THIS USE. TYPE OF GRANULAR MATERIAL USED SHALL BE DETERMINED BY THE RESIDENT ENGINEER AND PAID AS ITEM 402.12 AGGREGATE SHOULDERS.

QUANTITY SHEET 1985 STATEWIDE SAFETY PROJECT

APPROXIMATE SUMMARY OF QUANTITIES

STATEWIDE M SFTY (85)			STATEWIDE RS SFTY (85)				STATEWIDE F SFTY (85)													COMPOSITE TOTAL	UNIT	ITEMS	ITEM NO.	
WILLISTON	BRATTLEBORO	M SFTY (85) TOTALS	WORCESTER	WEATHERSFIELD-WINDSOR	RS SFTY (85) ROUNDINGS	RS SFTY (85) TOTAL	ALBURG	ENOSBURG	LOWELL-WESTFIELD	LUDLOW-MT. HOLLY-SHREWSBURY	SO. BURLINGTON	BERLIN-BARRE	NEW HAVEN	MENDON-SHERBURN	LUDLOW	JOHNSON	NORTH HERO BRAND ISLE	F SFTY (85) ROUNDING	F SFTY (85) TOTALS					
					3	3												7	7	10	EA	REMOVING SMALL TREES	201.15	
					2	2												3	3	5	EA	REMOVING LARGE TREES	201.16	
					10	10								5	10			10	25	35	CY	UNCLASSIFIED EXCAVATION	203.17	
				160	15	175			20				315	770	10			115	1160	1338	CY	EARTH BORROW	203.30	
				25	15	40							27	103	130			30	130	130	CY	GRANULAR BORROW	203.32	
																			160	200	200	CY	TRENCH EXCAVATION OF EARTH	204.20
				16	4	20							4	131				15	150	170	CY	TRENCH EXCAVATION OF ROCK	204.21	
			260	497	18	775			667	198			10	2615	184	5	338	38	4085	4830	TON	AGGREGATE SHOULDERS	402.12	
					25	25										10		25	35	60	TON	BITUMINOUS CONCRETE PAVEMENT	406.25	
																		5	5	5	CY	CONCRETE CLASS AA	501.21	
								4	1				2	1					8	8	CY	CONCRETE, CLASS A	501.22	
				7.0	3.0	10.0							55.0	1.0				4.0	60.0	70.0	CY	CONCRETE, CLASS B	501.25	
				700	300	1000			140	20			5700	20				120	6000	7000	LBS	REINFORCING STEEL	507.15	
								2	1				1	1					5	5	GAL	WATER REPELLENT	514.10	
									1				1	1					3	3	GAL	JOINT SEALER POLYURETHANE	524.20	
									198				224	228					670	670	LF	REMOVAL OF EXISTING RAILING	525.10	
									209				282	239					730	730	LF	BRIDGE RAILING - 2 RAIL GALV. BOX BEAM	525.31	
								100							100				200	200	LF	BRIDGE RAILING - HD STEEL BEAM BEAM / FASCIA MOUNTED	525.41	
													1						1	1	EA	PARTIAL REMOVAL OF STRUCTURE	529.20	
								5											5	5	CY	REMOVAL OF CONCRETE OR MASONRY	529.25	
																		15	15	15	GAL	EPOXY MORTAR COMPOUND	530.30	
													16	24					30	30	LF	15" CSP .064	601.0010	
				22	22	22							30	50				8	88	110	LF	18" CSP .064	601.0015	
													8	26				6	40	40	LF	24" CSP .064	601.0025	
													18						18	18	LF	42" CSP .109	601.0052	
													16						16	16	LF	48" CSP .109	601.0057	
													96						96	96	LF	60" CSP .138	601.0068	

DRAWING 3480 3

QUANTITY SHEET 1985 STATEWIDE SAFETY PROJECT

APPROXIMATE SUMMARY OF QUANTITIES

STATEWIDE M SFTY (85)		STATEWIDE RS SFTY (85)				STATEWIDE F SFTY (85)														COMPOSITE TOTAL	UNIT	ITEMS	ITEM NO.		
WILLISTON	BRATTLEBORO	M SFTY (85) TOTALS	WORCESTER	WEATHERSFIELD-WINDSOR	RS SFTY (85) ROUNDINGS	RS SFTY (85) TOTAL	ALBURG	ENOSBURG	LOWELL-WESTFIELD	LUDLOW-MT. HOLLY-SHREWSBURY	SO. BURLINGTON	BERLIN-BARRE	NEW HAVEN	MENDON-SHERBURN	LUDLOW	JOHNSON	NORTH HERO GRAND ISLE	F SFTY (85) ROUNDING	F SFTY (85) TOTALS						
				36		36															36	LF	15" RCP III	601.0810	
				12		12								28							28	40	LF	18" RCP III	601.0815
				4		4								16							16	20	LF	24" RCP III	601.0825
														24							24	24	LF	36" RCP III	601.0845
														16							16	16	LF	48" RCP III	601.0855
				16		16															16	LF	77" X 52" CSPA .168	601.3074	
														1							1	2	EA	15" CSPES .064	601.6010
						1	1							2	3						1	6	EA	18" CSPES .064	601.6015
													4	3							1	8	EA	24" CSPES .064	601.6025
																					1	1	EA	30" CSPES .079	601.6036
														1							1	1	EA	36" CSPES .079	601.6046
													1								1	1	EA	42" CSPES .109	601.6052
													1	1							2	2	EA	48" CSPES .109	601.6057
				1		1								2							2	3	EA	18" RCPES III	601.6815
																					1	1	EA	24" RCPES III	601.6825

QUANTITY SHEET 1985 STATEWIDE SAFETY PROJECT

APPROXIMATE SUMMARY OF QUANTITIES

STATEWIDE M SFTY (85)			STATEWIDE RS SFTY (85)				STATEWIDE F SFTY (85)														UNIT	ITEMS	ITEM NO.									
WILLISTON	BRATTLEBORO	M SFTY (85) TOTALS	WORCESTER	WEATHERSFIELD-WINDSOR	RS SFTY (85) ROUNDINGS	RS SFTY (85) TOTAL	ALBURG	ENOSBURG	LOWELL-WESTFIELD	LUDLOW-MT. HOLLY-SHREWSBURY	SO. BURLINGTON	BERLIN-BARRE	NEW HAVEN	MENDON-SHERBURN	LUDLOW	JOHNSON	NORTH HERO GRAND ISLE	F SFTY (85) ROUNDING	F SFTY (85) TOTALS	COMPOSITE TOTAL												
				6	1	7														13					1	14	21	EA	CHANGING ELEVATIONS OF DROP INLETS, CATCH BASINS OR MANHOLES	604.40		
				4	1	5															28					2	30	35	EA	CAST IRON GRATE WITH FRAME TYPE B	601.46	
					100	100																				200	200	300	LF	6" UNDERDRAIN	605.10	
					5	5																				5	5	10	HR	BULLDOZER RENTAL TYPE I	608.10	
					5	5																				5	5	10	HR	POMER GRADER RENTAL	608.15	
					5	5																				5	5	10	HR	ALL PURPOSE EXCAVATOR RENTAL TYPE I	608.25	
				35	15	50															115	70				15	200	250	CY	STONE FILL, TYPE I	613.10	
					10	10																				15	15	25	CY	STONE FILL, TYPE II	613.11	
																										450	480	450	LF	CAST IN PLACE CONCRETE CURB, TYPE B	616.28	
																									2	5	5	TON	BITUMINOUS CONCRETE CURB, TYPE A	616.30		
					50	50																				180	180	200	LF	TREATED TIMBER CURB	616.35	
																										3	2	5	5	TON	BITUMINOUS CONCRETE SIDEWALK	618.15
			225	4,125	50	4400			647.5	75											14,225	2,175	125	3806.25	6.25	21,200	25,600	LF	STEEL BEAM GUARD RAIL	621.20		
			225			225			437.5																	102.05	10.45	580	775	LF	HEAVY DUTY STEEL BEAM GUARD RAIL	621.21
			5	7		12			13	4																	69	81	EA	BREAKAWAY CABLE TERMINAL	621.50	
			3	1		4			7																			20	24	EA	ANCHOR FOR STEEL BEAM GUARD RAIL	621.60
										4																		12	12	EA	GUARD RAIL APPROACH SECTION TYPE I	621.70
			8			8			7																		2	3	EA	GUARD RAIL APPROACH SECTION, TYPE I MOD.	621.70	
			516	2,430	29	2975			1,175	160											80	11,353	2,281		3939	12	19,000	21,975	LF	REMOVAL AND DISPOSAL OF GUARD RAIL	621.80	
					50	50																					150	150	200	HR	UNIFORMED TRAFFIC OFFICERS	630.10
					100	100																					400	400	500	HR	FLAGGERS	630.15
					0.5	0.5																					0.5	0.5	1	LS	FIELD TESTING	631.15
																											1040	1040	1040	HR	EMPLOYEE TRAINESHIP	634.10
0.1	0.1	0.2			0.3	0.3																				0.5	0.5	1	LS	MOBILIZATION	635.10	

BRUCE BAKER

QUANTITY SHEET 1985 STATEWIDE SAFETY PROJECT

APPROXIMATE SUMMARY OF QUANTITIES

STATEWIDE M SFTY (85)			STATEWIDE RS SFTY (85)				STATEWIDE F SFTY (85)																		
WILLISTON	BRATTLEBORO	M SFTY (85) TOTALS	WORCESTER	WEATHERSFIELD-WINDSOR	RS SFTY (85) ROUNDINGS	RS SFTY (85) TOTAL	ALBURY	ENOSBURG	LOWELL-WESTFIELD	LUDLOW-MT. HOLLY-SHREWSBURY	SO. BURLINGTON	BERLIN-BARRE	NEW HAVEN	MENDON-SHERBURN	LUDLOW	JOHNSON	NORTH HERO GRAND ISLE	F SFTY (85) ROUNDING	F SFTY (85) TOTALS	COMPOSITE TOTAL	UNIT	ITEMS	ITEM NO.		
							12													12	12	LF	DURABLE 24" STOP BAR	646.40	
							4													4	4	EA	DURABLE LETTER IN WORD MARKING	646.44	
														1000		50				1050	1050	LF	TEMPORARY 4" WHITE LINE	646.50	
														2,600						2600	2600	LF	TEMPORARY 4" YELLOW LINE	646.51	
														200						200	200	LF	TEMPORARY 8" WHITE LINE	646.54	
														500						500	500	LF	TEMPORARY 8" YELLOW LINE	646.55	
														16						16	16	LF	TEMPORARY 24" STOP BAR	646.60	
														4						4	4	EA	TEMPORARY ARROW MARKING	646.62	
														20						20	20	EA	TEMPORARY LETTER IN WORD MARKING	646.64	
														100						100	100	SF	REMOVAL OF EXISTING PAVEMENT MARKING	646.80	
40	42	82	139	105		244	172	61	325	350	22	530	56	735	62	64			2377	2703	SF	TRAFFIC SIGNS TYPE A	675.20		
												550		50						600	600	SF	TRAFFIC SIGNS TYPE B	675.21	
244	332	576	873	284		1137	534	396	1266	2193	407	1966	420	4240	124	388			11934	13647	LB	FLANGED CHANNEL SIGN POSTS	675.30		
				70		70	76		235	145	31	510		350	120				1467	1537	LB	TUBULAR ALUMINUM SIGN POSTS	675.32		
9	19	28	25	24		49	37	17	83	89	15	92	10	140	27	18			528	605	EA	REMOVING SIGNS	675.50		
	5	5	4	6		10		7	7	5	11		4	20	1	1			56	71	EA	ERECTING SALVAGED SIGNS	675.60		
													26						26	26	EA	DELINEATORS WITH STEEL POSTS	676.10		
												200							200	200	EA	REMOVAL OF EXISTING DELINEATORS	676.12		
									20			30							50	50	EA	REMOVE AND REPLACE REFLECTOR UNITS (MODIFIED)	676.15		
												30							30	30	EA	DELINEATORS WITH FLEXIBLE POSTS	676.20		
							1												1	1	LS	STREET LIGHTING	679.15		
	24	24		5		5	10	5		10	15	10		34		20			104	133	SF	TRAVEL INFORMATION SIGNS (NON. GOVT. PARTICIPATION)	680.20		

ITEM NO	ITEM	UNIT	VT103 BR 33	VT100 BR 99	US 4 BR 24	VT100 BR 234	TOTALS
406.25	BITUMINOUS CONCRETE PAVEMENT	TON				3	3
501.21	CONCRETE, CLASS AA	CY					5
501.22	CONCRETE, CLASS A	CY	1	1	2	4	8
507.15	REINFORCING STEEL	LB	20	20	200	140	380
514.10	WATER REPELLENT	GAL	1	1	1	2	5
524.20	JOINT SEALER, POLYURETHANE	GAL	1	1	1		3
525.10	REMOVAL OF EXISTING RAILING	LF	198	228	244		670
525.31	BRIDGE RAILING, 2 RAIL GALV. BOX BEAM	LF	209	239	282		730
525.41	BRIDGE RAILING - HD STEEL BEAM/FASCIA MOUNTED	LF				100	100
529.20	PARTIAL REMOVAL OF STRUCTURE	EA.			1		1
529.25	REMOVAL OF CONCRETE OR MASONRY	CY				5	5
530.30	EPOXY MORTAR COMPOUND	GAL.					15
621.70	GUARD RAIL APPROACH SECTION, TYPE I	EA	4	4	4		12

★ THESE ITEMS SHALL BE USED AS DIRECTED BY THE RESIDENT ENGINEER. THE QUANTITY SHOWN IS THE ESTIMATED TOTAL NEEDED AND THE AMOUNT REQUIRED FOR EACH BRIDGE WILL VARY. REFER TO GENERAL NOTES NO 16 AND NO 22.

STATEWIDE FSFTY (85) STWDFSTY.DOC 1/86 AUTHOR: NEWTON

- FOR ADDITIONAL GENERAL NOTES, SEE STD. SCB-D1-75, NOTES 3, 4, 6, 7, 14 & 16.
- ALL CONCRETE WILL BE "CONCRETE, CLASS A", EXCEPT AS NOTED IN GENERAL NOTE 16 ON THIS SHEET.
- PYLONS SHALL BE REMOVED TO ONE FOOT (1'-0") BELOW EXISTING SUPERSTRUCTURE CURB GRADE. REPLACE TO ELEVATION OF TOP OF EXISTING SUPERSTRUCTURE CURB GRADE. U.S. 4, BR. 24 IN MENDON IS THE ONLY STRUCTURE THAT HAS PYLONS.
- REMOVAL OF THE CONCRETE PYLONS TO THE LIMITS SHOWN AND REMOVAL OF THE GRANITE END BLOCKS ON U.S. 4, BR. 24 IN MENDON SHALL BE PAID FOR AS THE ITEM "PARTIAL REMOVAL OF STRUCTURE".
- WHEN REMOVING THE EXISTING PYLONS, RETAIN THE EXISTING VERTICAL REINFORCING STEEL AND CUT AS DETAILED.
- THE EXISTING CONCRETE SHALL BE THOROUGHLY COATED WITH NEAT CEMENT GROUT BEFORE PLACING NEW CONCRETE AS PER SUBSECTION 501.13(b).
- CONCRETE AT THE JOINTS SHALL BE CLEANED AND PREPARED AS PER SUBSECTION 524.05(b).
- NEW BRIDGE RAILING POSTS SHALL BE SET NORMAL TO GRADE.
- FOR BRIDGE RAILING DETAILS AND RELATED NOTES NOT SHOWN ON THESE PLANS, SEE STD. SB-R4A-B2 AND STD. SB-R6-B2.
- THE STANDARD BASE PLATE DETAILS SHOWN ON STD. SB-R4A-B2 HAVE BEEN MODIFIED TO ACCOMMODATE REVISED ANCHOR BOLT PATTERNS AS DETAILED ON THESE PLANS, EXCEPT FOR MENDON, U.S. 4, BR. 24, WHICH IS PER STANDARD EXCEPT THAT THE 9 INCH OFFSET FROM FACE OF CURB TO FACE OF RAIL IS CHANGED TO 7 INCHES.
- THE MODIFIED POSTS, BASE PLATES, AND RELATED HARDWARE SHALL BE PAID FOR AS THE ITEM "BRIDGE RAILING - 2 RAIL GALVANIZED BOX BEAM".
- THE CONTRACTOR SHALL FIELD CHECK POST LAYOUT DIMENSIONS PRIOR TO SUBMISSION OF SHOP DETAILS FOR APPROVAL.
- THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT ALL LANES SHALL BE OPEN TO TRAFFIC DURING NON-WORKING HOURS. THEREFORE, NO GAPS BETWEEN EXISTING RAILING AND NEW RAILING WILL BE PERMITTED. DETAILS FOR TEMPORARY BARRIER RAIL, IF REQUIRED TO BRIDGE THESE GAPS, SHALL BE SUBMITTED FOR APPROVAL.
- THE EXISTING BRIDGE RAILING POSTS AND HARDWARE ON U.S. 4, BR. 24; VT. 100, BR. 99; AND VT. 103, BR. 33 SHALL REMAIN THE PROPERTY OF THE STATE OF VERMONT UPON THEIR REMOVAL AND SHALL BE STOCKPILED ON THE PROJECT IN LOCATIONS SELECTED BY THE ENGINEER FOR DISPOSAL BY STATE FORCES. THE COST OF REMOVING AND STOCKPILING THIS MATERIAL SHALL BE PAID FOR AS THE ITEM "REMOVAL OF EXISTING RAILING".
- THE EXISTING STATE OF VERMONT BRONZE BRIDGE MARKERS SHALL BE CAREFULLY REMOVED FROM PYLONS ON U.S. 4, BR. 24 AND RESET IN NEW CONCRETE FASCIA AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE SUBSIDIARY TO THE ITEM "CONCRETE, CLASS A".

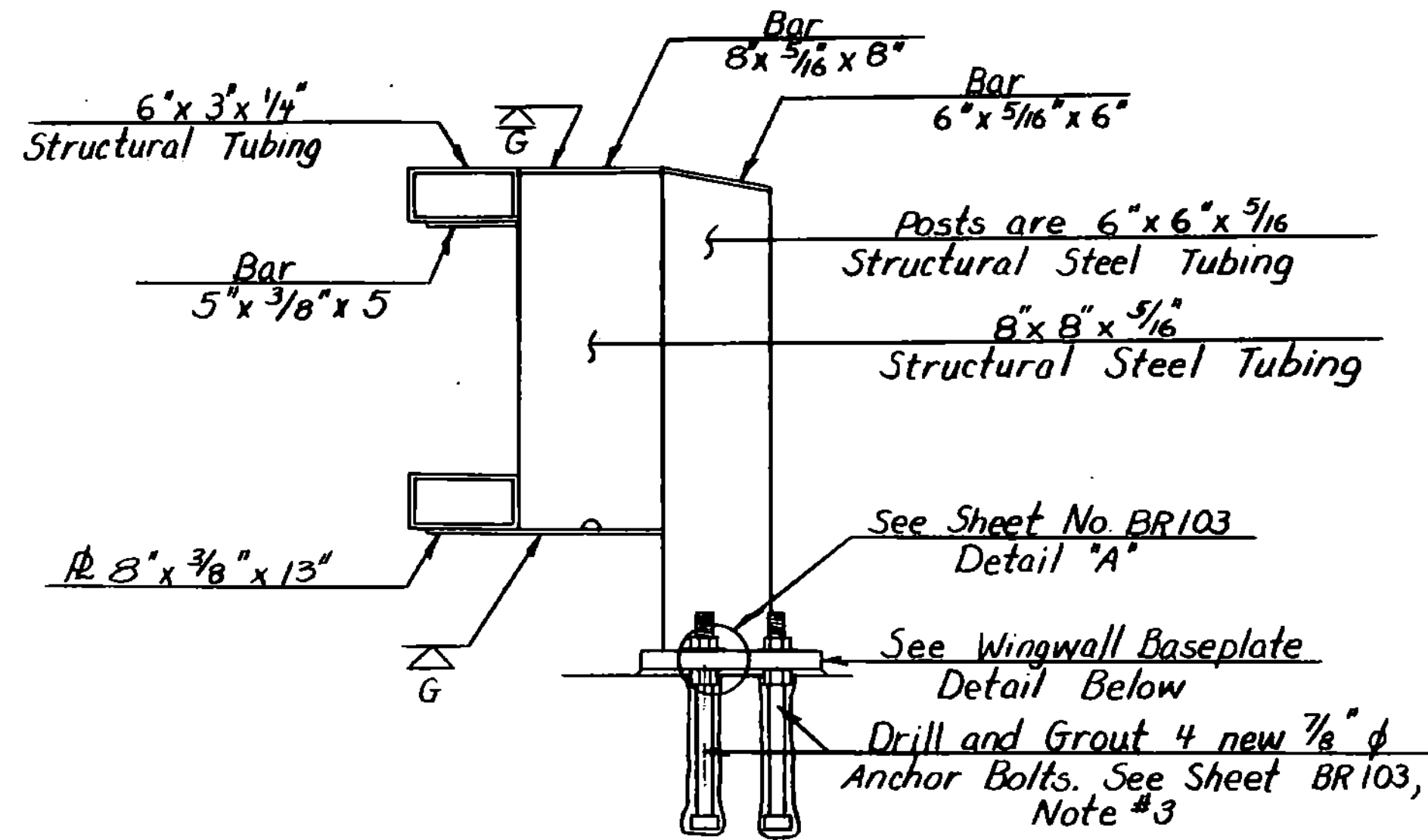
- EPOXY MORTAR COMPOUND OR "CONCRETE, CLASS AA", SHALL BE USED TO REPAIR ANY SPALLED OR CRACKED AREAS ON THE EXISTING CURBS. ALL DETERIORATED OR UNSOUND CONCRETE SHALL BE REMOVED TO THE LIMITS DEEMED NECESSARY BY THE ENGINEER. THE REMOVAL SHALL BE SUBSIDIARY TO THE ITEMS "EPOXY MORTAR COMPOUND" OR "CONCRETE, CLASS AA". THE CURBS SHALL BE PATCHED AS FOLLOWS:
 - CRACKS OR SPALLED AREAS IN THE CURBS WITH A DEPTH OF LESS THAN 1 INCH ARE TO BE FILLED WITH "EPOXY MORTAR COMPOUND".
 - CRACKS OR SPALLED AREAS IN THE CURBS WITH A DEPTH OF GREATER THAN 1 INCH ARE TO HAVE THEIR EDGES CUT SO AS TO PROVIDE A MINIMUM DEPTH OF 1 INCH. THEY THEN WILL BE COATED WITH NEAT CEMENT AND PATCHED WITH "CONCRETE, CLASS AA".
- RAILING JOINT SPLICES SHALL BE LOCATED AT ALL SUPERSTRUCTURE JOINTS OVER PIERS AND AT THE EXPANSION END OF ALL BRIDGES AT THE JOINT BETWEEN THE SUPERSTRUCTURE AND THE WINGWALLS. THE BRIDGE RAILING JOINT OPENING SHALL BE A MINIMUM OF 1 INCH.
- NEW LORX EXPANSION MATERIAL SHALL BE SUBSIDIARY TO THE ITEM "CONCRETE, CLASS A".
- ON VT. RTE. 103, BRIDGE 331 AND VT. RTE. 100, BR. 99, THERE ARE NO PYLONS TO BE REMOVED; HOWEVER, THE EXISTING GRANITE END BLOCKS WILL BE REMOVED AND REPLACED. REMOVAL OF THE EXISTING END BLOCKS SHALL BE SUBSIDIARY TO ALL OTHER ITEMS IN THE CONTRACT. THE NEW END BLOCKS SHALL BE PAID UNDER THE ITEM "CONCRETE, CLASS A".
- VT. 100, BR. 234, HAS NEITHER PYLONS NOR GRANITE END BLOCKS TO BE REMOVED; HOWEVER, THE EXISTING CONCRETE POSTS AND EXISTING CURB SHALL BE REMOVED ON THE DOWNSTREAM (LEFT) SIDE TO THE LIMITS SHOWN ON SHEET BR 101. THE EXISTING CONCRETE POSTS SHALL BE REMOVED ON THE UPSTREAM (RIGHT) SIDE, AS DETAILED ON SHEET BR 101. THIS WORK SHALL BE PAID FOR AS "REMOVAL OF CONCRETE AND MASONRY (C.Y.)". EXISTING CURB STEEL ON DOWNSTREAM SIDE SHALL BE RETAINED AND CLEANED AS REQUIRED. ADDITIONAL #5 BARS HAVE BEEN INCLUDED ON THE REBAR SCHEDULE TO BE USED TO SUPPLEMENT EXISTING CURB STEEL AS DETERMINED BY THE ENGINEER. EXISTING REBAR STEEL IN CONCRETE POSTS UPSTREAM SHALL BE CUT OFF 2' BELOW CURB GRADE AND THE CURB REPAIRED.
- FOR APPROACH RAIL DETAILS AND RELATED NOTES NOT SHOWN ON THESE PLANS, SEE STD. DWG. SB-R4B-B2 AND SB-R6-B2.

LIST OF SHEETS

BR 100 GENERAL NOTES, BRIDGE QUANTITY SHEET, AND REINFORCING SCHEDULE, BR 33 WINGWALL BASE PLATE AND POST DETAILS (DOWNSTREAM CURB ONLY)
 BR 101 BRIDGE RAILING PLANS, BR 24 & 234
 BR 102 BRIDGE RAILING PLANS, BR 33 & 99
 BR 103 POST AND CURB DETAILS

STANDARDS

STD. DWG. SCB-D1-75 9/14/81 R
 STD. DWG. SB-R4A-B2 12/13/84 R
 STD. DWG. SB-R4B-B2 12/13/84 R
 STD. DWG. SB-R6-B2 12/13/84 R



MODIFIED POST FOR WINGWALL

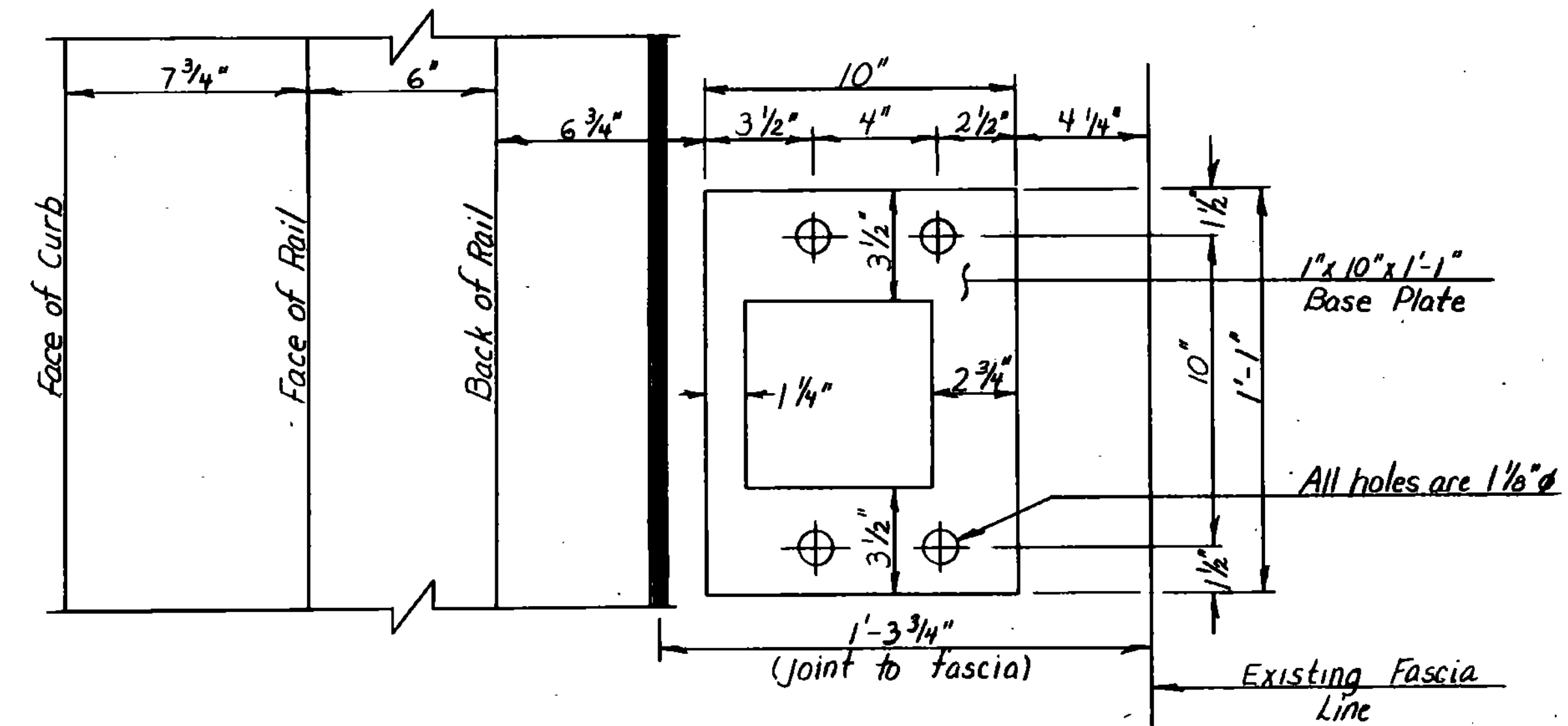
SCALE: 1 1/2" = 1'-0"

(To be used on VT 103, Br. 33 - downstream curb only)

ITEM NO	PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J
1				U.S. 4, BR. 24	(MENDON)									
2														
3	4	5	1-1	EB501	STR									
4	8	5	1-6	EB502	STR									
5	13	5	1-6	EB501	STR									
6	92	5	2-3	X501	3/10			0-9	0-9	0-9				
7														
8														
9				VT. 103, BR. 33	(MT. HOLLY)									
10														
11	4	5	1-1	EB501	STR									
12	8	5	1-6	EB502	STR									
13														
14														
15				VT. 100, BR. 99	(LUDLOW)									
16														
17	4	5	1-1	EB501	STR									
18	8	5	1-6	EB502	STR									
19														
20														
21				VT. 100, BR. 234	(LOWELL)									
22														
23	3	5	42-0	EB501	STR									

* DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.

NOTE: UNLESS OTHERWISE DESIGNATED ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-51), GRADE 60.



WINGWALL BASE PLATE DETAIL

SCALE: 3" = 1'-0"

(To be used on VT 103, Br. 33 - downstream curb only)

- EXISTING GRANITE CURB JOINTS THAT NEED REPOINTING, AS DETERMINED BY THE ENGINEER, SHALL BE RAKED OUT TO A DEPTH OF 2" AND REPOINTED WITH EPOXY MORTAR COMPOUND.

STATE OF VERMONT
 AGENCY OF TRANSPORTATION

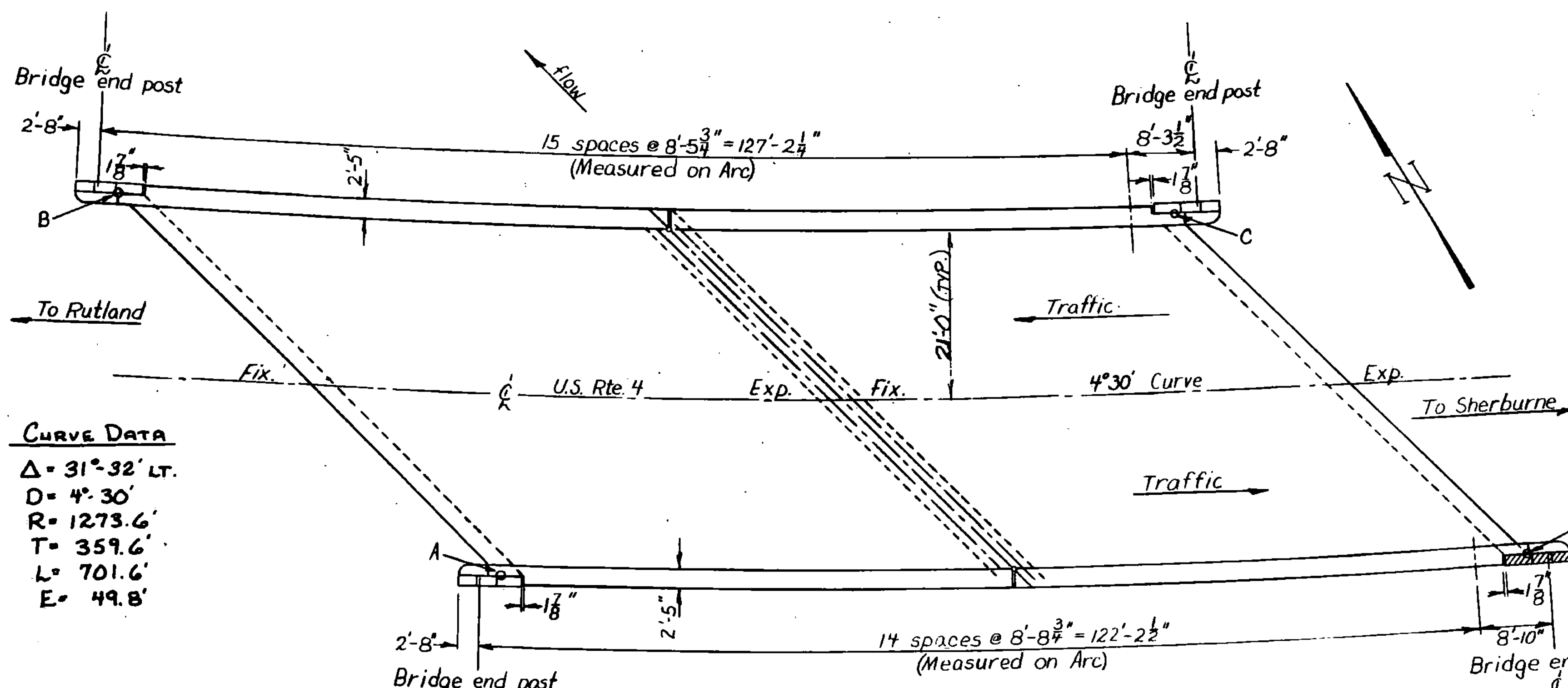
Town of Mendon, Mt. Holly Ludlow, Lowell Bridge No. _____
 Highway No. _____ Loc. Sta. _____
 Surv. Sta. _____

General Notes, Quantity Sheet, Reinforcing Schedule

Designed By G.S. ROGERS Drawn By M.P. KEENE
 Created By Date Bridge Design Supervisor
 D.W. NEWTON Jan '86 F.V. Balkum Date 3/86

PROJECT STATEWIDE PROJECT NO. FSFTY (85)

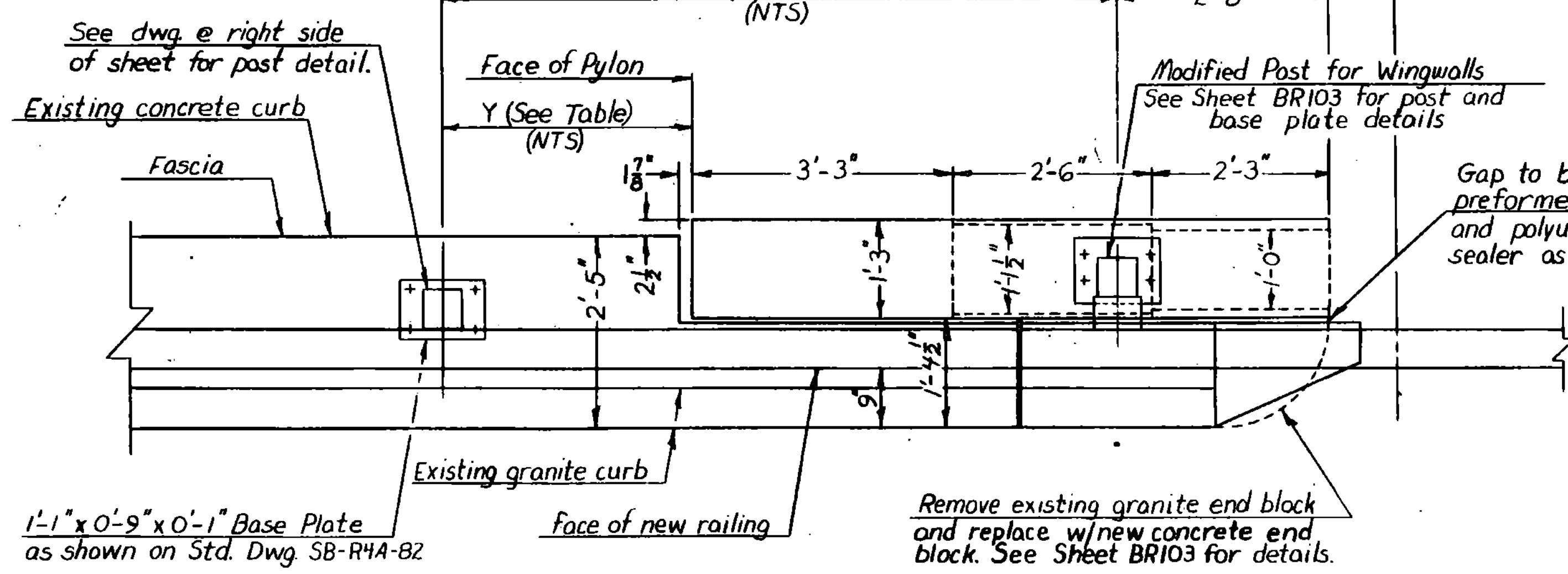
Bridge Sheet No. BR100 Sheet 14 of 200



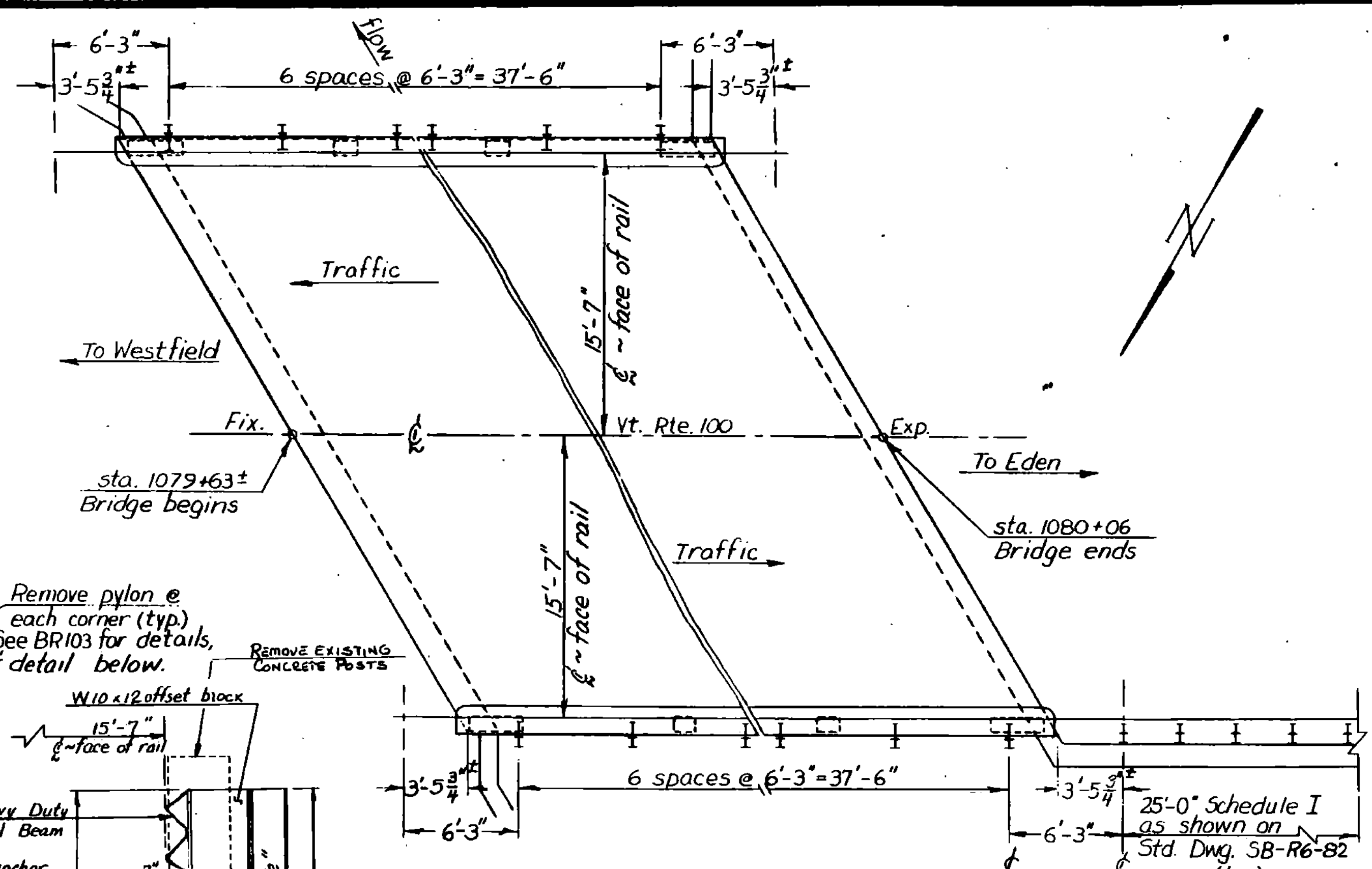
CURVE DATA
 $\Delta = 31^\circ 32' \text{ LT.}$
 $R = 1273.6'$
 $T = 359.6'$
 $L = 701.6'$
 $E = 49.8'$

PYLON	X	Y
A	8'-8 3/4"	3'-4 3/4"
B	8'-5 3/4"	3'-1 3/4"
C	8'-3 1/2"	2'-11 1/2"
D	8'-10"	3'-6"

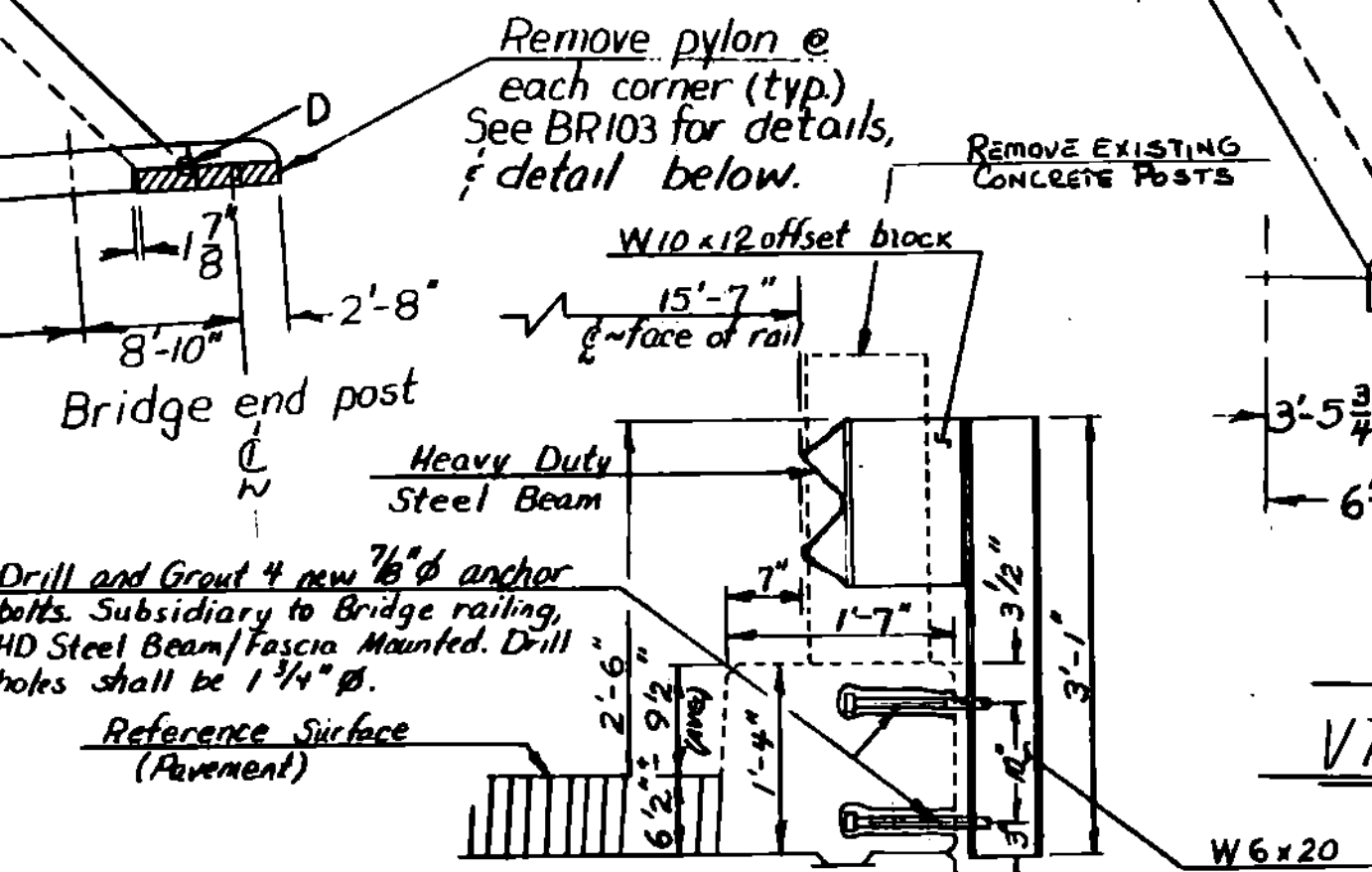
BRIDGE RAILING PLAN
U.S. RTE. 4 - BRIDGE N^o 24
MENDON
 $\frac{3}{8}'' = 1'-0''$



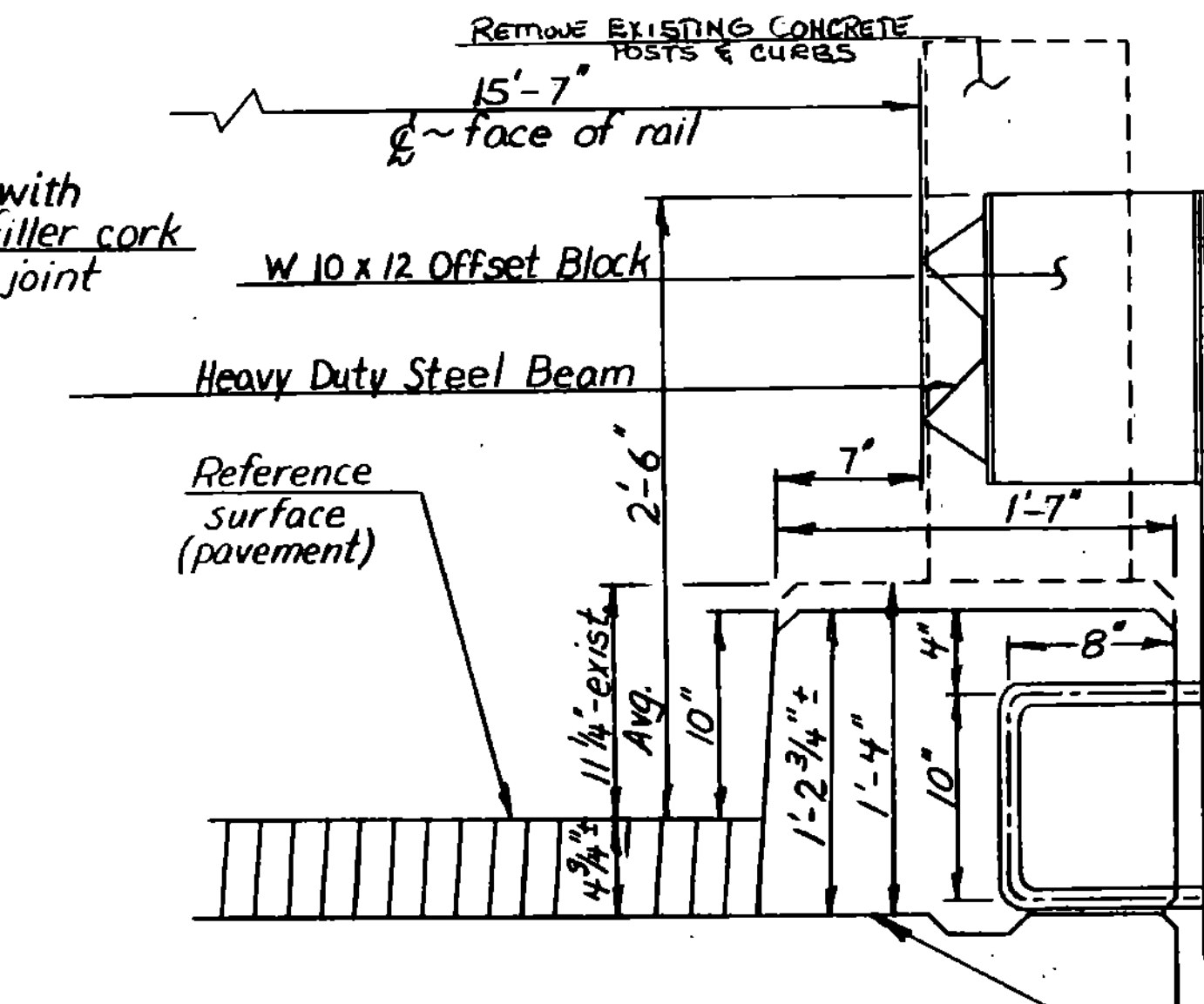
PYLON REMOVAL PLAN
U.S. RTE. 4 - BRIDGE N^o 24
 $\frac{3}{8}'' = 1'-0''$



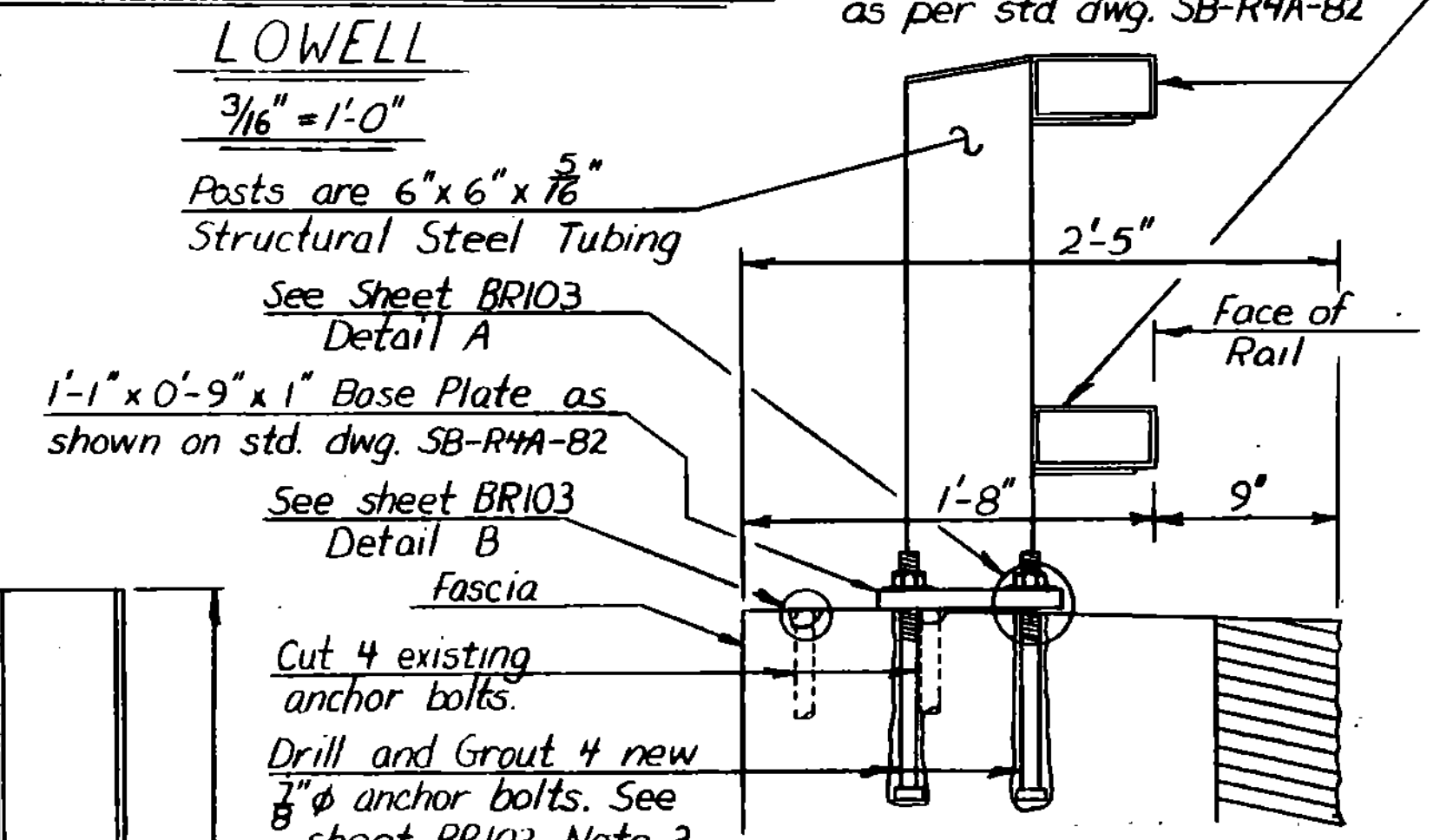
BRIDGE RAILING PLAN
VT. RTE. 100 - BRIDGE N^o 234
LOWELL



POST AND CURB SECTION
upstream (typ.)
VT. RTE. 100, BRIDGE N^o 234
 $\frac{3}{4}'' = 1'-0''$



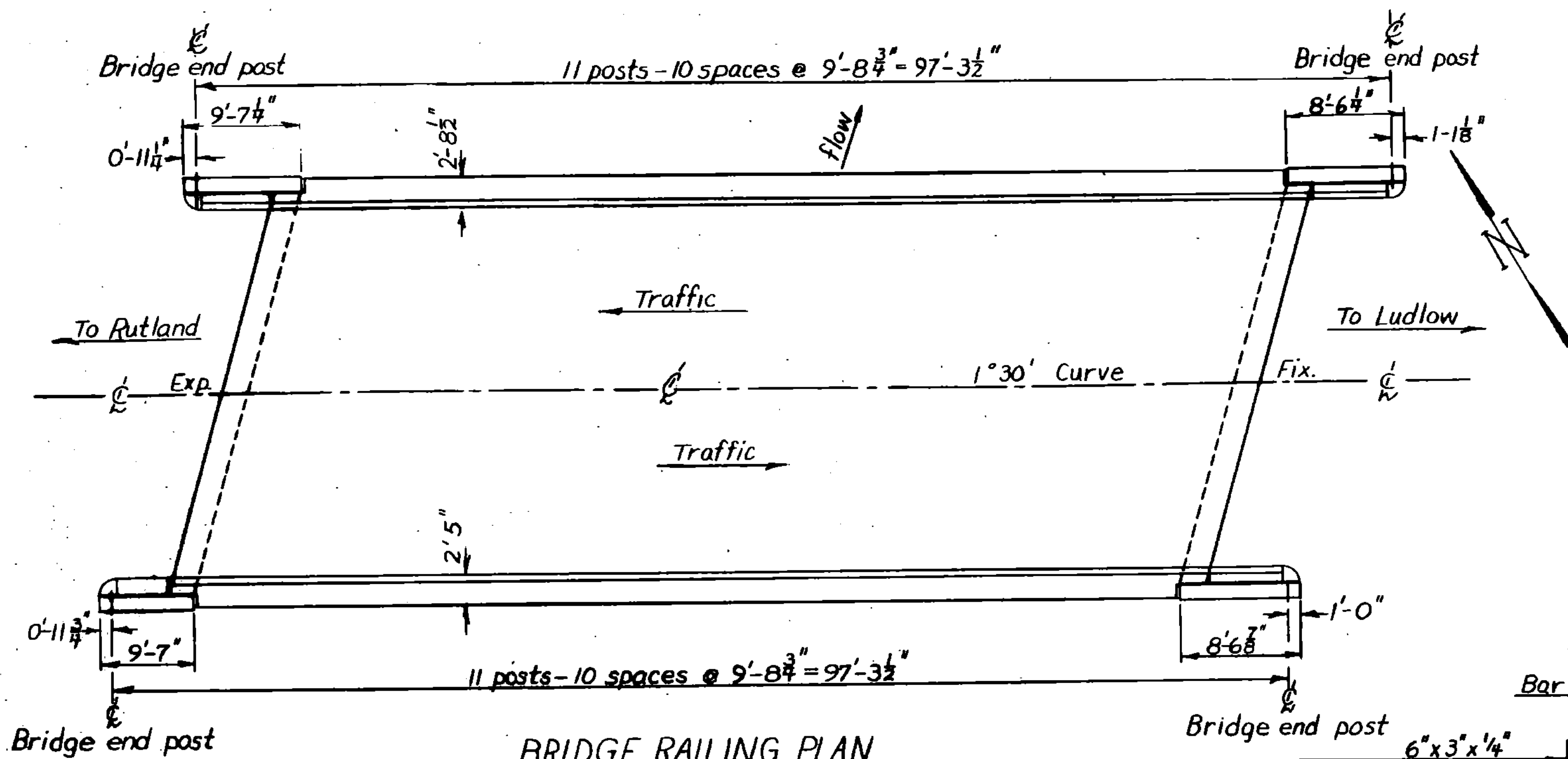
POST AND CURB SECTION
Downstream (typ.)
VT. RTE. 100, BRIDGE N^o 234
 $\frac{1}{2}'' = 1'-0''$



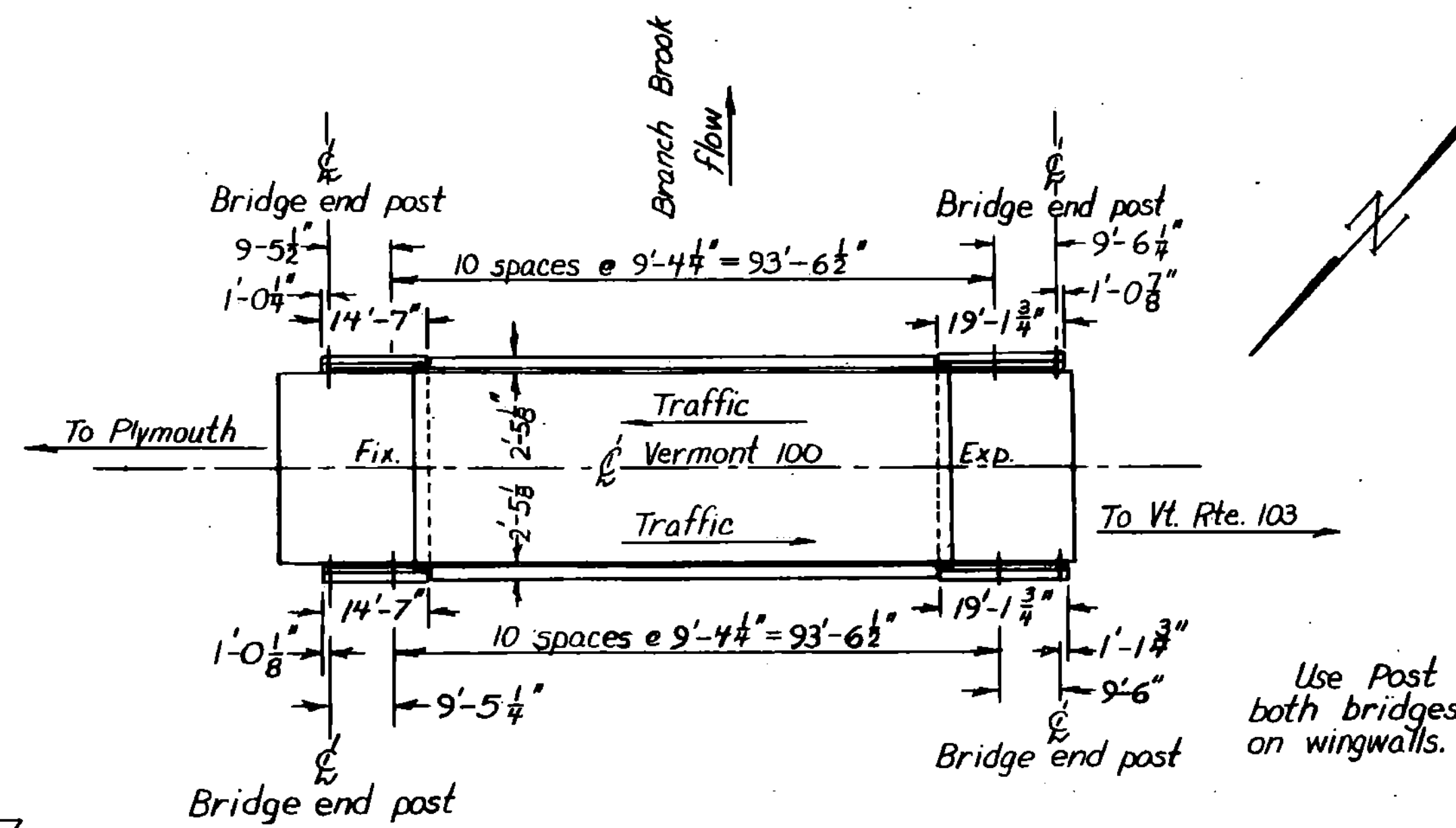
ELEVATION-POST TYPE B
 $\frac{1}{2}'' = 1'-0''$
 (To Be Used On U.S. 4, Br. 24)

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	MENDON, LOWELL	Bridge No.	24, 234
Highway No.	U.S. 4 / VT. 100	Loc. Sta.	
		Surv. Sta.	
BRIDGE RAILING PLANS			
U.S. 4, BRIDGE 24 AND VT. 100, BRIDGE 234			
Designed By		G.S. ROGERS	
Drawn By		M.P. KEENE	
Checked By	Date	Bridge Design Supervisor	
D.W. NEWTON	11/85	FWY. Balkum	Date 3/86
PROJECT		PROJECT NO.	
STATEWIDE		F SFTY (85)	
L&C info.			
Bridge Sheet No. BR101		Sheet 15 of 200	

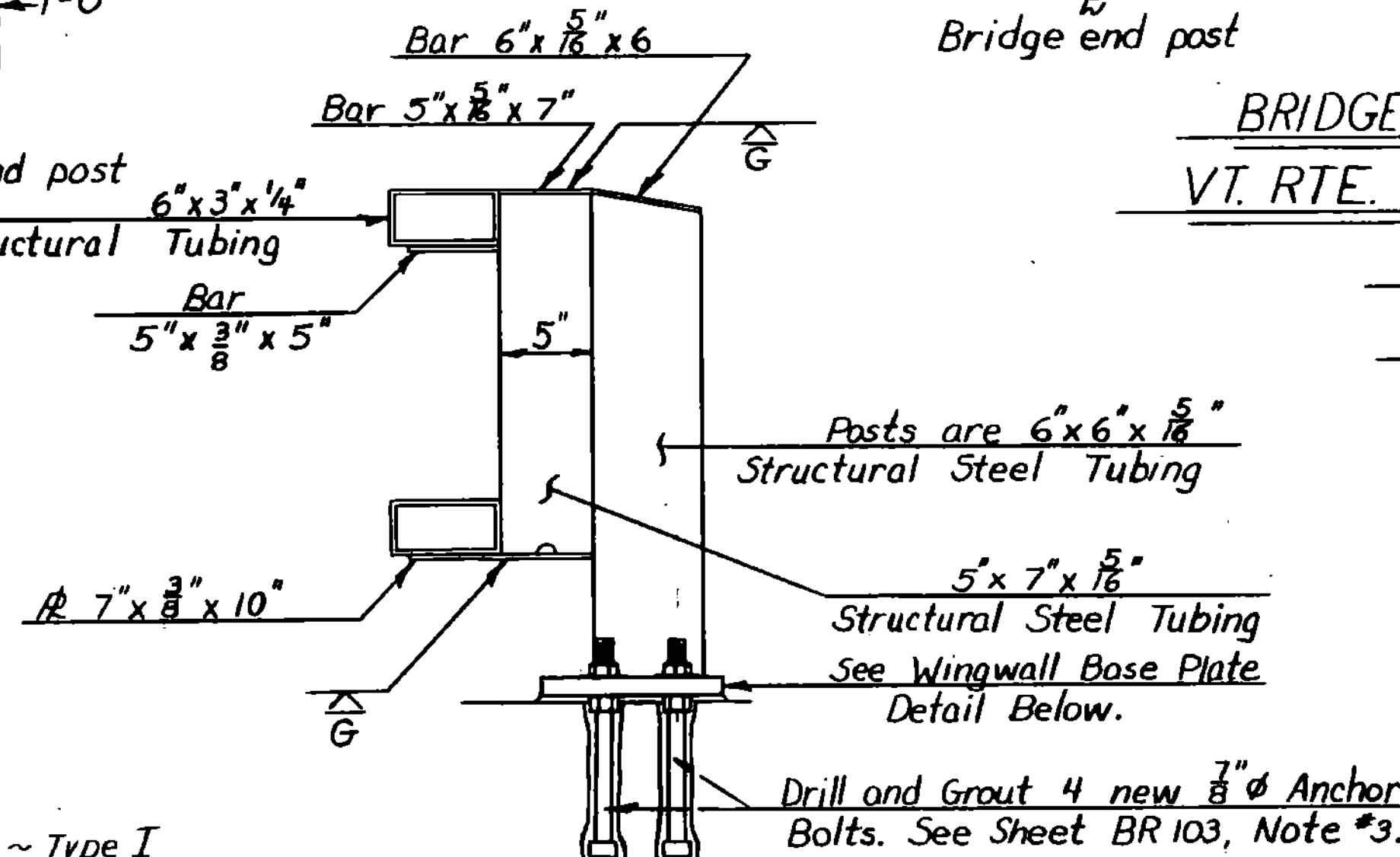


BRIDGE RAILING PLAN
 VT. RTE. 103-BRIDGE N° 33
 MT. HOLLY
 1/8" = 1'-0"

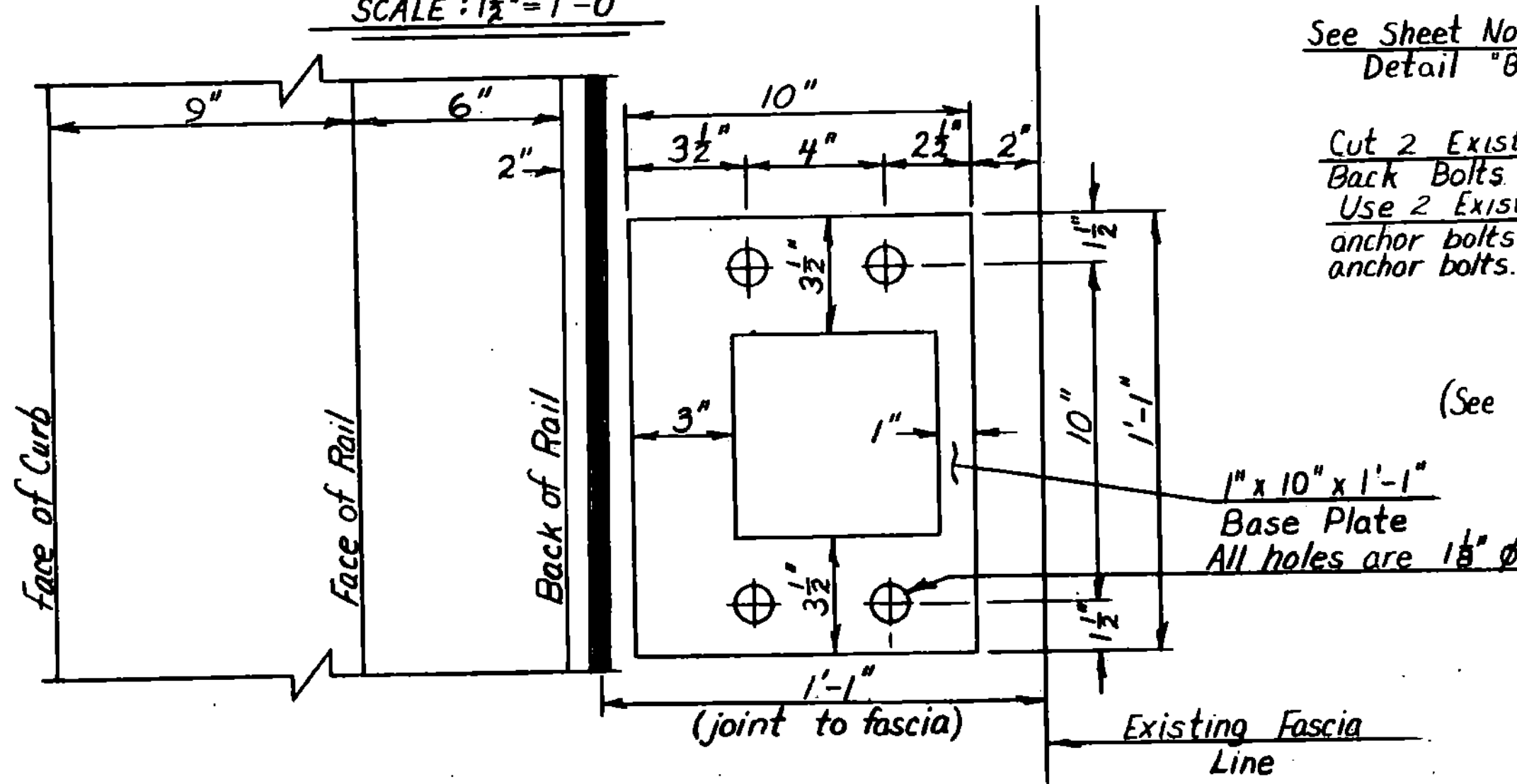


BRIDGE RAILING PLAN
 VT. RTE. 100-BRIDGE N° 99
 LUDLOW
 1" = 20'-0"

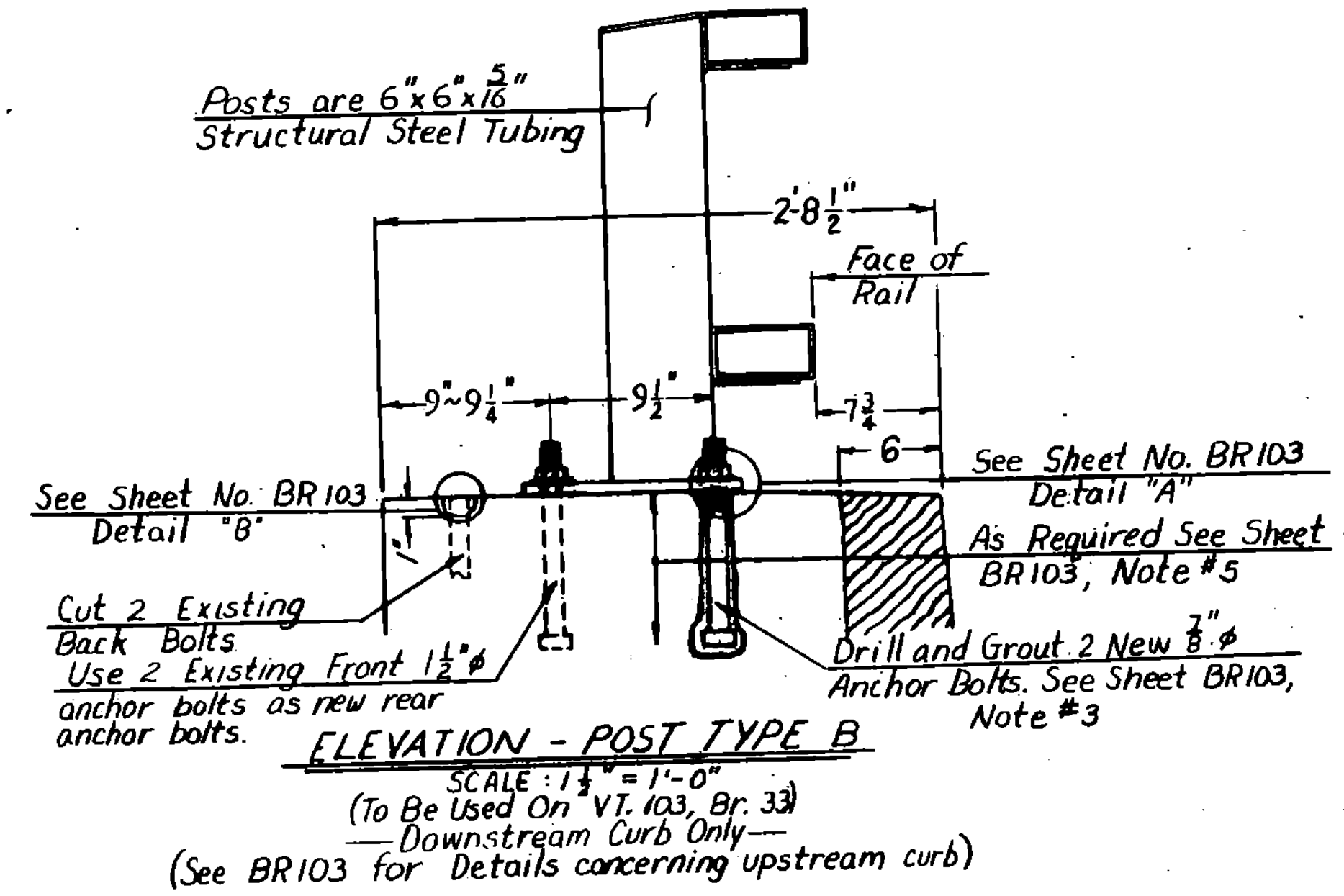
NOTES
 Use Post & Base Plate-Type B for both bridges on this sheet, except on wingwalls.



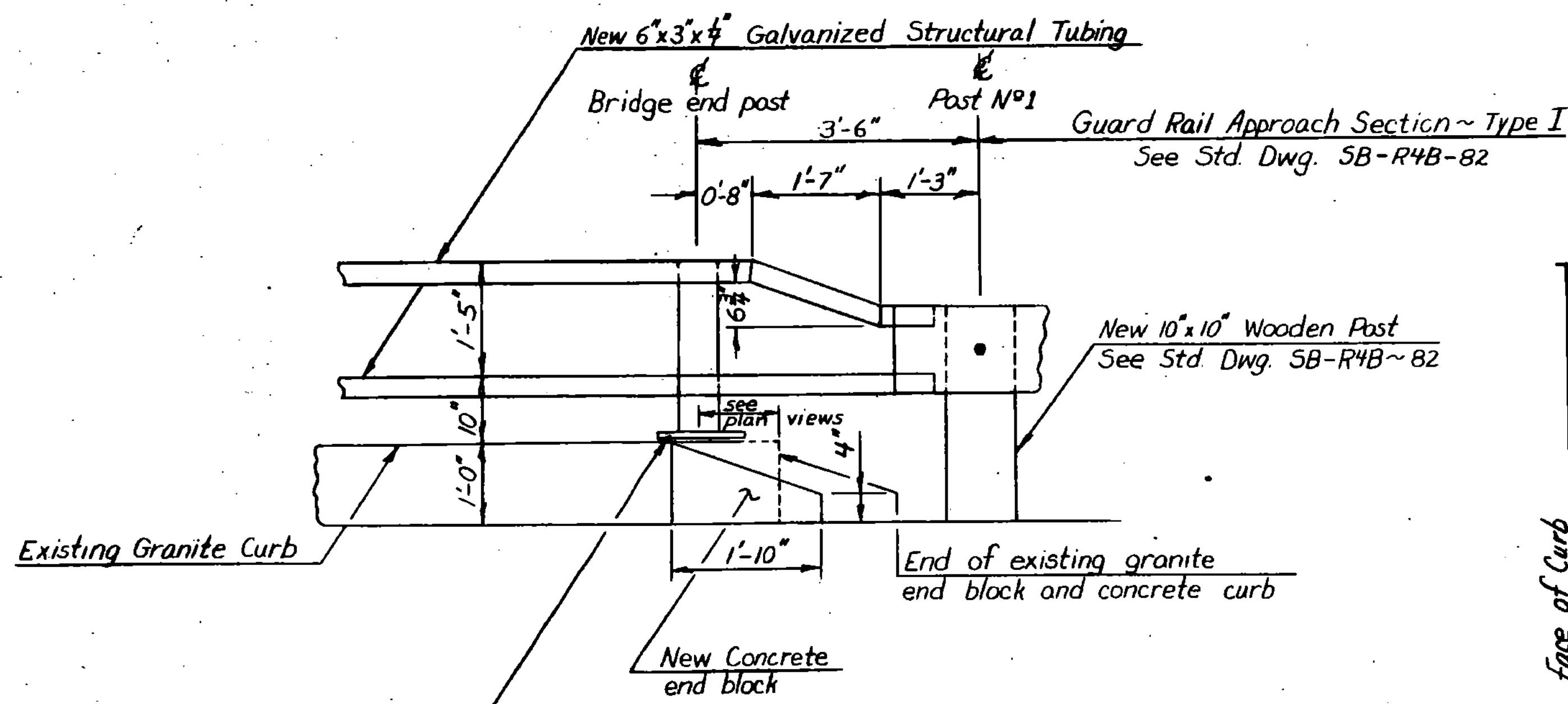
MODIFIED POST FOR WINGWALL
 SCALE: 1 1/2" = 1'-0"



WINGWALL BASE PLATE DETAIL
 SCALE: 3" = 1'-0"
 (To be used on VT. 100, Br. 99- both curbs)
 (VT. 103, Br. 33- upstream curb only)

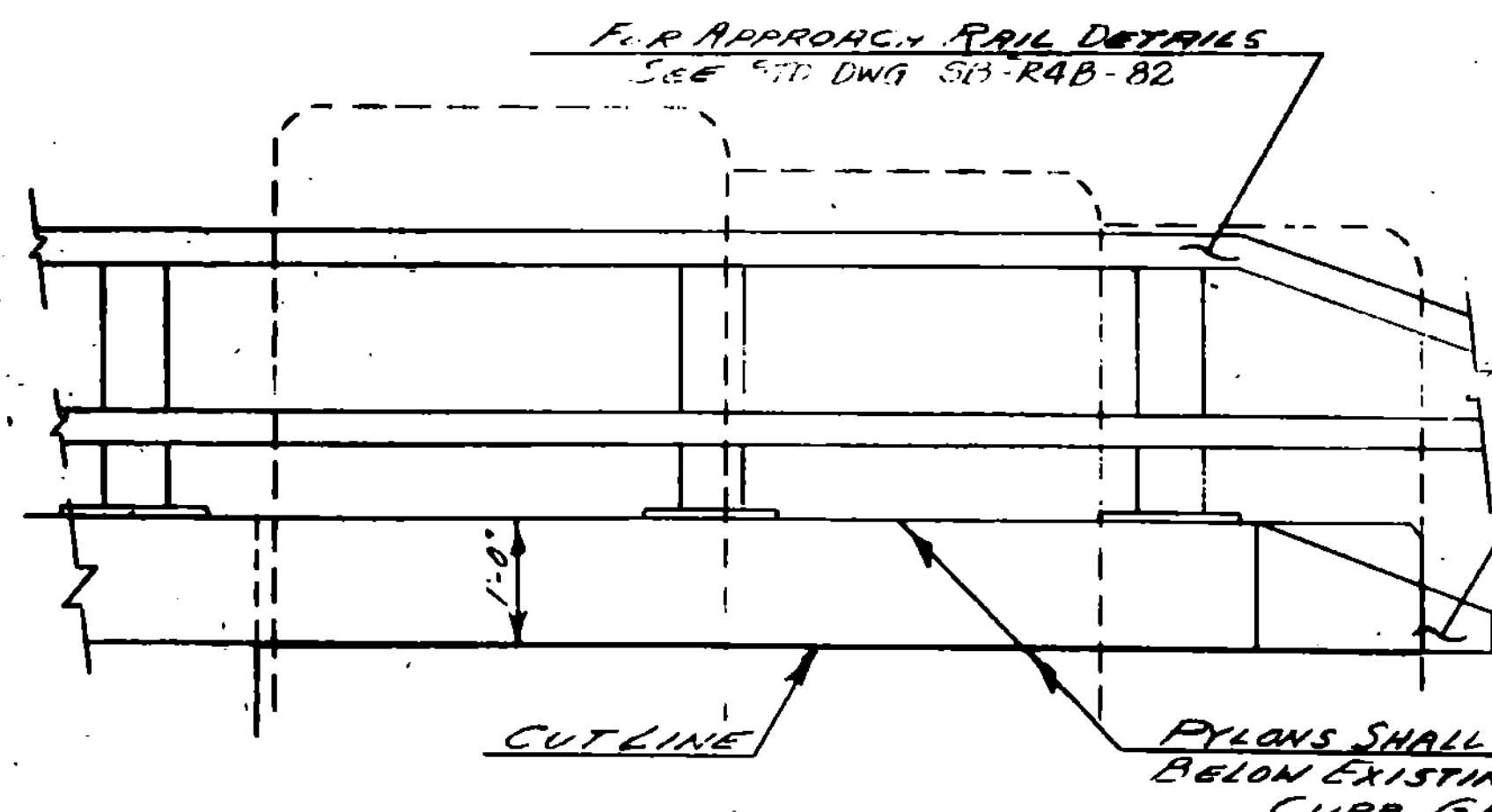


ELEVATION - POST TYPE B
 SCALE: 1 1/2" = 1'-0"
 (To Be Used On VT. 103, Br. 33)
 - Downstream Curb Only -
 (See BR103 for Details concerning upstream curb)

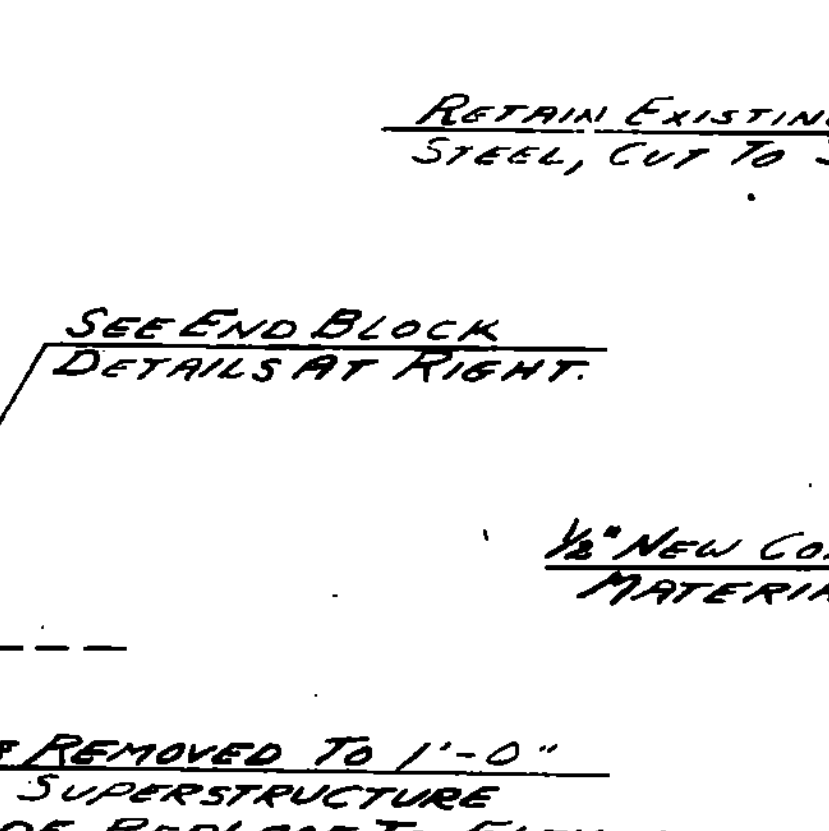


TRANSITION DETAILS
 VT. RTE. 103-BRIDGE N° 33
 VT. RTE. 100-BRIDGE N° 99
 3/4" = 1'-0"

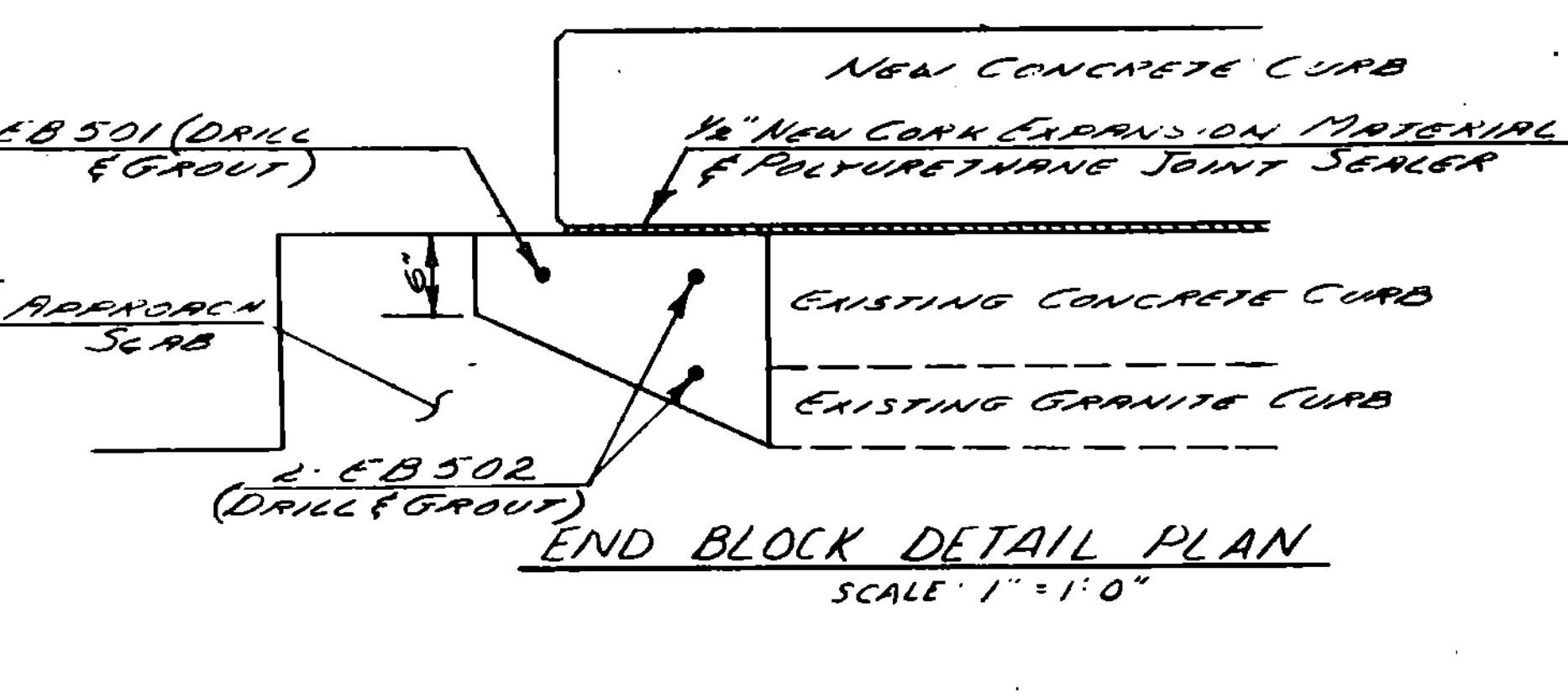
STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town of MT. HOLLY, LUDLOW	Bridge No. 33, 99
Highway No. VT. 103 & VT. 100	Log Sta. --- Surv. Sta. ---
BRIDGE RAILING PLANS	
VT. 100, BRIDGE 99 & VT. 103, BRIDGE 33	
Designed By G.S. ROGERS	Drawn By M.P. KEENE
Checked By D.W. NEWTON 11/85	Bridge Design Supervisor F.W. Bolcum Date 3/86
PROJECT STATEWIDE	PROJECT NO. F SFTY (85)
M.S. Info.	
Bridge Sheet No. BR102	Sheet 16 of 200



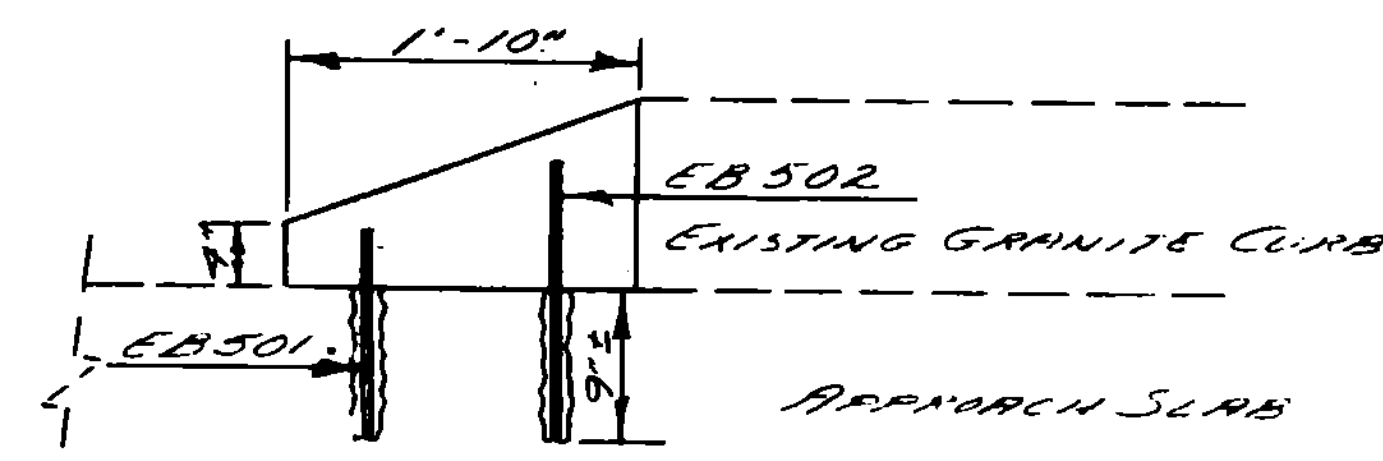
PYLON REMOVAL ELEVATION
NOT TO SCALE
(Applies to Mendon, US. 4, Br. 24 only)



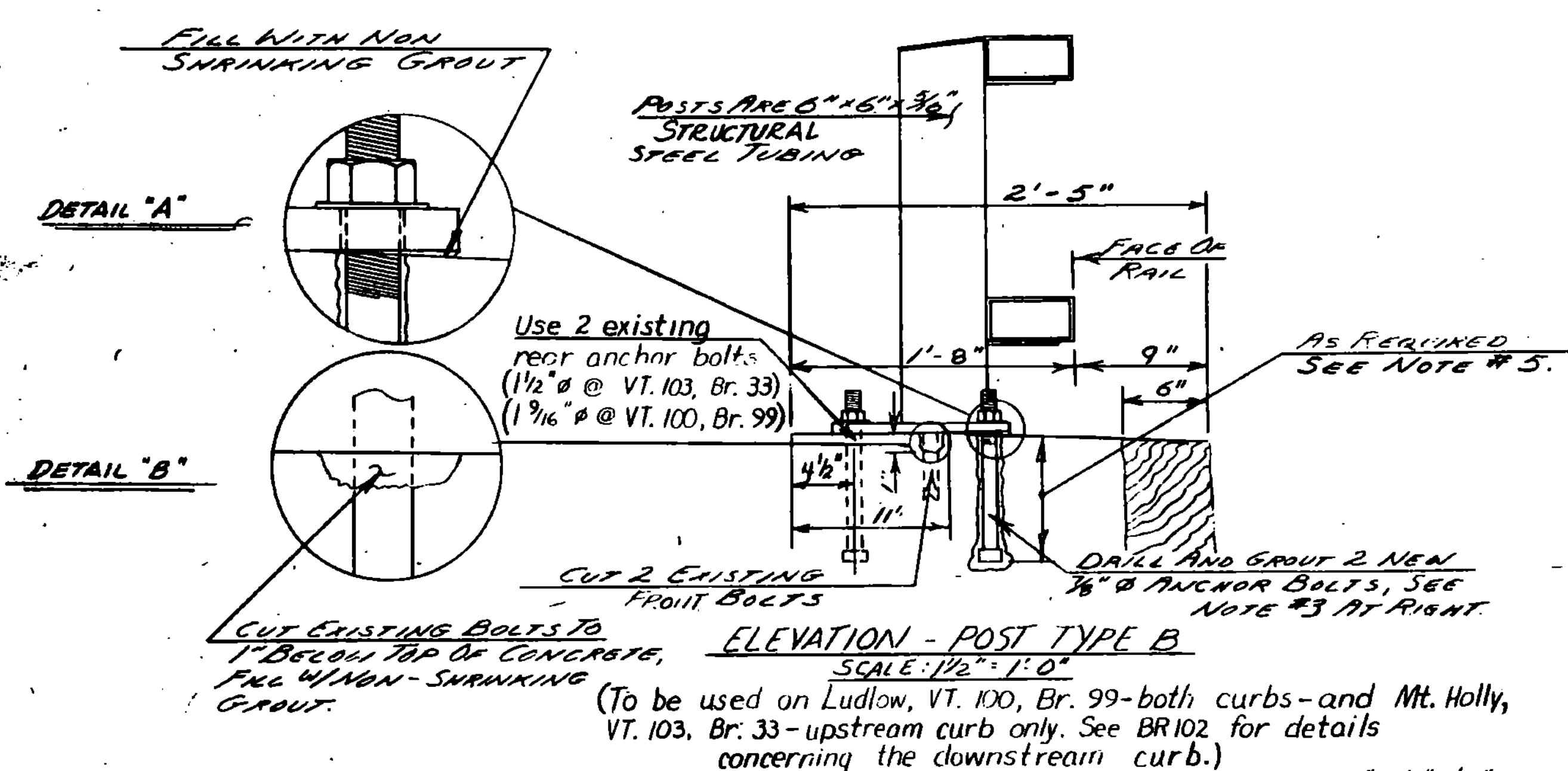
SECTION THROUGH NEW CURB
SCALE: 1" = 1'-0"
(Applies to Mendon, US. 4, Br. 24 only)



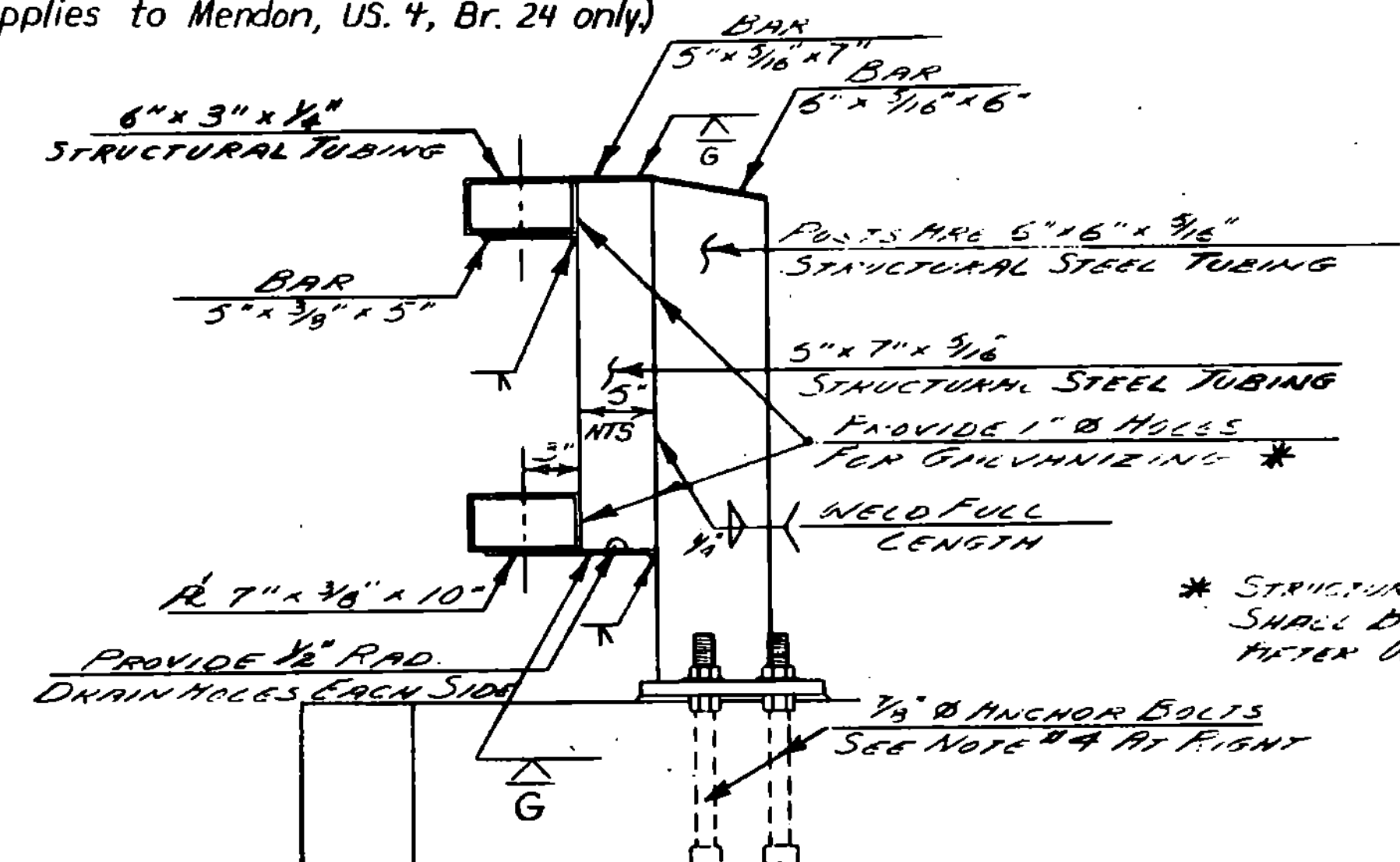
END BLOCK DETAIL PLAN
SCALE: 1" = 1'-0"



END BLOCK DETAIL ELEVATION
SCALE: 1" = 1'-0"

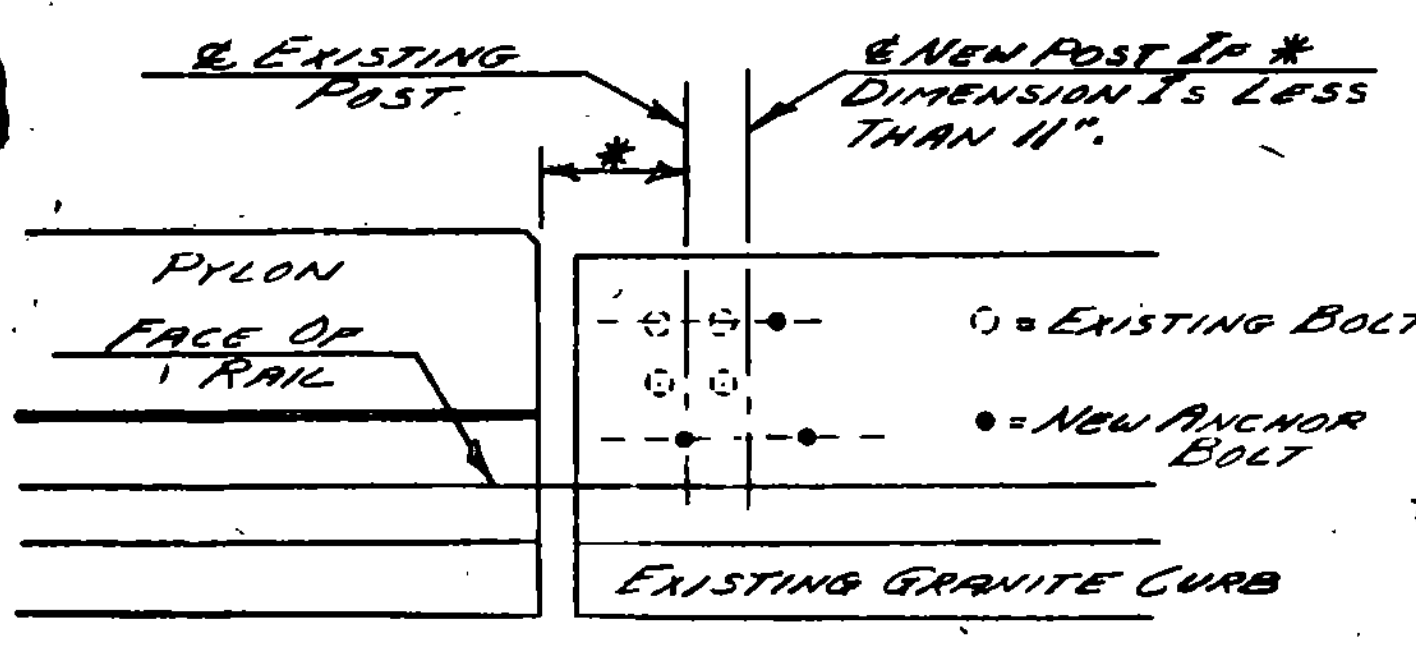


ELEVATION - POST TYPE B
SCALE: 1/2" = 1'-0"
(To be used on Ludlow, VT. 100, Br. 99 - both curbs - and Mt. Holly, VT. 103, Br. 33 - upstream curb only. See BR102 for details concerning the downstream curb.)

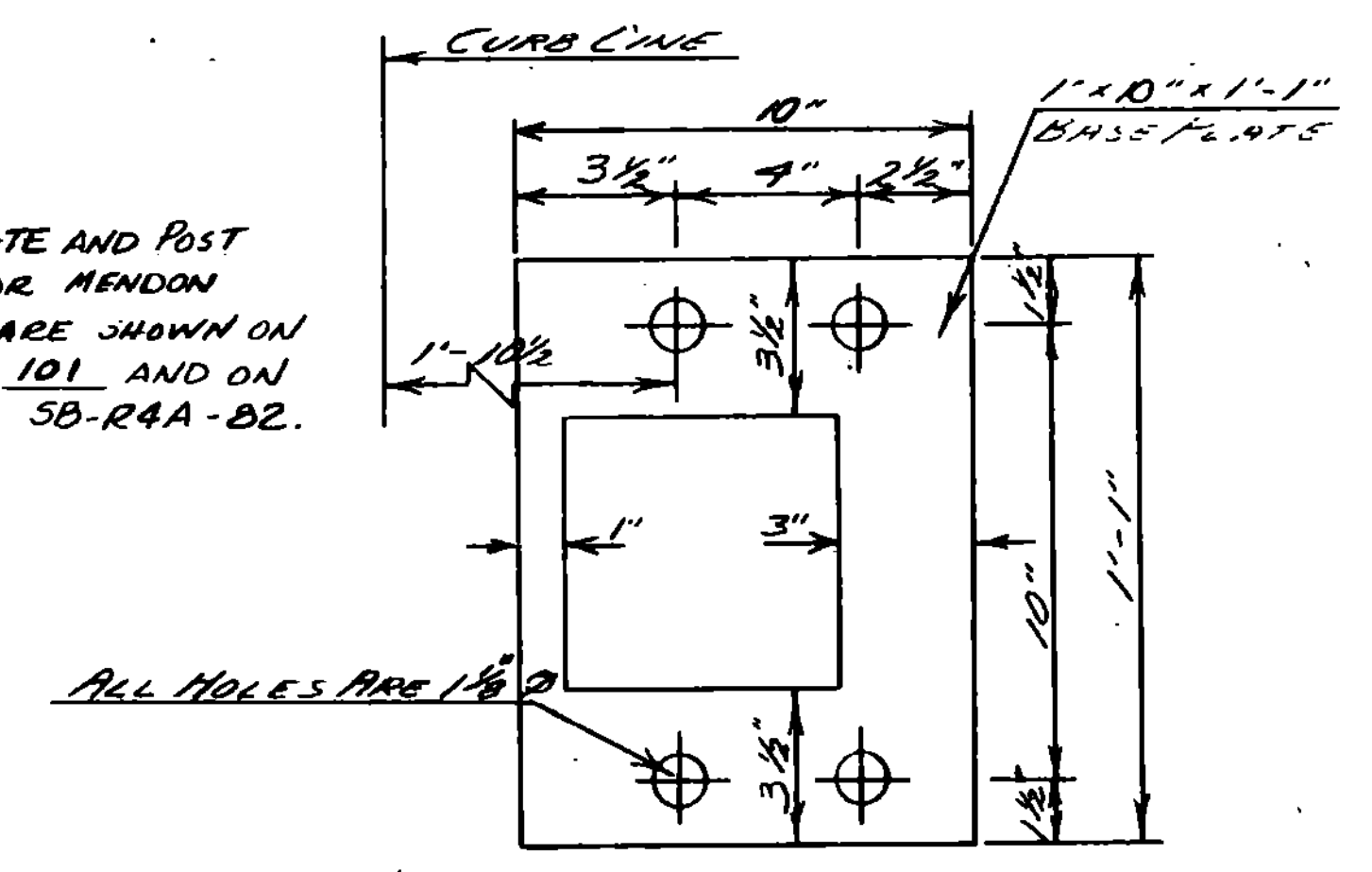


MODIFIED POST FOR WINGWALLS
SCALE: 1/2" = 1'-0"
(To be used on Mendon, US. 4, Br. 24 only)

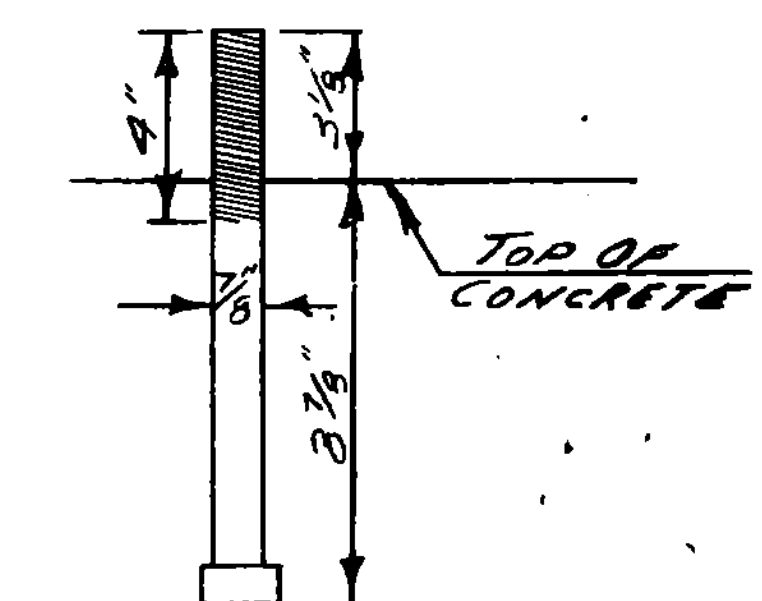
- NOTES**
- FOR POST DETAILS AND RELATED NOTES NOT SHOWN IN THESE PLANS, SEE STD. SHEET SB-R4A-82.
 - NEW ASTM A449 3/8" ANCHOR BOLTS USED ON THE SUPERSTRUCTURE SHALL BE FURNISHED WITH 1 NUT & 1 WASHER. NEW ASTM A449 3/8" ANCHOR BOLTS USED ON THE WINGWALLS SHALL BE FURNISHED WITH 2 NUTS & 1 WASHER. BOLTS, NUTS, & WASHERS SHALL BE FURNISHED UNDER THE ITEM BRIDGE RAILING - 2 Rail Galvanized Box Beam.
 - GROUT NEW BOLTS WITH EPOXY MORTAR, (VT. SPEC. 77A01). DRILL HOLES SHALL BE 1 3/8" Ø. DRILLING & GROUTING NEW ANCHOR BOLTS SHALL BE SUBSIDIARY TO BRIDGE RAILING, 2 Rail Galvanized Box Beam.
 - ANCHOR BOLTS ON THE WINGWALLS ARE TO BE CAST IN THE CONCRETE. THE POSTS ARE TO BE SET SO THAT THE NEW FACE OF RAILING ALIGNS WITH THAT ON THE SUPERSTRUCTURE.
 - A MINIMUM TENSILE STRENGTH OF 30,000 LBS. SHALL BE ATTAINED ON THE NEW BOLTS FOR POSTS TYPE B. A SAMPLE GROUTED BOLT WILL BE TESTED BEFORE MATERIALS ARE APPROVED FOR USE AND THEN RANDOM BOLTS WILL BE FIELD TESTED BY THE STATE OF VERMONT TO INSURE THIS STRENGTH IS BEING ATTAINED.



BASE PLATE TYPE B DETAIL
SCALE: 3" = 1'-0"
(To be used on VT. 103 - BR. 33 - FOR BOTH UPSTREAM AND DOWNSTREAM CURBS; VT. 100 - BR. 99.)



WINGWALL BASE PLATE DETAIL
SCALE: 3" = 1'-0"
(To be used on Mendon U.S. 4 - Br. 24)

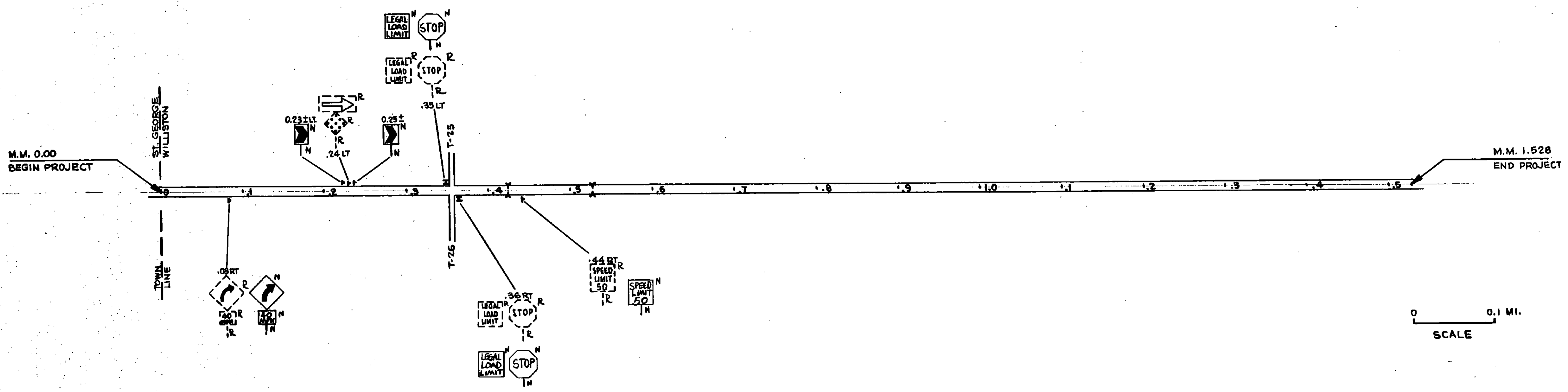


NEW ANCHOR BOLT DETAIL FOR WINGWALLS
(TO BE USED ON MENDON - U.S. 4 - BR. 24)

* IF THIS DIMENSION IS 11" OR GREATER, USE EXISTING 1 1/2" BOLTS AND DRILL 2 NEW FRONT ANCHOR BOLTS. IF DIMENSION IS LESS THAN 11" USE ONLY ONE OF THE EXISTING REAR ANCHOR BOLTS AND DRILL 3 NEW ANCHOR BOLTS AS SHOWN. CUT OFF BOLTS NOT USED TO 1" BELOW TOP OF CONCRETE, FILL WITH NON-SHRINKING GROUT. IF A NEW 3/8" REAR ANCHOR BOLT IS REQUIRED, A SPECIAL 5/8" x 2 1/4" x 2 1/4" WASHER WILL BE REQUIRED BECAUSE OF 1 3/8" Ø OR 1 1/2" Ø HOLES IN BASE PLATE.

** VT. 100, Br. 99 - HOLES FOR EXISTING 1 3/8" Ø BOLTS ARE 1 3/4" Ø.

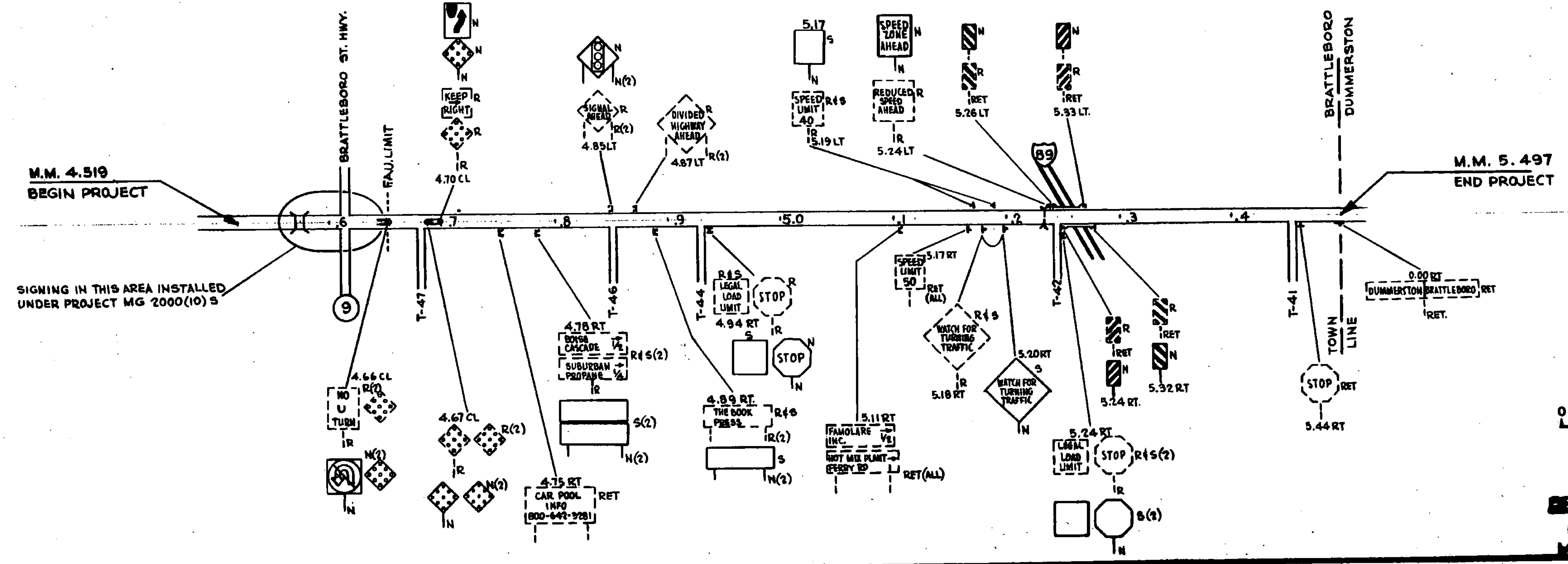
STATE OF VERMONT	
AGENCY OF TRANSPORTATION	
TOWN OF	Bridge No.
HIGHWAY NO.	Log Sta.
	Surr. Sta.
POST & CURB DETAILS	
Designed by G.S. ROGERS	Drawn by PEABODY
Checked by DW. NEWTON	Bridge Design Supervisor
DATE 1/86	F.W. BOLKUM date 3/86
PROJECT STATEWIDE	PROJECT NO. FSFTY (85)
Bridge Sheet No. BR103	Sheet 17 of 200



0 0.1 MI.
SCALE

WILLISTON
VT. RTE. 2A
M 5500(5)S

LEGEND
R - REMOVE
N - NEW
R & S - REMOVE AND SALVAGE
S - SALVAGED
RET - RETAINED



0 0.1 MI.
SCALE

BRATTLEBORO
U.S. RTE. 5
M 2000(12)S

PROJ. M NO 5500(5)S
SHEET 21 OF 200

DATUM
VERTICAL _____
HORIZONTAL _____

SIGNING IN THIS AREA INSTALLED UNDER PROJECT MG 2000(10)S

TRAFFIC ITEM AND TRAFFIC SIGN SUMMARY SHEET, NOTES AND DETAILS

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS TO BE SALVAGED		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS								REMARKS	FOR SIGN DETAIL SHEET		
			REMOVE (E.A.)	RETAIN (X)	NEW 'A' (S.F.)	NEW 'B' (S.F.)	SALV. SIGN (E.A.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	FLANGED CHANNEL			TUBULAR ALUMINUM				W SHAPED STEEL		PLAN SHEET NUMBER	STD. SHEET NUMBER	
													2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.	POST SIZE		WEIGHT	FTG. SIZE	
WILLISTON 08 RT		30" x 30" 18" x 18"	1		6.3																			E-19A E-19B
.24 LT.										X														
.24 LT.																								
.23 LT.		18" x 24"			3																			E-19
.25 LT.		18" x 24"			3																			E-19
.35 LT.		24" x 24"	1		4					X														E-15A
.35 LT.		30" x 30"	1		6.3																			E-15C
.36 RT.		24" x 24"	1		4					X														E-15A
.36 RT.		30" x 30"	1		6.3																			E-15C
.44 RT.		24" x 30"	1		5					X														E-15B
TOTALS					9																			

TRAFFIC ITEM SUMMARY

NOTES AND DETAILS

ITEM NO.	ITEM
	SEE TRAFFIC SHEET *TD504 FOR PROJECT SUMMARY OF QUANTITIES AND REVISION NOTE FOR LEGAL LOAD LIMIT SIGNS.

NOTES AND DETAILS

TRAFFIC SHEET NO. TD502 SHEET _____ OF _____

DRAWN BY _____ DATE _____
 CHKED BY _____ DATE _____
WILLISTON, BRATTLEBORO
 PROJ. M NO. 3500 (5)S
 SHEET 22 OF 208 (13)S

WILLISTON

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS								REMARKS	FOR SIGN DETAIL SHEET									
			TO BE SALVAGED REMOVE (EA.)	RETAIN (X)	NEW 'A' (S.F.)	NEW 'B' (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM					W SHAPED STEEL		PLAN SHEET NUMBER	STD. SHEET NUMBER						
														2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.		POST SIZE	WEIGHT			FTG. SIZE 24" 30"					
BRATTLEBORO 4.65 CL			1																												
" "			1																												
" "		24" x 24"			4							1	X																FACES NORTHBOUND TRAFFIC	E-15C	
" "		18" x 18"			2.3																								MOUNT BACK TO BACK WITH "NO U TURN" SYMBOL	E-19B	
4.69 CL		18" x 18"	1		2.3								X		1	X														MOUNT HAZARD MARKERS BACK TO BACK	E-19B
" "		18" x 18"	1		2.3								X																	E-19B	
4.70 CL			1										X																		
" "			1																												
" "		24" x 30"			5							1	X																		E-15B
" "		18" x 18"			2.3																										E-19B
4.75 RT				X																											
4.76 RT			(1)	X				8					X		(2)																PAY ALL WORK AS ITEM 680.20 MOD. (NON-FED. PART.)
4.85 LT		36" x 36"	1										X(2)		1																
4.87 LT			1										X(2)																		
4.89 RT			(1)	X				8					X(2)		(2)																REINSTALL AS FAR FROM EDGE OF PAVEMENT AS POSSIBLE. PAY ALL WORK AS ITEM 680.20 MOD. (NON-FED. PART.)
4.94 RT		30" x 30"	1		6.3								X		1	X															E-15C
" "		(24" x 24")	1	X				1																							
5.11 RT				X									X(2)																		
5.17 RT				X									X																		
5.18 RT		(36" x 36")	1	X				1					X		1	X															
5.19 LT		(24" x 30")	1	X				1					X		1	X															RE-ERECT SALV SIGN ON NEW POST AT 5.17
5.24 LT		24" x 30"	1		5								X		1	X															E-15B
5.24 RT		(30" x 30")	1	X				1					X		1	X															
" "		(24" x 24")	1	X				1																							

TOTALS: SUB-TOTALS 15 29.5 5 24 260

FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD, POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S "SIGN POST DESIGN MANUAL".

PREPARED BY SHM DATE 9/86
 CHECKED BY DATE
 WILLISTON BRATTLEBORO
 PROJ. NO. 3800(5)S
 M 2000(15)S
 TRAFFIC SHEET NO. 1523 SHEET 23 OF 280
 BRATTLEBORO

1986

TRAFFIC ITEM AND TRAFFIC SIGN SUMMARY SHEET, NOTES AND DETAILS

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS TO BE SALVAGED		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS										REMARKS	FOR SIGN DETAIL SHEET											
			REMOVE (EA.)	RETAIN (X)	NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (EA.)	SALV. T.J.S.(S.F.)	RET.	DRILL	REM.	SALV.	FLANGED CHANNEL			TUBULAR ALUMINUM			W SHAPED STEEL					PLAN SHEET NUMBER	STD. SHEET NUMBER										
													2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.	POST SIZE	WEIGHT	FIG. SIZE 24"		30"											
BRATTLEBORO		12" x 36"	1		3																														
5.24 LJ		12" x 36"	1		3																														
5.26 RT		12" x 36"	1		3																														
5.32 LT		12" x 36"	1		3																														
5.33 RT		12" x 36"	1		3																														
5.44 RL	STOP			X																															
5.497 - 0.00 RT	DUMMERSTON BRATTLEBORO			X																															
SUB-TOTALS			4		12																														
TOTALS			19		41.5			5	24																										

TRAFFIC ITEM SUMMARY							
ITEM NO.	ITEM	WILLISTON	BRATTLEBORO	UNIT	RND.	TOTAL	
675.20	TRAFFIC SIGNS, TYPE A	40.2	41.5	S.F.	0.3	82	
675.30	FLANGED CHANNEL SIGN POSTS	196	260	LB.		456	
675.50	REMOVING SIGNS	9	19	EA.		28	
675.60	ERECTING SALVAGED SIGNS		5	EA.		5	
680.20	TRAVEL INFORMATION SIGNS		24	S.F.		24	

NOTES AND DETAILS		675.20 TRAFFIC SIGNS, TYPE A 675.30 FLANGED CHANNEL SIGN POSTS 675.50 REMOVING SIGNS 675.60 ERECTING SALVAGED SIGNS 680.20 TRAVEL INFORMATION SIGNS																									
		12	4	1000	2600	200	500	16	4	20	100	2737	600	11934	1467	528	56	26	200	30	1	133	EA				
F-SFTY	ALBURG	12	4																								
	ENOSBURG																										
	JOHNSON																										
	LUDLOW																										
	LOWELL - WESTFIELD																										
	LUDLOW-MT. HOLLY-SHREWSBURY SECT. I																										
	LUDLOW - MT. HOLLY-SHREWSBURY SECT. II																										
	NEW HAVEN																										
	SOUTH BURLINGTON																										
	BERLIN - BARRE																										
	MENDON - SHERBURNE			1000	2600	200	500	16	4	20	100	2737	600	11934	1467	528	56	26	200	30	1	133					
RS-SFTY	WORCESTER SECT I																										
	WORCESTER SECT II																										
	WEATHERSFIELD-WINDSOR																										
M	WILLISTON M 5500(5)																										
	BRATTLEBORO M 2000(13)																										
COMPOSITE TOTALS		12	4	1000	2600	200	500	16	4	20	100	2737	600	11934	1467	528	56	26	200	30	1	133					
F-SFTY		12	4	1000	2600	200	500	16	4	20	100	2737	600	11934	1467	528	56	26	200	30	1	133					
RS-SFTY																											
M																											

SPECIAL NOTE: THE CONTRACTORS ATTENTION IS DIRECTED TO A RECENT CHANGE IN AGENCY POLICY WHICH REQUIRES LEGAL LOAD LIMIT SIGNS TO BE ERCTED ON THE DRIVERS RIGHT FOR VEHICLES ENTERING A TOWN HIGHWAY FROM A STATE HIGHWAY. AT ALL LOCATIONS ON THIS PROJECT WHERE THE DESIGN INDICATES LEGAL LOAD LIMIT SIGNS TO BE MOUNTED ON THE BACK OF STOP SIGNS ON THE DRIVERS LEFT LEAVING THE STATE HIGHWAY, THE LEGAL LOAD LIMIT SIGN WILL BE INSTALLED ON ITS OWN POST ON THE DRIVERS RIGHT. WHERE EXISTING STOP-LEGAL LOAD ASSEMBLIES ARE SHOWN AS RETAINED THE LEGAL LOAD SIGN WILL BE REMOVED, SALVAGED AND REMOUNTED ON ITS OWN POST ON THE OPPOSITE SIDE OF THE TOWN HIGHWAY. AN ESTIMATED QUANTITY OF FLANGED CHANNEL SIGN POSTS HAS BEEN ADDED TO THE PROJECT TOTAL. THE ENGINEER IS ALSO AUTHORIZED TO PAY REMOVAL AND SALVAGE FOR LEGAL LOAD LIMIT SIGNS WHICH MUST BE MOVED.

INDIVIDUAL AND COMPOSITE TOTALS FOR STATEWIDE(85) PROJECT

TRAFFIC SHEET NO. TD 504

DRAWN BY _____ DATE _____

CHECKED BY _____ DATE _____

WILLISTON, BRATTLEBORO

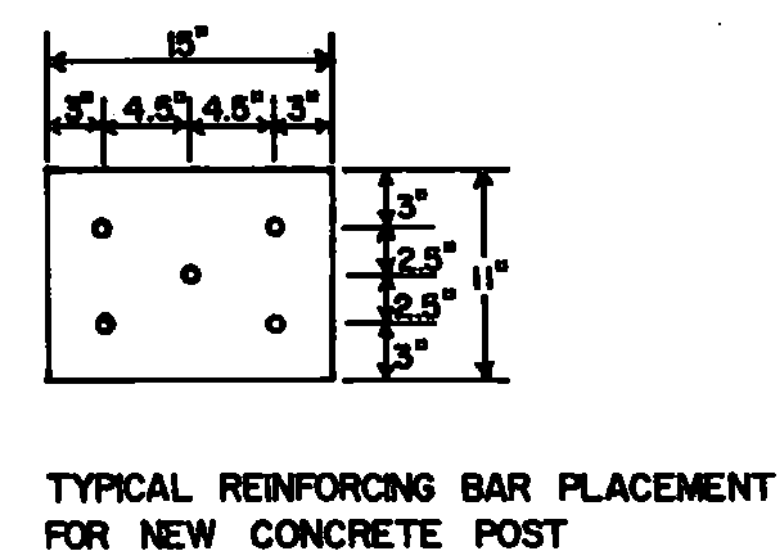
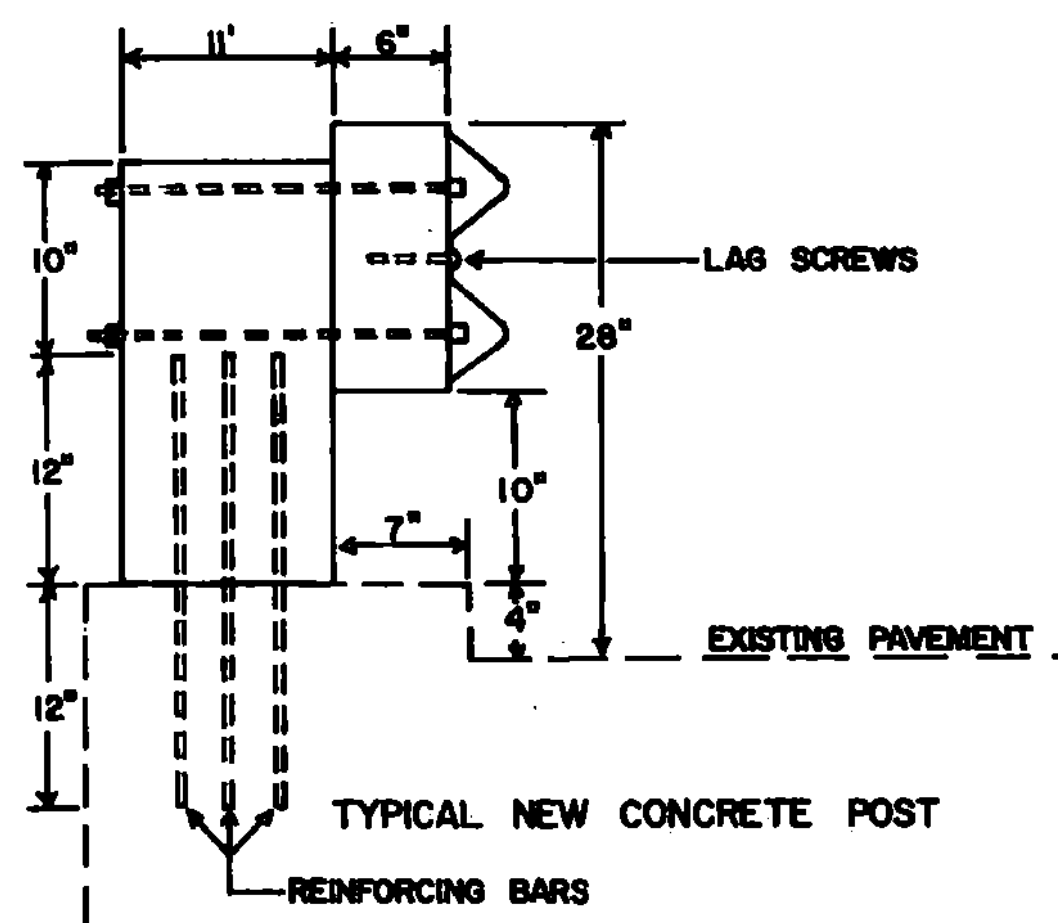
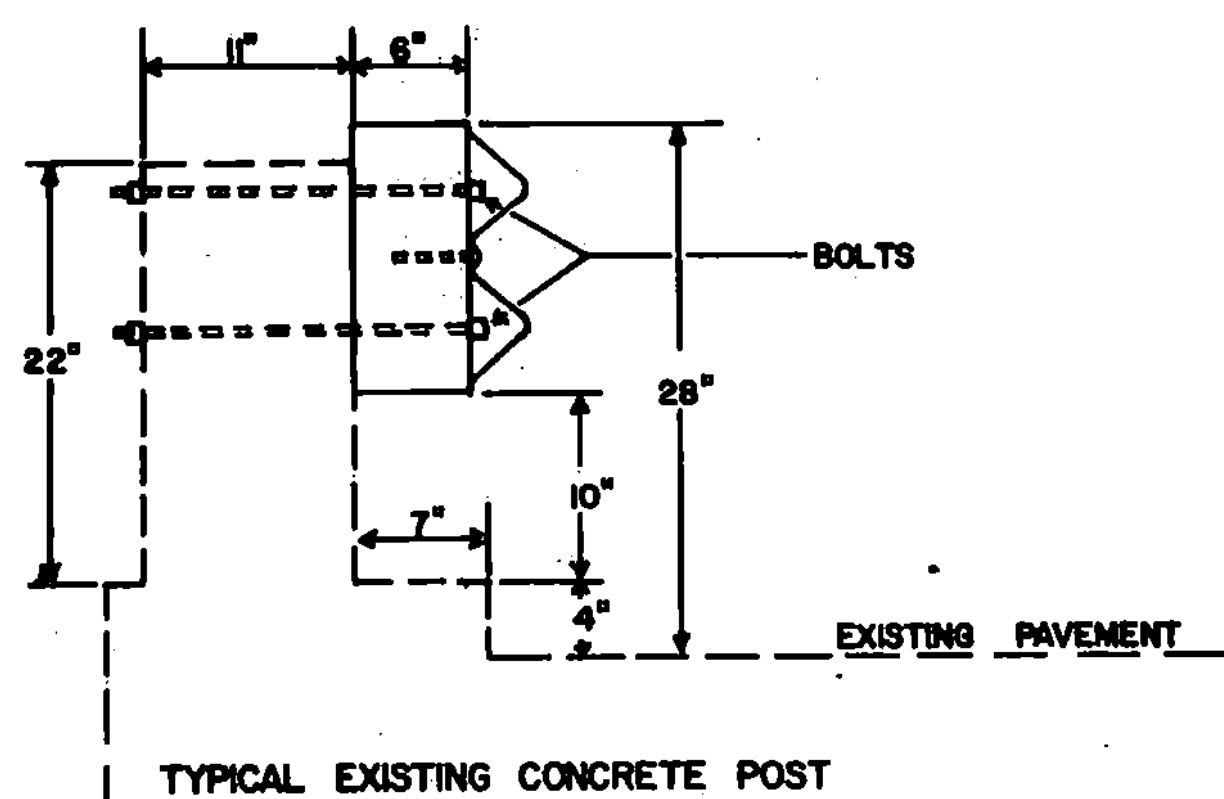
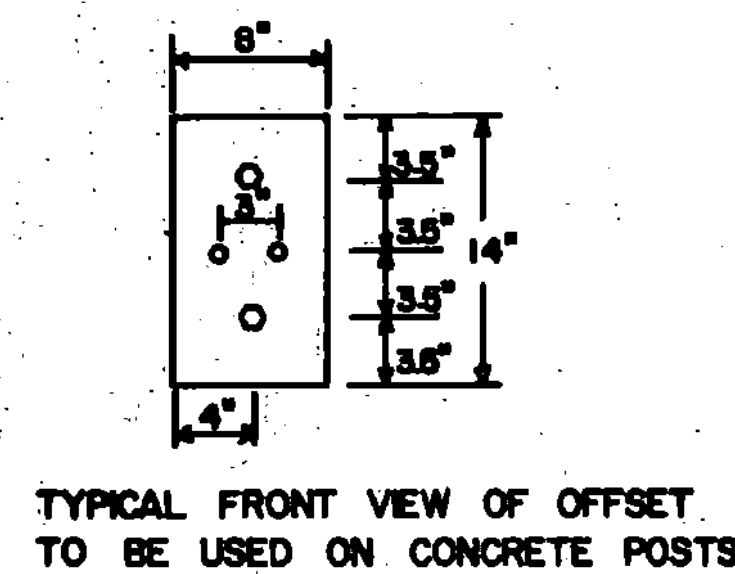
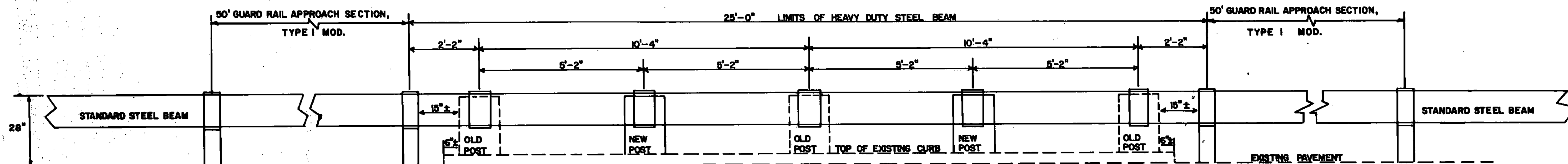
PROJ. M NO 5500(5)

SHEET 24 OF 200

1985 STATEWIDE SAFETY PROJECT ITEM DETAIL SHEET

MILE MARKER	POS	REMOVING TREES		UNCLASSIFIED EXCAVATION	EARTH BORROW	TRENCH EARTH	TRENCH ROCK	GRAVEL SHOULDERS	METAL			RC PIPES			MES	RC PES	CONC	STEEL	REHAB. DI.	GRATE TYPE B	STONE FILL		TIMBER CURB	ITEM 604.40	SELECTIVE THINNING	GUARD RAIL ITEMS						DELINEATORS	REMARKS		
		D	L						TH	D	L	CL	I	II							621.80	621.21				621.20	621.70	621.60	621.50						
3.49-3.50	RT						50																		71		25	1		1				REMOVE EXISTING RAIL. CONNECT GUARD RAIL APPROACH SECTION, TYPE I TO HEAVY DUTY BEAM ON BRIDGE. SEE SHEETS 3 AND 30 FOR DETAILS.	
3.50-3.51	RT																										25							SEE SHEET 30 FOR DETAILS.	
3.51-3.52	RT						3																			38		25	1	1				REMOVE EXISTING RAIL. CONNECT GUARD RAIL APPROACH SECTION, TYPE I TO THE HEAVY DUTY BEAM ON THE BRIDGE. WRAP NLY END AROUND DRIVE. SEE SHEETS 3 AND 30 FOR DETAILS.	
3.48-3.49	LT						50																			71		25	1		1			REMOVE EXISTING RAIL. CONNECT GUARD RAIL APPROACH SECTION, TYPE I MOD. TO THE HEAVY DUTY BEAM ON THE BRIDGE. SEE SHEETS 3 AND 30 FOR DETAILS.	
3.49-3.50	LT																										25							SEE SHEET 30 FOR DETAILS.	
3.50-3.51	LT						49																			40			1		1			REMOVE EXISTING GUARD RAIL. CONNECT GUARD RAIL APPROACH SECTION, TYPE I MOD. TO THE HEAVY DUTY BEAM ON THE BRIDGE. SEE SHEETS 3 AND 30 FOR DETAILS.	
3.94-3.95	RT						5																			106		75	1		1			REMOVE EXISTING RAIL. CONNECT 621.70 MOD. TO HEAVY DUTY BEAM ON BRIDGE. WRAP SLY END OF STEEL BEAM AROUND PULLOUT. SEE SHEETS 3 AND 31 FOR DETAILS.	
3.95-3.96	RT																											87.5							SEE SHEET 31 FOR DETAILS.
3.98-3.99	RT						3																			50		25	1		1			REMOVE EXISTING RAIL. CONNECT 621.70 MOD. TO HEAVY DUTY BEAM ON BRIDGE. WRAP NLY END AROUND DRIVE. SEE SHEETS 3 AND 31 FOR DETAILS.	
3.94-3.95	LT						50																			65		25	1		1			REMOVE EXISTING RAIL. CONNECT 621.70 MOD. TO HEAVY DUTY BEAM ON BRIDGE. SEE SHEETS 3 AND 31 FOR DETAILS.	
3.96-3.97	LT																											87.5							SEE SHEET 31 FOR DETAILS.
3.98-3.99	LT						50																			75		25	1		1			REMOVE EXISTING RAIL. CONNECT 621.70 MOD. TO HEAVY DUTY BEAM ON BRIDGE. SEE SHEETS 3 AND 31 FOR DETAILS.	
WORCESTER TOTALS								260																		516	225	225	8	3	5				

WORCESTER VT. 12 AT MILE MARKER 3.50



NOTES:

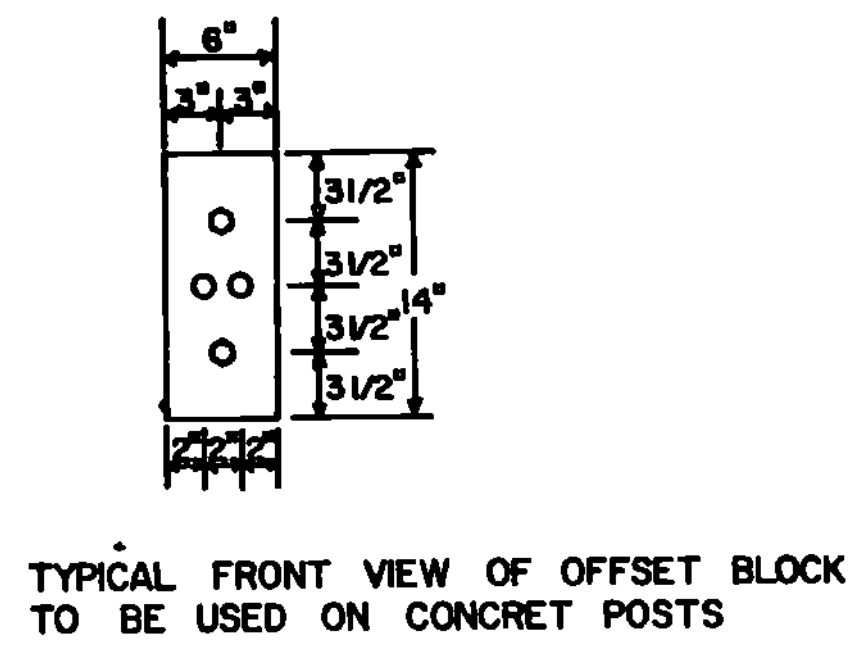
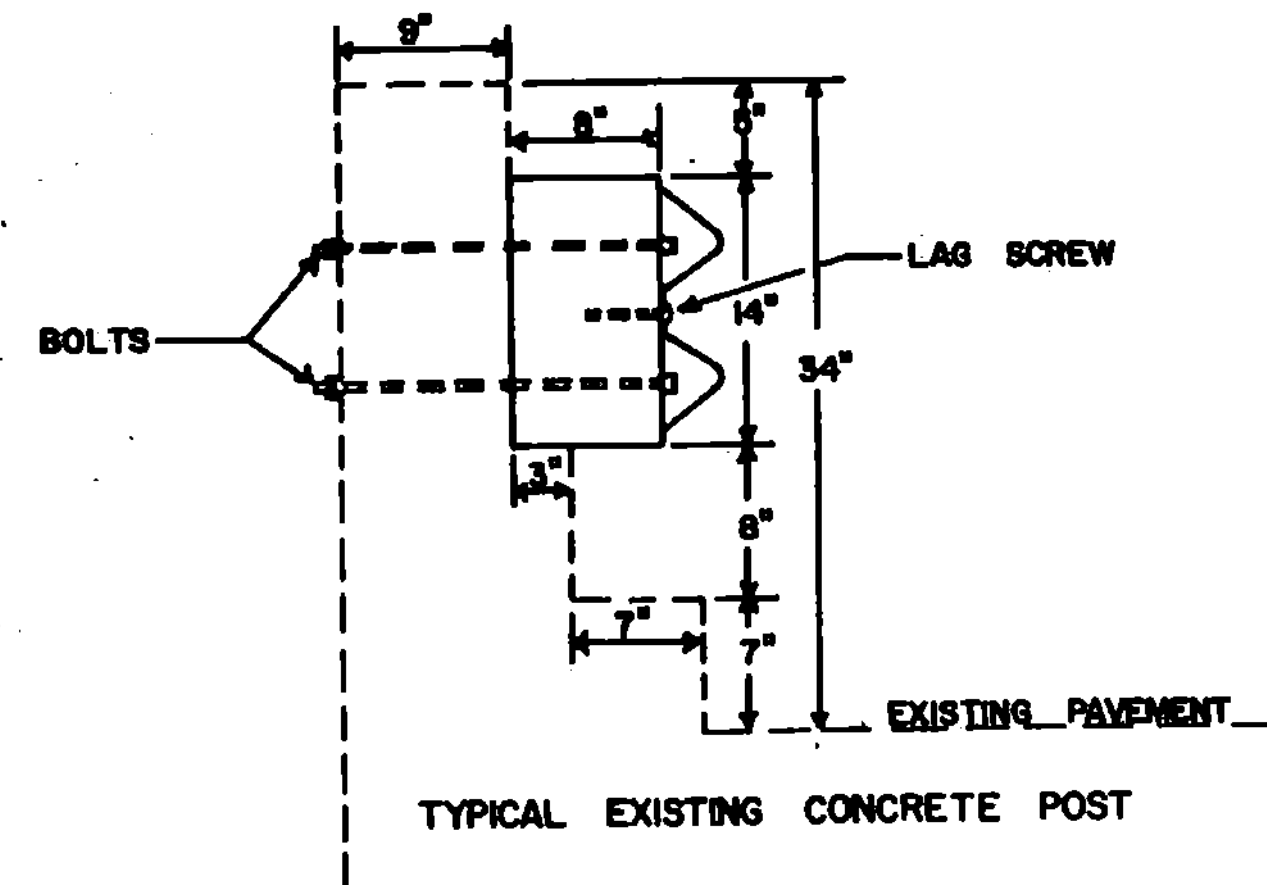
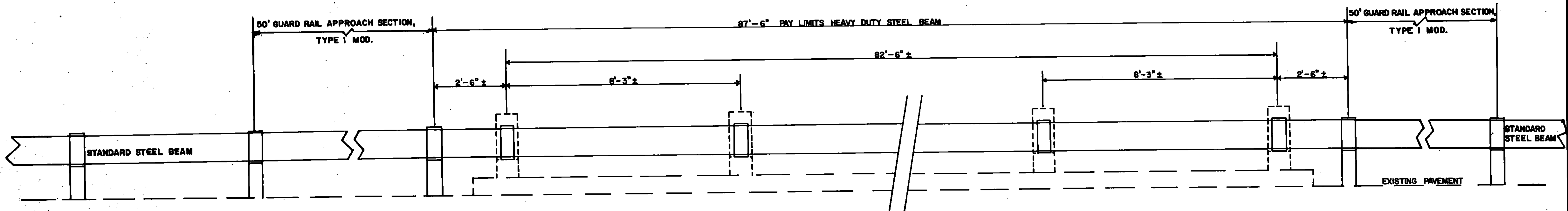
- 1 ALL WORK AND MATERIALS NECESSARY TO INSTALL THE RAILING SHALL BE PAID FOR UNDER THE ITEM GUARD RAIL, HEAVY DUTY STEEL BEAM.
- 2 ALL EXISTING FITTINGS WILL BE CUT FLUSH WITH POST FACES.
- 3 EXISTING POSTS SHALL BE REPAIRED WITH MORTAR, AS NECESSARY, TO INSURE THAT THE OFFSET BLOCK FITS.
- 4 BOLTS USED TO ATTACH OFFSET BLOCKS TO EXISTING POSTS SHALL BE 3/4" WITH WASHERS, BOLTS TO BE PLACED IN EXISTING POSTS THROUGH 1" DRILLED AND GROUTED HOLES.
- 5 LAG SCREWS TO BE 5/8" X 4" WITH WASHER.
- 6 MATERIAL USED TO CONSTRUCT NEW POSTS SHALL CONFORM TO THE SPECIFICATIONS FOR CONCRETE CLASS B.
- 7 REINFORCING BARS SHALL BE NO. 5 BARS. BARS SHALL BE DRILLED AND GROUTED TO A DEPTH OF AT LEAST 12".
- 8 OFFSET BLOCKS TO BE 6" X 8" X 14" TREATED TIMBER.
- 9 SEE STANDARD SB-R4B-82 FOR GUARD RAIL APPROACH SECTION, TYPE I DETAILS.

WORCESTER

1965 STATEWIDE SAFETY

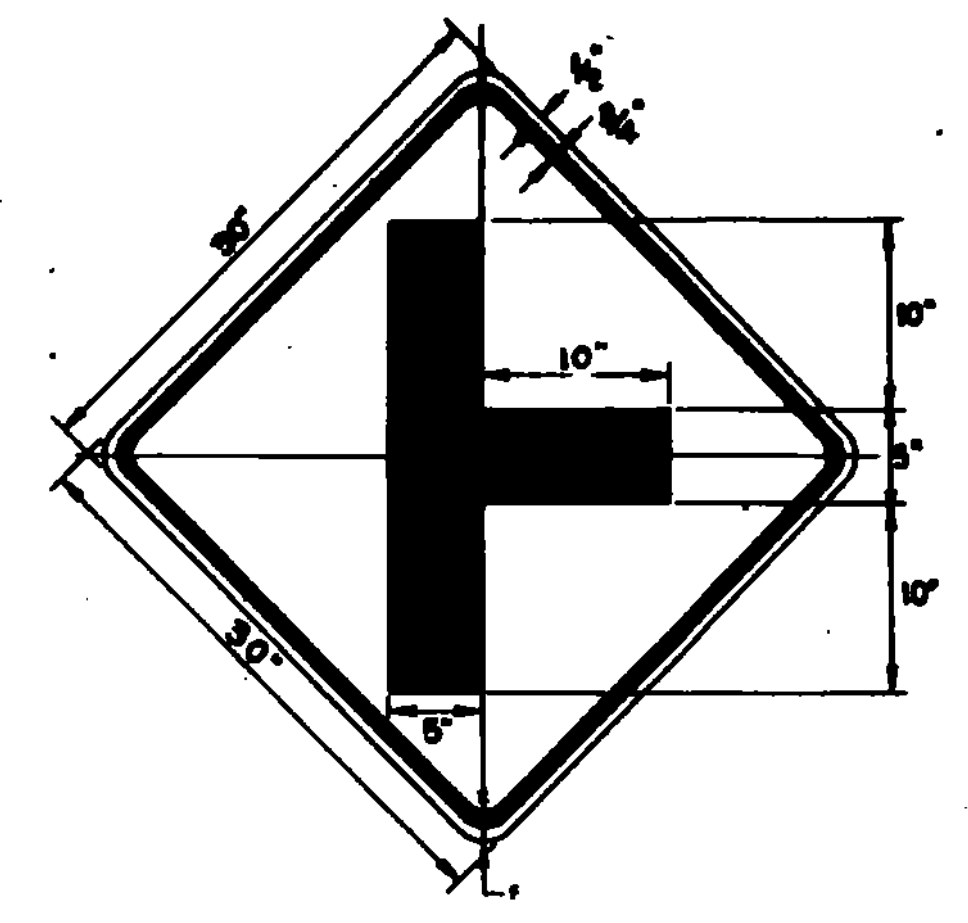
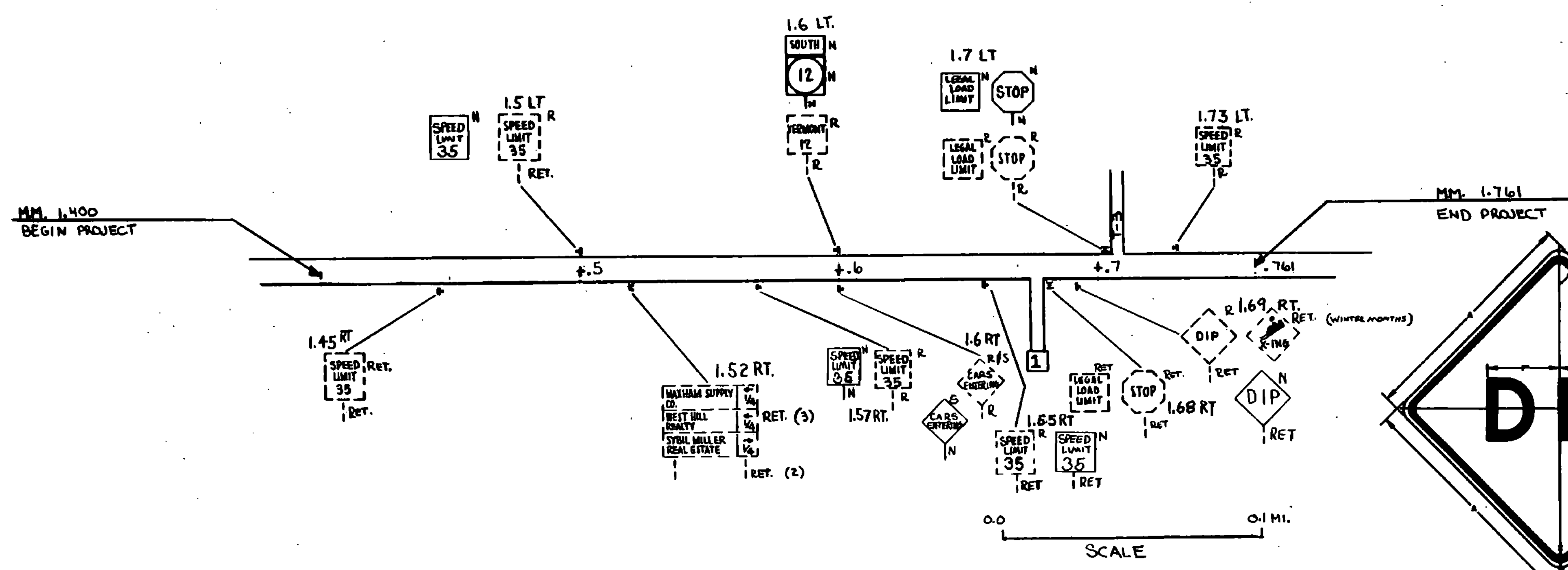
SHEET 30 OF 200 SHEETS

WORCESTER VT. RTE. 12 AT MILE MARKER 3.97



NOTES:

1. ALL WORK AND MATERIALS NECESSARY TO INSTALL THE RAILING SHALL BE PAID FOR UNDER THE ITEM GUARD RAIL, HEAVY DUTY STEEL BEAM.
2. ALL EXISTING FITTINGS WILL BE CUT FLUSH WITH POST FACES.
3. EXISTING POSTS SHALL BE REPAIRED WITH MORTAR, AS NECESSARY, TO INSURE THAT OFFSET BLOCKS FIT.
4. BOLTS USED TO ATTACH OFFSET BLOCKS TO EXISTING POSTS SHALL BE 3/4" WITH NUTS AND WASHERS. BOLTS TO BE PLACED IN EXISTING POSTS THROUGH 1" DRILLED AND GROUTED HOLES.
5. LAG SCREWS TO BE 5/8" X 4" WITH WASHER.
6. OFFSET BLOCKS TO BE 6" X 8" X 14" TREATED TIMBER.
7. SEE STANDARD SB-R4B-82 FOR GUARD RAIL APPROACH SECTION, TYPE I DETAILS.
8. TRANSITION GUARD RAIL TO STANDARD HEIGHT WITH FIRST PANEL (12'-6") OFF THE END OF THE BRIDGE.

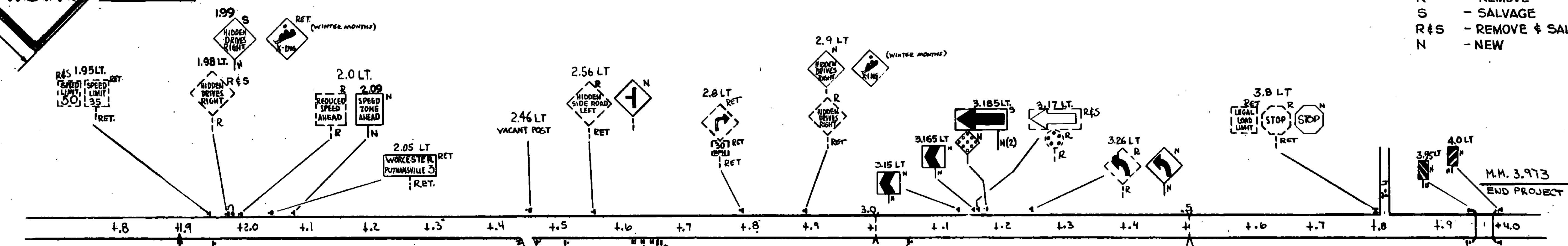
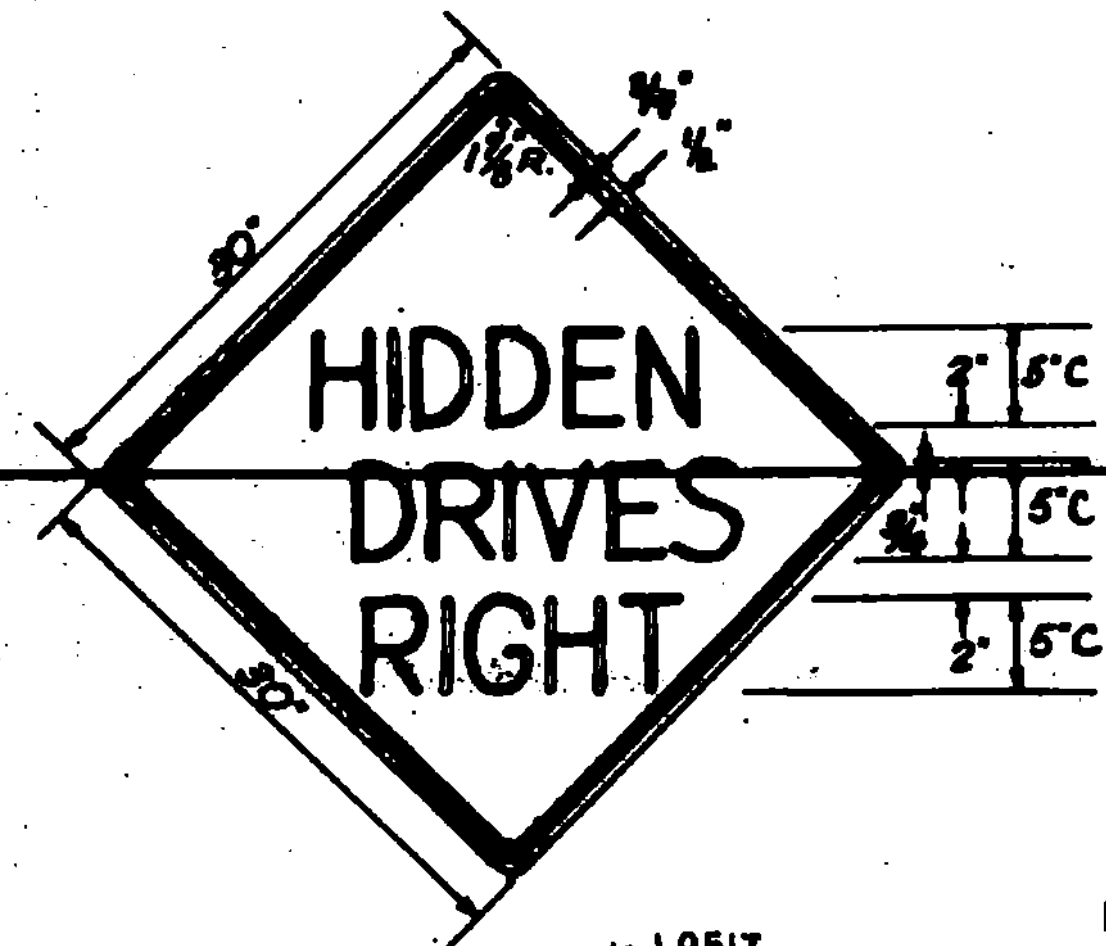


MOUNT SIGN WITH SPUR TO LEFT FOR INSTALLATION AT 2.56 LT.

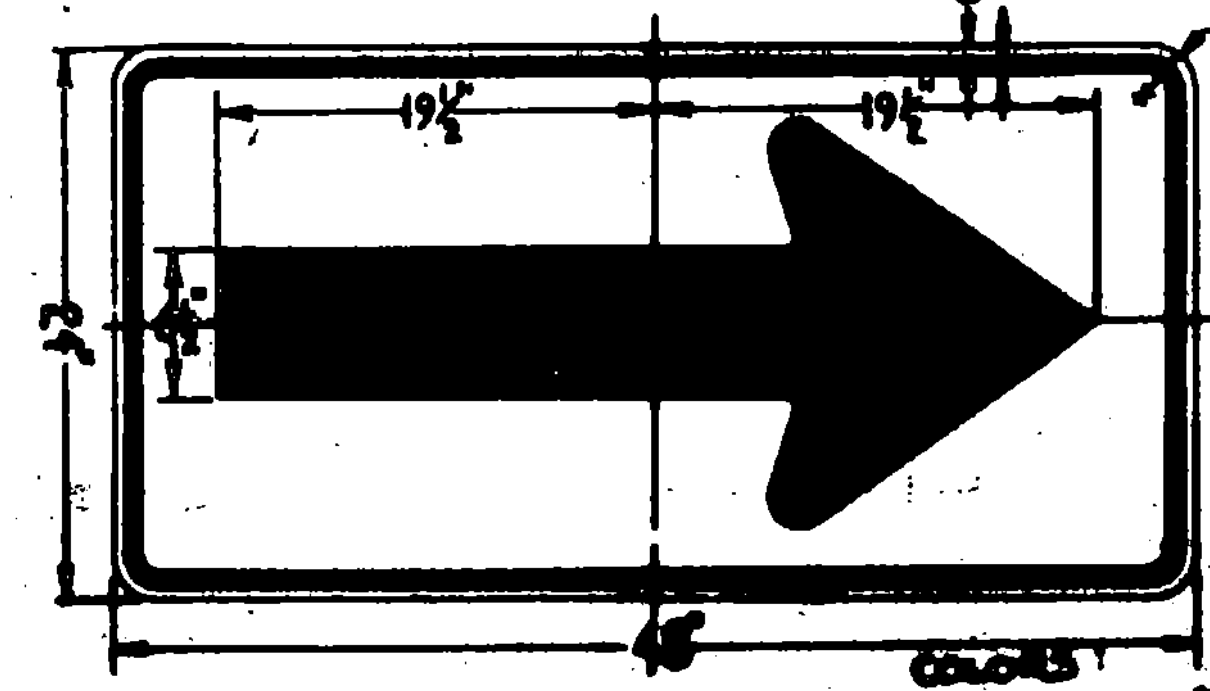
WORCESTER
SECT. 1
RS-SFTY(85)
ROUTE 12

NO.	A	B	C	D	E	F	G	H
1	100	100	100	100	100	100	100	100
2	100	100	100	100	100	100	100	100
3	100	100	100	100	100	100	100	100
4	100	100	100	100	100	100	100	100
5	100	100	100	100	100	100	100	100
6	100	100	100	100	100	100	100	100
7	100	100	100	100	100	100	100	100
8	100	100	100	100	100	100	100	100
9	100	100	100	100	100	100	100	100
10	100	100	100	100	100	100	100	100

LEGEND - BLACK (W/REFL)
BACKGROUND - YELLOW (W/REFL)



LEGEND
RET - RETAIN
R - REMOVE
S - SALVAGE
R&S - REMOVE & SALVAGE
N - NEW



LEGEND - BLACK (W/REFL)
BACKGROUND - YELLOW (W/REFL)

WORCESTER
SECT. 2
ROUTE 12

TRAFFIC SHEET NO. TD-305 SHEET 7

SURVEYED BY _____ DATE _____
DRAWN BY _____ DATE _____
TRACED BY _____ DATE _____

WORCESTER
SECTS. 1 & 2
STATEWIDE NO. RS-SFTY(85)
SHEET 32 OF 200

DATUM
VERTICAL _____
HORIZONTAL _____

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS								REMARKS	FOR SIGN DETAIL SHEET				
			TO BE SALVAGED REMOVED (EA.)	RETAIN (X)	NEW 'A' (S.F.)	NEW 'B' (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM					W SHAPED STEEL			PLAN SHEET NUMBER	STD. SHEET NUMBER
														2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.		POST SIZE	WEIGHT	FTG. SIZE 24" 30"		
1.400 BEGIN SECTION 1 1.45 RT	SPEED LIMIT 35			X																						
1.5 LT	SPEED LIMIT 35	24" X 30"	1		5				X															E-15 B		
1.52 RT	MAKHAM SUPPLY CO.			X																						
1.52 RT	WEST HILL REALTY			X																						
1.52 RT	SYBIL MILLER REAL ESTATE			X					X*(2)																	
1.57 RT	SPEED LIMIT 35	24" X 30"	1		5					X		1	X											E-15 B		
1.6 RT	CARS ENTERING		1	X								1	X													
1.6 LT	VEENHOUT 12		1							X																
1.6 LT	SOUTH 12	12" X 24" 24" X 24"			2 4							1	X											E-13 E-13		
1.65 RT	SPEED LIMIT 35	24" X 30"	1		5				X															E-15 B		
1.68 RT	LEGAL LOAD LIMIT			X X					X																	
1.7 LT	LEGAL LOAD LIMIT	24" X 24" 30" X 30"	1 1		4 6.3					X		1	X											E-15 A E-15 C		
1.69 RT	DIP	30" X 30"	1		6.3				X															SNOWMOBILE CROSSING SIGN IN PLACE DURING WINTER MONTHS ONLY TD 505		
1.73 LT	SPEED LIMIT 35			X					X																	
1.761 END SECTION 1 1.903 BEGIN SECTION 2 1.95 LT	* NOTE 50		1	X																					MOVE 50 MPH SIGN TO 2.05 RT.	
1.95 RT	* NOTE 50											1	X												SIGN SALVAGED FROM 1.95 LT.	
1.98 LT 1.99 LT	HIDDEN DRIVE AHEAD		1	X						X		1		X											SNOWMOBILE CROSSING SIGN IN PLACE DURING WINTER MONTHS ONLY. RE-INSTALL SALV. SIGN AT 1.99.	
2.0 LT	EXIST. 35 NEW	24" X 30"			5				X																E-15 B	
2.05 LT	WORCESTER PUTNAMVILLE 3			X					X																	
2.45 RT	LEGAL LOAD LIMIT	24" X 30" 30" X 30"	1 1		5 6.3					X		1 1	X X												INSTALL ON SOUTH SIDE OF TOWN HIGHWAY E-15A INSTALL ON NORTH SIDE OF TOWN HIGHWAY E-15C	
2.52 RT	35 MPH			X X					X																	
2.56 LT	HIDDEN SIDE ROAD LEFT (EXIST.) (NEW)	EXIST. NEW 30" X 30"	1		6.3					X		1	X												INSTALL 2' FURTHER OFF ROAD. DETAIL ON SHEET TD 505	
SUB-TOTALS			14	X	60.2			3	X	X															FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S 'SIGN POST DESIGN MANUAL'.	

PREPARED BY D.E. DATE 11 MAR
 CHECKED BY WORCESTER SECTS 1 & 2
 PROJ. STATEWIDE NO. RS-SFTY (85) S
 TRAFFIC SHEET NO. 104 SHEET 33 OF 200

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS TO BE SALVAGED		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS								REMARKS	FOR SIGN DETAIL SHEET									
			REMOVE (EA.)	RETAIN (X)	NEW 'A' (S.F.)	NEW 'B' (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM			W SHAPED STEEL		PLAN SHEET NUMBER	STD. SHEET NUMBER								
														2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.		POST SIZE	WEIGHT	FIG. SIZE 24"	30"						
2.65 RT			2																												
			3								3																				
2.45 RT		18" x 24"			3																								E-19		
		18" x 24"			3							1	X																E-19		
2.65 RT		18" x 24"			3																								E-19		
		18" x 24"			3							1	X																E-19		
2.8 LT				X																											
				X						X																					
2.63 RT		48" x 24"			8							2																			
2.675 RT		48" x 24"			8							2																			
2.63 RT		18" x 18"			2.3																									E-19 B	
2.675 RT		18" x 18"			2.3																									E-19 B	
2.9 LT		30" x 30"	1		6.3					X																					
										X																				E-19 A	
3.06 RT		30" x 30"	1		6.3					X																					
3.17 LT			1	X																											
			1	X							1																				
3.15 LT		18" x 24"			3							1	X																	E-19	
3.165 LT		18" x 24"			3							1	X																	E-19	
3.185 LT												2	X																		
3.23 LT		18" x 18"			2.3																										E-19 B
3.26 LT		30" x 30"	1		6.3							1																		E-19 A	
3.8 LT		30" x 30"	1	X	6.3					X																				E-15 C	
3.95 LT		12" x 36"			3							1																			
4.0 LT		12" x 36"			3							1																			
3.95 RT		12" x 36"			3							1																			
4.0 RT		12" x 36"			3							1																			
SUB TOTALS			11		78.1																										
TOTALS			25		138.3			1																							
ITEM NUMBER	ITEM	QUANTITY	RND	UNIT	TOTAL																										
675.20	TRAFFIC SIGNS, TYPE A	138.3	0.7	S.F.	139																										
675.30	FLANGED CHANNEL SIGN POSTS	754		LB.	754																										
675.50	REMOVING SIGNS	25	-	EA.	25																										
675.60	ERECTING SALVAGED SIGN	4	-	EA.	4																										
SEE SHEET TD 504 FOR PROJECT SUMMARY OF QUANTITIES AND REVISION NOTE FOR LEGAL LOAD LIMIT SIGNS.																															
TOTALS																															

* NOTE
MOUNT ON SINGLE POSTS, BACK TO BACK

SNOWMOBILE CROSSING SIGN IN PLACE DURING WINTER MONTHS ONLY

* NOTE RELOCATE TO 3.185

* MOUNT ON LEFT POST OF ARROW (3.17 LT)

FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD, POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S 'SIGN POST DESIGN MANUAL'.

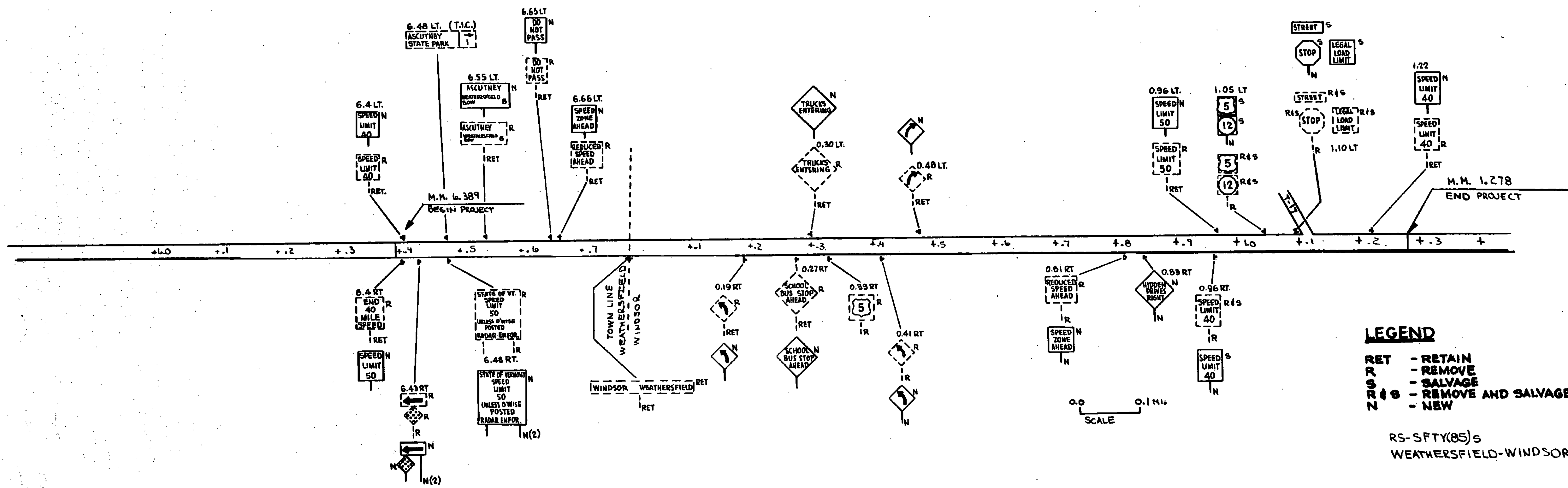
PREPARED BY D.F. DATE 11 MAR.
CHECKED BY WORCESTER DATE
STATEWIDE PROJ. NO. RS-SFTY (85)S
TRAFFIC SHEET NO. 507 SHEET 34 OF 200

1985 STATEWIDE SAFETY PROJECT ITEM DETAIL SHEET

MILE MARKER	POS	REMOVING TREES		UNCLASSIFIED EXCAVATION	EARTH BORROW	TRENCH EARTH	TRENCH ROCK	GRAVEL SHOULDERS	METAL PIPE			RC PIPES			M.E.S.	RCPE	CONC.	STEEL	REBAR DI.	GRATE TYPE B	STONE FILL		TIMBER CURB	ITEM 60440	SELECTIVE THINNING	GUARD RAIL ITEMS				REMARKS
		SMALL	LARGE						D	L	TH	D	L	CL							I	II				62180	62120	62160	62150	
WEATHERSFIELD																														
6.38	LT				15	2					18	12	III		1-18														REMOVE HEADWALL. ADD 8"± NEW PIPE AND ROPES USE EARTH BORROW TO FLATTEN SLOPE. SEE DETAIL "H" SHEET 4	
6.45	LT																		1										RECONSTRUCT D.I.	
6.53	LT																		1										RECONSTRUCT D.I.	
6.72	LT																		1										RECONSTRUCT D.I.	
WINDSOR																														
0.24	LT				25	2	2				24	4	III			2.0	200		1										REMOVE HEADWALL ADD 4"± NEW PIPE CONSTRUCT D.I. SEE DETAIL "E" SHEET 4	
0.56	LT																		1										RECONSTRUCT DI	
0.60-0.62	LT							100																	125	150	2		REPLACE EXISTING GUARD RAIL SEE SHEET 3 FOR DETAILS	
0.67	LT																		1										RECONSTRUCT DI	
0.76	LT																		1										RECONSTRUCT DI	
0.85	LT				30	6	4		52X77	16	.109											15							REMOVE HEADWALL EXTEND PIPE FLATTEN SLOPE SEE DETAIL "A" SHEET 4	
0.91	LT				30	15			18	22	.064					3.0	300		2	20									CONNECT PIPES W/ 4'X6' DI W/2 GRATES	
0.99	LT				10	8	2									2.0	200		1										REMOVE HEADWALL CONSTRUCT DI REGRADE DITCH SEE DETAIL "E" SHEET 4	
SHEET TOTAL																														
					130	25	10	100	18	22	.064	18	12	III	1-18	7.0	700	6	4	35					125	150	2			
									52X77	16	.109	24	4	III																
TOTAL FROM SHEET																														
					30	6	397					15	36	III											2305	3975	1	5		
PROJECT TOTAL																														
					160	25	16	497	18	22	.064	15	36	III	1-18	7.0	700	6	4	35					2430	4125	1	7		
									52X77	16	.109	18	12	III																
												24	4	III																

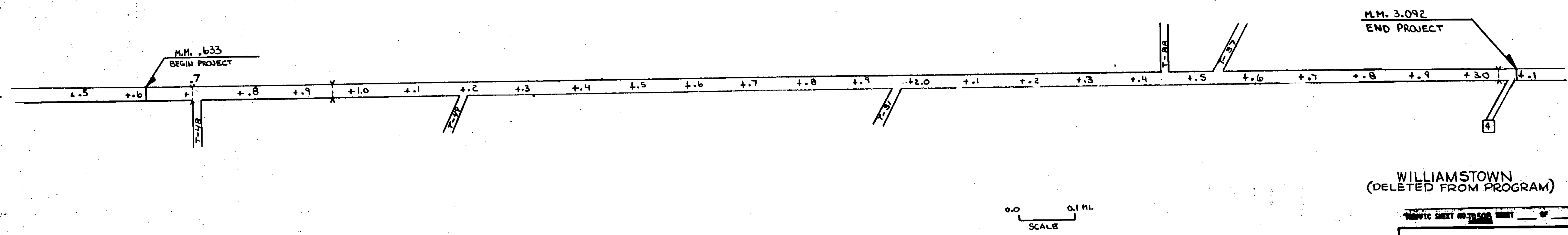
1985 STATEWIDE SAFETY PROJECT ITEM DETAIL SHEET

MILE MARKER	POS	REMOVING TREES		UNCLASSIFIED EXCAVATION	EARTH BORROW	TRENCH EARTH	TRENCH ROCK	GRAVEL SHOULDERS	METAL PIPE			RC PIPES			MES	RCPEB	CONC	STEEL	REHAB. DI.	GRATE TYPE B	STONE FILL		TIMBER CURB	ITEM 60440	SELECTIVE THINNING	GUARD RAIL ITEMS				REMARKS		
		SMALL	LARGE						D	L	TH	D	L	CL							I	II				62180	62120	62160	62150		DELINEATORS	
WEATHERSFIELD																																
6.33-6.38	RT							121																		420		725		2	PAY REMOVAL OF GUIDE POSTS AS REMOVAL AND DISPOSAL OF GUARD RAIL BEGIN NEW GUARD RAIL 300' +/- SOUTHERLY SEE SHEET 3 FOR DETAILS	
6.36	RT				10		2					15	12	III																	REMOVE HEADWALL, EXTEND PIPE 8'± USE EARTH BORROW TO FLATTEN SLOPE SEE DETAIL "A" SHEET 4	
6.52	RT				10		2					15	12	III																	REMOVE HEADWALL EXTEND PIPE 8'± USE EARTH BORROW TO FLATTEN SLOPE SEE DETAIL "A" SHEET 4	
6.64	RT																														CUT OFF POLE STUB COST SUBSIDIARY TO OTHER ITEMS	
6.73	RT				10		2					15	12	III																	REMOVE HEADWALL EXTEND PIPE 8'± USE EARTH BORROW TO FLATTEN SLOPE SEE DETAIL "A" SHEET 4	
WINDSOR																																
0.23-0.85	RT							169																				3250		1	1	WRAP NEW GUARD RAIL AROUND DRIVE TO SEWER PLANT AT 0.85±/- SEE SHEET 3 FOR DETAILS
0.52-0.71	RT																									775					PAY REMOVAL OF GUIDE POSTS AS REMOVAL AND DISPOSAL OF EXISTING GUARD RAIL	
0.71-0.85	RT																									760					REMOVE EXISTING GUARD RAIL	
0.91-0.98	RT							107																				350		2	NEW SECTION OF GUARD RAIL SEE SHEET 3 FOR DETAILS	
SHEET TOTAL					30		6	397				15	36	III												1965		4325		1	5	



LEGEND
 RET - RETAIN
 R - REMOVE
 S - SALVAGE
 R+S - REMOVE AND SALVAGE
 N - NEW

RS-SFTY(85)s
 WEATHERSFIELD-WINDSOR



DATUM
 VERTICAL _____
 HORIZONTAL _____

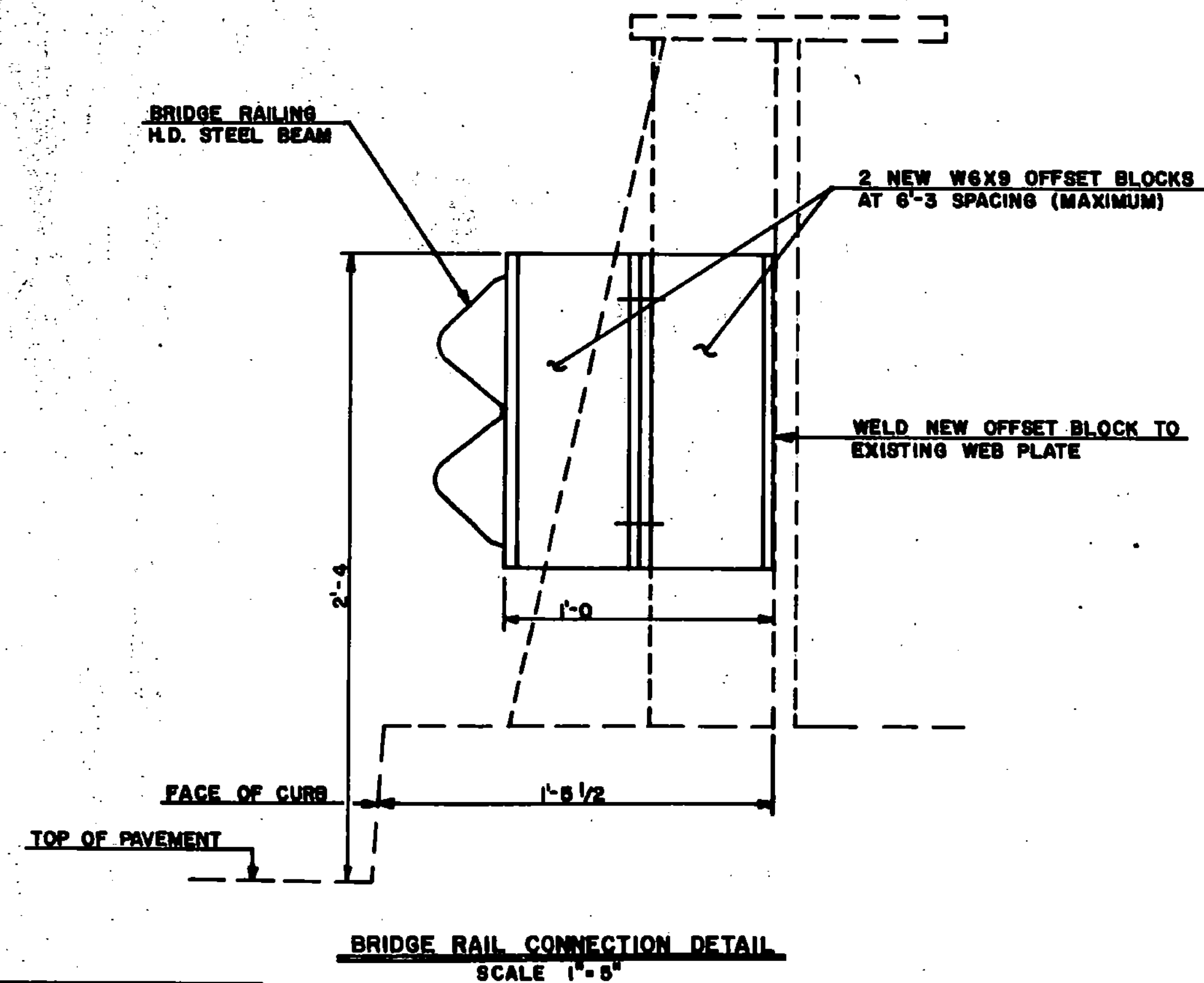
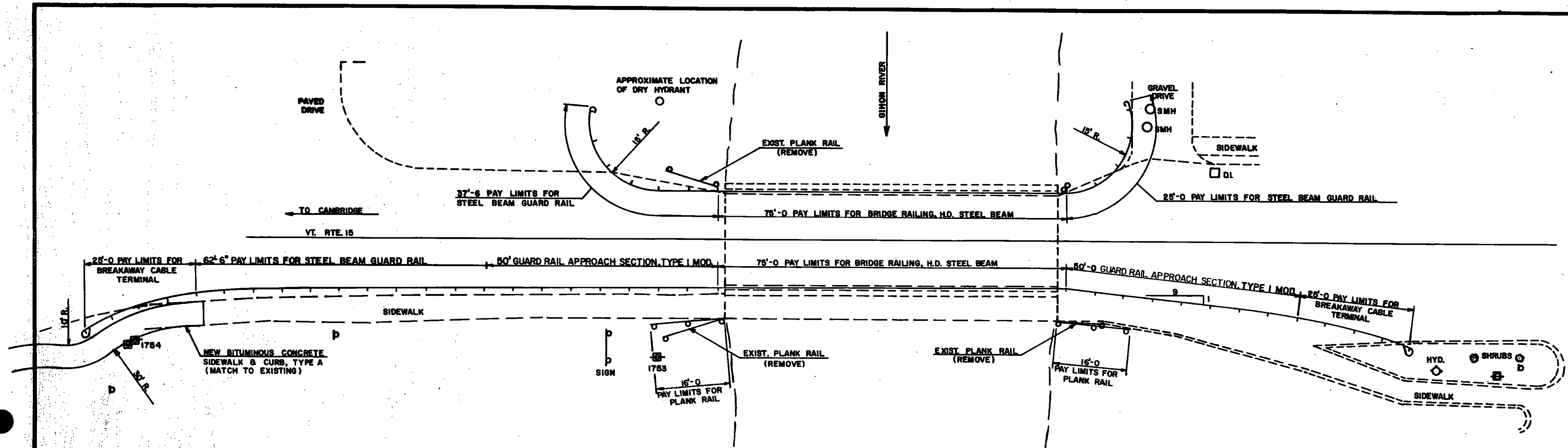
WILLIAMSTOWN
 (DELETED FROM PROGRAM)

STATEWIDE NO. RS-SFTY(85)s
 SHEET 41 OF 200

SURVEYED BY _____ DATE _____
 DRAWN BY _____ DATE _____
 TRACED BY _____ DATE _____
 WEATHERSFIELD-WINDSOR

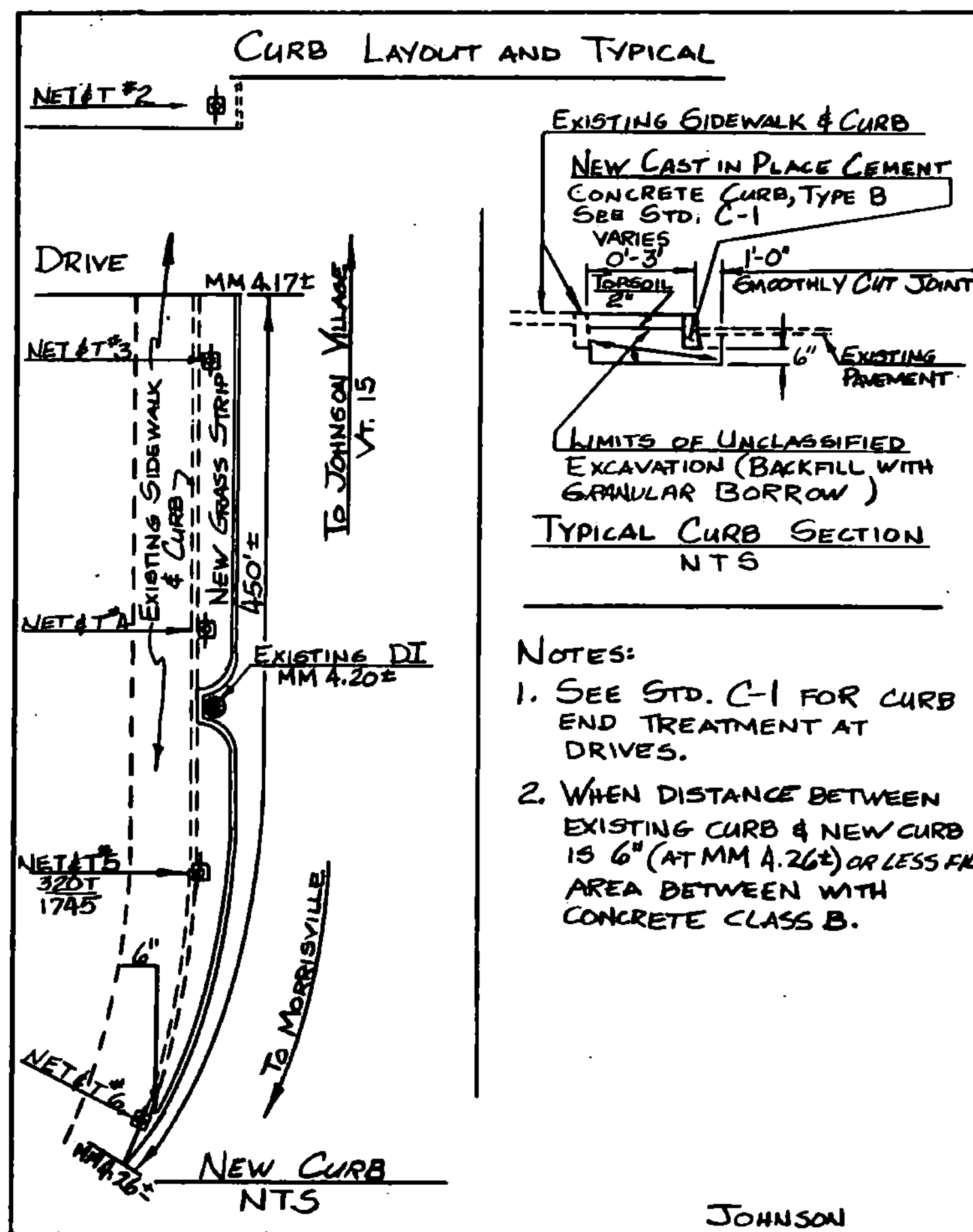
1985 STATEWIDE SAFETY PROJECT ITEM DETAIL SHEET

MILE MARKER	POS.	REMOVING TREES		UNCLASSIFIED EXCAVATION	EARTH BORROW	TRENCH EARTH	TRENCH ROCK	GRAVEL SHOULDERS	METAL PIPE			R.C.P. PIPES			M.E.S	R.C.P.S	CONC.	STEEL	REHAB. DI.	GRATE TYPE B	STONE FILL		TIMBER CURB	ITEM 60440	SELECTIVE THINNING	GUARD RAIL ITEMS					DELINEATORS	REMARKS
		SMALL	LARGE						D	L	TH	D	L	CL							I	II				621.15	621.20	621.75	621.60	621.50		
3.94	RT.			10	10			5																							CONNECT GUARD RAIL APPROACH SECTION, TYPE I MOD. TO H.D. BEAM ON BRIDGE. CONNECT 12.5FT. OF NEW STEEL BEAM TO APPROACH SECTION. INSTALL BCT.	
3.94	LT.																														CONNECT GUARD RAIL APPROACH SECTION TYPE I MOD. TO H.D. BEAM ON BRIDGE. CONNECT 12.5FT. OF NEW STEEL BEAM TO APPROACH SECTION. INSTALL BCT.	
JOHNSON	TOTALS			10	10			5																								



BRIDGE RAIL CONNECTION DETAIL
SCALE 1" = 8"

DATUM	N.A.
VERTICAL	N.A.
HORIZONTAL	N.A.



- NOTES:
1. SEE STD. C-1 FOR CURB END TREATMENT AT DRIVES.
 2. WHEN DISTANCE BETWEEN EXISTING CURB & NEW CURB IS 6" (AT MM A.264) OR LESS FULL AREA BETWEEN WITH CONCRETE CLASS B.

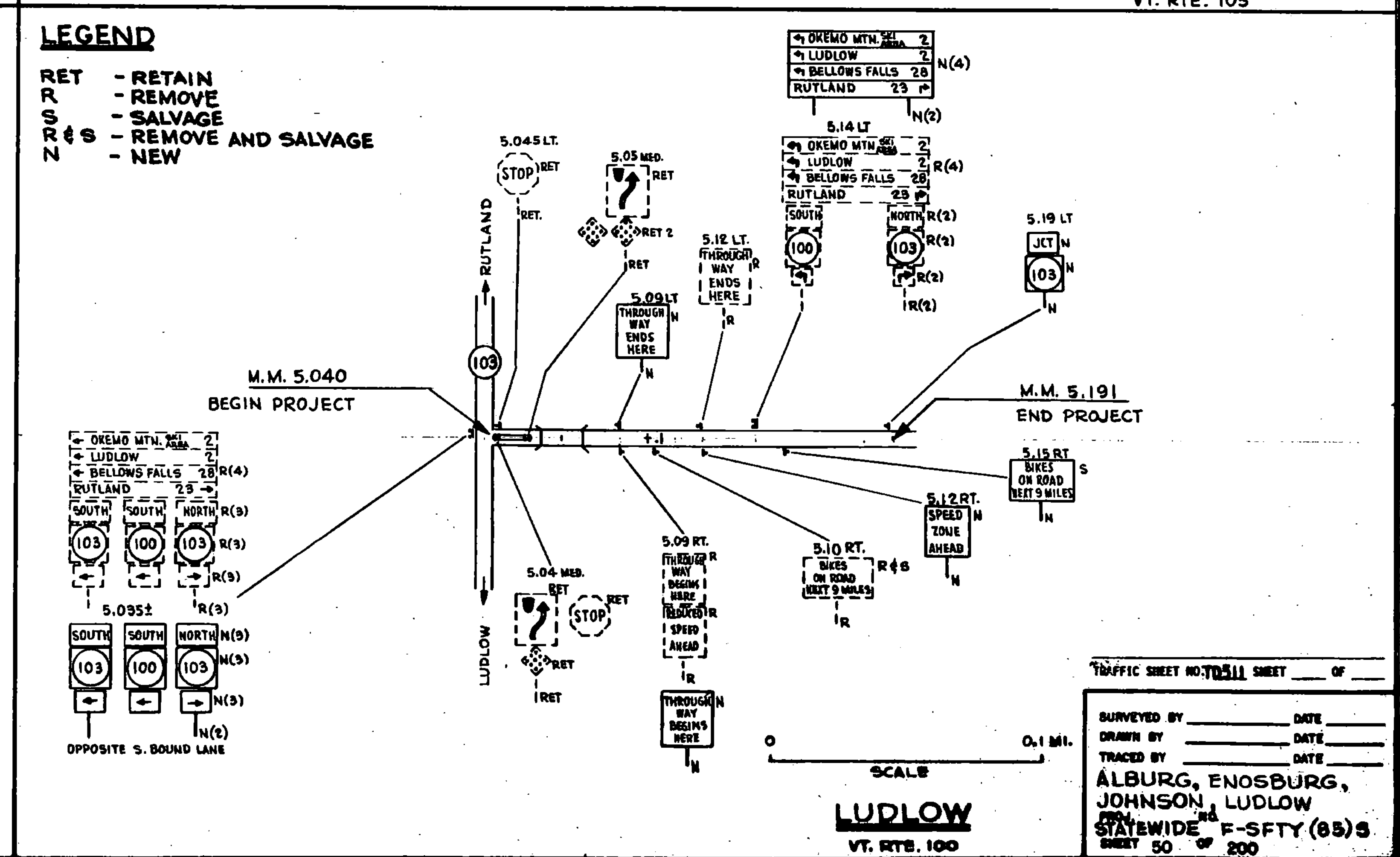
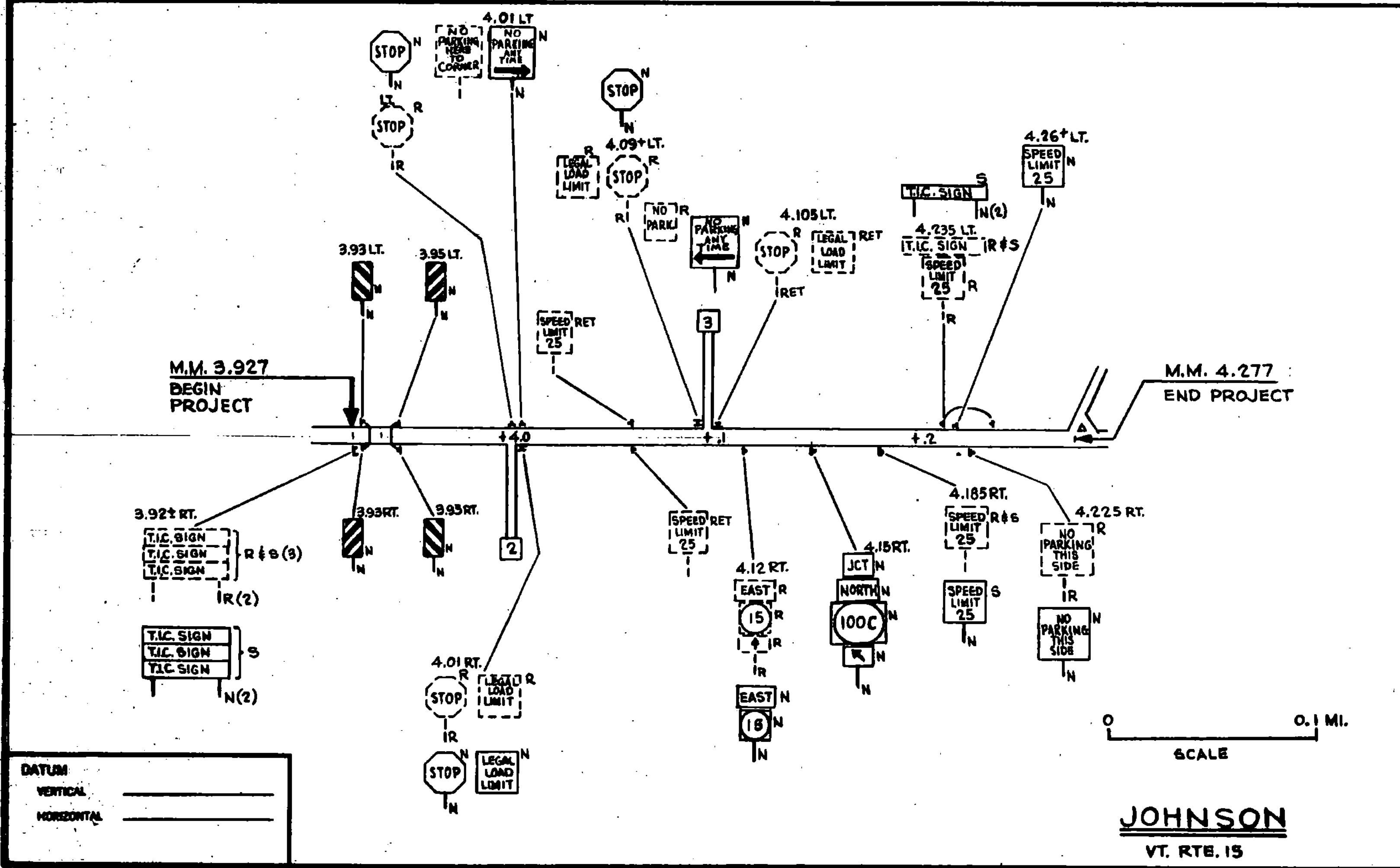
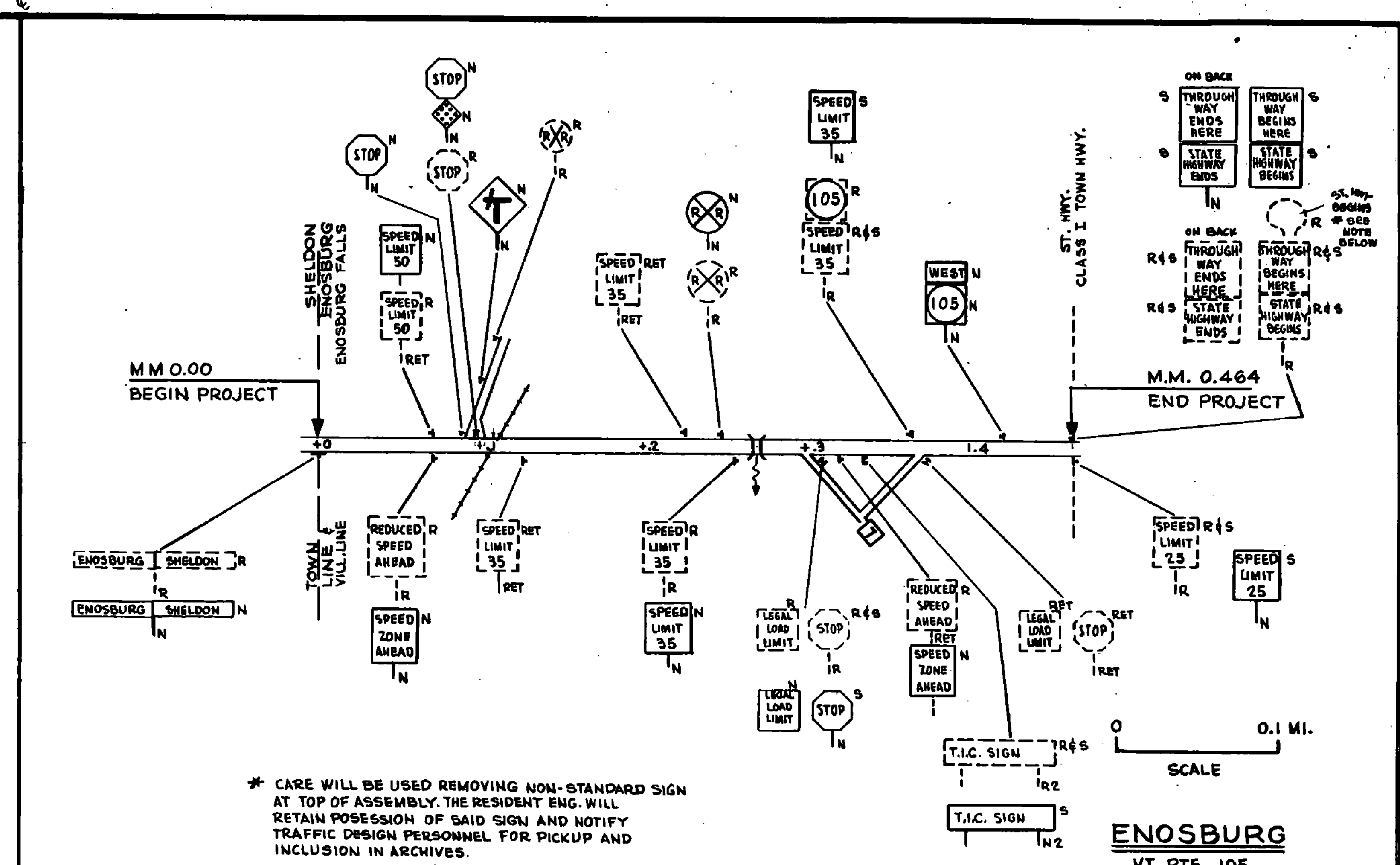
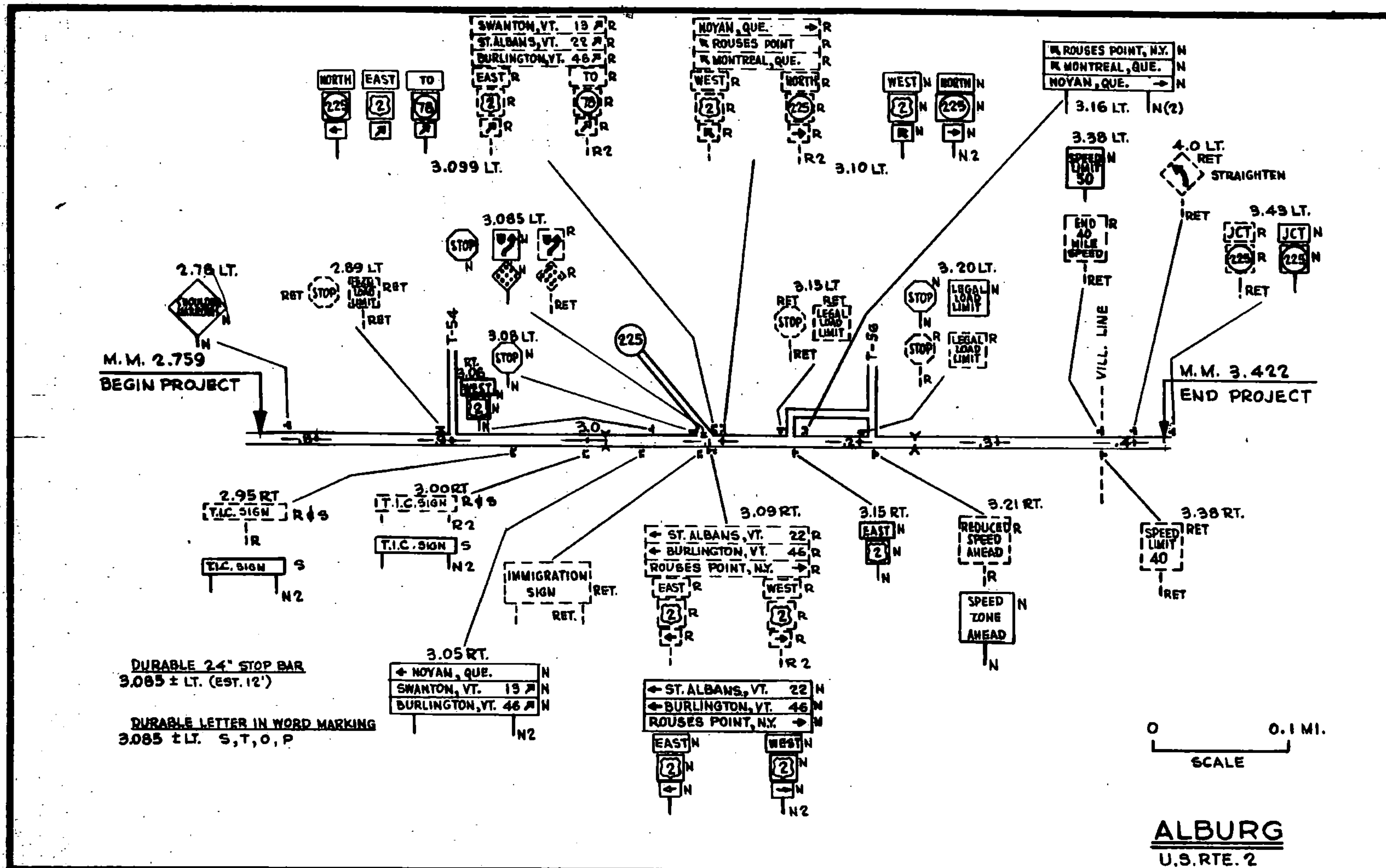
JOHNSON



SURVEYED BY REYOR DATE 8-86
 DRAWN BY WILLEY DATE 8-86
 TRACED BY WILLEY DATE 8-86
 JOHNSON
 1985 STATEWIDE SAFETY PROJECT
 PROJ. SFTY. NO. (85) 3
 SHEET 48 OF 200

1985 STATEWIDE SAFETY PROJECT ITEM DETAIL SHEET

MILE MARKER	POS	REMOVING TREES		UNCLASSIFIED EXCAVATION	EARTH BORROW	TRENCH EARTH	TRENCH ROCK	GRAVEL SHOULDERS	METAL PIPE			RC PIPES			M.E.S	RCPE	CONC	STEEL	REHAB. DI.	GRATE TYPE B	STONE FILL		TIMBER CURB	ITEM 604.40	SELECTIVE THINNING	GUARD RAIL ITEMS				DELINEATORS	REMARKS	
		SMALL	LARGE						D	L	TH	D	L	CL							I	II				62180	62120	62160	62150			
RTE 100 5.06	RT							80																	2125		2075		1			REMOVE EXISTING GUARD RAIL FROM FOX RUN ROAD ON VT 103 TO BRIDGE AT MM 5.06 ON VT 100 REPLACE WITH NEW STEEL BEAM WRAP END AROUND FOX RUN ROAD SEE SHEET 3 FOR DETAILS
RTE 100 5.08	RT							2																	16				1		PLACE 62160 TYPE ANCHOR ON END OF APPROACH SECTION TYPE I WRAP APPROACH SECTION AROUND DRIVE SEE SHEET 3 FOR DETAILS	
RTE 100 5.06	LT							51																	85	50			1		USE APPROACH SECTION AND 50' OF NEW BEAM FROM BRIDGE TO VT. RTE 103 SEE SHEET 3 FOR DETAILS	
RTH 100 5.06	LT							51																	55	50			1		USE APPROACH SECTION AND 50' OF NEW BEAM SEE SHEET 3 FOR DETAILS	
LUDLOW TOTALS								184																	2281	2175		2	2			
NOTE: FOR BRIDGE DETAILS SEE BRIDGE SHEETS 14-17																																



TRAFFIC SHEET NO. 1011 SHEET _____ OF _____

SURVEYED BY _____ DATE _____
 DRAWN BY _____ DATE _____
 TRACED BY _____ DATE _____

**ALBURG, ENOSBURG,
 JOHNSON, LUDLOW**
 STATEWIDE F-SFTY (85) S
 SHEET 50 OF 200

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	LEGEND	TYPE	SIGN DIMENSIONS	EXISTING SIGNS TO BE SALVAGED		NEW AND SALVAGED SIGNS				EXISTING POSTS			NEW POSTS									REMARKS	FOR SIGN DETAIL SEE:											
				REMOVE (E.A.)	RETAIN (X)	NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (E.A.)	SALV. T.I.C. (S.F.)	RETAIN	DRILL	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM			W SHAPE (BREAKAWAY)			PLAN SHEET NUMBER	STD. SHEET NUMBER										
														2.0 LB/FT	25 LB/FT	30 LB/FT	3" Ø	3" □	4" Ø	4" MOD	POST SIZE				WEIGHT	FTG. SIZE 24" 30"								
0.60 LT.	THROUGH HIGHWAY ENDS (FACES EAST)	A	2' x 2'	X																														
" "	THROUGH HIGHWAY ENDS (FACES WEST)	A	2' x 2'	X																														
0.60 RT.	SPEED LIMIT 25	A	24" x 30"	X																														
			SUB-TOT.	17		65.2 ROUND 0.8 TO 66		7	5																									
JOHNSON																																		
3.92 RT.	T.I.S. SIGN	A		(X)	(X)				5				(2)	(X)													INSTALL NEW POSTS AND REMOUNT SIGNS AT PROPER HEIGHT. PAY AS ITEM 680.20 MOD. (NON-FED. PART.)							
" "	T.I.S. SIGN			(X)	(X)				5																									
" "	T.I.S. SIGN			(X)	(X)				5																									
3.93 LT.		A	1' x 3'	X		3							1	X																			TD 517	
3.93 RT.		A	1' x 3'			3							1	X																			TD 517	
3.93 LT.		A	1' x 3'	X		3							1	X																			TD 517	
3.95 RT.		A	1' x 3'	X		3							1	X																			TD 517	
4.0+ LT.	STOP	A	30" x 30"	X		6.3							1	X																			E-15 C	
" "		A		X																														
4.01 LT.		A	12" x 18"			1.5							1	X																			TD 517	
4.01 RT.	STOP	A	2' x 2'	X		4							1	X																			E-15 C	
" "	LEGAL LOAD LIMIT	A	2' x 2'	X		4																											E-15 A	
4.06 LT. + RT.		A			X (2)																													
4.09+ LT.	STOP	A	30" x 30"	X		6.3							1	X																			E-15 C	
" "	LEGAL LOAD LIMIT	A		X																														
" "	NO (LEFT) PARK.	A	12" x 18"	X		1.5							1	X																			TD 517	
4.10+ LT.	STOP	A		X																														
" "	LEGAL LOAD LIMIT	A			X																													
4.12 RT.	EAST	A	2' x 1'	X		2							1	X																				E-13
" "	15	A	2' x 2'	X		4																												E-13
" "	100	A		X																														E-13
4.13 RT.	UJT	A	21" x 15"			2.2																												E-13
" "	NORTH	A	2' x 1'			2																												E-13
" "	100	A	30" x 24"			5																												E-13
" "	R	A	21" x 15"			2.2																												E-13
4.18+ RT.	SPEED LIMIT 25	A	24" x 30"	X	X	5		1					1	X																				
4.235 LT.	T.I.S. SIGN	A		X					5				(2)	(X)																				
" "	SPEED LIMIT 25	A		X																														
4.26+ LT.	SPEED LIMIT 25	A	24" x 30"			5							1	X																				E-15 B
4.22+ RT.	NO (LEFT) PARKING	A	12" x 12"	X		1							1	X																				E-15 C
			SUB-TOT.	18		64		1	20																									

TOTALS

POST LENGTHS ARE APPROXIMATE. FINAL LENGTHS TO BE DETERMINED IN THE FIELD IF FINAL LENGTHS VARY BY MORE THAN 2 FEET, RECOMPUTE THE POST SIZE BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS.

PREPARED BY _____ DATE _____
 CHECKED BY _____ DATE _____
 ALBURG, ENOSBURG,
 JOHNSON, LUDLOW
 PROJ. NO. _____
 STATEWIDE NO. F-SFTY (85) S
 SHEET 83 OF 200

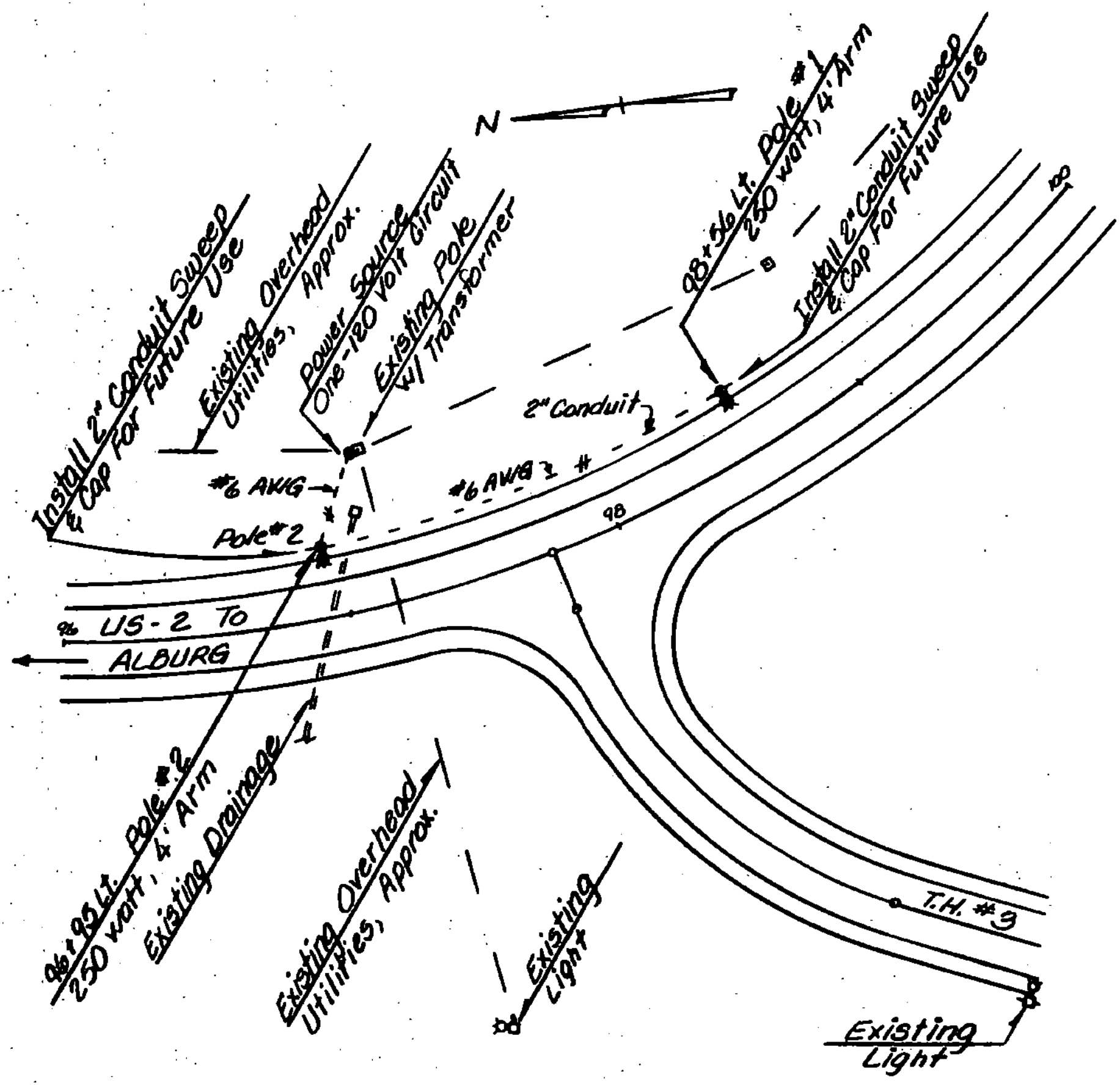
TRAFFIC SIGN SUMMARY SHEET

MILEMARK ER, STATION, OR SIGN NUMBER	LEGEND	TYPE	SIGN DIMENSIONS	EXISTING SIGNS TO BE SALVAGED		NEW AND SALVAGED SIGNS				EXISTING POSTS			NEW POSTS							REMARKS	FOR SIGN DETAIL SEE:		
				REMOVE (E.A.)	RETAIN (L)	NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (E.A.)	SALV. T.I.C. (S.F.)	RETAIN	DRILL	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM		W SHAPE (BREAKAWAY)		PLAN SHEET NUMBER	STD. SHEET NUMBER	
														2.0LB/FT	25LB/FT	30LB/FT	3" Ø	3" □	4" Ø				4" Ø MOD
GENERAL NOTE: MOST OF THE EXISTING SIGNS ARE TOO CLOSE TO THE EDGE OF SHOULDER. REFER TO STD. DWG. E-29 FOR REQUIRED CLEARANCES.																							
LUDLOW																							
5.095 ± OPPOSITE END OF S.B. LANE	← OKEMO MTN 2	A		X																			
" "	← LUDLOW 2	A		X																			
" "	← BELLOWS FALLS 28	A		X																			
" "	← RUTLAND 29 →	A		X																			
" "	SOUTH	A	2' x 1'	X		2						2								E-13			
" "	103	A	2' x 2'	X		4														E-13			
" "	←	A	21" x 15"	X		2.2														E-13			
" "	SOUTH	A	2' x 1'	X		2														E-13			
" "	100	A	2' x 2'	X		4														E-13			
" "	←	A	21" x 15"	X		2.2														E-13			
" "	NORTH	A	2' x 1'	X		2														E-13			
" "	103	A	2' x 2'	X		4														E-13			
" "	→	A	21" x 15"	X		2.2														E-13			
5.045 ± LT.	○ STOP	A			X					X													
5.04 ± MED.	○ ?	A			X					X													
" "	○ STOP	A			X																		
" "	◇	A			X																		
8.05 ± MED.	◇ ?	A			X					X													
" "	◇	A			X																		
5.09 ± RT.	THROUGH BUSING REDUCED AHEAD	A	2' x 2'	X		4						1	X							E-15A			
" "	THROUGH BUSING REDUCED AHEAD	A		X																			
5.09 ± LT.	THROUGH BUSING REDUCED AHEAD	A	2' x 2'			4						1	X							E-15A			
5.10 RT.	THROUGH BUSING REDUCED AHEAD	A		X	X															REINSTALL SALVAGE SIGN AT 5.15 RT.			
5.12 LT.	THROUGH BUSING REDUCED AHEAD	A		X																			
5.12 RT.	THROUGH BUSING REDUCED AHEAD	A	24" x 30"			5						1	X							E-15B			
6.14 LT.	← OKEMO MTN 2	A	72" x 10"	X		5						2								E-23			
" "	← LUDLOW 2	A	72" x 10"	X		5														E-23			
" "	← BELLOWS FALLS 28	A	72" x 10"	X		5														E-23			
" "	← RUTLAND 29 →	A	72" x 10"	X		5														E-23			
6.14 LT.	SOUTH	A		X																			
" "	100	A		X																			
" "	←	A		X																			
" "	NORTH	A		X																			
" "	103	A		X																			
" "	→	A		X																			
5.15 RT.	THROUGH BUSING REDUCED AHEAD	A								1		1	X							INSTALL SIGN FROM 5.10 RT.			
5.19 LT.	JCT	A	21" x 15"			2.2														E-13			
" "	103	A	24" x 30"			5														E-13			
TOTALS				27		64.8 ROUND 0.2 TO 65		1															

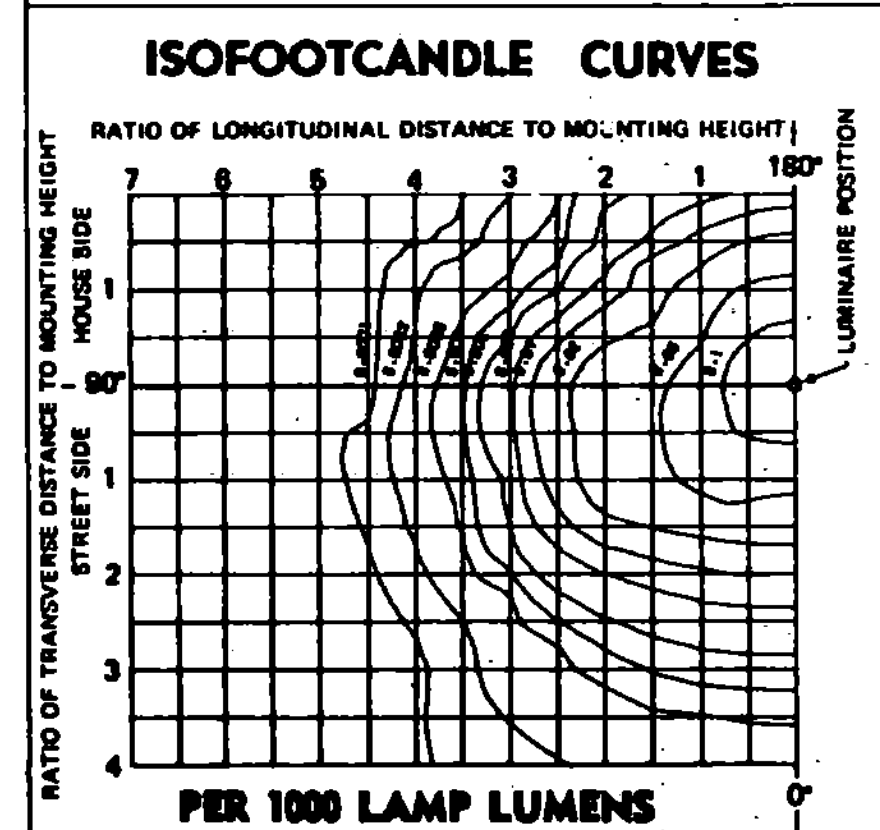
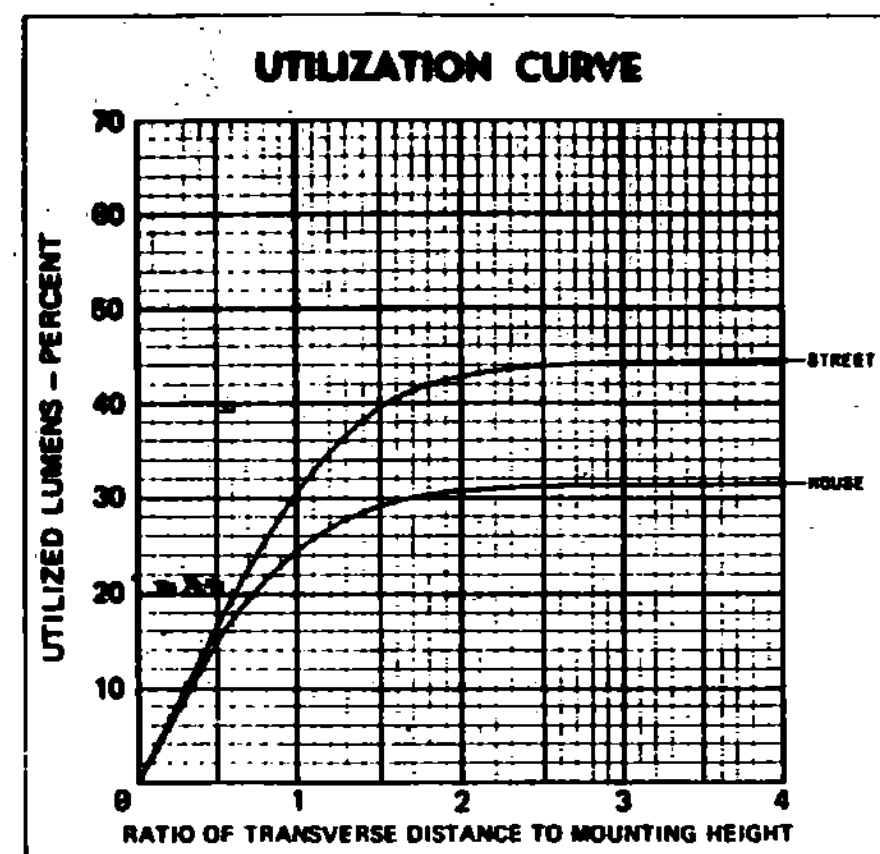
POST LENGTHS ARE APPROXIMATE. FINAL LENGTHS TO BE DETERMINED IN THE FIELD IF FINAL LENGTHS VARY BY MORE THAN 2 FEET. RECOMPUTE THE POST SIZE BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS.

PREPARED BY _____ DATE _____
 CHECKED BY _____ DATE _____
 ALBORG, ENOSBURG,
 JOHNSON, LUDLOW
 PROJ. NO. _____
 STATEWIDE F-SFTY (85) S
 SHEET 54 OF 200

TRAFFIC SIGN SUMMARY SHEET OF _____



NOTE:
 THE METER SOCKET AND OVERLOAD DISCONNECT BOX SHALL HAVE A NEMA CLASSIFICATION OF RAINTIGHT. WITH APPROVAL OF THE UTILITY COMPANY THE CONTRACTOR MAY ATTACH THE BOX TO THE EXISTING UTILITY POLE WHICH HAS A TRANSFORMER ON IT.



PER 1000 LAMP LUMENS

NOTE: 1 FOOTCANDLE = 10.76 LUX

USE TABLE BELOW OR FACTOR = ACTUAL MH/30

MOUNTING HEIGHT - FEET	20	25	30	35	40	45	50
FACTOR	2.25	1.44	1.00	0.73	0.56	0.44	0.36

GENERAL ELECTRIC PHOTOMETRIC DATA
 LIGHTING SYSTEMS BUSINESS DEPARTMENT
 HENDERSONVILLE, N.C. U.S.A. 27539

PER 1000 LAMP LUMENS

LUMINAIRE
 H40DR CUTOFF REFLECTOR 35-222020-01
 CLEAR GLASS 36-222045-01
 SOCKET POSITION C

LAMP
 200, 250, 310 + 400 WATT HPS
 DE NO LU200, LU250, LU310 + LU400
 RWSI NO 866, 860, MR + 851

ANSI/IES TYPE 1072
CIE TYPE CUT-OFF

GENERAL INFORMATION
 TEST DISTANCE 7 METERS
 MAX CANDELA 389
 MAX CONE 87.5°
 MAX VERTICAL PLANE 62.5°/297.5°
 MAX CANDELA AT 80° 0
 MAX CANDELA AT 80° 0
 NAHRI FOOTCANDLES 0.18380
 NAHRI CANDELA 185
 MULTIPLY ALL LUMEN, CANDELA AND FOOTCANDLE VALUES BY THIS RATIO
 RATIO - ACTUAL LAMP LUMENS / 1000

PHOTOMETRIC TEST IN ACCORDANCE WITH IES GUIDE

	LUMENS	PERCENT OF LAMP
DOWNWARD STREET SIDE	448	44.8
UPWARD STREET SIDE	0	0
DOWNWARD HOUSE SIDE	314	31.4
UPWARD HOUSE SIDE	0	0
TOTAL	762	76.2

TESTED DATE 11/12/82
 APPROVED DATE 11/12/82
 DRAWING NO. 35-176565

- LEGEND**
- PROPOSED NEW POLE AND LUMINAIRE
 - PROPOSED POWER SOURCE
 - EXISTING POLE AND LUMINAIRE
 - PROPOSED CONDUIT
 - EXISTING AERIAL UTILITIES

STREET LIGHTING NOTES

CONCRETE BASES
 THE OFFSET AND LOCATION OF THE CONCRETE BASES SHALL BE AS SHOWN ON THE PLAN. CARE SHALL BE TAKEN WHERE CONCRETE BASE AND DRAINAGE STRUCTURES ARE CLOSE TOGETHER.

CONDUIT
 2" CONDUIT SHALL BE USED AT ALL LOCATIONS. ALL CONDUIT SHALL BE AT LEAST SCHEDULE 40 GALVANIZED STEEL ELECTRICAL CONDUIT. THE FINAL CONDUIT DEPTH SHALL BE 3' OR AS DIRECTED BY THE RESIDENT ENGINEER. A 6" WIDE YELLOW MARKING TAPE (PLASTIC) SHALL BE INSTALLED 6" TO 12" BELOW FINISH GRADE OVER THE CONDUIT RUNS.

GROUNDING
 IN ADDITION TO A GROUND ROD AT EACH POLE BASE, A CONTINUOUS GROUNDING CIRCUIT SHALL BE RUN BACK TO A CURCUIT PROTECTIVE DEVICE AT THE TRANSFORMER. ALUMINUM WIRE SHALL NOT BE USED FOR GROUND WIRE.

POLES, ANCHOR BASES AND ARMS
 NO POLE SHAFT WALL THICKNESS SHALL BE LESS THAN 0.188" AND SHALL HAVE A MINIMUM 8" O.D. BOTTOM DIMENSION. ALL NEW STREET LIGHT POLES AND LUMINAIRE ARMS SHALL BE ALUMINUM IN ACCORDANCE WITH SUBSECTION 753.01(B). THE TWO LIGHT POLE BASES SHALL HAVE A BREAKAWAY DESIGN FEATURE ADDED, SUCH AS BREAKAWAY COUPLINGS.

WIRE
 ALL WIRING BETWEEN THE METER AND THE FIRST POLE AND BETWEEN POLES SHOULD BE ALUMINUM, SIZE AS INDICATED ON THE PLAN. USE #10 AWG STRANDED COPPER WIRES IN EACH POLE BETWEEN THE POLE BASE AND THE LUMINAIRE. ALL CONDUIT MUST INCLUDE A GROUNDING CONDUCTOR AND ACT AS ONE. VOLTAGE LOSSES GREATER THAN 3% IN THE SECONDARY CIRCUIT REQUIRE LARGER WIRE.

LUMINAIRES
 LUMINAIRES SHALL BE DESIGNED FOR STREET LIGHTING AND THE INDICATED LIGHT DISTRIBUTION. THEY SHALL HAVE AN ALUMINUM HOUSING WITH EASY ACCESS TO THE BALLAST ASSEMBLY, A PHOTO-ELECTRIC CONTROL, FILTERED OPTICAL ASSEMBLY, MEDIUM CUT OFF DISTRIBUTION AND REGULATOR BALLAST FOR 120 VOLT HIGH PRESSURE SODIUM LAMPS. LIGHT DISTRIBUTION IS BASED ON GENERAL ELECTRIC PHOTOMETRIC DATA DRAWING 835-176565, SHORT CUTOFF, TYPE II DISTRIBUTION, DATED 12-10-79. THE ABOVE PHOTOMETRIC DATA DRAWING WAS USED FOR DESIGN PURPOSES ONLY. THE INSTALLED LUMINAIRE LIGHT UTILIZATION AND MINIMUM FOOTCANDLES ON THE ROADWAY AND SHOULDER SHALL BE AT LEAST AS GREAT AS INDICATED BY THE ABOVE PHOTOMETRIC.

GENERAL
 ALL ELECTRICAL MATERIAL AND INSTALLATION SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, STATE AND LOCAL CODES AND THE LOCAL UTILITY COMPANY. ALL STREET LIGHT POLES SHALL HAVE A METAL TAG ATTACHED TO THE HANDHOLE WITH THE POLE NUMBER, WATTAGE AND TYPE OF LAMP. EXAMPLE, #2-250W-H.P.S., (HPS= HIGH PRESSURE SODIUM). MINIMUM LETTER SIZE 1/2" HIGH. PAYMENT FOR TAGS SHALL BE SUBSIDIARY TO ITEM 679.15, STREET LIGHTING.

STREET LIGHTING DESIGN PARAMETERS

AVERAGE MAINTAINED ILLUMINATION: 1.0 FC MIN.
 EXISTING ON PROJECT: UNKNOWN.
 FILTERED LUMINAIRE: 0.95
 LAMP DEPRECIATION: 0.75824, 000 HOURS.
 COMBINED LAMP FACTOR: 0.7
 MOUNTING HEIGHT FACTOR: 38/M.H.
 UNIFORMITY RATIO: 4:1 (AVE./MIN.)
 MINIMUM FOOTCANDLES ON ROADWAY: 0.28 FC. MIN.

WORK TO BE PERFORMED BY THE CONTRACTOR
 THE CONTRACTOR SHALL: 1. INSTALL NEW CONCRETE BASES, POLES, LUMINAIRES, WIRING, CONDUIT, POLE RISER, WEATHER HEAD, METER SOCKET, RAIN TIGHT BOX WITH OVERLOAD DISCONNECT AND OTHER RELATED MATERIAL. 2. INSTALL METAL TAGS TO THE HANDHOLE OF THE NEW POLES WITH THE INFORMATION AS NOTED ON THE PLANS. 3. MAKE CONTACT WITH AND PERFORM WORK IN COMPLIANCE WITH THE LOCAL UTILITY COMPANY. PAYMENT FOR THE ABOVE WORK WILL BE SUBSIDIARY TO ITEM 679.15, STREET LIGHTING.

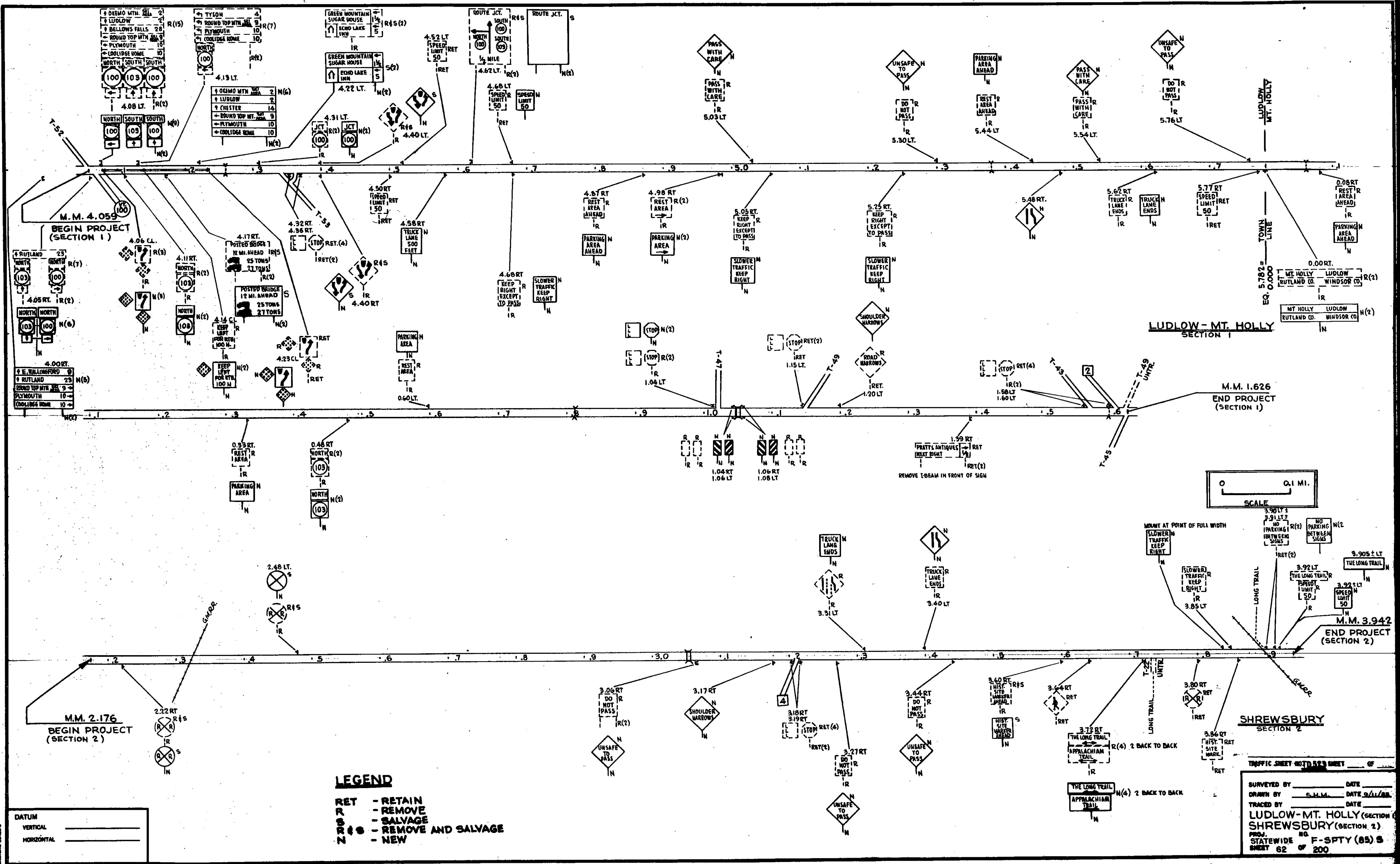
ALBURG,
 INTERSECTION OF US-ROUTE 2 & T.H.-3

STREET LIGHTING DESIGN CRITERIA AND GENERAL NOTES

SURVEYED BY	DATE
DRAWN BY R. Davis	DATE 9-85
TRACED BY	DATE
STATEWIDE	
PROJ. F	NO. 3FTY (85) 9
SHEET 55	OF 200

1985 STATEWIDE SAFETY PROJECT ITEM DETAIL SHEET

MILE MARKER	POS	REMOVING TREES		UNCLASSIFIED EXCAVATION	EARTH BORROW	TRENCH EARTH	TRENCH ROCK	GRAVEL SHOULDERS	METAL PIPE			RC PIPES			M.E.S	RCPE	CONC	STEEL	REHAB. DI	GRATE TYPE B	STONE FILL		TIMBER CURB	ITEM 604.40	SELECTIVE THINNING	GUARD RAIL ITEMS				DELINEATORS	REMARKS			
		SMALL	LARGE						D	L	TH	D	L	CL							I	II				62180	62120	62160	62150					
MT. HOLLY																																		
1.04	RT							49																40							1		REMOVE EXISTING GUARD RAIL. REPLACE WITH APPROACH SECTION TYPE I AND B.C.T. SEE SHEET 3 FOR DETAILS.	
1.07	RT							49																40							1		REMOVE EXISTING GUARD RAIL. REPLACE WITH APPROACH SECTION TYPE I AND B.C.T. SEE SHEET 3 FOR DETAILS.	
1.04	LT							49																40							1		REMOVE EXISTING GUARD RAIL. REPLACE WITH APPROACH SECTION TYPE I AND B.C.T. SEE SHEET 3 FOR DETAILS.	
1.07	LT							51																40		75					1		REMOVE EXISTING GUARD RAIL. REPLACE WITH APPROACH SECTION TYPE I 75' OF NEW BEAM AND B.C.T. SEE SHEET FOR DETAILS	
MT. HOLLY TOTALS								198																160		75					4			
NOTE: FOR BRIDGE DETAILS SEE BRIDGE SHEETS 14-17																																		



M.M. 4.059
BEGIN PROJECT
(SECTION 1)

LUDLOW - MT. HOLLY
SECTION 1

M.M. 1.626
END PROJECT
(SECTION 1)

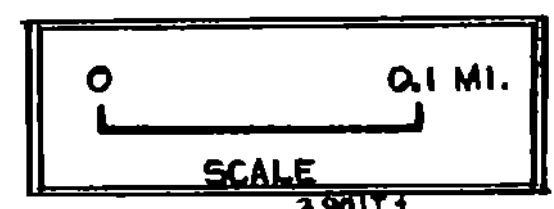
M.M. 3.942
END PROJECT
(SECTION 2)

M.M. 2.176
BEGIN PROJECT
(SECTION 2)

SHREWSBURY
SECTION 2

- LEGEND**
- RET - RETAIN
 - R - REMOVE
 - S - SALVAGE
 - R(S) - REMOVE AND SALVAGE
 - N - NEW

DATUM
VERTICAL _____
HORIZONTAL _____



TRAFFIC SHEET NO. 253 SHEET _____ OF _____

SURVEYED BY _____ DATE _____
 DRAWN BY S.H.M. DATE 9/11/88
 TRACED BY _____ DATE _____

LUDLOW-MT. HOLLY (SECTION 1)
SHREWSBURY (SECTION 2)

PROJ. STATEWIDE NO. F-SPTY (85) S
 SHEET 62 OF 200

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS							REMARKS	FOR SIGN DETAIL SHEET							
			TO BE SALVAGED REMOVE (EA.)	RETAIN (X)	NEW 'A' (S.F.)	NEW 'B' (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM				W SHAPED STEEL			PLAN SHEET NUMBER	STD. SHEET NUMBER			
														2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø		4.0" Ø MOD.	POST SIZE	WEIGHT			FTG. SIZE		
BEGIN SECT 1 4.00 RT.	WALLINGFORD 9	72" x 10"			5							2			X												E-23	
	RUTLAND 23	72" x 10"			5																						E-23	
	ROUND TOP MTN. 9	72" x 10"			5																						E-23	
	PLYMOUTH 10	72" x 10"			5																						E-23	
	COOLIDGE HOME 10	72" x 10"			5																						E-23	
4.05 RT.	RUTLAND 23		X																									
	NORTH		X																									
	103		X																									
	↑		X																									
	NORTH		X																									
	100		X																									
	→		X																									
	NORTH	2' x 1'			2							2		X														E-13
	103	2' x 2'			4																							E-13
	↑	21" x 15"			2.2																							E-13
	NORTH	2' x 1'			2																							E-13
	100	2' x 2'			4																							E-13
	→	21" x 15"			2.2																							E-13
4.08 LT.	OXEMO MTN. 2		X																									
	LUDLOW 2		X																									
	BELLOWS FALLS 28		X																									
	ROUND TOP MTN. 9		X																									
	PLYMOUTH 10		X																									
	COOLIDGE HOME 10		X																									
	NORTH		X																									
	100		X																									
	←		X																									
	SOUTH		X																									
	103		X																									
	↑		X																									
	SOUTH		X																									
	100		X																									
	↑		X																									
	NORTH	2' x 1'			2							2		X														E-13
	100	2' x 2'			4																							E-13
	←	21" x 15"			2.2																							E-13
	SOUTH	2' x 1'			2																							E-13
	103	2' x 2'			4																							E-13
	↑	21" x 15"			2.2																							E-13
	SOUTH	2' x 1'			2																							E-13
	100	2' x 2'			4																							E-13
	↑	21" x 15"			2.2																							E-13
TOTALS			22	X	66																							

FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD, POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S 'SIGN POST DESIGN MANUAL'.

PREPARED BY _____ DATE _____
 CHECKED BY _____ DATE _____
 LUDLOW - MT. HOLLY (SECT. 1)
 SHREWSBURY (SECT. 2)
 PROJ. NO. _____
 STATEWIDE F-SFTY (85)S
 TRAFFIC SHEET NO. 574 SHEET 63 OF 200

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS TO BE SALVAGED		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS								REMARKS	FOR SIGN DETAIL SHEET									
			REMOVE (EA.)	RETAIN (X)	NEW 'A' (S.F.)	NEW 'B' (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM					W SHAPED STEEL	PLAN SHEET NUMBER	STD. SHEET NUMBER							
														2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.		POST SIZE			WEIGHT	FTG. SIZE					
4.58 RT.		24" x 30"			5							1	X																	E-15A	
4.62 LT.			X	X				1						X(2)	2			X													
4.68 LT.		24" x 30"	X		5				X																					E-15B	
4.68 RT.	EXIST. NEW	24" x 30"	X		5									X	1	X														E-15A	
4.87 RT.	EXIST. NEW	24" x 30"	X		5									X	1	X														TD 529	
4.98 RT.	EXIST. - 2 SIGNS BACK TO BACK NEW - 2 SIGNS OPPOSITE ARROWS	2 @ 3' x 3'	X(2)		9									X	1	X														TD 529	
5.03 LT.	EXIST. NEW	30" x 30"	X		6.3									X	1	X														TD 529	
5.05 RT.	EXIST. NEW	24" x 30"	X		5									X	1	X														E-15A	
5.25 RT.	EXIST. NEW	24" x 30"	X		5									X	1	X														E-15A	
5.30 LT.	EXIST. NEW	30" x 30"	X		6.3									X	1	X														TD 529	
5.44 LT.	EXIST. NEW	24" x 30"	X		5									X	1	X														TD 529	
5.48 RT.		3' x 3'			9												X													E-19A	
5.54 LT.	EXIST. NEW	30" x 30"	X		6.3									X	1	X															
5.62 RT.		24" x 30"	X		5									X	1	X														E-15A	
5.78 LT.	EXIST. NEW	30" x 30"	X		6.3									X	1	X														TD 529	
5.77 RT.				X					X																						
5.782 RT. TOWN LINE	MT. HOLLY LUDLOW RUTLAND CO. WINDSOR CO.	2 @ 60" x 7 1/2"	X	X	3.1	3.1								X	1		X														
0.08 RT.	EXIST. NEW	24" x 30"	X		5									X	1	X														TD 529	
0.33 RT.	EXIST. NEW	3' x 3'	X		9									X	1	X														TD 529	
0.48 RT.		2' x 1'	X		2									X	1	X														E-13	
		2' x 2'	X		4																									E-13	
0.60 LT.	EXIST. NEW	3' x 3'	X		9									X	1	X														TD 529	
1.04 LT.		30" x 30"	X		6.3									X	1	X														E-15C	
		2' x 2'	X		4																									E-15A	
TOTALS			23	X	137.7			1																							

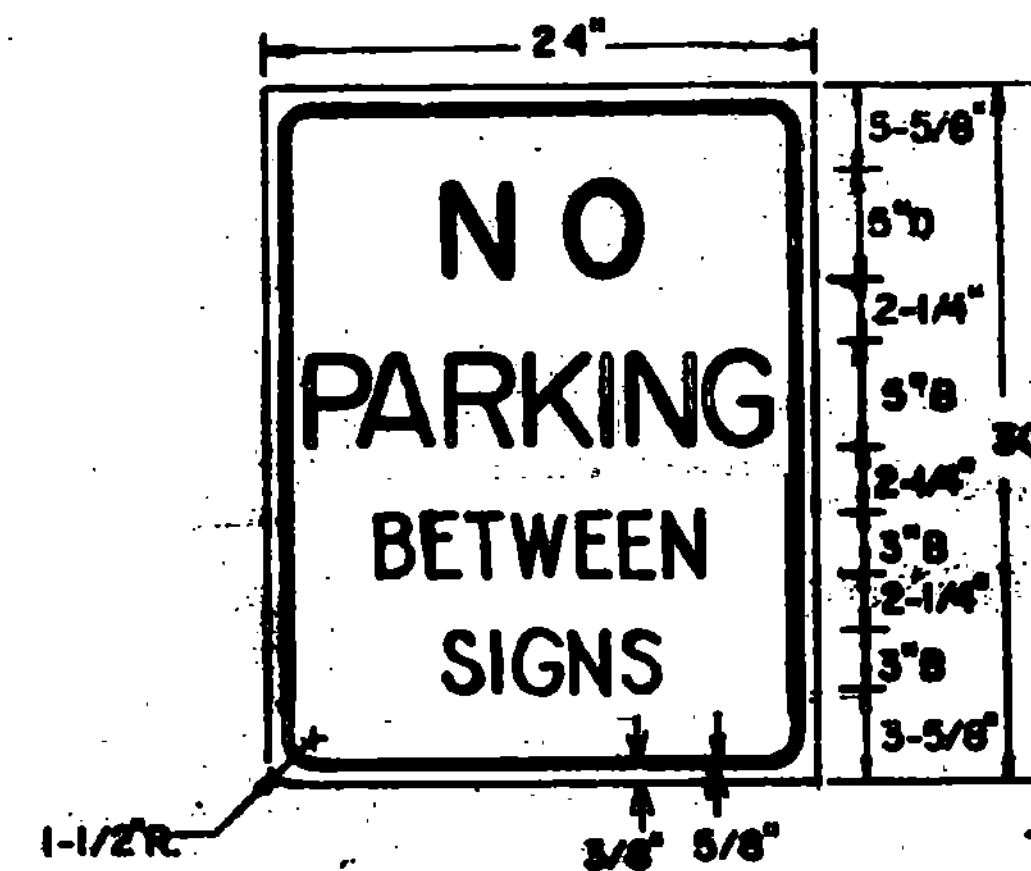
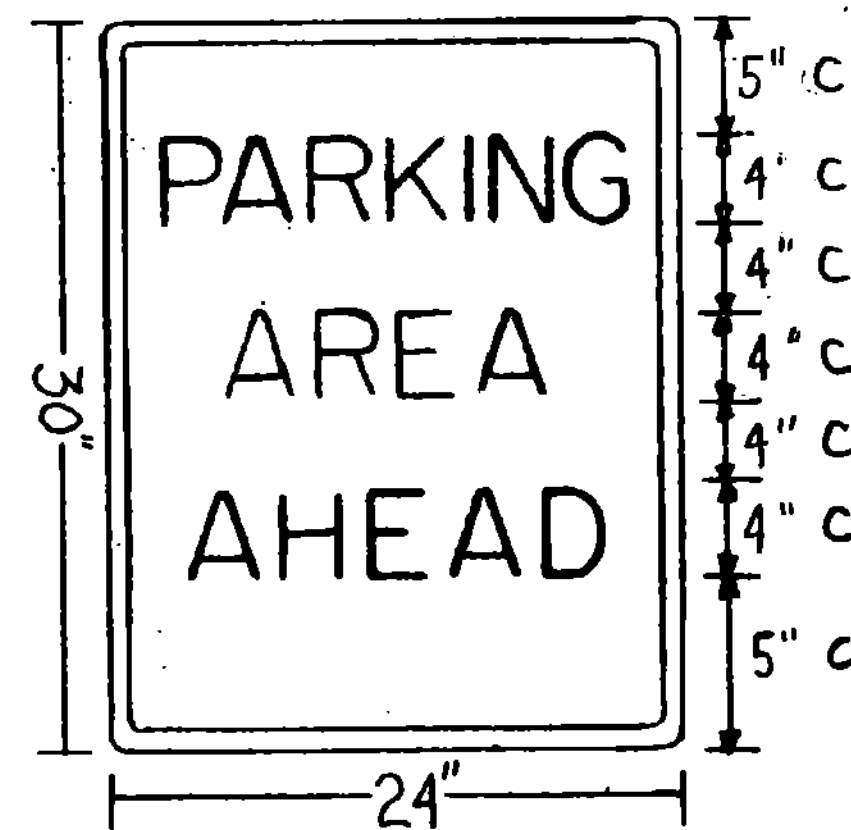
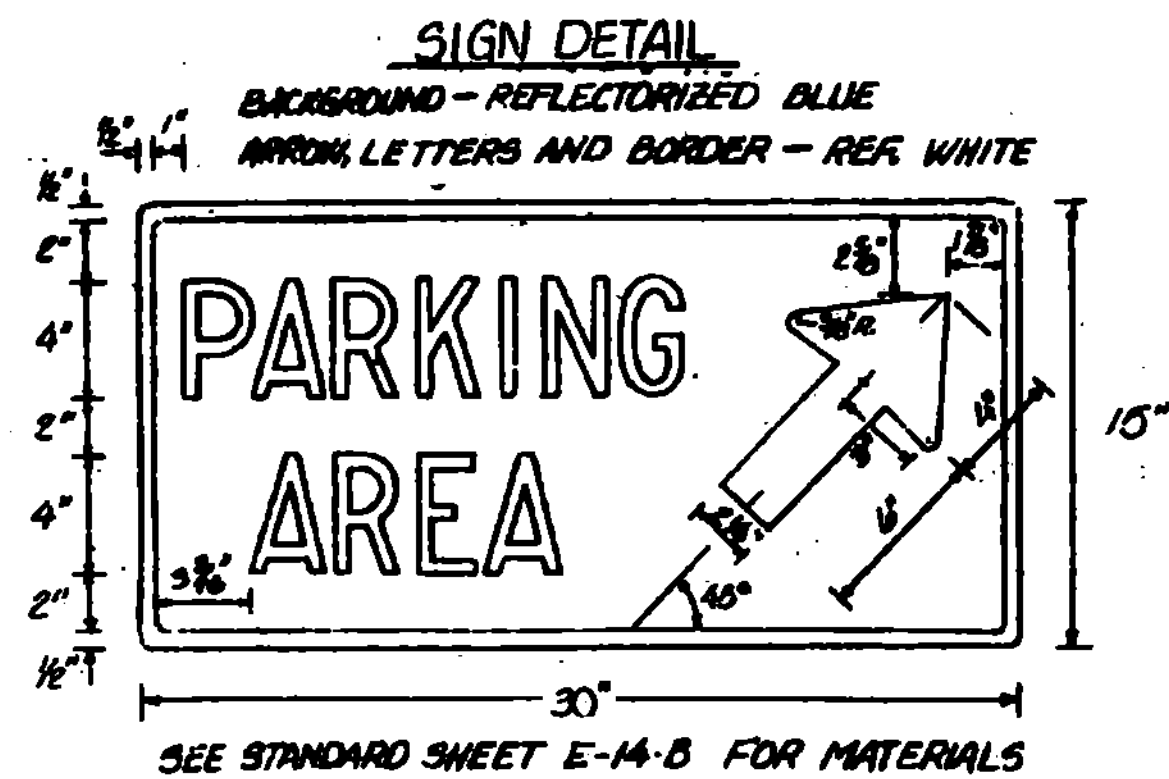
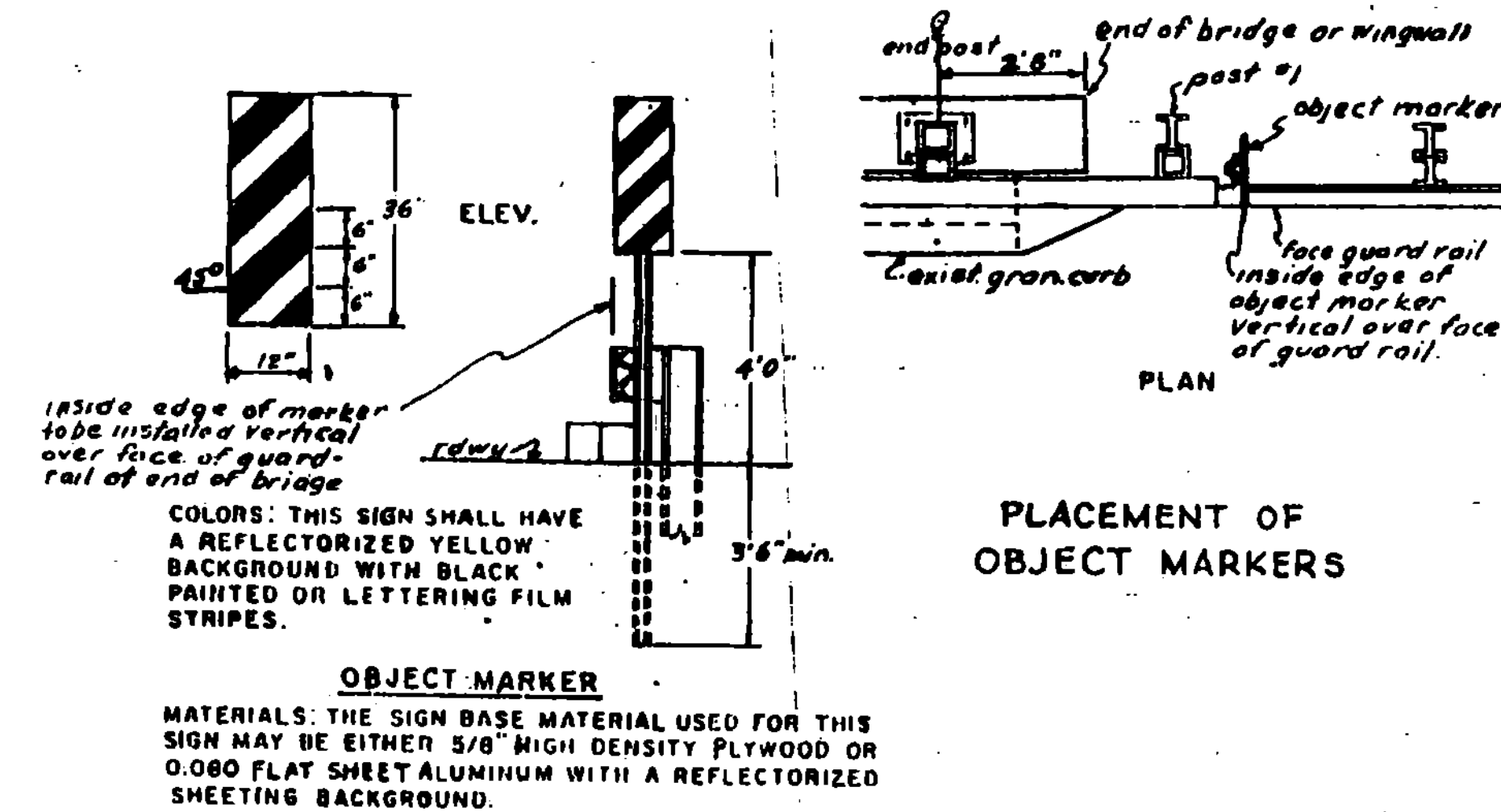
FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S 'SIGN POST DESIGN MANUAL'.

PREPARED BY _____ DATE _____
 CHECKED BY _____ DATE _____
 LUDLOW - MT. HOLLY (SECT. 1)
 SHREWSBURY (SECT. 2)
 PROJ. STATEWIDE F-SFTY (85) S
 TRAFFIC SHEET NO. 1526 SHEET 65 OF 200

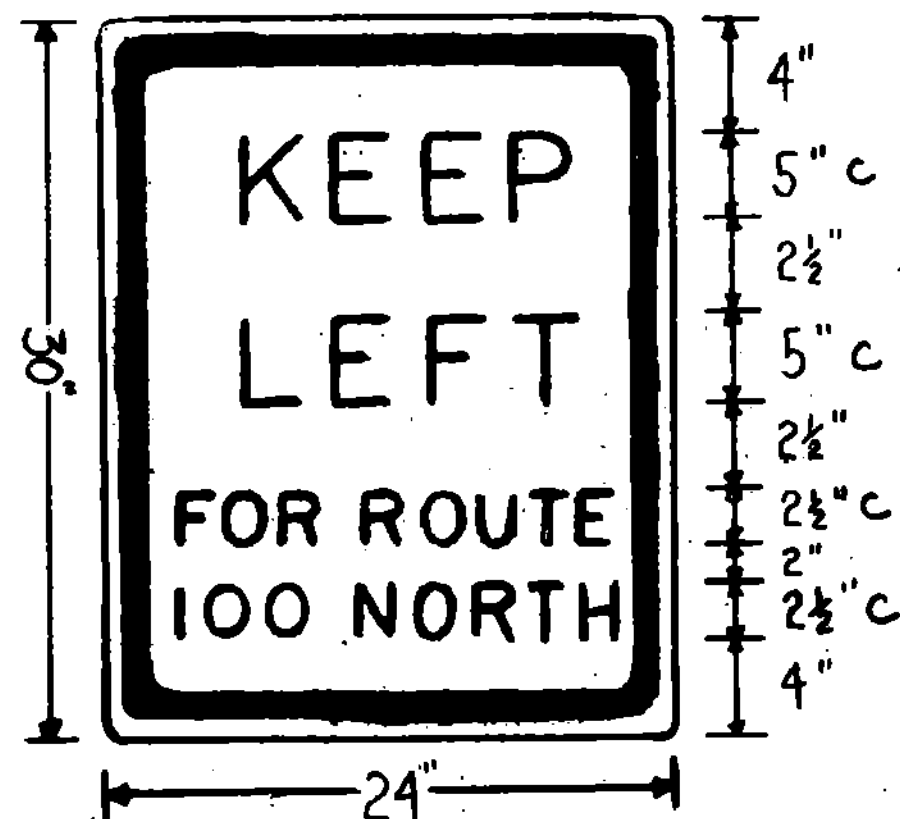
TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS								REMARKS	FOR SIGN DETAIL SHEET				
			TO BE SALVAGED (EA.)	RETAIN (X)	NEW 'A' (S.F.)	NEW 'B' (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM					W SHAPED STEEL		PLAN SHEET NUMBER	STD. SHEET NUMBER	
														2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.		POST SIZE	WEIGHT			PTG. SIZE
1.04 RT.		1' x 3'	X		3							1	X												TD 529	
1.06 LT.		1' x 3'	X		3							1	X												TD 529	
1.06 RT.		1' x 3'	X		3							1	X												TD 529	
1.08 LT.		1' x 3'	X		3							1	X												TD 529	
1.15 LT.				X					X																	
1.20 LT.	EXIST. NEW	3' x 3'	X		9				X																	E-19A
1.39 RT.				X					X (2)																	REMOVE I-BEAM IN FRONT OF SIGN
1.58 LT.				X					X																	
1.60 LT.				X					X																	
END SECT. 1																										
BEGIN SECT 2				X	X							X		1	X											
2.22 RT.				X								X														
2.48 LT.				X	X							X														
3.06 RT.	EXIST. NEW	30" x 30"	X		6.3							X		1	X											
3.17 RT.		30" x 30"			6.3									1	X											E-19A
3.18 RT. & 3.19 RT.				X (2)																						
3.27 RT.	EXIST. NEW	30" x 30"	X		6.3							X		1	X											TD 529
3.31 LT.	EXIST. NEW	24" x 30"	X		5							X		1	X											E-15A
3.40 LT.	EXIST. NEW	3' x 3'	X		9							X		1	X											E-19A
3.44 RT.	EXIST. NEW	30" x 30"	X		6.3							X		1	X											TD 529
3.60 RT (BELOW)																										
3.64 RT.				X						X																
3.72 RT.		SEE NOTE RIGHT	X (2)									X		1												NEW SIGNS TO BE FURNISHED BY V.A.O.T.
3.80 RT.		SEE NOTE RIGHT	X (2)									X		1	X											NEW SIGNS TO BE FURNISHED BY V.A.O.T.
2.80 RT.				X								X														
TOTALS			17	X	60.2			3	X	X	X															FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S 'SIGN POST DESIGN MANUAL'.

PREPARED BY _____ DATE _____
 CHECKED BY _____ DATE _____
 LUDLOW - MT HOLLY (SECT 1)
 SHREWSBURY (SECT 2)
 PROJ. STATEWIDE NO. F-SFTY (85) S
 TRAFFIC SHEET NO. 1057 SHEET 66 OF 200



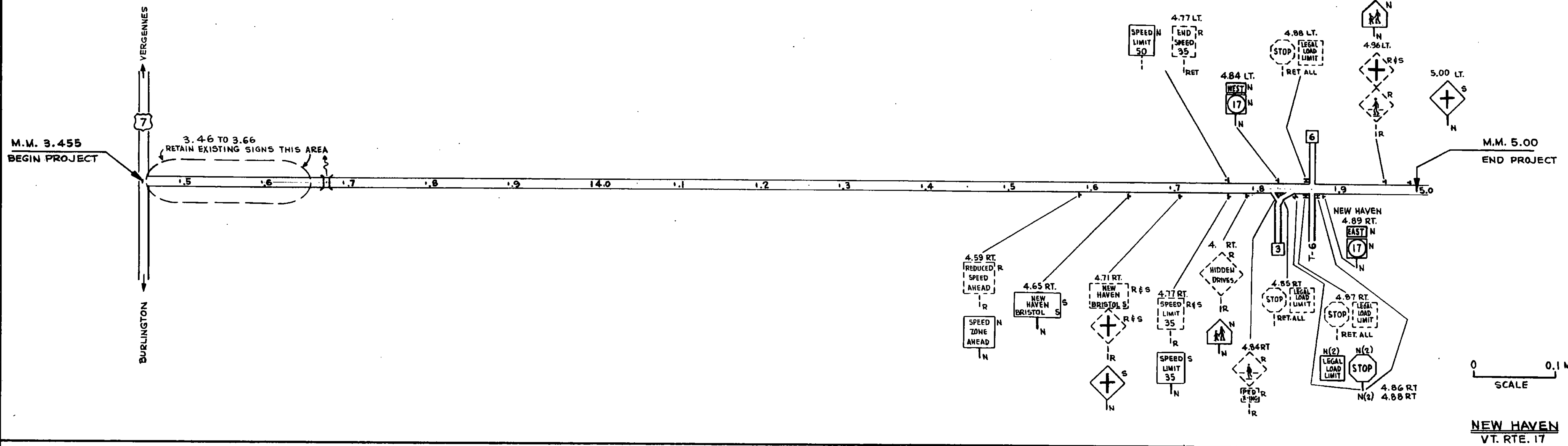
COLORS
LEGEND - RED (REFL.)
BACKGROUND - WHITE (REFL.)



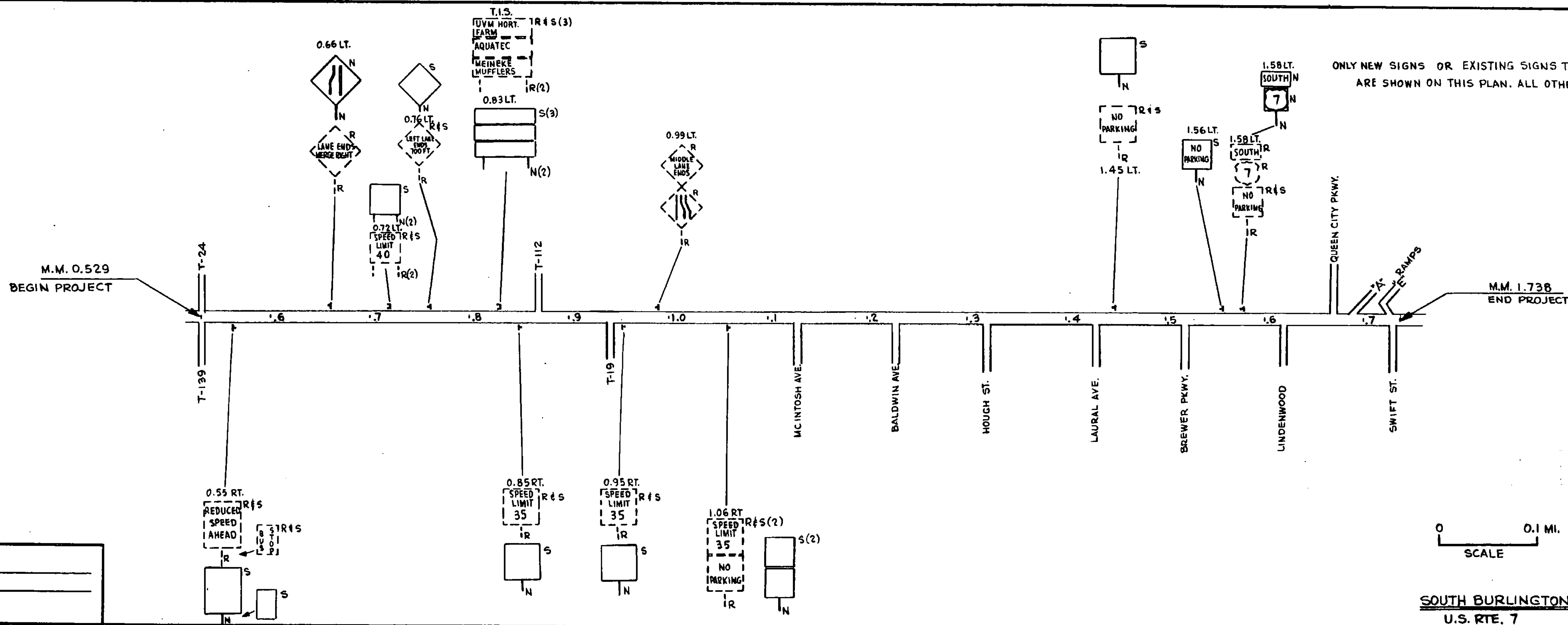
CHECKED BY _____ DATE _____
LUDLOW - AT HOLLY (SECTION 1)
SURREYSBURY (SECTION 2)
PROJ. NO. _____
STATEWIDE F-SFTY (83) S
TRAFFIC SHEET NO. 14 SHEET 55 OF 211

1985 STATEWIDE SAFETY PROJECT ITEM DETAIL SHEET

MILE MARKER	POS.	REMOVING TREES		UNCLASSIFIED EXCAVATION	EARTH BORROW	TRENCH EARTH	TRENCH ROCK	GRAVEL SHOULDERS	METAL PIPE			RC PIPES			M.E.S.	RCPES	CONC.	STEEL	REHAB. DI.	GRATE TYPE B	STONE FILL		TIMBER CURB	ITEM 60440	SELECTIVE THINNING	GUARD RAIL ITEMS				DELINEATORS	REMARKS
		SMALL	LARGE						D	L	TH	D	L	CL							I	II				621.80	621.20	621.60	621.50		
3.63	RT				30	4			24	8	.064																				EXTEND PIPE 8"± ADD MES AND REGRADE SLOPE SEE DETAIL "B" SHEET 4
3.69	RT				30				60	48	.138											50			40					EXTEND PIPES 16"± USE EARTH BORROW AND STONE FILL TO FLATTEN SLOPE SEE DETAIL "A" SHEET 4	
4.10	RT				30																									USE EARTH BORROW TO COVER LEDGE OUTCROP	
4.19	RT																													REMOVE EXISTING GUIDE POSTS COST TO BE SUBSIDIARY TO OTHER ITEMS IN CONTRACT	
4.22	RT				40																									USE EARTH BORROW TO FLATTEN DRIVE SIDESLOPES SEE SHEET 5 FOR DETAILS	
4.51	RT				10	2			15	8	.064																			EXTEND PIPE 8"± FLATTEN SLOPE WITH EARTH BORROW SEE DETAIL "A" SHEET 4	
4.55	RT				10	2			15	8	.064																			EXTEND PIPE 8"± FLATTEN SLOPE WITH EARTH BORROW SEE DETAIL "A" SHEET 4	
4.63	RT				30	2	2		42	10	.109																			REMOVE TOP OF HEADER, GROUT 42" PIPE INTO EXISTING CONC. BOX. USE 10"± NEW PIPE AND MES FLATTEN SIDE SLOPE WITH EARTH BORROW SEE DETAIL "B" SHEET 4	
4.98	RT				20	2			48	8	.109																			EXTEND PIPE 8"± ADD MES USE EARTH BORROW TO FLATTEN SLOPE SEE SHEET "B" SHEET 4	
3.62	LT				10																									ADD MES TO PIPE AND FLATTEN SIDE SLOPE SEE DETAIL "B" SHEET 4	
3.68	LT				30				60	48	.138											50			40					EXTEND PIPES 16"± USE EARTH BORROW AND STONE FILL TO FLATTEN SLOPE SEE DETAIL "A" SHEET 4	
3.72	LT				20	10		10	18	30	.064																			USE NEW PIPE AND RECONSTRUCT DRIVE SEE DETAIL "D" SHEET 4	
3.74	LT				15																									ADD END SECTIONS AND FLATTEN DRIVE SIDE SLOPES SEE DETAIL "D" SHEET 4	
4.18	LT																													REMOVE LARGE GUIDE POSTS COST SUBSIDIARY TO OTHER ITEMS IN CONTRACT	
4.62	LT				25	5	2		42	8	.109											10								REMOVE TOP OF HEADER, GROUT 42" PIPE INTO EXISTING CONC. BOX. USE 8"± NEW PIPE AND REGRADE AREA TO DRAIN SEE DETAIL "A" SHEET 4	
4.97	LT				15				48	8	.109											5								EXTEND PIPE 8"± AND FLATTEN SLOPE SEE DETAIL "A" SHEET 4	
NEW HAVEN TOTALS					315	27	4	10	15	16	.064											115			80						



NEW HAVEN
VT. RTE. 17



ONLY NEW SIGNS OR EXISTING SIGNS TO BE REMOVED, SALVAGED OR REPLACED, AND INCLUDED POSTS, ARE SHOWN ON THIS PLAN. ALL OTHER EXISTING SIGNS AND POSTS TO BE RETAINED

- LEGEND**
- RET - RETAIN
 - R - REMOVE
 - S - SALVAGE
 - R&S - REMOVE AND SALVAGE
 - N - NEW

DATUM

VERTICAL	_____
HORIZONTAL	_____



SOUTH BURLINGTON
U.S. RTE. 7

TRAFFIC SHEET NO. 10590 SHEET _____ OF _____

SURVEYED BY _____ DATE _____
 DRAWN BY S.H.M. DATE 9/9/85
 TRACED BY _____ DATE _____

NEW HAVEN,
SOUTH BURLINGTON
 STATEWIDE F-SFTY (85) S
 SHEET 76 OF 200

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	LEGEND	TYPE	SIGN DIMENSIONS	EXISTING SIGNS TO BE SALVAGED		NEW AND SALVAGED SIGNS				EXISTING POSTS			NEW POSTS								REMARKS	FOR SIGN DETAIL SEE:		
				REMOVE (EA.)	RETAIN (X)	NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (EA.)	SALV. T.I.C. (S.F.)	RETAIN	DRILL	SALV.	NUMBER OF POSTS	FLANGED CHANNEL		TUBULAR	ALUMINUM		W SHAPE			BREAKAWAY	PLAN SHEET NUMBER	STD. SHEET NUMBER
														2.0 LB/FT	25 LB/FT	30 LB/FT	3" Ø	3" □	4" Ø	4" Ø MOD		POST SIZE	WEIGHT	FTG. SIZE 24" 30"
NEW HAVEN																								
3.46-3.66 LT. & RT.	RETAIN SIGNS IN THIS AREA																				SIGNS IN THIS AREA RECENTLY REPLACED UNDER U.S. 7 PROJECT, REVIEW FOR CONDITION AT TIME OF CONSTRUCTION			
4.59 RT.		A			X																			
" "		A	24" x 30"				5																	E-15B
4.65 RT.		A	30" x 18"																					INSTALL SIGN SALVAGED FROM 4.71 RT.
4.71 RT.		A			X	X																		RE-INSTALL AT 4.65 RT.
" "		A	30" x 30"		X	X																		REMOUNT SIGN ON NEW POST
4.77 LT.		A			X					X														
" "		A	24" x 30"				5																	E-15B
4.77 RT.		A	24" x 30"		X	X																		REMOUNT SIGN ON NEW POST
4.79 RT.		A			X																			
" "		A	30" x 30"				6.3																	TD 532
4.84 RT. #1		A			X																			
" "		A			X																			
4.85 RT.		A				X				X														
" "		A				X																		
4.87 RT. #2		A				X																		
" "		A				X																		
4.88 LT. #3		A				X																		
" "		A				X																		
4.96 LT. #4		A			X	X																		RE-INSTALL AT 4.99 LT.
" "		A			X																			
" "		A	30" x 30"				6.3																	TD 532
4.99 LT.		A	30" x 30"																					INSTALL SALVAGED SIGN FROM 4.96 LT.
4.84 ± LT #1		A	2' x 1'			2																		E-13
4.86 ± RT #2		A	2' x 2'			4																		E-15A
4.88 ± RT #3		A	2' x 2'			4																		E-15C
4.89 ± RT #4		A	2' x 2'			4																		E-15A
4.89 ± RT #4		A	2' x 2'			4																		E-15C
4.89 ± RT #4		A	2' x 2'			4																		E-13
TOTALS					10		55.2			4														
SOUTH BURLINGTON																								
0.55 RT.					X	X																		
" "					X	X																		
0.66 LT.			4' x 4'		X		16					2				X								E-19A
0.72 LT.					X	X																		
0.76 LT.					X	X																		
0.83 LT.					(X)	X																		
					(X)	X																		
					(X)	X																		
0.85 RT.					X	X																		
												POST LENGTHS ARE APPROXIMATE. FINAL LENGTHS TO BE DETERMINED IN THE FIELD IF FINAL LENGTHS VARY BY MORE THAN 2 FEET, RECOMPUTE THE POST SIZE BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS.										PREPARED BY _____ DATE _____	CHECKED BY _____ DATE _____	
																						NEW HAVEN, SOUTH BURLINGTON PROJ. NO. F-SFTY (85)S	STATEWIDE SHEET 77 OF 200	

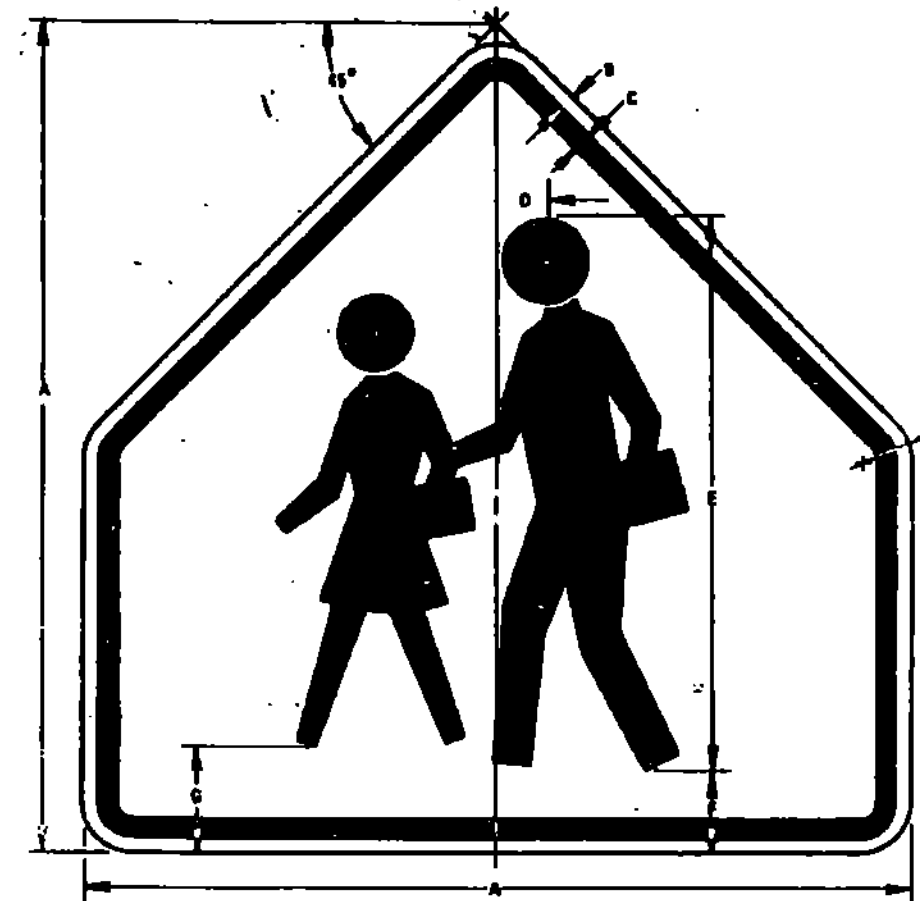
TRAFFIC ITEM AND TRAFFIC SIGN SUMMARY SHEET, NOTES AND DETAILS

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS TO BE SALVAGED		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS								REMARKS	FOR SIGN DETAIL SHEET						
			REMOVE (EA.)	RETAIN (X)	NEW 'A' (S.F.)	NEW 'B' (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S. (S.F.)	RET.	DRILL	REM.	SALV.	FLANGED CHANNEL			TUBULAR ALUMINUM			W SHAPED STEEL			PLAN SHEET NUMBER	STD. SHEET NUMBER					
													2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.	POST SIZE				WEIGHT	FTG. SIZE			
0.95 RT.			X	X			1					X																
0.99 LT.			X									X																
			X	X			1																					
1.06 RT.			X	X			1					X																
" "			X	X			1																					
1.45 LT.			X	X			1					X																
1.56 LT.		FROM 1.58 LT.					1																					
1.58 LT.		2' x 1'	X		2																							E-12
		2' x 2'	X		4																							E-12
" "			X	X																								REINSTALL AT 1.56 LT.
SUB-TOTALS			15		22		11	15							all fln. chan.	407		30.4										

TRAFFIC ITEM SUMMARY							
ITEM NO.	ITEM	NEW HAVEN	SO. BURLINGTON	UNIT	RWD.	TOTAL	
675.20	TRAFFIC SIGNS, TYPE A	55.6	22	S.F.	0.4	78	
675.30	FLANGED CHANNEL SIGN POSTS	300	407	LB		707	
675.32	TUBULAR ALUMINUM SIGN POST		30.4	LB	0.6	31	
675.50	REMOVING SIGNS	10	15	EA		25	
675.60	ERECTING SALVAGED SIGNS	4	11	EA		15	
680.20	TRAVEL INFORMATION SIGN		15	S.F.		15	

SEE SHEET TD 504 FOR PROJECT SUMMARY OF QUANTITIES AND REVISION NOTE FOR LEGAL LOAD LIMIT SIGNING

NOTES AND DETAILS



S1-1

DIM.	DIMENSIONS INCHES							
	A	B	C	D	E	F	G	H
STD. H.	36	12	24	1	20	2	24	12
EMPH.	36	36	7/8	2 1/2	26	3 1/2	4 1/2	24
SPECIAL	48	24	1 1/2	2 1/4	28	5	5	7

COLOR

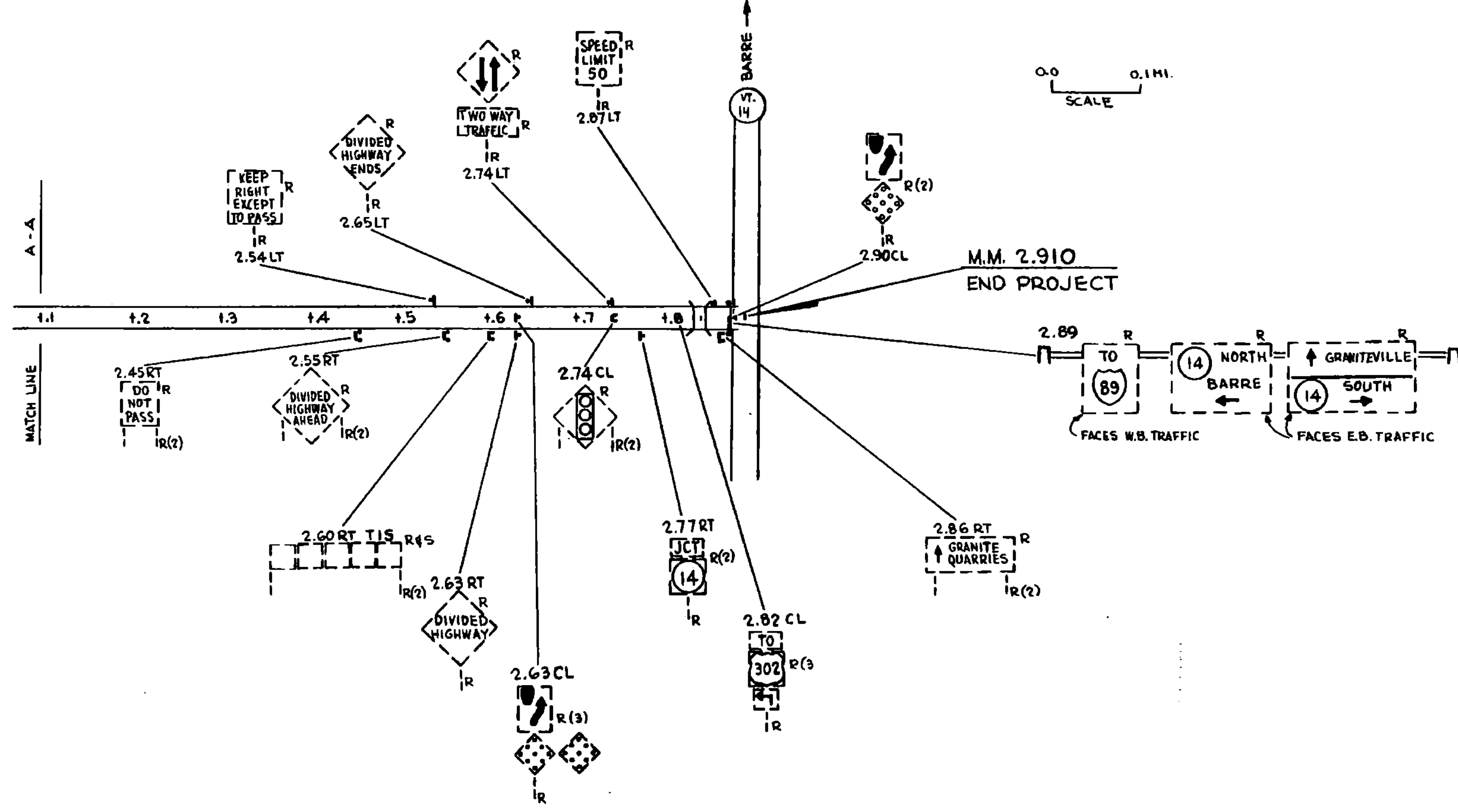
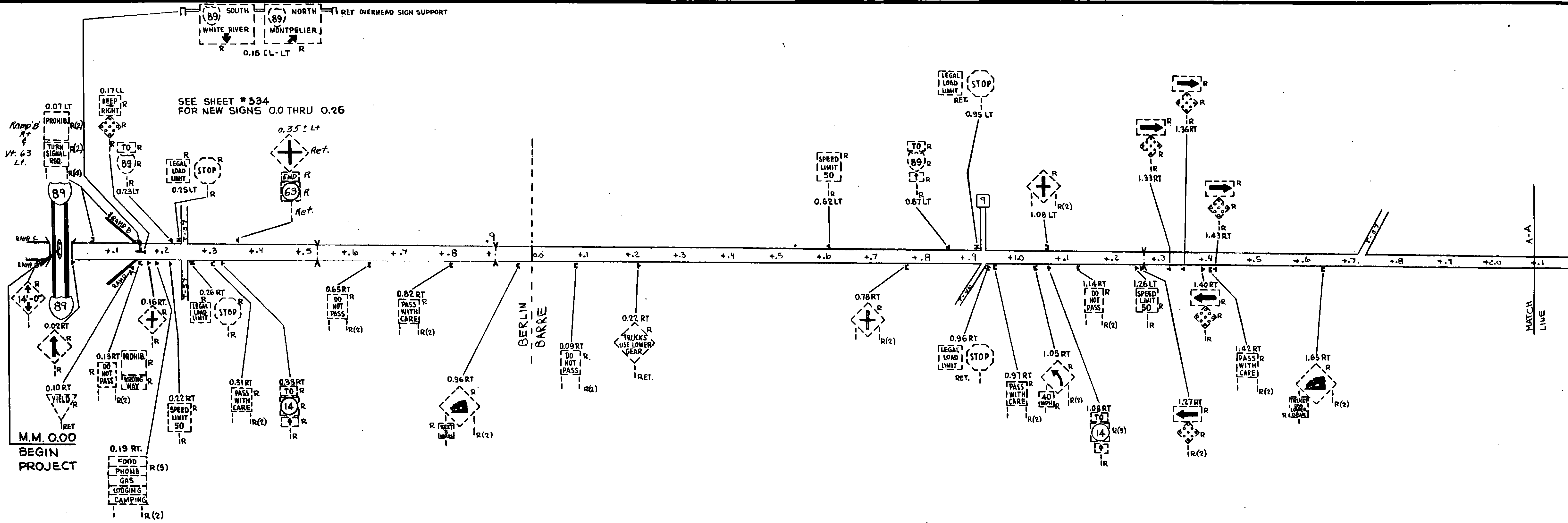
TRAFFIC SHEET NO. TD 532

DRAWN BY _____ DATE _____

CHECKED BY _____ DATE _____

NEW HAVEN,
SOUTH BURLINGTON

STATEWIDE F-SFTY (B5) S
SHEET 78 OF 200



BERLIN-BARRE
F-SFTY(85)

LEGEND
R - REMOVE
N - NEW
R & S - REMOVE AND SALVAGE
S - SALVAGE

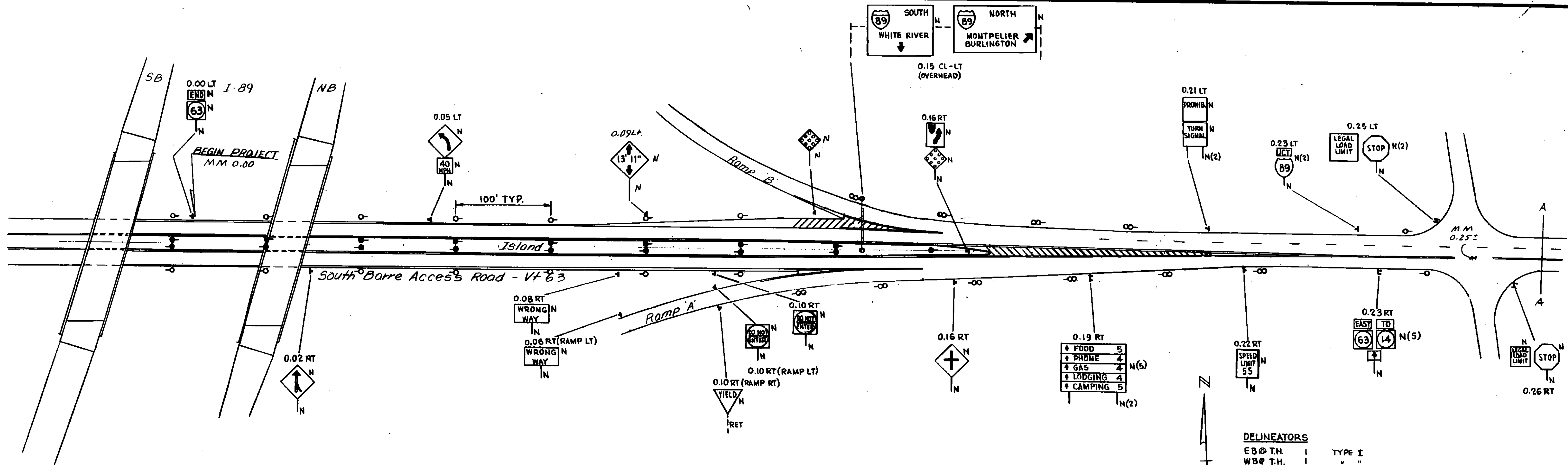
DATUM
VERTICAL _____
HORIZONTAL _____

EXISTING SIGNS
TRAFFIC SHEET NO. 533 SHEET _____ OF _____

SURVEYED BY _____ DATE _____
DRAWN BY _____ DATE _____
TRACED BY _____ DATE _____

BERLIN - BARRE

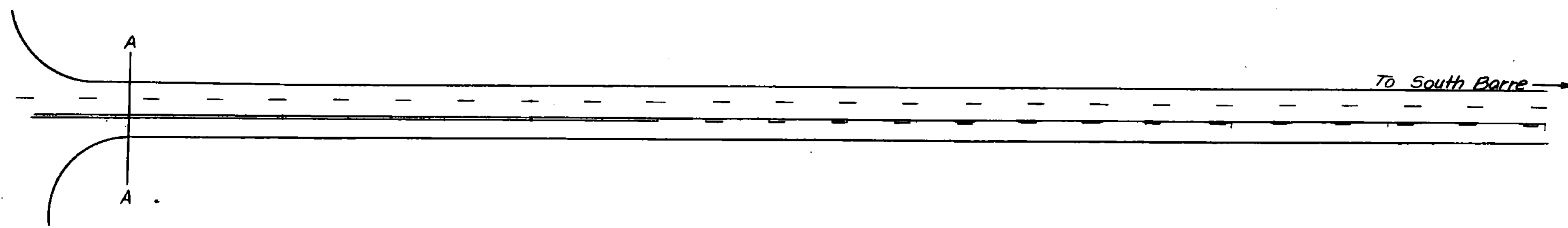
PROJ. STATEWIDE NO. F-SFTY (85)
SHEET 87 OF 200



DELINEATORS

EB @ T.H.	1	TYPE I
WB @ T.H.	1	" "
EB TAPER	6	" "
WB TAPER	4	TYPE II
EB APPR. RT.	7	" "
E.B. APPR. MED.	8	TYPE I (WHITE)
W.B. APPR. MED.	9	" (AMBER)
W.B. APPR. RT.	7	" (WHITE)
	26	17

WITH FLEXIBLE POST (ITEM 676.20)



REMOVE AND REPLACE REFLECTOR UNITS (GUARDRAIL)
 W.B. LANE TO RAMP "B" - RT. 7

LEGEND
 ○ TYPE I (WHITE)
 ⊗ TYPE II
 ◐ TYPE I (AMBER)
 N - NEW
 RET - RETAIN

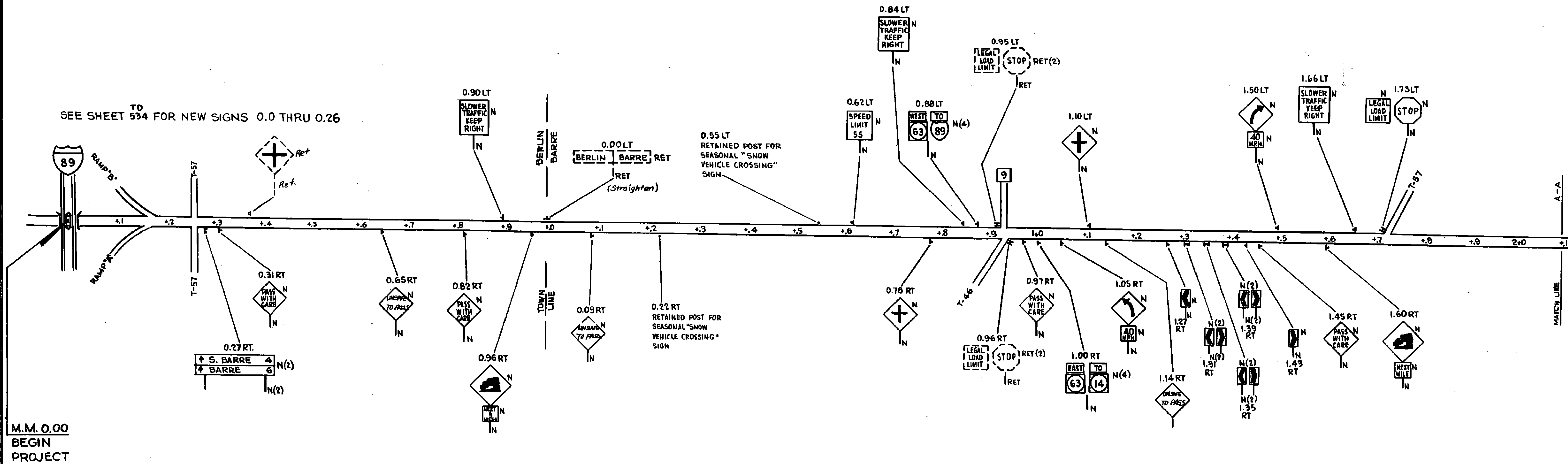
NEW AND SALVAGED
 SIGNS
 0.0 THRU 0.26

SURVEYED BY _____ DATE _____
 DRAWN BY JB DATE 2-85
 TRACED BY JB DATE 2-85
BERLIN ~ BARRE
 STATEWIDE NO. F-SFTY (85) S
 SHEET 88 OF 200

DATUM
 VERTICAL _____
 HORIZONTAL _____

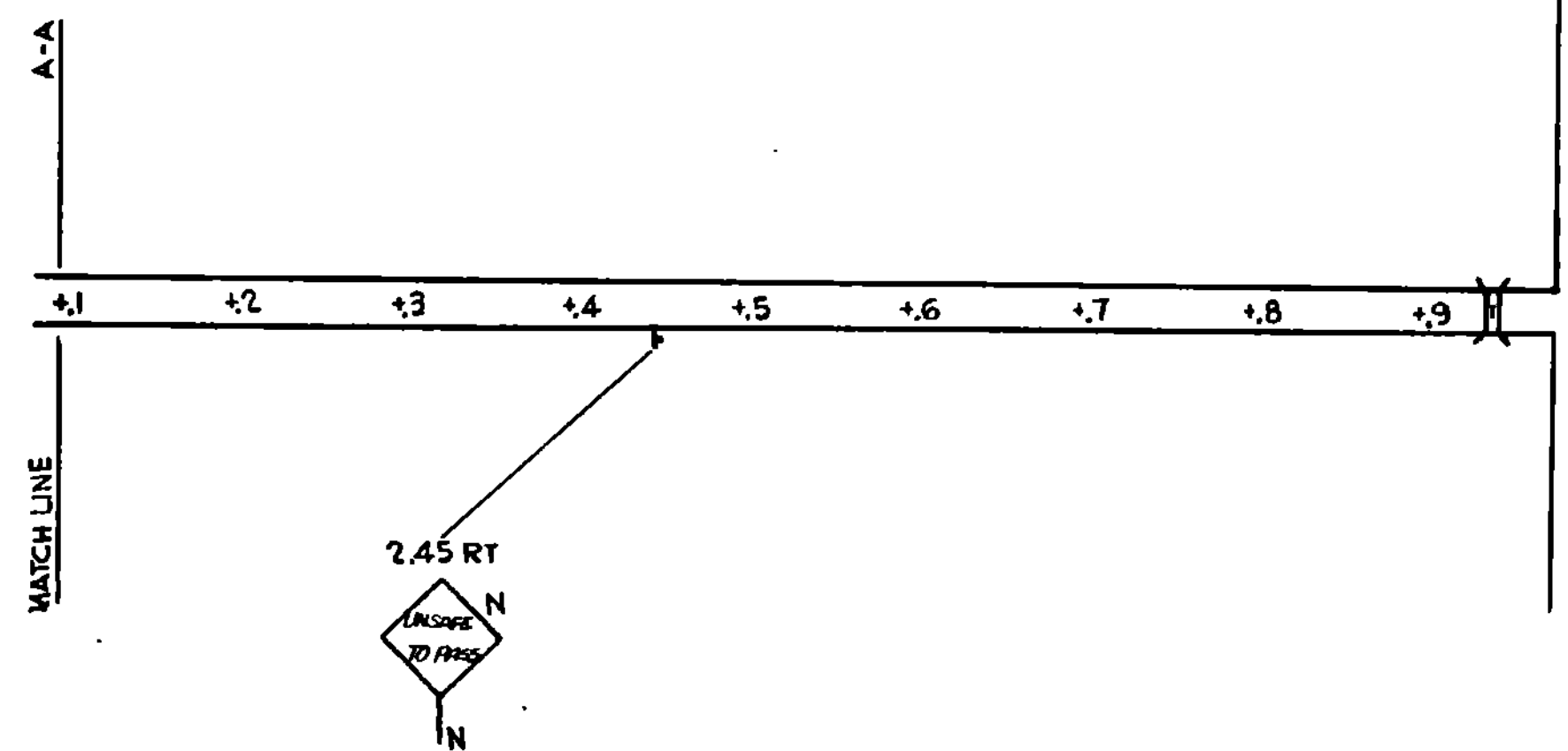
NOT TO SCALE

TD
SEE SHEET 534 FOR NEW SIGNS 0.0 THRU 0.26



REMOVE AND REPLACE REFLECTOR UNITS (GUARDRAIL)
INTERSECTION TH 9, TH 46 & VT. 63 19

TD
SEE SHEET 536 FOR NEW SIGNS 2.50 THRU 2.91



DATUM	
VERTICAL	_____
HORIZONTAL	_____

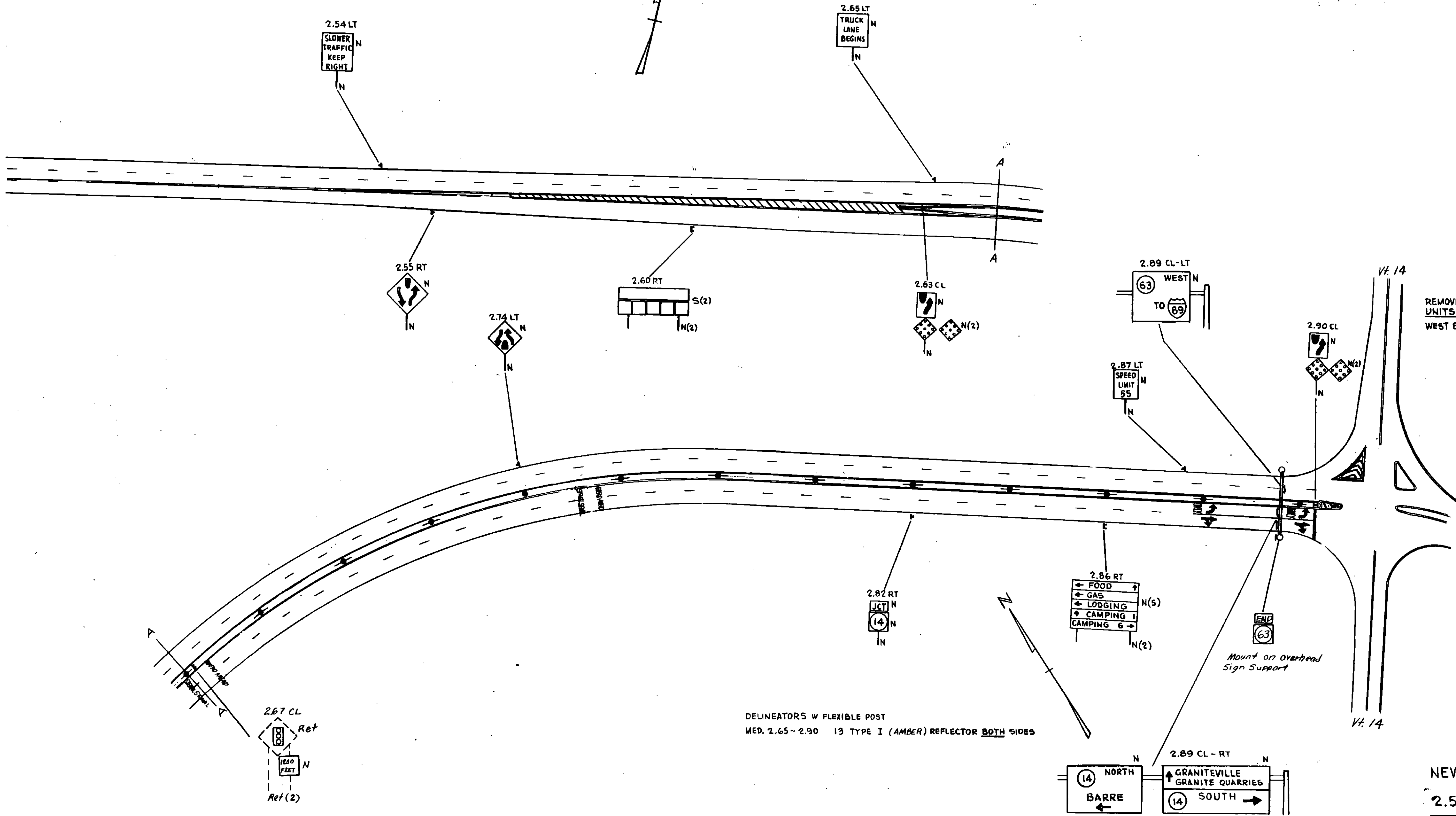
NEW AND SALVAGED
SIGNS
0.26 TO 2.50

SURVEYED BY _____ DATE _____
DRAWN BY _____ DATE _____
TRACED BY _____ DATE _____

BERLIN - BARRE

STATEWIDE NO. F-SFTY (85)S
SHEET 89 OF 200

TRAFFIC SHEET NO. TD 535 SHEET _____ OF _____



REMOVE & REPLACE REFLECTOR UNITS (GUARDRAIL) WEST BOUND VT. 63 - RT. 4

DELINEATORS W FLEXIBLE POST MED. 2.65 ~ 2.90 13 TYPE I (AMBER) REFLECTOR BOTH SIDES

Mount on Overhead Sign Support

NEW AND SALVAGED SIGNS 2.50 TO 2.91

SURVEYED BY _____ DATE _____
DRAWN BY JB DATE 2-85
TRACED BY JB DATE 2-85

BERLIN ~ BARRE

STATEWIDE NO. F-SFTY (85) S SHEET 90 OF 200

DATUM	_____
VERTICAL	_____
HORIZONTAL	_____

NOT TO SCALE

MINIMUM SHEET NO. 10536 SHEET _____ OF _____

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS		NEW AND SALVAGED SIGNS				EXISTING POSTS			NEW SIGN POSTS										REMARKS	FOR SIGN DETAIL SHEET											
			TO BE SALVAGED REMOVE (E.A.)	RETAIN (X)	NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (E.A.)	SALV. T.J.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM				W SHAPED STEEL			PLAN SHEET NUMBER	STD. SHEET NUMBER									
														2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.	POST SIZE		WEIGHT			FTG. SIZE 24" 30"								
0.00 LT	END	2' x 1'			2							1	X															E-15						
	63	2' x 2'			4																							E-13						
0.02 RT	↑	3' x 3'	X		9						X	1		X														E-19						
0.05 LT	↶	3' x 3'			9							1					X											E-19A						
0.09 Lt	40 MPH ↑ 13'-11"	18" x 18" 3' x 3'			2.3 9							1					X											E-19B						
0.07 LT	PROHIB. SIGN		X								X(2)																		TD 542					
0.08 RT	ML WRONG WAY	3' x 2'			6							1	X																E-15C					
	RAMP LT WRONG WAY	3' x 2'			6							1	X																E-15C					
0.10 RT	ML DO NOT ENTER	30" x 30"			6.3							1	X																E-15C					
	RAMP LT DO NOT ENTER	30" x 30"			6.3							1	X																E-15C					
	RAMP RT YIELD	3' x 3' x 3'			4.5					X																			E-15C					
0.13 RT	DO NOT PASS		X																															
	PROHIB.		X																															
	WRONG WAY		X																															
0.15 CL-LT	69 SOUTH WHITE RIVER	15' x 10'	X			150																								MOUNT NEW SIGN ON EXISTING OVERHEAD SIGN SUPPORT	TD 543			
	69 NORTH MONTEPELIER		X																															
	69 NORTH MONTEPELIER BURLINGTON	16 x 9'-6"				152																									MOUNT NEW SIGN ON EXISTING OVERHEAD SIGN SUPPORT	TD 543		
0.16 RT	+	3' x 3'	X		9						X	1				X																		
0.16 CL	?	3' x 4'			12							1				X															E-15B			
	◆	18" x 18"			2.3																										E-19B			
0.17 CL	KEEP RIGHT		X								X																							
	◆		X																															
0.19 RT	↑FOOD 5	54" x 7 1/2"	X		2.8							2		X																				
	↑PHONE 4	54" x 7 1/2"	X		2.8																													
	↑GAS 4	54" x 7 1/2"	X		2.8																													
	↑LODGING 4	54" x 7 1/2"	X		2.8																													
	↑CAMPING 5	54" x 7 1/2"	X		2.8																													
TOTALS			16	X	101.7	302																												

FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD, POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S SIGN POST DESIGN MANUAL.

PREPARED BY SM DATE 1/30/86
 CHECKED BY _____ DATE _____
 BERLIN - BARRE
 PROJ. STATEWIDE NO. F-SFTY (85)
 TRAFFIC SIGN SUMMARY SHEET 91 OF 200

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS								REMARKS	FOR SIGN DETAIL SHEET						
			TO BE SALVAGED REMOVE (EA.)	RETAIN (X)	NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (EA.)	SALV. T.J.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM			W SHAPED STEEL		PLAN SHEET NUMBER	STD. SHEET NUMBER					
														2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" MOD.				POST SIZE	WEIGHT	PTG. SIZE 24" 30"		
0.21 LT.	PROHIB	3' x 3'			9							2				X												E-15B
-----	TURN SIGNAL REQ.	3' x 3'			9																							E-15B
0.22 RT	SPEED LIMIT 50 EXIST. / SPEED LIMIT 55 NEW	3' x 4'	X		12							1				X												E-15B
0.23 LT	TO EXIST. / JCT NEW	21" x 15"	X		2.2							1	X															E-11
0.23 LT	89 " / 89 "	2' x 2'	X		4																							E-11
0.23 RT	EAST	2' x 1'			2											X												E-13
-----	63	2' x 2'			4																							E-13
-----	14	2' x 1'			2																							E-13
-----	14	2' x 2'			4																							E-13
-----	↑	21" x 15"			2.2																							E-13
0.25 LT.	STOP	30" x 30"	X		6.3										X													E-15C
-----	LEGAL LOAD LIMIT 24000	2' x 2'	X		4																							E-15A
0.26 RT.	STOP	2' x 2'	X		4									X														E-15C
-----	LEGAL LOAD LIMIT 24000	2' x 2'	X		4																							E-15C
0.27 RT.	4 S. BARRE 4	72" x 10"			5							2	X															E-23
-----	4 BARRE 6	72" x 10"			5																							E-23
0.31 RT.	PASS WITH CARE EXIST. / PASS WITH CARE NEW	3' x 3'	X		9									X(2)		X												TD 543
0.33 RT.	TO / 14 / ↑																											
0.35 LT.	↓ / END / 63													X														
0.65 RT.	DO NOT PASS EXIST. / UNSAFE TO PASS NEW	3' x 3'	X		9									X(2)		X												TD 543
0.82 RT.	PASS WITH CARE EXIST. / PASS WITH CARE NEW	3' x 3'	X		9									X(2)		X												TD 543
0.90 LT.	LOWER TRAFFIC KEEP RIGHT	3' x 4'			12											X												E-15A
0.96 RT.	↓	3' x 3'	X		9									X(2)		X												E-19B
-----	NEXT 3 MILES	18" x 18"	X		2.3																							
0.00 (BERLIN) LT.	BERLIN BARRE																											STRAIGHTEN SIGN PAYMENT TO BE SUBSIDIARY TO OTHER ITEMS
0.09 RT.	DO NOT PASS / UNSAFE TO PASS	3' x 3'	X		9									X(2)		X												TD 543
0.22 RT.	TRUCKS USE LOWER GEAR		X																									RETAIN POST FOR SEASONAL MOUNTING OF SNOWMOBILE CROSSING SIGN
0.55 LT.	VACANT POST																											RETAIN POST FOR SEASONAL MOUNTING OF SNOWMOBILE CROSSING SIGN
TOTALS			19	X	138																							FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD, POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S 'SIGN POST DESIGN MANUAL'.

PREPARED BY S.M. DATE 1/30/86
 CHECKED BY DATE
 PROJ. BERLIN - BARRE
 STATEWIDE NO. F-SFTY(85)
 TRAFFIC SHEET NO. 538 SHEET 92 OF 200

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS								REMARKS	FOR SIGN DETAIL SHEET						
			TO BE SALVAGED REMOVE (EA.)	RETAIN (X)	NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM					W SHAPED STEEL			PLAN SHEET NUMBER	STD. SHEET NUMBER		
														2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.		POST SIZE	WEIGHT	FTG. SIZE				
0.62 LT.	EXIST / NEW	3' x 4'	X		12																						E-15B	
0.78 RT.		3' x 3'	X		9																						TD 543	
0.84 LT.		3' x 4'			12																						E-15A	
0.87 LT.			X																									
0.88 LT.		2' x 1'			2																						E-13	
		2' x 2'			4																						E-13	
		2' x 1'			2																						E-11	
		2' x 2'			4																						E-11	
0.95 LT.				X																								
0.96 RT.				X																								
0.97 RT.	EXIST / NEW	3' x 3'	X		9																							TD 543
1.00 RT.		2' x 1'			2																							E-13
		2' x 2'			4																							E-13
		2' x 1'			2																							E-13
		2' x 2'			4																							E-13
1.05 RT.		3' x 3'	X		9																							E-19A
		18" x 18"	X		2.3																							E-19B
1.08 LT.			X																									
1.10 LT.		3' x 3'			9																							TD 543
1.08 RT.			X																									
			X																									
			X																									
1.14 RT.	EXIST. / NEW	3' x 3'	X		9																							TD 543
1.26 RT.			X																									
1.27 RT.			X																									
			X																									
1.27 RT.	FACES E.B. TRAFF.	18" x 24"			3																							E-19
1.31 RT.	FACES E.B. TRAFF. / FACES W.B. TRAFF.	18" x 24"			3																							
		18" x 24"			3																							
TOTALS			16	X	104.3																							

FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD, POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S 'SIGN POST DESIGN MANUAL'.

PREPARED BY _____ DATE _____
 CHECKED BY _____ DATE _____
 BERLIN-BARRE
 PROJ. NO. _____
 STATEWIDE F-SFTY (85)
 TRAFFIC SHEET NO. 539 SHEET 93 OF 200

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS				NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS								REMARKS	FOR SIGN DETAIL SHEET				
			TO BE SALVAGED		NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM				W SHAPED STEEL			PLAN SHEET NUMBER	STD. SHEET NUMBER			
			REMOVE (EA.)	RETAIN (X)										2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.	POST SIZE	WEIGHT				FTG. SIZE 24" 30"		
1.33 RT			X																									
1.35 RT	FACES E.B. TRAFFIC FACES W.B. TRAFF	18" x 24"			3							1	X															
1.36 RT			X																									
1.39 RT	FACES E.B. TRAFF. FACES W.B. TRAFF.	18" x 24"			3							1	X															E-19
1.40 RT			X																									
1.42 RT	PASS WITH CARE		X										X(2)															
1.43 RT			X																									
		18" x 24"			3							1	X															E-19
1.45 RT	PASS WITH CARE	3' x 3'			9							1			X													TD 543
1.50 LT		3' x 3'			9							1			X													E-19A
1.50 RT	40 MPH	18" x 18"			2.3																							E-19B
1.50 RT		3' x 3'			9							1			X													E-19B
	30 MPH	18" x 18"			2.3																							TD 543
1.65 RT			X																									
			X																									
1.66 LT	SLOWER TRAFFIC KEEP RIGHT	3' x 4'			12							1			X													E-15A
1.73 LT	STOP	2' x 2'			4							1	X															E-15C
	LOCAL LOAD LIMIT	2' x 2'			4																							E-15A
2.45 RT	DO NOT PASS	EXIST. NEW UNSAFE TO PASS 3' x 3'	X		9							1			X													
2.54 LT	KEEP RIGHT EXCEPT TO PASS	EXIST. NEW 3' x 4'	X		12							1			X													E-15A
2.55 RT	DIVIDED HIGHWAY AHEAD	EXIST. NEW 3' x 3'	X		9							1	X(2)		X													E-19A
2.60 RT			X	X									X(2)		X													NON-FEDERAL-PARTICIPATION ITEM 680.20
2.63 RT	DIVIDED HIGHWAY		X																									
2.63 CL		3' x 4'	X		12							1			X													E-15B
		18" x 18"	X		2.3																							E-19B
		18" x 18"	X		2.3																							
TOTALS			20	X	113.2							10	X	X	X	X												

FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD, POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S 'SIGN POST DESIGN MANUAL'.

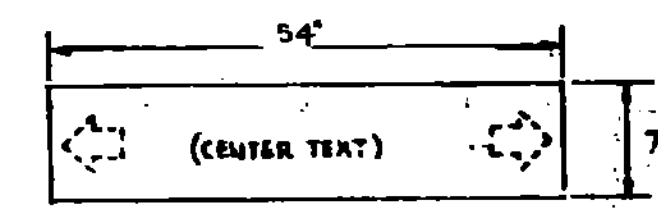
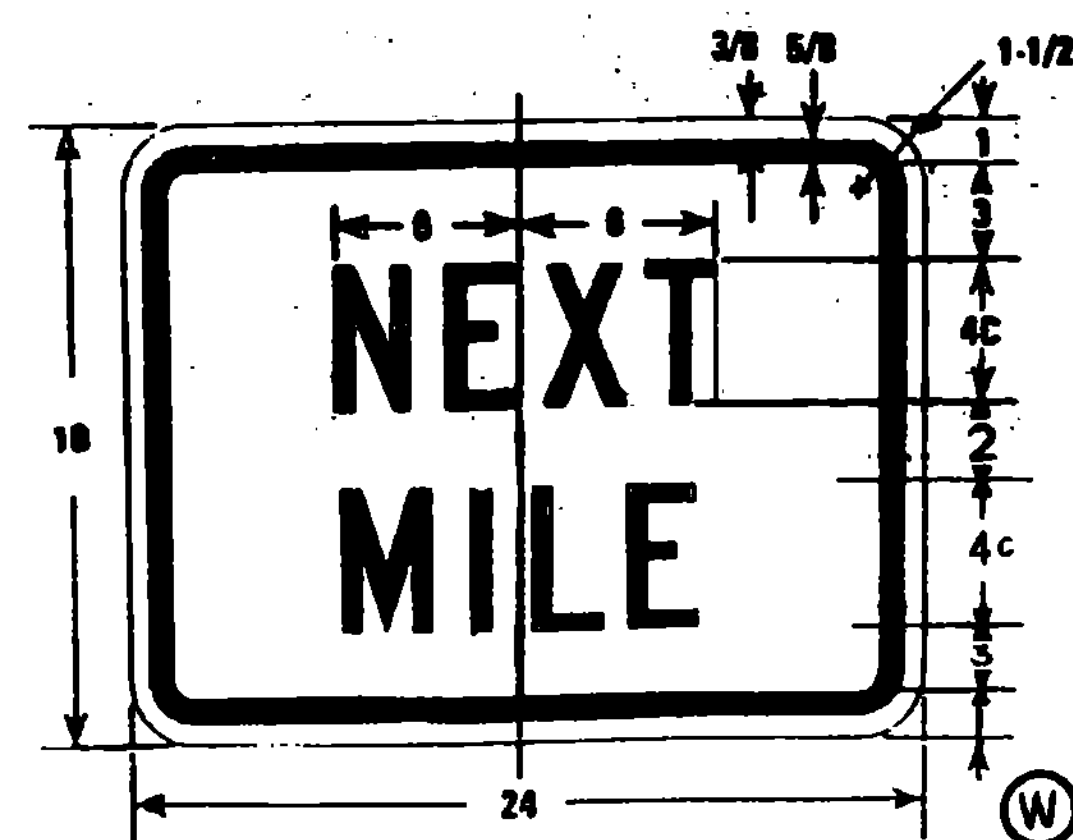
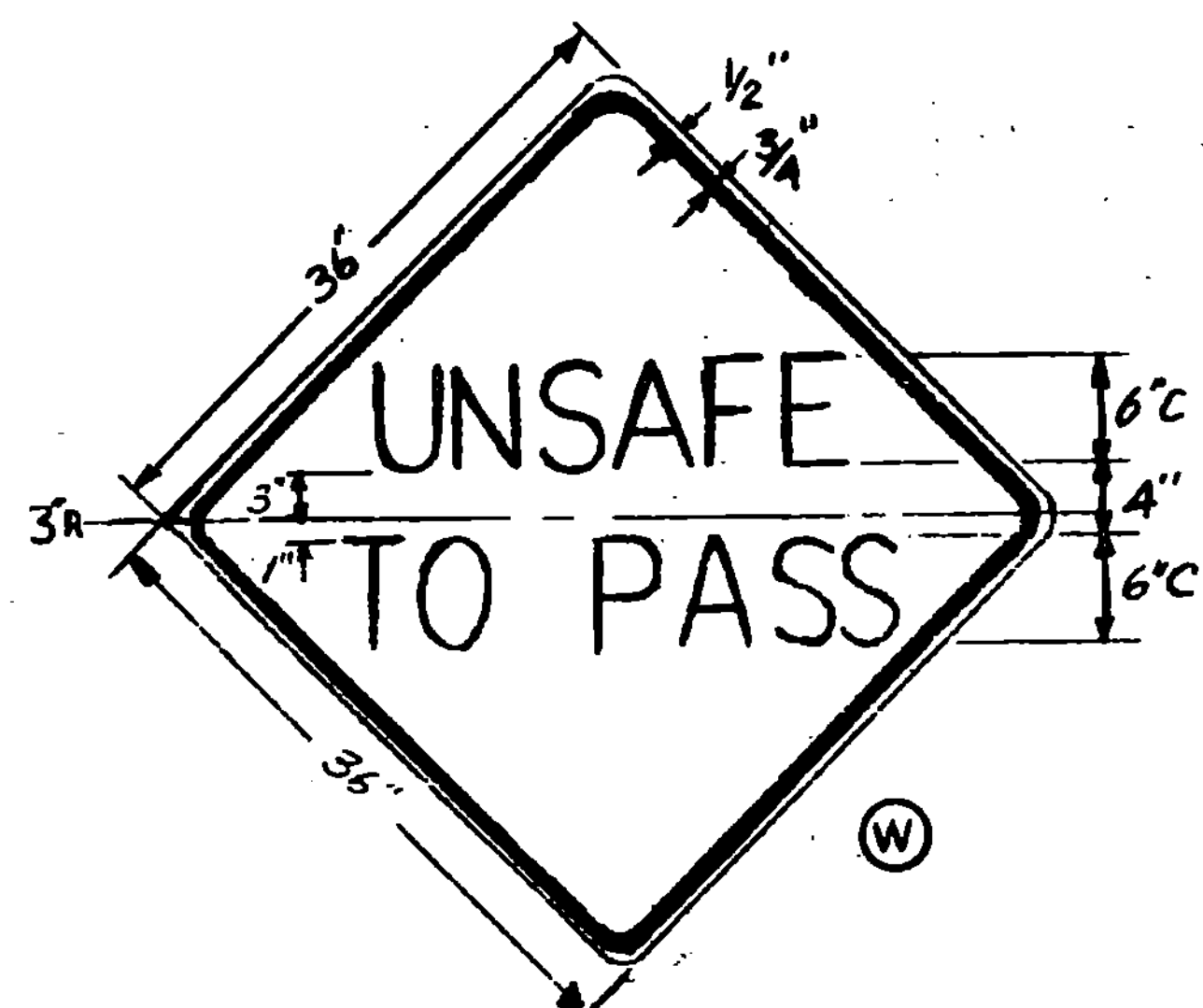
PREPARED BY _____ DATE _____
 CHECKED BY BERLIN - BARRE DATE _____
 PROJ. STATEWIDE NO. F-SFTY (85)
 TRAFFIC SHEET NO. 540 SHEET 94 OF 200

TRAFFIC SIGN SUMMARY SHEET

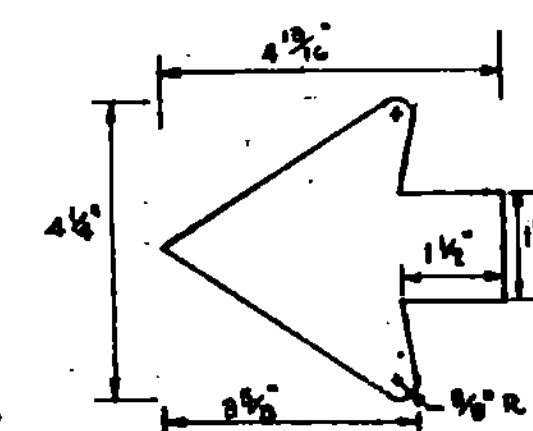
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS							REMARKS	FOR SIGN DETAIL SHEET								
			TO BE SALVAGED REMOVE (EA.)	RETAIN (X)	NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM				W SHAPED STEEL			PLAN SHEET NUMBER	STD. SHEET NUMBER				
														2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø		4.0" Ø MOD.	POST SIZE	WEIGHT			FTG. SIZE 24" 30"			
2.65 LT.		3' x 4'	X		12						X	1				X												E-15A	
2.74 LT.			X								X																		
" "		3' x 3'			9							1			X													E-19A	
2.66 CL				X					X																			E-19B	
2.77 RT.	JCT		X								X																		
2.82 RT.	14	21" x 15"			2.2																							E-13	
2.82 RT.	14	2' x 2'			4																							E-13	
2.82 CL	TQ		X								X																		
	302		X																										
			X																										
2.86 RT.	GRANITE QUARRIES		X								X(2)															RETAIN FOOTINGS			
	FOOD	54" x 7 1/2"	X		2.8							2	X															TD 543	
	GAS	54" x 7 1/2"	X		2.8																							TD 543	
	LODGING	54" x 7 1/2"	X		2.8																							TD 543	
	CAMPING 1	54" x 7 1/2"	X		2.8																							TD 543	
	CAMPING 6	54" x 7 1/2"	X		2.8																							TD 543	
2.87 LT.	SPEED LIMIT 50 EXIST. / SPEED LIMIT 55 NEW	3' x 4'	X		12							1				X													E-15B
2.90 CL		3' x 4'	X		12							1			X														E-15B
		18" x 18"	X		2.3																								E-19B
		18" x 18"	X		2.3																								E-19B
2.89 O.H.D.	TQ FACES W.B. TRAFF. 5' x 7'		X																										
	14 NORTH BARRE	FACES E.B. TRAFF. 10' x 8.5'	X																										
	GRANITVILLE SOUTH	FACES E.B. TRAFF. 14' x 9'	X																										
	63 WEST TO 60	MOUNT FACING WEST BOUND TRAFF. 7'-6" x 5'-6"			41.3																					MOUNT NEW SIGN ON EXISTING OVERHEAD SIGN SUPPORT		TD 543	
	14 NORTH TO 14 BARRE	MOUNT OVER LEFT LANE FACING EAST BOUND TRAFF. 9' x 9'			81																							TD 543	
	GRANITVILLE GRANITE QUARRIES SOUTH	MOUNT ON RT FACING EAST BOUND TRAFF. 15' x 8'			120																							TD 543	
TOTALS			21	X	69.8	242.3					X																		

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 PROJ. STATEWIDE NO. F-SFTY (85)
 TRAFFIC SHEET NO. 541 SHEET 95 OF 200

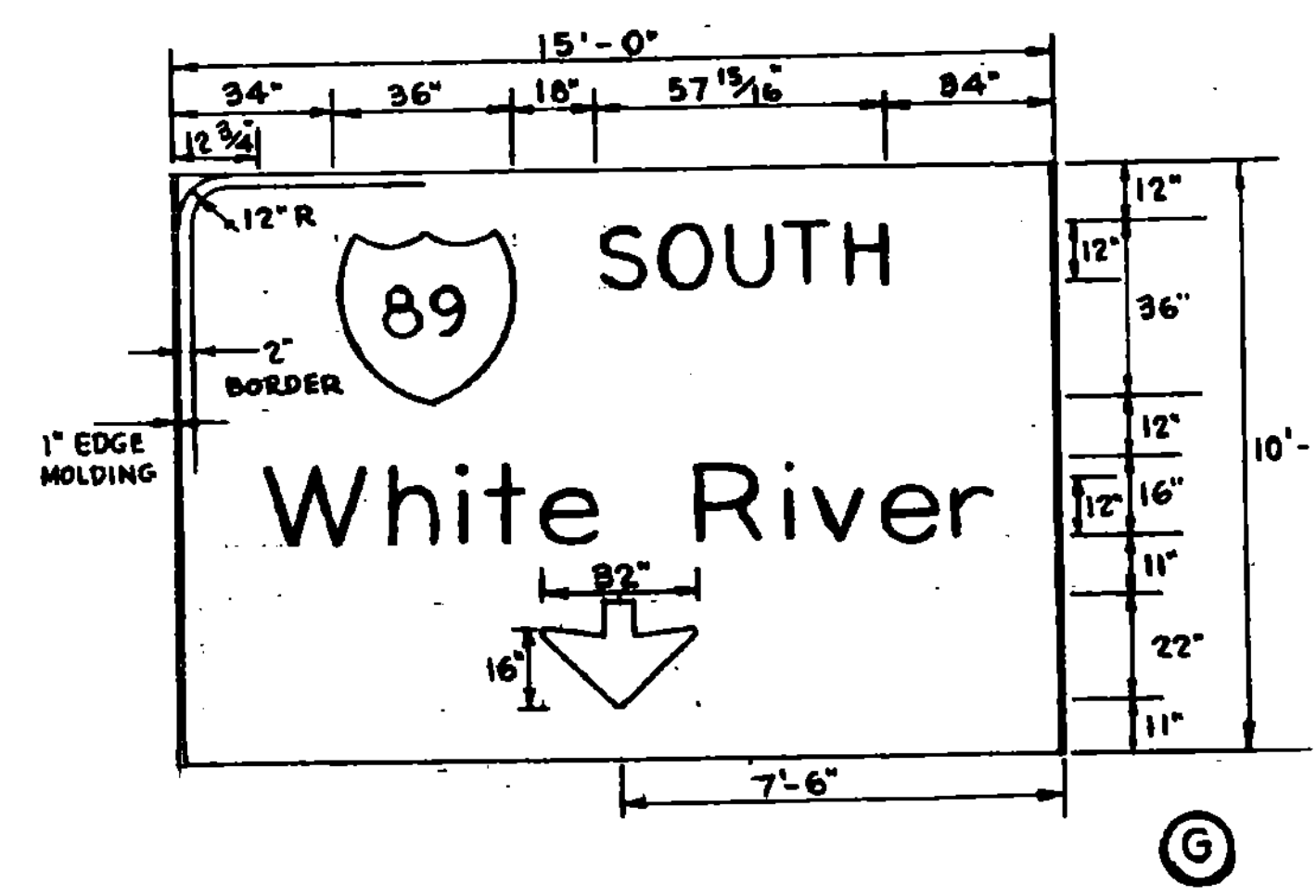
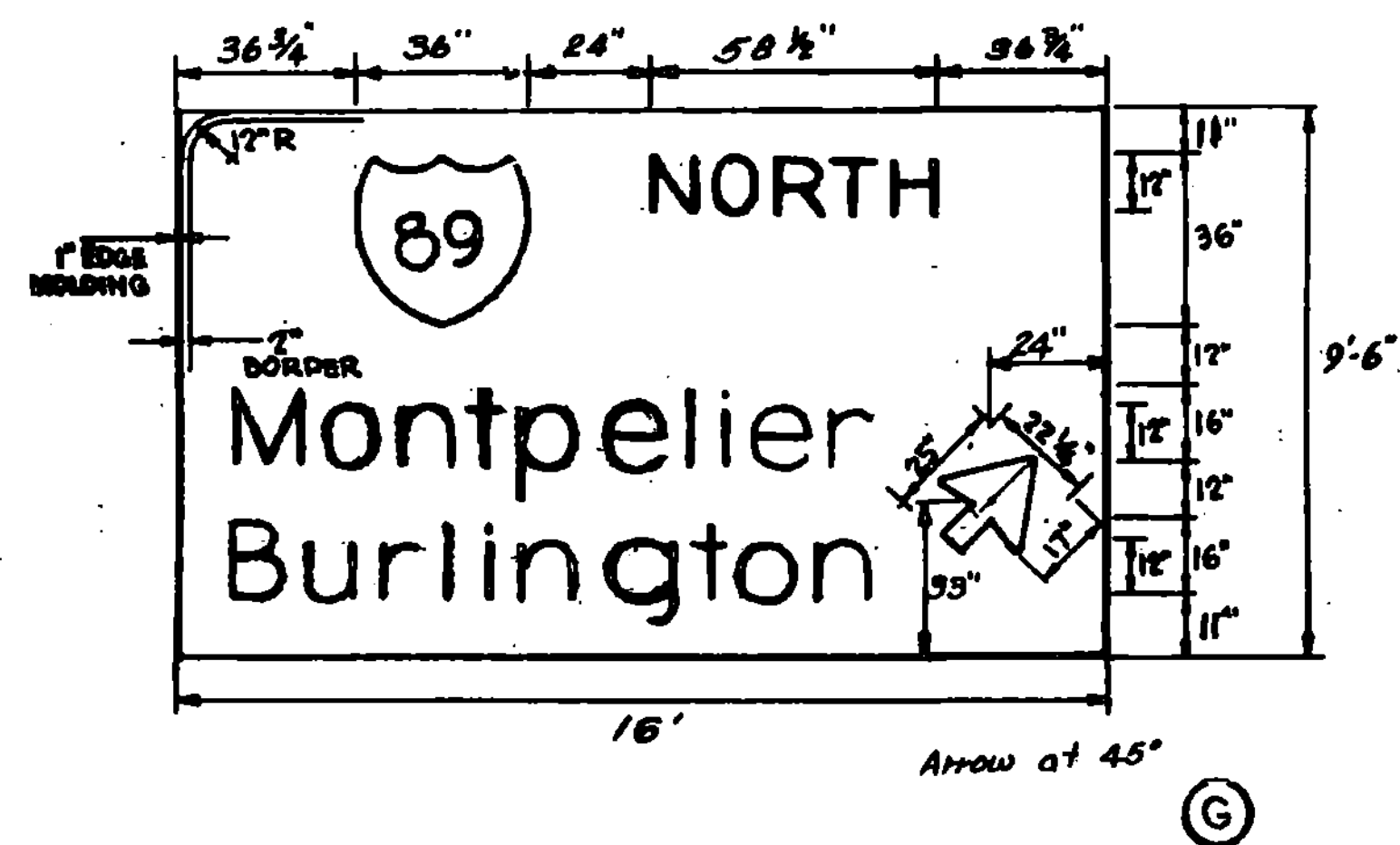
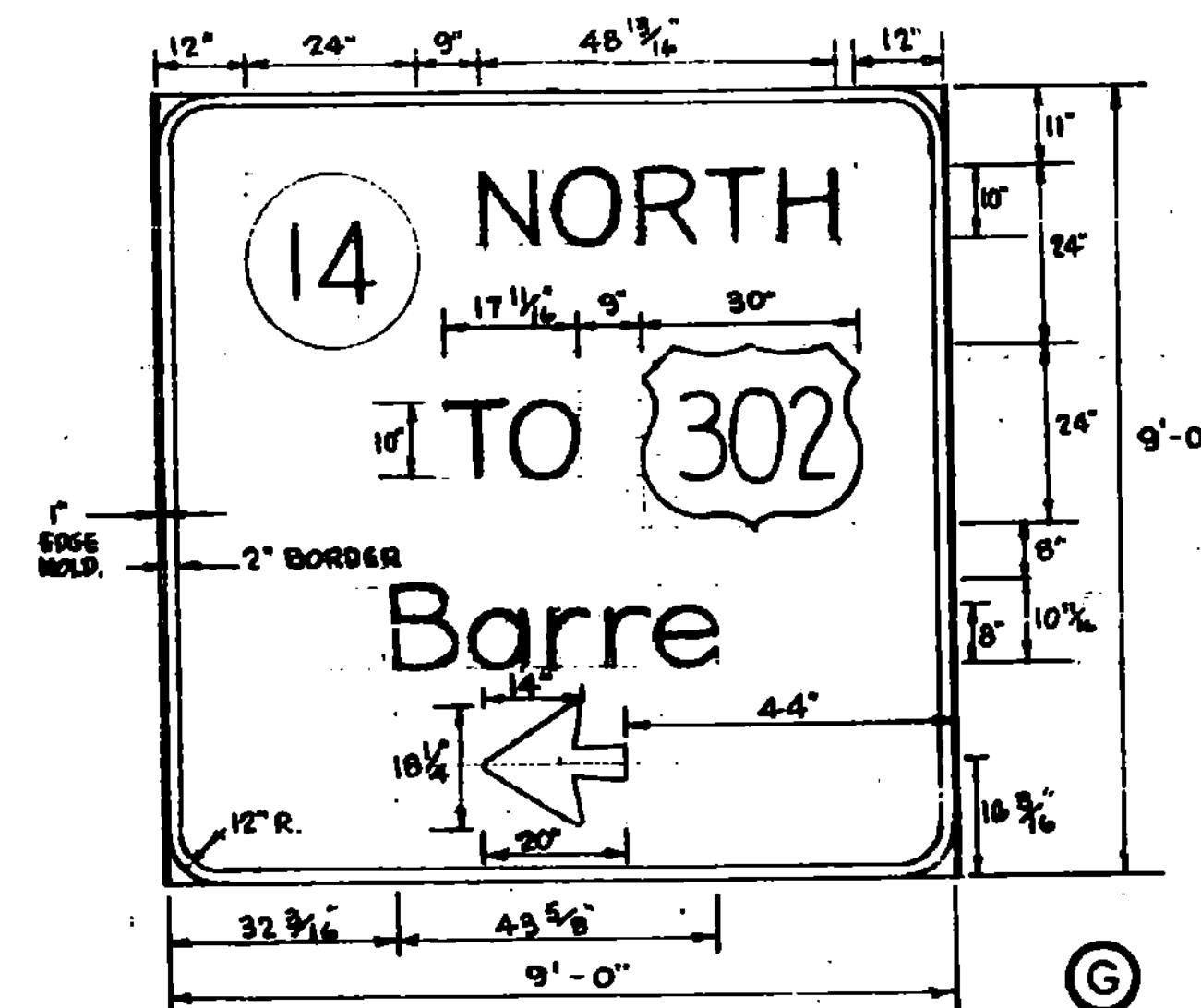
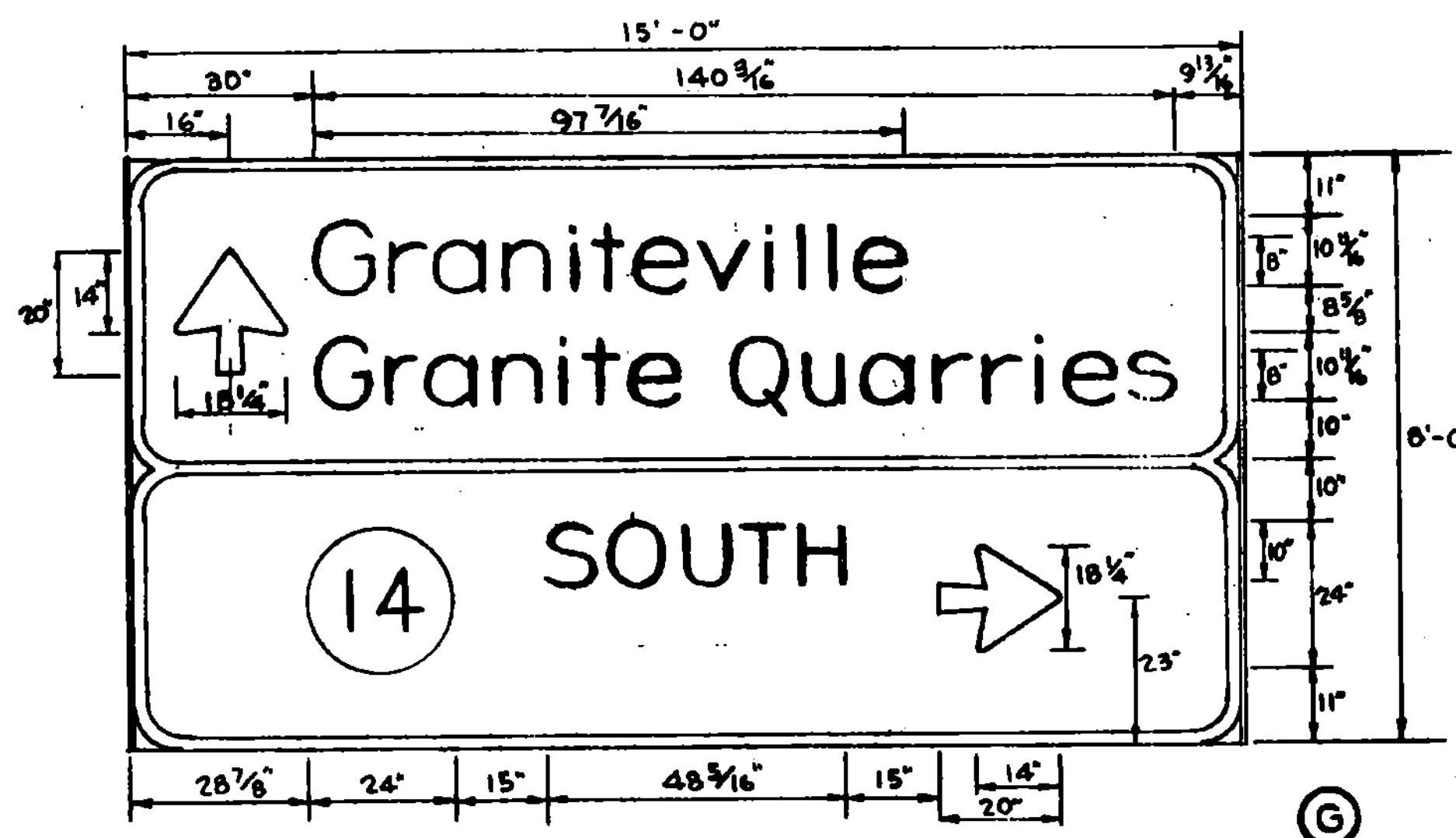
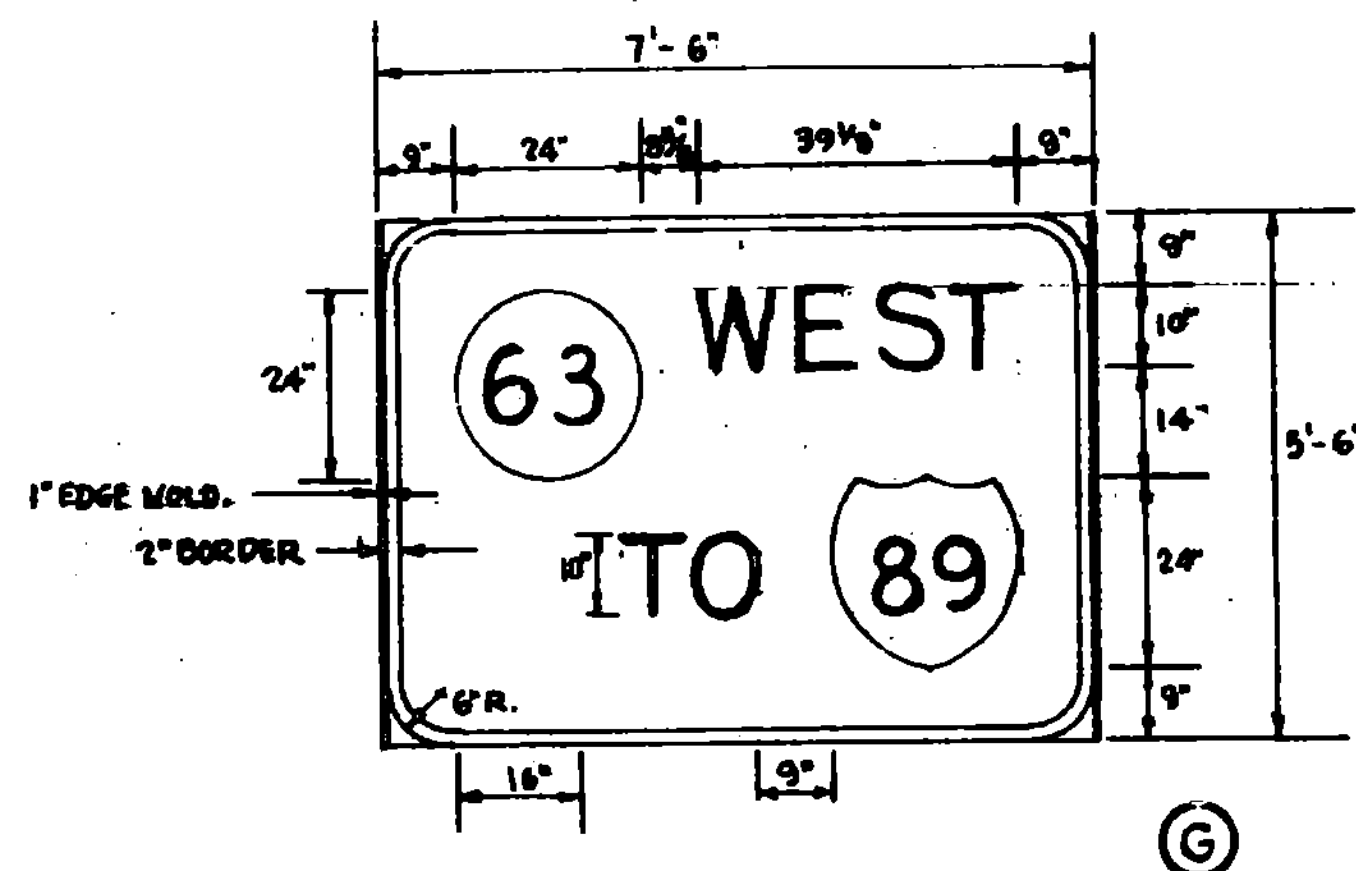


TEXTS:
 19 1/2"
 FOOD I 3" E SERIES
 15"
 GAS I 3" E SERIES
 22 7/8"
 LODGING I 3" C SERIES
 23 1/2"
 CAMPING I 3" C SERIES



COLOR (REFLECTORIZED)
 TEXT AND ARROWS - WHITE
 BACKGROUND - BLUE
 Refer to Std. Sht. E-23
 for materials and other
 specifications

(S)



LEGEND

- (G) GUIDE SIGN
- (S) SERVICES SIGN
- (W) WARNING SIGN

SEE STANDARD SHTS. E-14, E-19 AND
 E-23 FOR APPROPRIATE COLORS, MATERIALS
 AND OTHER DETAILS.

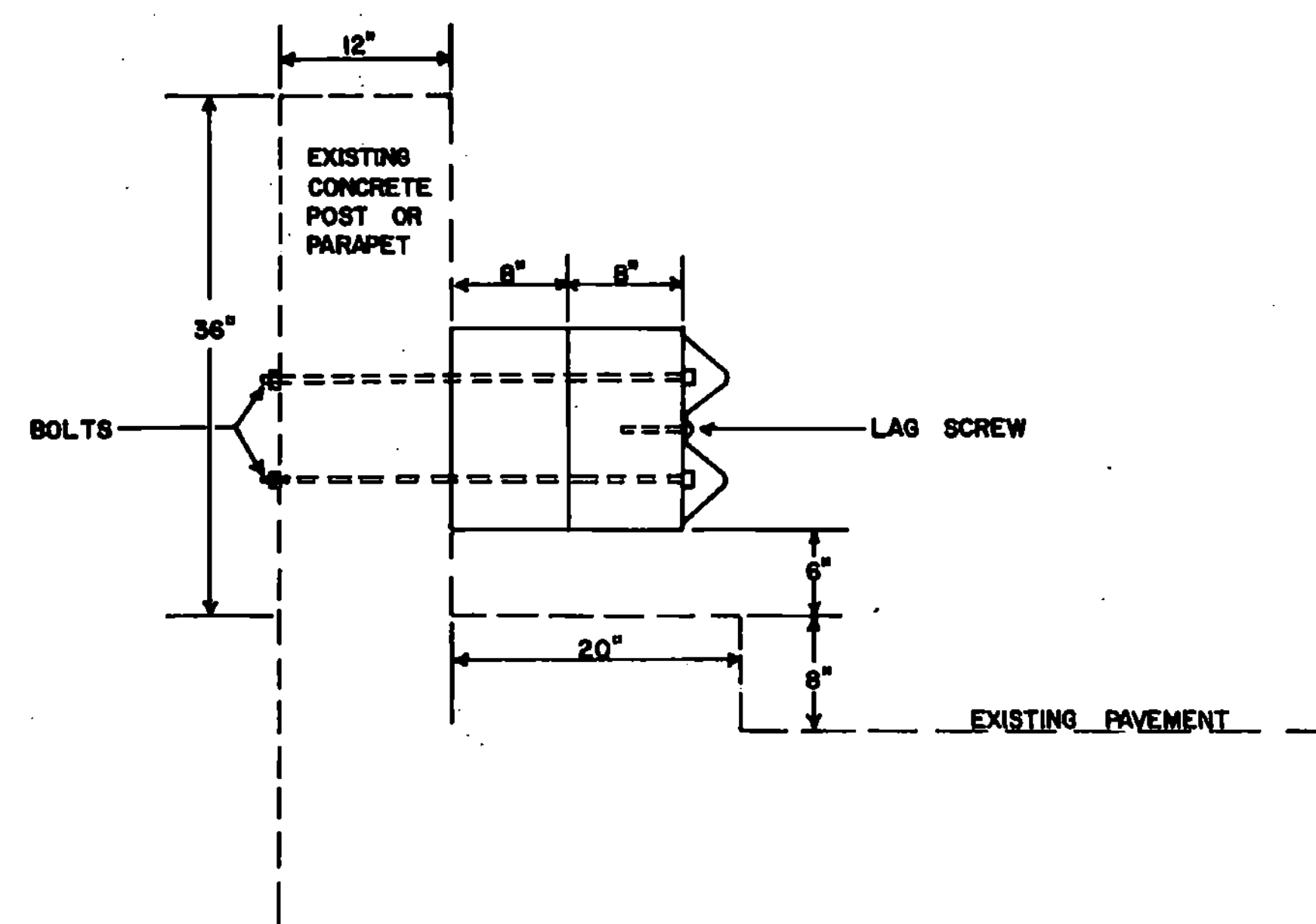
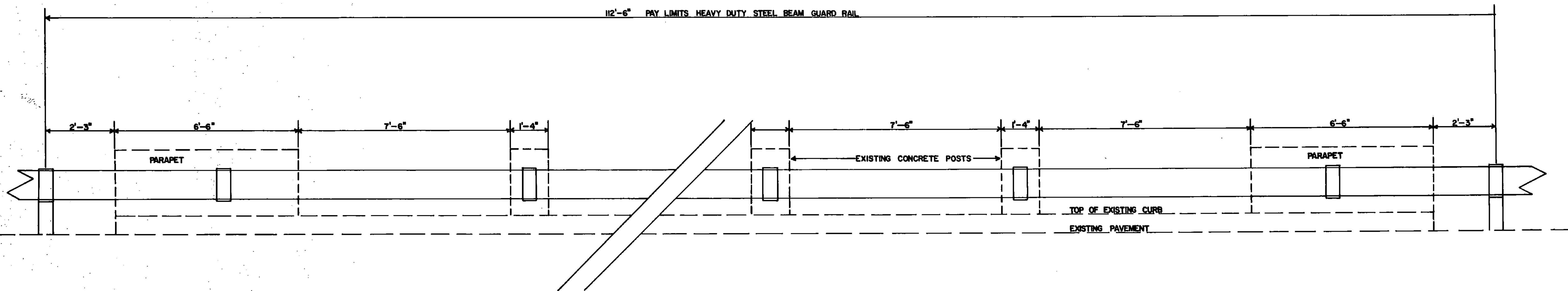
SIGN DETAIL SHEET

CHECKED BY BERLIN - BARRE DATE
 PROJ. STATEWIDE NO. F-SFTY (85)
 TRAFFIC SHEET NO. 543 SHEET 97 OF 200

1985 STATEWIDE SAFETY PROJECT ITEM DETAIL SHEET

MILE MARKER	POS.	REMOVING TREES		UNCLASSIFIED EXCAVATION	EARTH BORROW	TRENCH EARTH	TRENCH ROCK	GRAVEL SHOULDERS	METAL PIPE			RC PIPES			M.E.S.	RC.PES.	CONC.	STEEL	REHAB. DI.	GRATE TYPE B	STONE FILL		TIMBER CURB	ITEM 604.40	SELECTIVE THINNING	GUARD RAIL ITEMS					DELINEATORS	REMARKS				
		D	L						TH	D	L	CL	I	II							621.80	621.21				621.20	621.70	621.60	621.50							
LOWELL																																				
2.90	RT							48																						35			1	CONNECT 25' NEW STEEL BEAM AND BCT TO STEEL BEAM AND BCT TO H.D. BEAM ON BRIDGE. SEE SHEETS 3, 14, 15, 16, 17, FOR DETAILS. USE 3 I.5 POST SPACING AND FACTOR OF 1.4.		
2.91-2.94	RT							49																						142			1	CONNECT GUARD RAIL APPROACH SECTION, TYPE I MOD. TO H.D. BEAM ON BRIDGE. SEE SHEETS 3, 14, 15, 16, AND 17 FOR DETAILS.		
2.82-2.89	LT							69																						390		350	1	1	CONNECT G.R. APPROACH SECTION, TYPE I MOD. TO H.D. BEAM ON BRIDGE. TO THIS ADD 350FT. NEW STEEL BEAM AND BCT. SEE SHEETS 3, 14, 15, 16, AND 17 FOR DETAILS.	
2.91	LT							50																									1	1	CONNECT GUARD RAIL APPROACH SECTION, TYPE I MOD. TO H.D. BEAM ON BRIDGE. SEE SHEETS 3, 14, 15, 16, AND 17 FOR DETAILS.	
3.59	RT							3																						55	112.5			2	REMOVE GUARD RAIL ON AND OFF THE BRIDGE. LEAVE STEEL POSTS ON BRIDGE, REPLACE WITH HEAVY DUTY STEEL BEAM BEGIN SOUTHERN END 37'± FROM BRIDGE WITH AN OFFSET OF 11'± FROM LINE OF NORMAL GUARD RAIL (ALONG BRUSH LINE). WRAP NORTHERN END OF GUARD RAIL AROUND DRIVE USE 621.60 TYPE ANCHORS. OFFSET BLOCKS ON POSTS ON BRIDGE WILL HAVE TO EXTEND ABOVE EXISTING POSTS.	
3.58	LT							50																						50	100			1	1	REMOVE GUARD RAIL ON AND OFF THE BRIDGE LEAVE STEEL POSTS ON BRIDGE. REPLACE WITH HEAVY DUTY STEEL BEAM. WRAP SOUTHERLY END AROUND DRIVE AND USE 621.60 TYPE ANCHOR END NORTHERLY END 37'± NORTH OF BRIDGE WITH BCT. OFFSET BLOCKS ON EXISTING POSTS ON BRIDGE WILL HAVE TO EXTEND ABOVE THE TOP OF THE POSTS.
6.20	RT							47																						25				1	REPLACE FIRST 25' OF GUARD RAIL WITH B.C.T. SEE SHEET 3 FOR DETAILS	
6.25	RT							47																						25				1	REPLACE LAST 25' OF GUARD RAIL WITH B.C.T. SEE SHEET 3 FOR DETAILS	
6.20	LT							47																						25				1	REPLACE FIRST 25' OF GUARD RAIL WITH B.C.T. SEE SHEET 3 FOR DETAILS	
6.25	LT							47																						25				1	REPLACE LAST 25' OF GUARD RAIL WITH B.C.T. SEE SHEET 3 FOR DETAILS	
WESTFIELD																																				
0.10-0.12	RT							50																						80		25	1	1	REPLACE EXISTING GUARD RAIL WITH GUARD RAIL APPROACH SECTION, TYPE I MOD. AND 25FT. OF STEEL BEAM. SEE SHEETS 3 AND 104 FOR DETAILS.	
0.12-0.14	RT																														112.5					SEE SHEET 104 FOR DETAILS
0.14-0.15	RT							50																						65		12.5	1	1	REPLACE EXISTING GUARD RAIL WITH GUARD RAIL APPROACH SECTION, TYPE I MOD. AND 12.5FT. OF STEEL BEAM. SEE SHEETS 3 AND 104 FOR DETAILS.	
0.09-0.12	LT							52																						106		75	1	1	REPLACE EXISTING GUARD RAIL WITH GUARD RAIL APPROACH SECTION, TYPE I MOD. AND 75FT. OF STEEL BEAM. SEE SHEETS 3 AND 104 FOR DETAILS.	
0.12-0.14	LT																														112.5					SEE SHEET 104 FOR DETAILS
0.14-0.15	LT							52																						63		12.5	1	1	REPLACE EXISTING GUARD RAIL WITH GUARD RAIL APPROACH SECTION, TYPE I MOD. AND 12.5FT. OF STEEL BEAM. SEE SHEETS 3 AND 104 FOR DETAILS.	
3.74	RT							3																						56		62.5		2	REPLACE GUARD RAIL IN SAME LOCATION WRAP BOTH ENDS AND USE 621.60 TYPE ANCHORS SEE SHEET 3	
3.74	LT				20			3																						68		75		2	REPLACE GUARD RAIL IN SAME LOCATION WRAP BOTH ENDS AND USE 621.60 TYPE ANCHORS USE EARTH BORROW TO BUILD UP SHOULDER BEHIND EXISTING GUARD RAIL AND MOVE NEW RAIL BACK 2'+/-	
LOWELL-WESTFIELD TOTALS					20			667																						1,175	497.5	847.5	7	7	13	NOTE: FOR DETAILS OF BRIDGE AT LOWELL MILE MARKER 2.90 SEE BRIDGE SHEETS 14-17

WESTFIELD VT. RTE. 100 AT MILE MARKER 0.13



○	3 1/2"
○	3 1/2"
○	3 1/2"
○	3 1/2"

TYPICAL FRONT VIEW OF OFFSET BLOCK TO BE PLACED ON EXISTING CONCRETE POSTS OR PARAPETS.

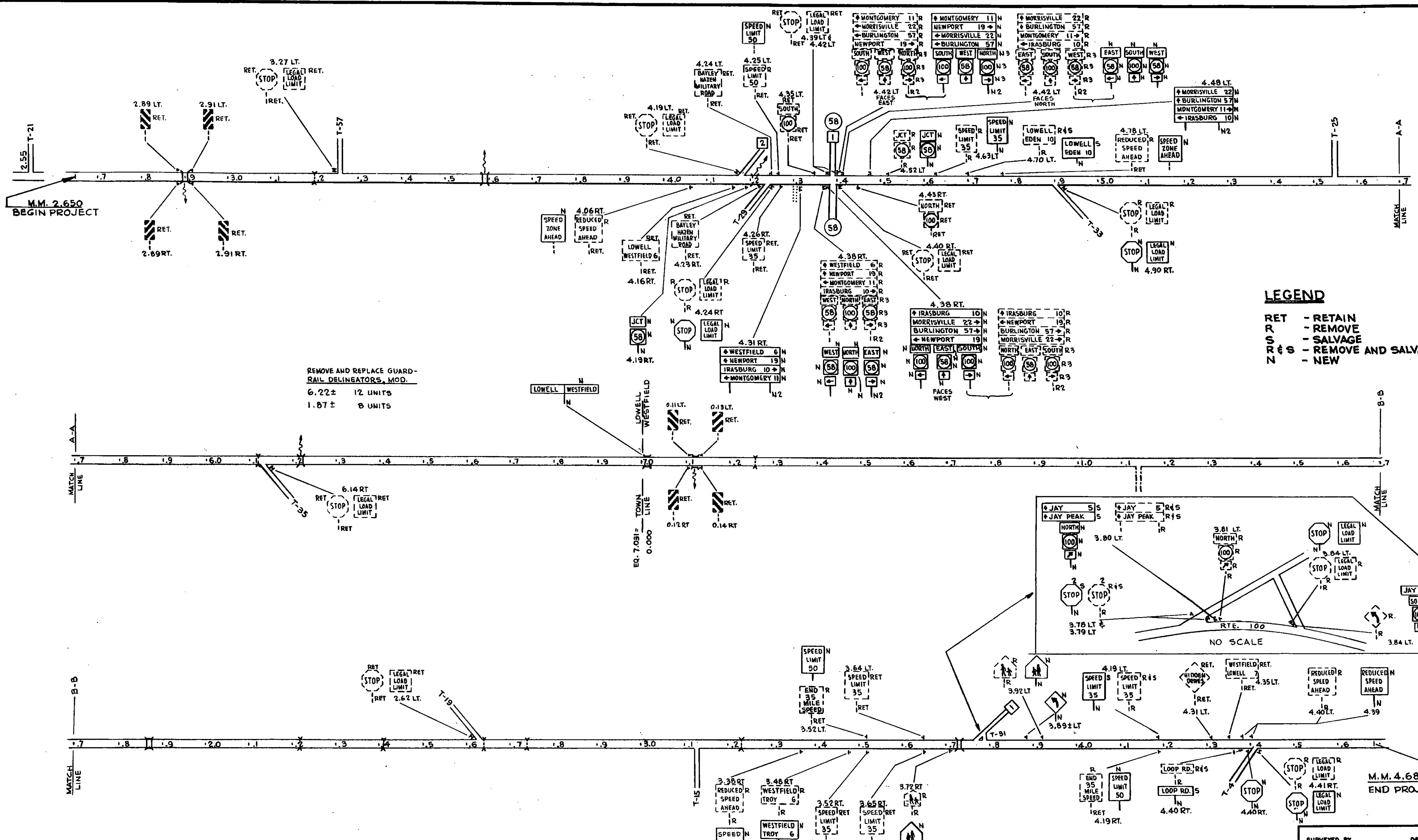
NOTES:

1. ALL WORK AND MATERIALS NECESSARY TO INSTALL THE RAILING SHALL BE PAID FOR UNDER THE ITEM GUARD RAIL, HEAVY DUTY STEEL BEAM.
2. EXISTING POSTS SHALL BE REPAIRED WITH MORTAR, AS NECESSARY, TO INSURE OFFSET BLOCKS FIT.
3. BOLTS USED TO ATTACH OFFSET BLOCKS TO EXISTING CONCRETE SHALL BE 3/4" WITH NUTS AND WASHERS. BOLTS TO BE PLACED IN EXISTING CONCRETE THROUGH 1" DRILLED AND GROUTED HOLES.
4. LAG SCREWS TO BE 5/8" X 4" WITH WASHER.
5. OFFSET BLOCKS TO BE 6" X 6" X 14" TREATED TIMBER.
6. ADD 50' OF GUARD RAIL APPROACH SECTION, TYPE I MOD. TO EACH CORNER OF THE BRIDGE. SEE STANDARD 88-R48-82 FOR DETAILS.

LOWELL - WESTFIELD

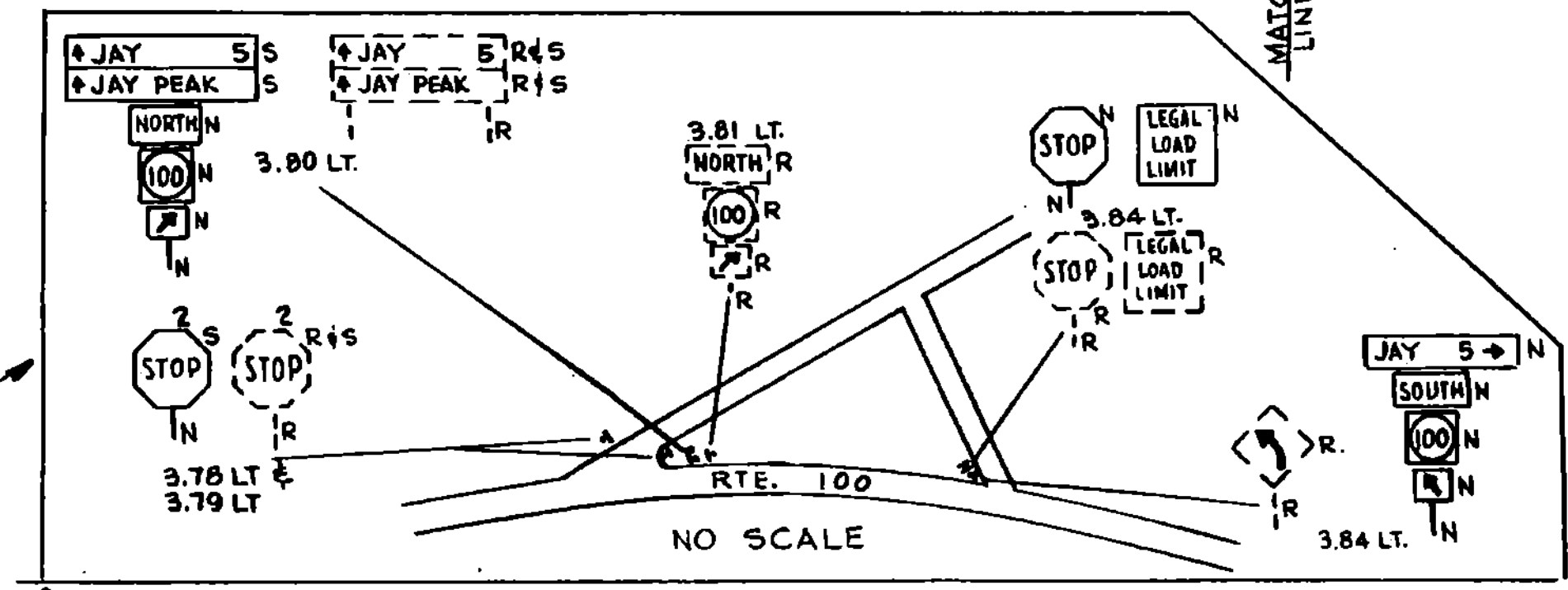
1985 STATEWIDE SAFETY

SHEET 104 OF 200 SHEETS



LEGEND
 RET - RETAIN
 R - REMOVE
 S - SALVAGE
 R & S - REMOVE AND SALVAGE
 N - NEW

REMOVE AND REPLACE GUARD-RAIL DELINEATORS, MOD.
 6.22 ± 12 UNITS
 1.87 ± 8 UNITS



DATUM
 VERTICAL _____
 HORIZONTAL _____

0 0.1 0.2 MI.
 SCALE

SURVEYED BY _____ DATE _____
 DRAWN BY G.M. DATE 9/15/85
 TRACED BY _____ DATE _____
LOWELL - WESTFIELD
 PROJ. STATEWIDE NO. F-SFTY (85)S
 SHEET 105 OF 200

BRUNNEN 13428-3

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	LEGEND	TYPE	SIGN DIMENSIONS	EXISTING SIGNS TO BE SALVAGED		NEW AND SALVAGED SIGNS				EXISTING POSTS			NEW POSTS								REMARKS	FOR SIGN DETAIL SEE:													
				REMOVE (EA.)	RETAIN (T)	NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (EA.)	SALV. T.I.C. (S.F.)	RETAIN	DRILL	SALV.	NUMBER OF POSTS	FLANGED CHANNEL				TUBULAR ALUMINUM				W SHAPE (BREAKAWAY)		PLAN SHEET NUMBER	STD. SHEET NUMBER										
														2.0 LB/FT	25 LB/FT	30 LB/FT	3" Ø	3" □	4" Ø	4" MOD		POST SIZE	WEIGHT			FTG. SIZE 24"	30"								
4.38 + RT.		A	30" x 24"	X		5																								E-13					
" " "		A	21" x 15"	X		2.2																								E-13					
4.39 LT.		A			X					X																									
" " "		A			X																														
4.40 RT.		A			X					X																									
" " "		A			X																														
4.42 LT		A			X					X																									
4.42 LT (FACES W.B. TRAFFIC)		A	72" x 10"	X		5					3				X																TOP SIGN - NEW ASSEMBLY	E-23			
" " "		A	72" x 10"	X		5																									THIRD SIGN FROM TOP ON NEW ASSEMBLY	E-23			
" " "		A	72" x 10"	X		5																									FOURTH SIGN FROM TOP ON NEW ASSEMBLY	E-23			
" " "		A	72" x 10"	X		5																									SECOND SIGN FROM TOP ON NEW ASSEMBLY	E-23			
" " "		A	2' x 1'	X		2																										E-13			
" " "		A	30" x 24"	X		5																										E-13			
" " "		A	21" x 15"	X		2.2																										E-13			
" " "		A	2' x 1'	X		2																										E-13			
" " "		A	2' x 2'	X		4																										E-13			
" " "		A	21" x 15"	X		2.2																										E-13			
" " "		A	2' x 1'	X		2																										E-13			
" " "		A	30" x 24"	X		5																										E-13			
" " "		A	21" x 15"	X		2.2																													
4.42 LT (FACES S.B. TRAFFIC)		A		X																															
" " "		A		X																															
" " "		A		X																															
" " "		A		X																															
" " "		A	2' x 1'	X		2					2				X																		E-13		
" " "		A	2' x 2'	X		4																											E-13		
" " "		A	21" x 15"	X		2.2																											E-13		
" " "		A	2' x 1'	X		2																											E-13		
" " "		A	30" x 24"	X		5																											E-13		
" " "		A	21" x 15"	X		2.2																											E-13		
" " "		A	2' x 1'	X		2																											E-13		
" " "		A	2' x 2'	X		4																											E-13		
" " "		A	21" x 15"	X		2.2																												E-13	
4.45 RT.		A			X					X																									
" " "		A			X																													E-23	
4.48 LT		A	72" x 10"			5					2				X																			E-23	
" " "		A	72" x 10"			5																												E-23	
" " "		A	72" x 10"			5																												E-23	
" " "		A	72" x 10"			5																												E-13	
4.52 LT		A	21" x 15"	X		2.2					1		X																				E-13		
" " "		A	2' x 2'	X		4																											E-15B		
4.63 LT		A	24" x 30"	X		5					1		X																						
4.70 LT		A	30" x 18"	X	X				1		1		X																						
4.78 LT		A	24" x 30"	X		5				X																									
4.90 RT		A	30" x 30"	X		6.3					1		X																						
" " "		A	2' x 2'	X		4																													
TOTALS																																			

POST LENGTHS ARE APPROXIMATE. FINAL LENGTHS TO BE DETERMINED IN THE FIELD IF FINAL LENGTHS VARY BY MORE THAN 2 FEET, RECOMPUTE THE POST SIZE BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS.

PREPARED BY _____ DATE _____
 CHECKED BY _____ DATE _____
LOWELL - WESTFIELD
 PROJ. STATEWIDE NO. **F-SFTY(85)S**
 SHEET **107** OF **200**

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	LEGEND	TYPE	SIGN DIMENSIONS	EXISTING SIGNS TO BE SALVAGED				NEW AND SALVAGED SIGNS				EXISTING POSTS			NEW POSTS										REMARKS	FOR SIGN DETAIL SEE:									
				REMOVE (E.A.)	RETAIN (L.T.)	NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (EA)	SALV. T.I.C. (S.F.)	RETAIN	DRILL	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM				W SHAPE (BREAKAWAY)			PLAN SHEET NUMBER		STD. SHEET NUMBER									
				24"	30"	24"	30"	24"	30"	24"	30"	24"	30"	24"	30"	24"	30"	24"	30"	24"	30"	24"	30"	24"		30"									
6.14 RT.	○ STOP	A			X						X																								
" "	□ LEGAL LOAD LIMIT	A			X																														
7.031 - 0.00	LOWELL WESTFIELD	A	60" x 7 1/2"			3.1									1	X																TD 522			
0.11 LT & 0.12 RT		A			X(2)						X(2)																						INSPECT FOR REPLACEMENT AT TIME OF CONSTRUCTION		
0.19 LT & 0.14 RT		A			X(2)						X(2)																						INSPECT FOR REPLACEMENT AT TIME OF CONSTRUCTION		
2.62 LT.	○ STOP	A			X						X																								
" "	□ LEGAL LOAD LIMIT	A			X						X																								
3.38 RT.	REDUCED (EXIST.) SPEED AHEAD	A	24" x 30"	X		5						1	X																				E-15B		
3.48 RT.	WESTFIELD TROY 6	A	30" x 18"	X		3.8						1	X																						
3.52 LT.	END SPEED LIMIT 50	A		X							X																							MOUNT ON RETAINED POST	
3.52 LT.	END SPEED LIMIT 50	A	24" x 30"			5																												E-15B	
3.52 RT.	END SPEED LIMIT 35	A			X						X																								
3.64 LT.	END SPEED LIMIT 35	A			X						X																								
3.65 RT.	END SPEED LIMIT 35	A			X						X																								
3.72 RT.	↑	A	30" x 30"	X		6.3						1	X																				TD 522		
3.78 LT.	○ STOP	A	30" x 30"	X	X				1			1	X																						
3.79 LT.	○ STOP	A	30" x 30"	X	X				1			1	X																						
3.80 LT.	JAY 5	A	54" x 7 1/2"	X	X				1			2																							
" "	JAY PEAK	A	54" x 7 1/2"	X	X				1																										
" "	NORTH	A	2' x 1'			2																												E-13	
" "	100	A	2' x 2'			4																												E-13	
" "	7	A	21" x 15"			2.2																												E-13	
3.81 LT.	NORTH	A		X																															
" "	100	A		X																															
" "	7	A		X																															
3.84 LT.	○ STOP	A	30" x 30"	X		6.3						1	X																					E-15C	
" "	□ LEGAL LOAD LIMIT	A	2' x 2'	X		4																												E-15A	
3.84+ LT.	◇	A		X																															
" "	JAY 5	A	54" x 7 1/2"			2.8						2	X																					E-23	
" "	SOUTH	A	2' x 1'			2																												E-13	
" "	100	A	2' x 2'			4																												E-13	
" "	7	A	21" x 15"			2.2																												E-13	
3.88+ LT.	◇	A	30" x 30"			6.3						1	X																					E-19A	
3.92 LT.	↑	A	30" x 30"	X		6.3						1	X																					TD 522	
4.19 LT.	SPEED LIMIT 35	A	24" x 30"	X	X				1			1	X																						
4.19 RT.	SPEED LIMIT 35	A		X																															
" "	END SPEED LIMIT 50	A	24" x 30"			5																													MOUNT SIGN ON RETAINED POST
4.31 LT.	HIDDEN DRIVES	A			X																														
4.35 LT.	WESTFIELD LOWELL 7	A			X																														
4.39 LT. FROM 4.40 LT.	REDUCED SPEED AHEAD	A	24" x 30"	X		5						1	X																						E-15B
4.40 RT.	LOOP RD	A	24" x 6"	X	X				1			1	X																						
4.40+ RT.	○ STOP	A	30" x 30"			6.3						1	X																						E-15C
4.41 RT.	○ STOP	A	30" x 30"	X		6.3						1	X																						E-15C
" "	□ LEGAL LOAD LIMIT	A	2' x 2'	X		4																													E-15A

TOTALS

POST LENGTHS ARE APPROXIMATE. FINAL LENGTHS TO BE DETERMINED IN THE FIELD IF FINAL LENGTHS VARY BY MORE THAN 2 FEET, RECOMPUTE THE POST SIZE BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS.

PREPARED BY _____ DATE _____
 CHECKED BY _____ DATE _____
LOWELL - WESTFIELD
 PROJ. NO. _____
 STATEWIDE NO. F-SFTY(85) S
 SHEET 108 OF 200

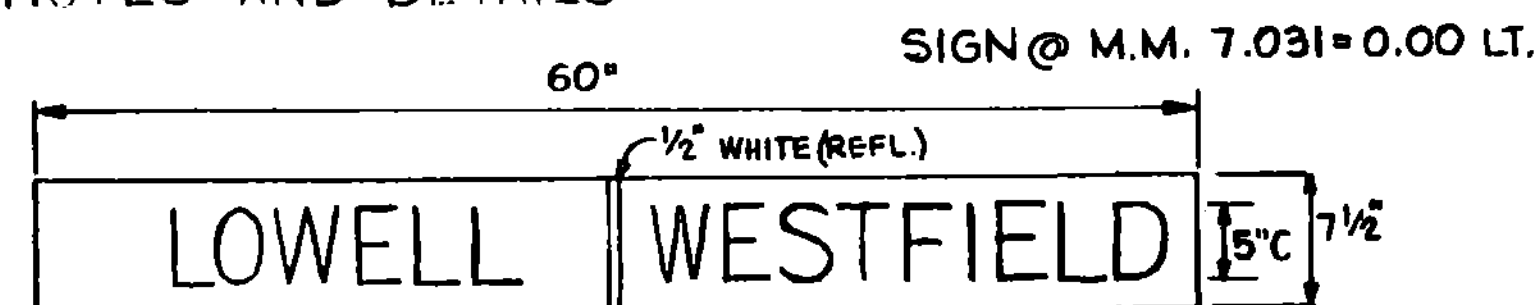
COMPOSITE SHEET - TRAFFIC ITEM SUMMARY - TRAFFIC SIGN SUMMARY SHEET - NOTES AND DETAILS

MILEMARKER, STATION, OR SIGN NUMBER	LEGEND	TYPE	SIGN DIMENSIONS	EXISTING SIGNS TO BE SALVAGED		NEW AND SALVAGED SIGNS				EXISTING POSTS			NEW POSTS							REMARKS	FOR SIGN DETAIL SEE:							
				REMOVE (EA.)	RETAIN (EA.)	NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (EA.)	SALV. T.I.C. (S.F.)	RETAIN	DRILL	SALV.	NUMBER OF POSTS	FLANGED CHANNEL		TUBULAR ALUMINUM		W SHAPE (BREAKAWAY)			PLAN SHEET NUMBER	STD. SHEET NUMBER						
				24"	30"	2.0 LB/FT	25 LB/FT	30 LB/FT	3" Ø	3" □	4" Ø	4" MOD.	POST SIZE	WEIGHT	FTG. SIZE	24"	30"											
SHEET TD 519				28		111.5										236	114											
SHEET TD 520				34		115.9			1							280	114											
SHEET TD 521				21		93.9			6							524												
TOTALS	CC-104N PROJECT			83		322.3			7							1040	228											

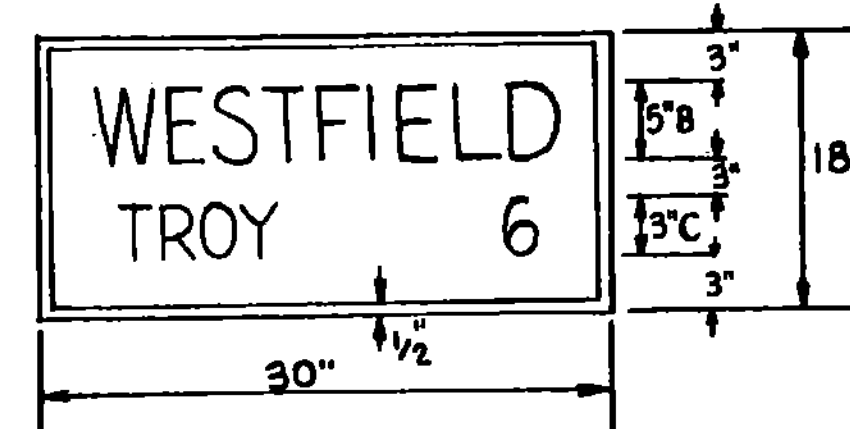
ITEM NUMBER	ITEM	QUANTITY	ROUNDING	UNIT	TOTAL
675.20	TRAFFIC SIGNS, TYPE A	322.3	2.7	SF	325
675.30	FLANGED CHANNEL SIGN POSTS	1040	10	LB.	1050
675.32	TUBULAR ALUMINUM SIGN POSTS	228	7	LB.	235
675.50	REMOVING SIGNS	83	-	EA.	83
675.60	ERECTING SALVAGED SIGNS,	7	-	EA.	7
676.13	REMOVE AND REPLACE GUARD RAIL DELINEATOR, TYPE A, MOD.	20	-	EA.	20

SEE SHEET TD 504 FOR PROJECT SUMMARY OF QUANTITIES AND REVISION NOTE FOR LEGAL LOAD LIMIT SIGNING

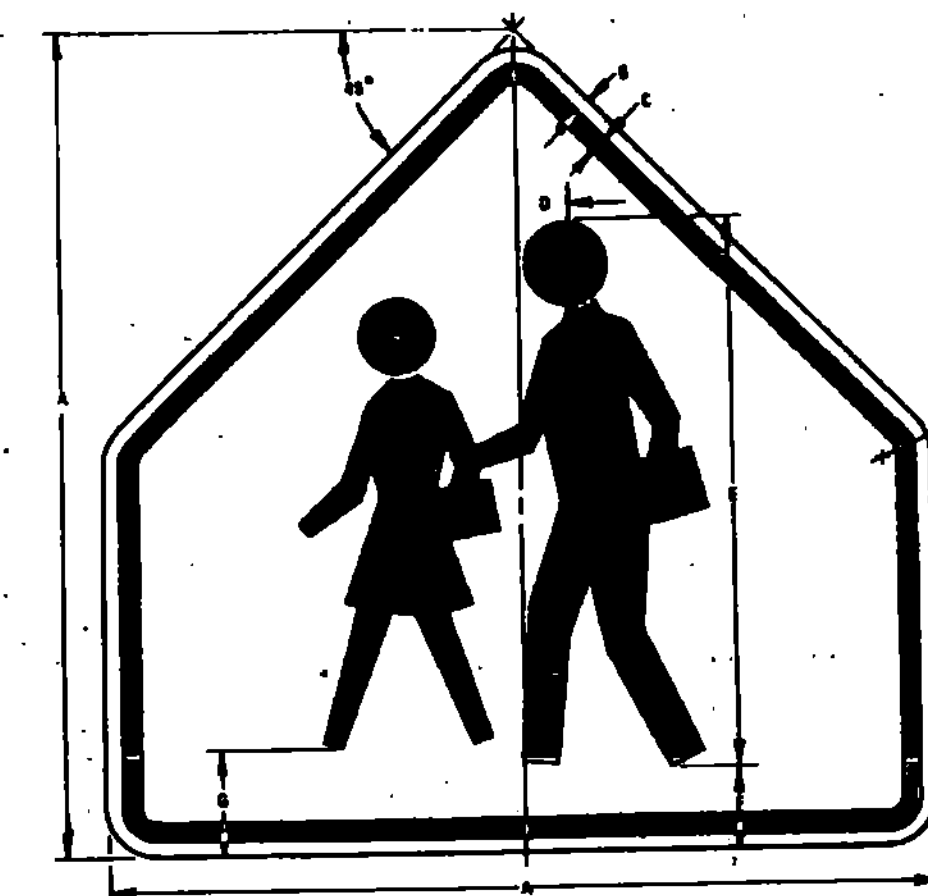
NOTES AND DETAILS



COLORS: REDUCE LETTER SPACING 50%
 TEXT - WHITE (REFL.)
 BACKGROUND - GREEN (REFL.)
 SEE STD. DWG. E-23 FOR MATERIALS



COLORS: TEXT & BORDER - WHITE (REFL.)
 BACKGROUND - GREEN (REFL.)
 SEE STD. DWG. E-23 FOR MATERIALS



81-1

NO.	A	B	C	D	E	F	G	H
STA. & DEL.	10	10	20	2	2	2	200	1/2"
ENTRY:	30	60	70	2 1/2"	20	2 1/2"	4 1/2"	1 1/2"
SPECIAL	40	30	1-1/2"	2 1/2"	20	2	2	2

LEGEND - BLACK BODREFL
 BACKGROUND - YELLOW
 SIGNS @ M.M.S 3.72RT & 3.92LT.

ITEM SUMMARY AND SIGN DETAILS SHEET

SURVEYED BY _____ DATE _____
 DRAWN BY _____ DATE _____
 TRACED BY _____ DATE _____
LOWELL-WESTFIELD
 PRO. STATEWIDE NO. F-SFTY (85) S
 SHEET 109 OF 200

1985 STATEWIDE SAFETY PROJECT ITEM DETAIL SHEET

MILE MARKER	POS	REMOVING TREES		UNCLASSIFIED EXCAVATION	EARTH BORROW	TRENCH EARTH	TRENCH ROCK	GRAVEL SHOULDERS	METAL PIPE			RC PIPES			MES	RCPE	CONC	STEEL	REHAB. DI.	GRATE TYPE B	STONE FILL		TIMBER CURB	ITEM 60440	SELECTIVE THINNING	GUARD RAIL ITEMS				DELINEATORS	REMARKS
		SMALL	LARGE						D	L	TH	D	L	CL							I	II				62180	62120	62160	62190		
MENDON																															
3.81	LT				20	2	2				18	8	III																	REMOVE HEADWALL, EXTEND PIPE 8'+ FLATTEN SLOPE SEE DETAIL "A" SHEET 4	
3.84	LT						2																							REMOVE HEADWALL SEE DETAIL "C" SHEET 4	
3.86	LT						2																							REMOVE HEADWALL SEE DETAIL "C" SHEET 4	
3.88	LT					2	2									2.0	200			1-B										REMOVE HEADWALL, CONSTRUCT DI, REGRADE DITCH SEE DETAIL "E" SHEET 4	
3.90	LT						4																							REMOVE HEADWALLS FROM DRIVE PIPE SEE DETAIL "C" SHEET 4	
3.91	LT				15	4	4		15	16	.064																			REMOVE HEADWALL, EXTEND PIPE 8'± FLATTEN SIDESLOPE (BOTH SIDES OF DRIVE) SEE DETAIL "D" SHEET 4	
3.93	LT				10	2	2									2.0	200			1-B										REMOVE HEADWALL, CONSTRUCT DROP INLET REGRADE DITCH SEE DETAIL "E" SHEET 4	
3.99	LT				15	2	2		24	8	.064			1-18"																REMOVE HEADWALL, EXTEND PIPE 8'±, ADD MES REGRADE SLOPE SEE DETAIL "B" SHEET 4	
4.06	LT				15	2	2					24	8	III	1-18"															REMOVE HEADWALL, EXTEND PIPE 8'±, ADD MES REGRADE SLOPE SEE DETAIL "B" SHEET 4	
4.12	LT				20	2	2									2.0	200			1-B										REMOVE HEADWALL, CONSTRUCT DROP INLET REGRADE DITCH SEE DETAIL "E" SHEET 4	
4.14	LT				15		2		15	8	.064			1-15"																REMOVE HEADWALL, EXTEND PIPE 8'± AND ADD MES REGRADE AREA SEE DETAIL "B" SHEET 4	
4.15	LT				15	2	2									2.0	200			1-B										REMOVE HEADWALL, CONSTRUCT DROP INLET REGRAD DITCH SEE DETAIL "E" SHEET 4	
4.21	LT				15	4	2		18	8	.064					3.0	300			1-B										REMOVE HEADWALL, EXTEND 18" PIPE 8', CONSTRUCT 11'X6' DROP INLET, REGRADE DITCH SEE DETAIL "E" SHEET 4	
4.35	LT				5	2	2							1-18"																REMOVE HEADWALL, ADD MES REGRADE AREA SEE DETAIL "B" SHEET 4	
4.51	LT				10	2	2					18	8	III	1-18"															REMOVE HEADWALL, EXTEND PIPE 8'±, ADD END SECTION REGRADE SLOPE SEE DETAIL "B" SHEET 4	
4.54	LT						2																							REMOVE HEADWALL SEE DETAIL "C" SHEET 4	
4.58	LT						2																							REMOVE HEADWALL SEE DETAIL "C" SHEET 4	
4.61	LT						2																							REMOVE HEADWALL SEE DETAIL "C" SHEET 4	
4.63	LT				10	2	2									2.0	200			1-B										REMOVE HEADWALL, CONSTRUCT DROP INLET REGRADE DITCH SEE DETAIL "E" SHEET 4	
4.66	LT				40	4	4		18	24	III			2-18"																REMOVE HEADWALL, EXTEND PIPE 12'+, ADD MES, FLATTEN SIDE SLOPE (BOTH SIDES OF DRIVE) SEE DETAIL "D" SHEET 4	
4.73	LT						2																							REMOVE HEADWALL SEE DETAIL "C" SHEET 4	
4.86	LT																		1											RECONSTRUCT DROP INLET	
4.91	LT						2																							REMOVE HEADWALL SEE DETAIL "C" SHEET 4	
4.96	LT						2																							REMOVE HEADWALL SEE DETAIL "C" SHEET 4	
4.98	LT				15	2	2									2.0	200			1-B										REMOVE HEADWALL, CONSTRUCT DROP INLET, REGRADE DITCH SEE DETAIL "E" SHEET 4	
5.05	LT				40	4	2					36	12	III																REMOVE HEADWALL, EXTEND PIPE 12'+ USE EARTH BORROW TO FLATTEN SLOPE SEE DETAIL "A" SHEET 4	
5.36	LT				25	2	2									2.0	200			1-B										REMOVE HEADWALL, CONSTRUCT DROP INLET REGRADE DITCH SEE DETAIL "E" SHEET 4	
5.48	LT				15	2	2									2.0	200			1-B										REMOVE HEADWALL, CONSTRUCT DROP INLET, REGRADE DITCH SEE DETAIL "E" SHEET 4	
SHEET TOTALS					300	42	60		15	24	064	18	16	III	1-15	2-18	49.0	1900	1	9-B											
									18	32	064	24	8	III	4-18																
									24	8	064	36	12	III																	

1985 STATEWIDE SAFETY PROJECT ITEM DETAIL SHEET

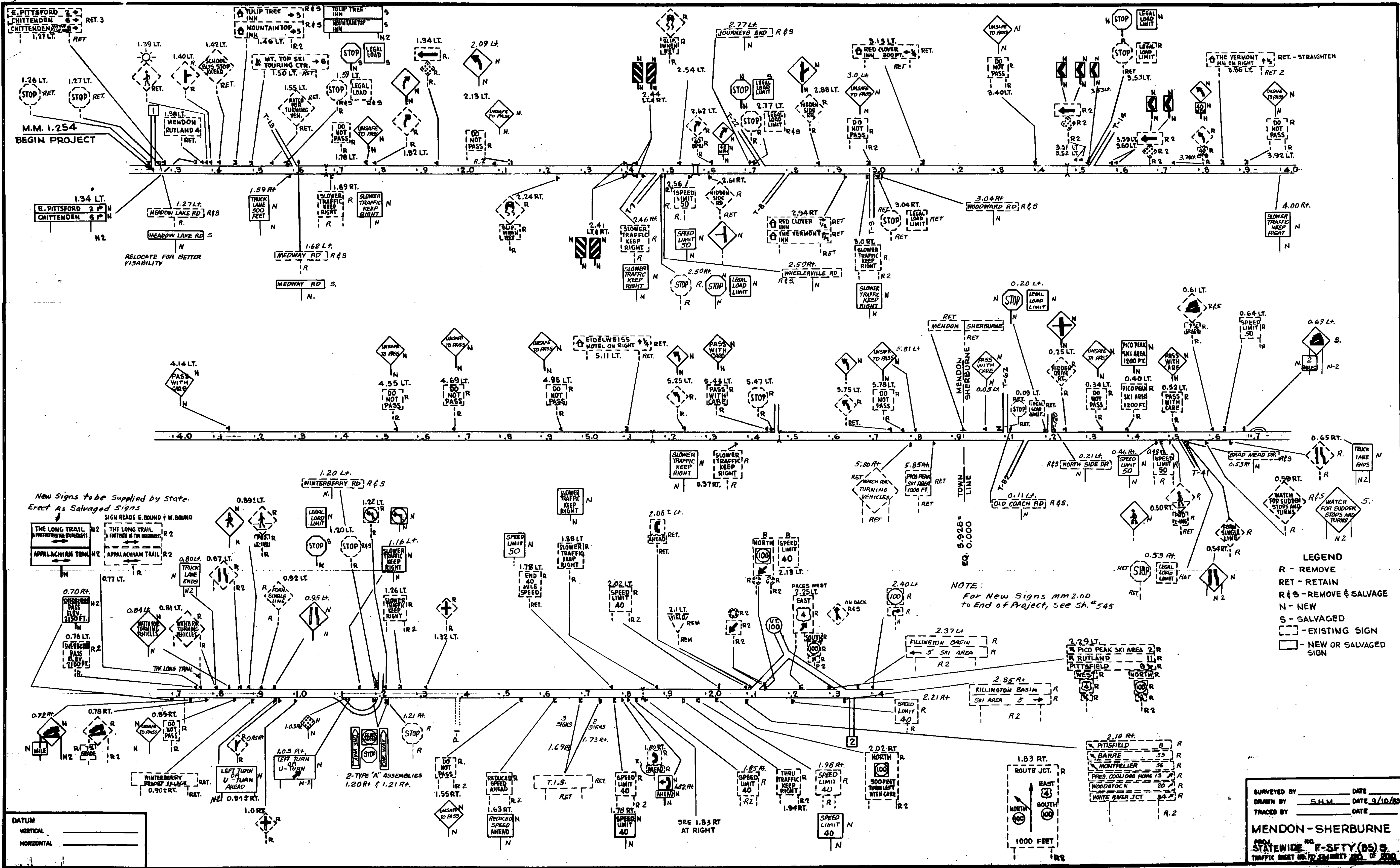
MILE MARKER	POS	REMOVING TREES		UNCLASSIFIED EXCAVATION	EARTH BORROW	TRENCH EARTH	TRENCH ROCK	GRAVEL SHOULDERS			METAL PIPE			RC PIPES			MES	RC PES	CONC	STEEL	REHAB. DI	GRATE TYPE B	STONE FILL		TIMBER CURB	ITEM 60440	SELECTIVE THINNING	GUARD RAIL ITEMS				DELINEATORS	REMARKS	
		SMALL	LARGE					D	L	TH	D	L	CL	I	II	62180							62120	62160				62150						
MENDON																																		
5.68	LT				15	2	2			24	8	.064																				REMOVE HEADWALL, EXTEND PIPE 6± ADD MES AND FLATTEN SLOPE SEE DETAIL "B" SHEET 4		
5.77	LT						2																									REMOVE HEADWALL SEE DETAIL "C" SHEET 4		
5.87	LT				15	2	2										2.0	200				1-B										REMOVE HEADWALL, CONSTRUCT DROP INLET, REGRADE DITCH SEE DETAIL "E" SHEET 4		
5.92	LT				15	2	2						18	4	III		2.0	200				1-B										REMOVE HEADWALL, EXTEND PIPE 4±, CONSTRUCT DROP INLET REGRADE DITCH SEE DETAIL "E" SHEET 4		
SHERBURN																																		
0.02	LT						2																									REMOVE HEADWALL SEE DETAIL "C" SHEET 4		
0.16	LT						2																									REMOVE HEADWALL, FROM EAST SIDE OF DRIVE PIPE SEE DETAIL "C" SHEET 4		
0.20	LT						2																									REMOVE HEADWALL SEE DETAIL "C" SHEET 4		
0.33-0.44	LT									118																	590		650		2		EXTEND NEW GUARD RAIL 25'± IN EACH DIRECTION SEE SHEET 3 FOR DETAILS	
0.58-0.65	LT									61																	335		375		1	1	WRAP WESTERLY END AROUND DRIVE AND EXTEND EASTERLY END 25'± SEE SHEET 3 FOR DETAILS	
0.83	LT				15																1											RECONSTRUCT DROP INLET REGRADE DITCH		
0.91	LT				5																1											RECONSTRUCT DROP INLET REGRADE DITCH		
0.98	LT				5																1											RECONSTRUCT DROP INLET REGRADE DITCH		
1.21	LT						2																										REMOVE HEADWALL FROM EAST SIDE OF DRIVE PIPE SEE DETAIL "C" SHEET 4	
1.50-1.54	LT					5																											USE STONE FILL TO REGRADE DITCH	
1.54	LT				5		2										1-36																REMOVE HEADWALL, ADD MES REGRADE SLOPE SEE DETAIL "B" SHEET 4	
1.58	LT				5																												REMOVE BOULDER FROM DITCH	
1.84-1.89										59																	305		325		1	1	WRAP WESTERLY END AROUND DRIVE SEE SHEET 3 FOR DETAILS	
2.06-2.18										118																								NEW GUARD RAIL TO PROTECT SLOPE RAIL WILL END ON VT. 100 SEE SHEET 3 FOR DETAILS
SHEET TOTALS																																		
				5	75	11	18	356	24	8	.064	18	4	III	1-24"		4.0	400		3	2-B	60					1230		2,000		2	6		

1985 STATEWIDE SAFETY PROJECT ITEM DETAIL SHEET

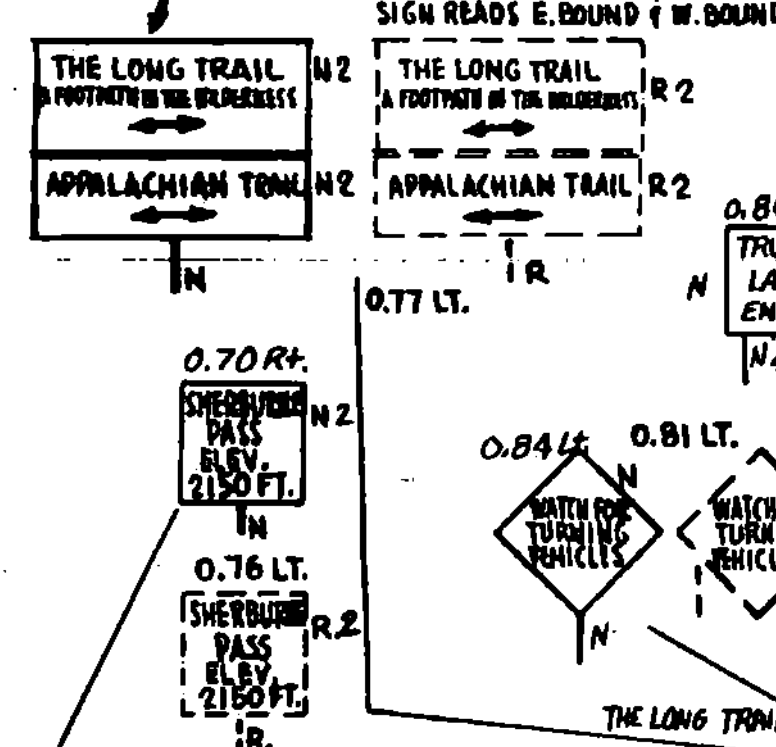
MILE MARKER	POS	REMOVING TREES		UNCLASSIFIED EXCAVATION	EARTH BORROW	TRENCH EARTH	TRENCH ROCK	GRAVEL SHOULDERS	METAL PIPE			RC PIPES			MES	RCPE	CONC	STEEL	REHAB. DI.	GRATE TYPE B	STONE FILL		TIMBER CURB	ITEM 60440	SELECTIVE THINNING	GUARD RAIL ITEMS				DELINEATORS	REMARKS
		SMALL	LARGE						D	L	TH	D	L	CL							I	II				621.80	621.20	621.60	621.50		
MENDON																															
1.36	RT				30		2										2.0	200												REMOVE HEADWALL CONSTRUCT DROP INLET USE EARTH BORROW TO REGRADE DITCH SEE DETAIL "E" SHEET 4	
1.44	RT																		1											RECONSTRUCT DROP INLET	
1.52	RT																		1											RECONSTRUCT DROP INLET	
1.68	RT				20						48	4	III																	EXTEND PIPE 4'± USE EARTH BORROW TO FLATTEN SLOPE SEE DETAIL "A" SHEET 4	
1.73	RT				10	2	2		24	4	.064			1-24"																EXTEND PIPE 4 ± ADD MES FLATTEN SIDE SLOPE SEE DETAIL "B" SHEET 4	
1.76	RT				20	2	2										2.0	200												REMOVE HEADWALL CONSTRUCT DROP INLET REGRADE DITCH SEE DETAIL "E" SHEET 4	
1.81	RT				20	2	2										2.0	200												REMOVE HEADWALL CONSTRUCT DROP INLET REGRADE DITCH SEE DETAIL "E" SHEET 4	
1.84	RT				20	2	2										2.0	200												REMOVE HEADWALL CONSTRUCT DROP INLET REGRADE DITCH SEE DETAIL "E" SHEET 4	
1.90	RT				20	3	2										3.0	300												REMOVE HEADWALL CONSTRUCT 4'x6' DROP ILET W/2 GRATES REGRADE DITCH SEE DETAIL "E" SHEET 4	
1.96	RT						2																							REMOVE EXISTING HEADWALL SEE DETAIL "C" SHEET 4	
2.15	RT				30	2	2		24	6	.064			1-24"																REMOVE HEADWALL, EXTEND PIPE 6'±, ADD MES AND FLATTEN SLOPE SEE DETAIL "B" SHEET 4	
2.24	RT																		1											RECONSTRUCT DROP INLET	
2.25	RT																													REMOVE BROKEN LEDGE FROM DITCH COST TO BE SUBSIDIARY TO OTHER ITEMS	
2.33	RT				10	2	2										2.0	200												REMOVE HEAD WALL CONSTRUCT DROP INLET REGRADE DITCH SEE DETAIL "E" SHEET 4	
2.38	RT				20	2	2										2.0	200												REMOVE HEADWALL, CONSTRUCT DROP INLET, REGRADE DITCH SEE DETAIL "E" SHEET 4	
2.80-2.41	RT							50																	50	12.5		1		REPLACE EXISTING GUARD RAIL W/APPROACH SECTION TYPE I, 12.5' NEW RAIL AND B.C.T. SEE SHEET 3 FOR DETAILS	
2.43-2.46	RT							5																	50					REMOVE FIRST 50' FROM BRIDGE, AND REPLACE WITH APPROACH SECTION, REMOVE AND RESET REMAINING GUARD RAIL TO CONNECT NEW APPROACH SECTION AND EXISTING B.C.T. COST OF REMOVING AND RESETTING GUARD RAIL TO BE SUBSIDIARY TO THE COST OF OTHER ITEMS	
2.53	RT							10																	187	262.5	2			REMOVE EXISTING GUARD RAIL FROM WHEELERVILL ROAD BEGIN NEW RAIL ON TOWN ROAD AND EXTEND TO TURN OUT AREA ON US 4. USE 621.60 TYPE ANCHORS SEE SHEET 3 FOR DETAILS	
2.55-2.58	RT							59																	220	325	1	1		REMOVE EXISTING GUARD RAIL FROM TOWN ROAD AND SHORT SECTION AT 2.58 U.S. 4 REPLACE WITH ONE NEW SECTION EXTENDING 25'± EASTERLY OF EXISTING SEE SHEET 3 FOR DETAILS	
2.72-2.82	RT							114																	175	525	2			EXTEND NEW GUARD RAIL 50'± WESTERLY OF EXISTING SEE SHEET 3 FOR DETAILS	
2.95	RT					5																								REMOVE AND RESET LAST 8' OF PIPE ONLY PAY ITEM WILL BE TRENCH.EARTH	
3.23-3.20	RT							109																	310	400	2			EXTEND NEW GUARD RAIL 50'± WESTERLY SEE SHEET 3 FOR DETAILS	
3.43-3.48	RT							105																	260	300	2			EXTEND NEW GUARD RAIL 40'± WESTERLY SEE SHEET 3 FOR DETAILS	
3.61	RT				5									2-18"																ADD MES TO EACH END OF DRIVE PIPE REGRADE SLOPES SEE DETAIL "D" SHEET 4	
3.93-3.98	RT							107																	250	350	2			EXTEND NEW GUARD RAIL 50'± ON EACH END SEE SHEET 3 FOR DETAILS	
SHEET TOTAL					205	22	20	559	24	10	.064	48	4	III	2-18" 2-24"		15.0	1,500	3	8-B						1832	2175	3	10		NOTE: FOR DETAILS OF BRIDGE AT MILE MARKER 2.42 SEE BRIDGE SHEETS 14-17

1985 STATEWIDE SAFETY PROJECT ITEM DETAIL SHEET

MILE MARKER	POS	REMOVING TREES		UNCLASSIFIED EXCAVATION	EARTH BORROW	TRENCH EARTH	TRENCH ROCK	GRAVEL SHOULDERS			METAL PIPE			RC PIPES			MES	RCPE	CONC	STEEL	RE-44B DI	GRATE TYPE B	STONE FILL I II	TIMBER CURB	ITEM 60440	SELECTIVE THINNING	GUARD RAIL ITEMS				DELINEATORS	REMARKS	
		SMALL	LARGE					D	L	TH	D	L	CL	D	L	CL											62180	62120	62160	62150			
MENDON																																	
4.74-4.83	RT																										480		475		2	REPLACE EXISTING GUARD RAIL AT APPROXIMATELY THE SAME LOCATION SEE SHEET 3 FOR DETAILS	
5.03-5.07	RT																									210		275		2	EXTEND NEW GUARD RAIL 60'+/- EASTERLY SEE SHEET 3 FOR DETAILS		
5.33-5.37	RT																											200		2	USE NEW GUARD RAIL TO PROTECT STEEP SLOPE SEE SHEET 3 FOR DETAILS		
SHERBURN																																	
0.34-0.44	RT																									556		1025		2	BEGIN NEW GUARD RAIL 475' WESTERLY OF EXISTING SEE SHEET 3 FOR DETAILS		
0.58-0.64	RT																									330		600		2	EXTEND NEW GUARD RAIL 175'+/- WESTERLY AND 100'+/- EASTERLY SEE SHEET 3 FOR DETAILS		
0.82	RT																									25					REMOVE EXISTING GUARD RAIL		
0.84	RT																															USE STONE FILL TO FILL HOLE AT END OF PIPE	
1.04-1.10	RT																																EXTEND NEW GUARD RAIL 100'+/- WESTERLY AND 50'+/- EASTERLY SEE SHEET 3 FOR DETAILS
1.29-1.41	RT																									620		800	1	1	BEGIN NEW GUARD RAIL 125'+/- WESTERLY AND EXTEND EASTERLY TO WRAP AROUND DRIVE SEE SHEET 3 FOR DETAILS		
1.43-1.53	RT																									490		800	1	1	WRAP WESTERLY END AROUND DRIVE EXTEND EASTERLY END 175'± SEE SHEET 3 FOR DETAILS		
1.72-1.87	RT																										850		850		2	REPLACE IN APPROXIMATELY THE SAME LOCATION SEE SHEET 3 FOR DETAILS	
1.93	RT				20	2	2		18	6	.064							2.0	200													REMOVE HEADWALL, EXTEND PIPE, CONSTRUCT DROP INLET AND REGRADE DITCH SEE DETAIL "E" SHEET 4	
1.96	RT				25																1											RECONSTRUCT DROP INLET, REGRADE AREA	
2.03	RT						2																									REMOVE HEADWALL SEE DETAIL "C" SHEET 4	
2.09	RT				15	4	2					18	8	III				3.0	300													REMOVE HEADWALL EXTEND 18" PIPE 8'± CONSTRUCT 4'X6' DROP INLET REGRADE DITCH SEE DETAIL "E" SHEET 4	
2.15	RT				5	2	2		18	4	.064							2.0	200													REMOVE HEADWALL EXTEND PIPE 4'± CONSTRUCT DROP INLET REGRADE DITCH SEE DETAIL "E" SHEET 4	
2.18	RT																									1						RECONSTRUCT DROP INLET	
2.21	RT																									1						RECONSTRUCT DROP INLET	
SHEET TOTALS					85	8	8	959	18	10	.064	18	8	III			7.0	700	3	4-B	10					3,886		5,500	2	16			



New Signs to be Supplied by State.
Erect As Salvaged Signs

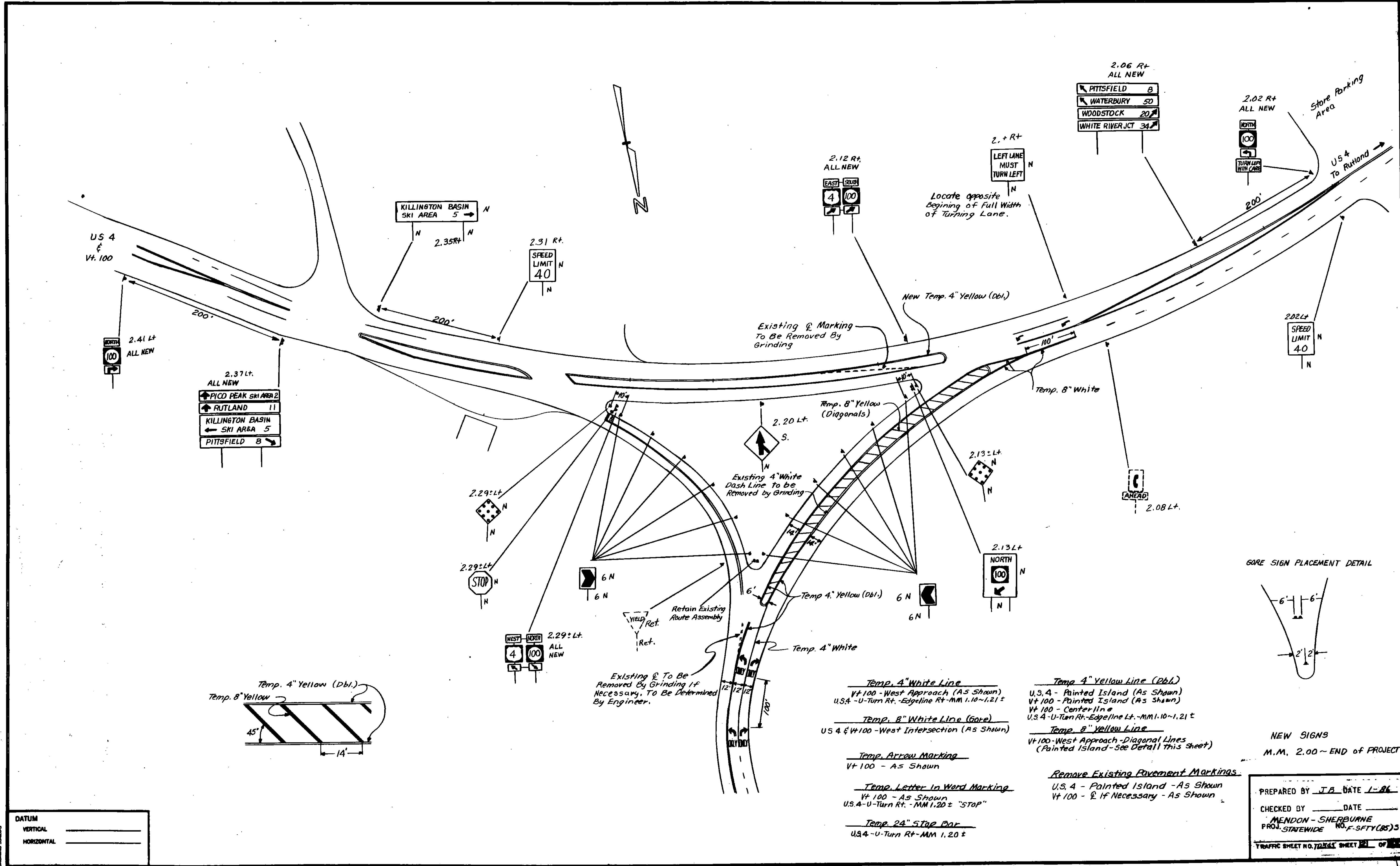


- LEGEND**
- R - REMOVE
 - RET - RETAIN
 - R+S - REMOVE & SALVAGE
 - N - NEW
 - S - SALVAGED
 - [Symbol] - EXISTING SIGN
 - [Symbol] - NEW OR SALVAGED SIGN

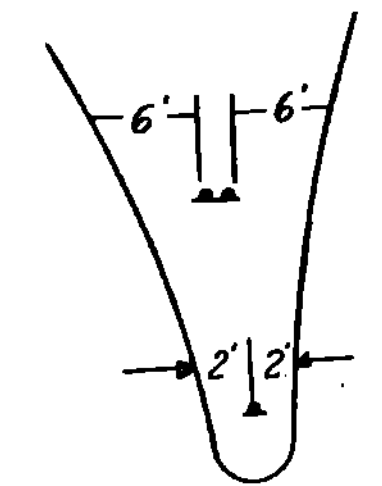
NOTE:
For New Signs mm 2.00
to end of project, see Sh. #545

DATUM
VERTICAL _____
HORIZONTAL _____

SURVEYED BY _____ DATE _____
DRAWN BY S.H.M. DATE 9/10/85
TRACED BY _____ DATE _____
MENDON-SHERBURNE
STATEWIDE F-SFTY (85) S
TRAFFIC SIGN NO. 70 COUNTY NO. 100



GORE SIGN PLACEMENT DETAIL

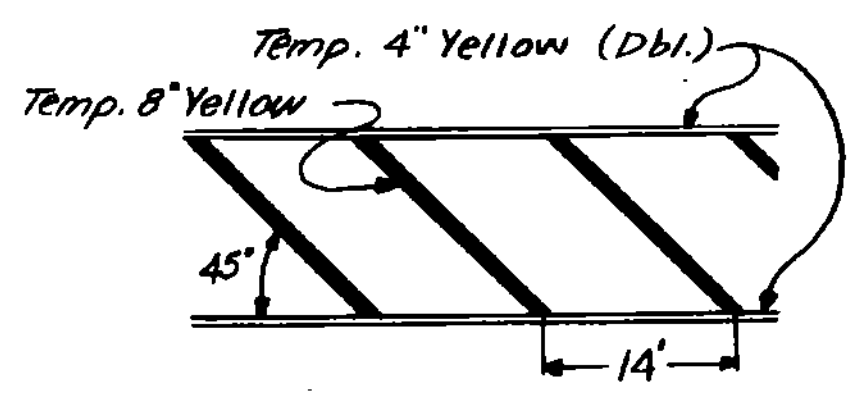


NEW SIGNS
M.M. 2.00 ~ END of PROJECT

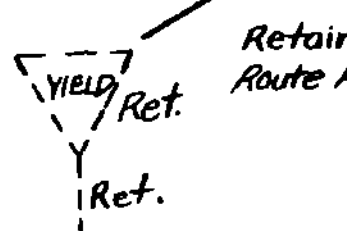
- Temp. 4" White Line
Vt 100 - West Approach (As Shown)
U.S. 4 - U-Turn Rt. - Edgeline Rt-MM 1.10~1.21 ±
- Temp. 8" White Line (Gore)
US 4 & Vt 100 - West Intersection (As Shown)
- Temp. 4" Yellow Line (Dbl.)
U.S. 4 - Painted Island (As Shown)
Vt 100 - Painted Island (As Shown)
Vt 100 - Centerline
U.S. 4 - U-Turn Rt. - Edgeline Lt. - MM 1.10~1.21 ±
- Temp. 8" Yellow Line
Vt 100 - West Approach - Diagonal Lines
(Painted Island - See Detail this sheet)

- Temp. Arrow Marking
Vt 100 - As Shown
- Temp. Letter in Word Marking
Vt 100 - As Shown
U.S. 4 - U-Turn Rt. - MM 1.20 ± "STOP"
- Temp. 24" Stop Bar
U.S. 4 - U-Turn Rt. - MM 1.20 ±

Remove Existing Pavement Markings
U.S. 4 - Painted Island - As Shown
Vt 100 - & If Necessary - As Shown



Existing & To Be Removed By Grinding if Necessary. To Be Determined By Engineer.



DATUM	_____
VERTICAL	_____
HORIZONTAL	_____

PREPARED BY J.B. DATE 1-86
CHECKED BY _____ DATE _____
MENDON - SHERBURNE
PROJ. STATEWIDE NO. F-SFTY(85)S
TRAFFIC SHEET NO. 72341 SHEET 21 OF 23

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS								REMARKS	FOR SIGN DETAIL SHEET					
			TO BE SALVAGED REMOVE (EA.)	RETAIN (X)	NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM					W SHAPED STEEL			PLAN SHEET NUMBER	STD. SHEET NUMBER	
														2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.		POST SIZE	WEIGHT	FTG. SIZE			
1.26 Lt.	STOP			X					X																		
1.27 Lt.	STOP			X					X																		
1.27 Lt.	E. PITTSFORD 2 →			X					X(2)																		
1.27 Lt.	CHITTENDEN 6 →			X																							
1.27 Lt.	CHITTENDEN NATIONAL FISH BAIT 8 →			X																							
1.27 Lt.	MEADOW LAKE RD		1	X				1			X		1	X													Relocate For Better Visibility
1.34 Lt.	E. PITTSFORD 2 →	72" X 10"				5.0							2	X													E-23
1.34 Lt.	CHITTENDEN 6 →	72" X 10"				5.0																					E-23
1.38 Lt.	MENDON RUTLAND 4			X					X																		
1.39 Lt.	PEDESTRIAN			X					X																		
1.40 Lt.	TRUCK STOP		1								X																
1.42 Lt.	SCHOOL BUS STOP			X					X																		
1.46 Lt.	TULIP TREE INN → 5	* 75" X 16"	* 1	X				8.3			X		* 2			X											*Note: All quantities to be included in T.I.S. = Item 680.20 MOD. (NON-PARTICIPATING)
1.46 Lt.	MOUNTAIN TOP INN → 5	* 75" X 16"	* 1	X				8.3																			
1.50 Lt.	Mt Top Ski Touring Ct → 6			X					X(2)																		
1.55 Lt.	WIDE TURNING			X					X																		
1.59 Lt.	STOP / LEGAL LOAD LIMIT	30" X 30" 24" X 24"	1	X				1			X		1	X													
1.59 Rt.	TRUCK LANE 500 FEET	24" X 30"				5.0								1	X												E-15A
1.62 Lt.	MEDWAY RD		1	X				1			X		1	X													
1.69 Rt.	SLOWER TRAFFIC KEEP RIGHT	24" X 30"	1			5.0					X		1	X													
1.78 Lt.	DO NOT PASS		1								X																
1.78 Lt.	UNSAFE TO PASS	36" X 36"				9.0							1			X											TD 557
TOTALS			7	X		29.0 [#]		4	16.6 [#]	X	X	X	8	184 [#]		48 [#]											

FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S "SIGN POST DESIGN MANUAL".

PREPARED BY JB DATE 1-86
 CHECKED BY _____ DATE _____
 MENDON-SHERBURNE PROJ. STATEWIDE NO. F-97Y (85)5
 TRAFFIC SHEET NO. 72546 SHEET 22 OF 200

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS		NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS								REMARKS	FOR SIGN DETAIL SHEET												
			TO BE SALVAGED REMOVE (EA.)	RETAIN (X)	NEW 'A' (S.F.)	NEW 'B' (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM			W SHAPED STEEL		PLAN SHEET NUMBER	STD. SHEET NUMBER											
														2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.				POST SIZE	WEIGHT	FTG. SIZE								
352 Lt.			1																															
352 Lt.		24" x 30"			5.0							1	X																		Chevrons to be placed @ 6' offset	E-19		
360 Lt.			1																															
360 Lt.		24" x 30"			5.0							1	X																			E-19		
374 Lt.		30" x 30"	1		6.3							1			X																	E-19A		
374 Lt.		18" x 18"	1		2.3																											E-19B		
386 Lt.				X					X(2)																									
392 Lt.			1										X(2)																					
392 Lt.		36" x 36"			9.0							1				X																	TD-557	
400 Rt.		24" x 30"			5.0							1	X																			E-15A		
414 Lt.		36" x 36"			9.0							1				X																TD-557		
435 Lt.			1											X																				
435 Lt.		36" x 36"			9.0							1				X																	TD-557	
462 Lt.			1											X																				
462 Lt.		36" x 36"			9.0							1				X																	TD-557	
495 Lt.			1											X																				
495 Lt.		36" x 36"			9.0							1				X																	TD-557	
511 Lt.				X					X(2)																									
525 Lt.		30" x 30"	1		6.3									X		1	X																E-19A	
537 Rt.		24" x 30"	1		5.0									X		1	X																E-15A	
545 Lt.			1											X																				
545 Lt.		36" x 36"			9.0							1				X																	TD-557	
547 Lt.			1											X																				
TOTALS			14	X	88.9				X	X	X	12	140"	40"	288"																			FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S 'SIGN POST DESIGN MANUAL'.

PREPARED BY J.B. DATE 1-86
 CHECKED BY _____ DATE _____
 MENDON ~ SHERBURNE
 PROJ. STATEWIDE NO. F-84TY(85)5
 TRAFFIC SHEET NO. 72532 SHEET 125 OF 200

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS				NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS							REMARKS	FOR SIGN DETAIL SHEET						
			TO BE SALVAGED		NEW 'A' (S.F.)	NEW 'B' (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	NUMBER OF POSTS	FLANGED CHANNEL			TUBULAR ALUMINUM				W SHAPED STEEL		PLAN SHEET NUMBER	STD. SHEET NUMBER					
			REMOVE (EA.)	RETAIN (X)										2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.	POST SIZE				WEIGHT	FTG. SIZE 24" 30"			
053 Rt.	STOP	LEGAL LOAD LIMIT		X						X																			
053 Rt.	BRAD MEAD DR.		1	X																									
054 Rt.	FORM SINGLE LINE		1																								E-19A		
054 Rt.	11	36" x 36"				9.0																							
059 Rt.	WASH STATE	48" x 48"	1	X																									
061 Lt.	7% GRADE	48" x 48"	1	X																							Mount at MM 0.69 Lt.		
064 Lt.	SPEED LIMIT 50		1																										
065 Rt.	11		1																										
065 Rt.	TRUCK LANE ENDS	36" x 48"				12.0																					Use "Special" Size Due to Crest of Mt.	E-15A	
069 Lt.	2 MILES	48" x 48"																										TD557	
070 Rt.	SHERBURNE PASS ELEV. 2130 FT. 2 EA.	18" x 18" (2 EA) 24" x 24"				2.3																					Mount 2 Signs Back to Back	TD558	
072 Rt.	1 MILE	48" x 48"				16.0																						TD557	
076 Lt.	SHERBURNE PASS ELEV. 2150 FT.	18" x 18"				2.3																							
077 Lt.	THE LONG TRAIL A FOOTPATH IN THE WILDERNESS 2 EA.	(2 EA) 30" x 18"	2																								Mount Back to Back Signs to be furnished by State. Erset as Salv signs Same post		
077 Lt.	APPALACHIAN TRAIL 2 EA.	(2 EA) 30" x 18"	2																										
078 Rt.	7% GRADE		1																										
080 Lt.	TRUCK LANE ENDS	36" x 48"				12.0																						Use "Special" Size Due to Crest of Mt.	E-15A
081 Lt.	WASH STATE		1																										
084 Lt.	WASH STATE	36" x 36"				9.0																							
TOTALS			16	X		70.6°																							

FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD, POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S 'SIGN POST DESIGN MANUAL'.

PREPARED BY JB DATE 1-86
 CHECKED BY _____ DATE _____
 MENDON ~ SHERBURNE PROJ. STATEWIDE NO. F-SFTY(85) 9
 TRAFFIC SHEET NO. 72531 SHEET 21 OF 200

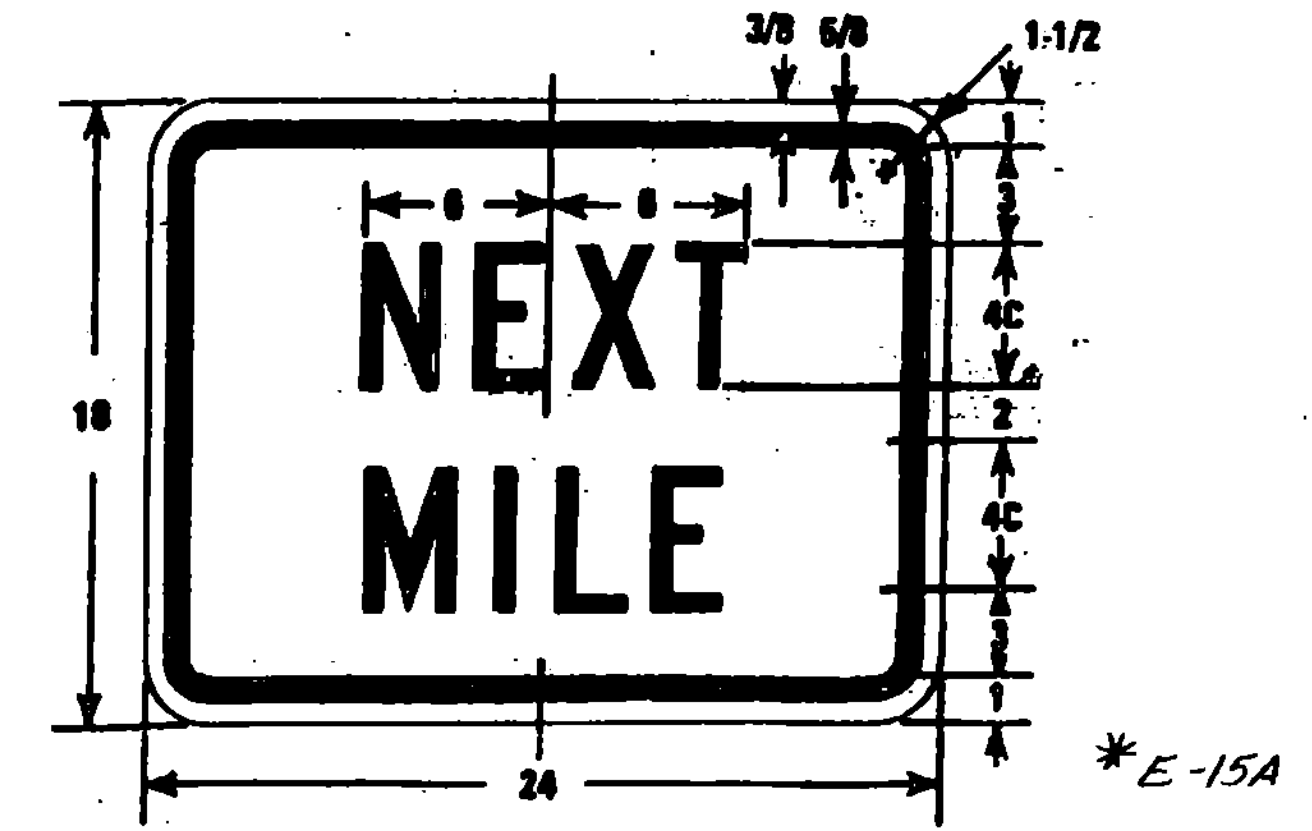
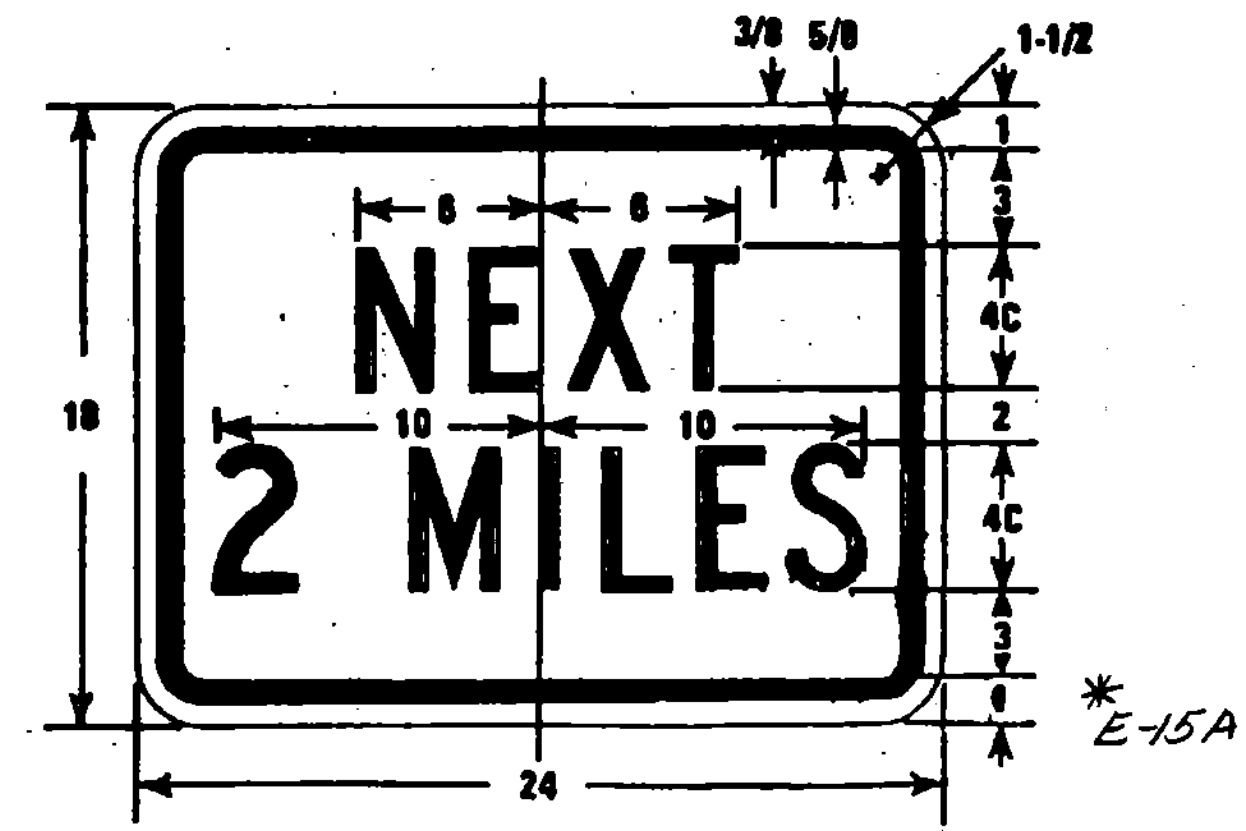
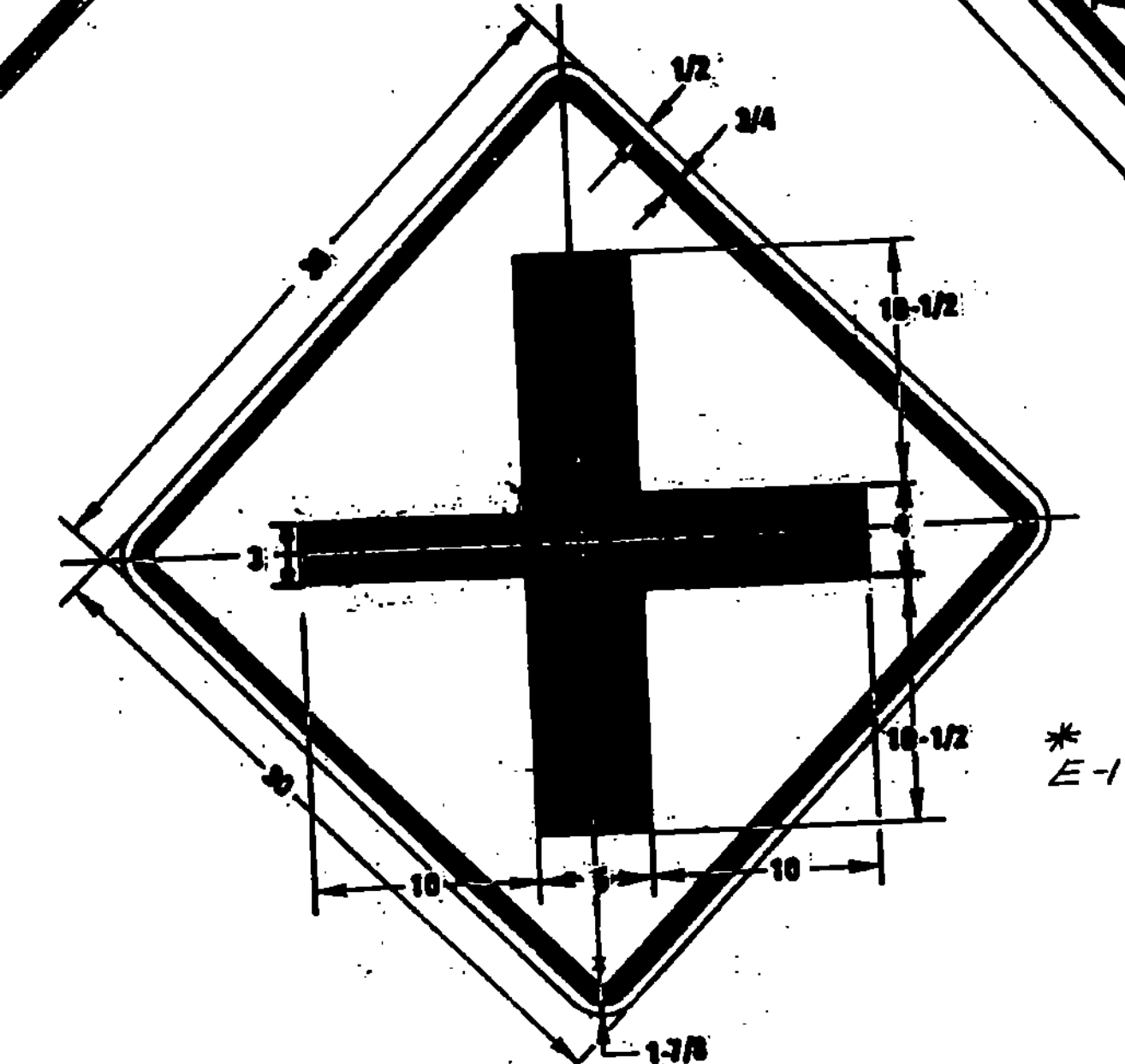
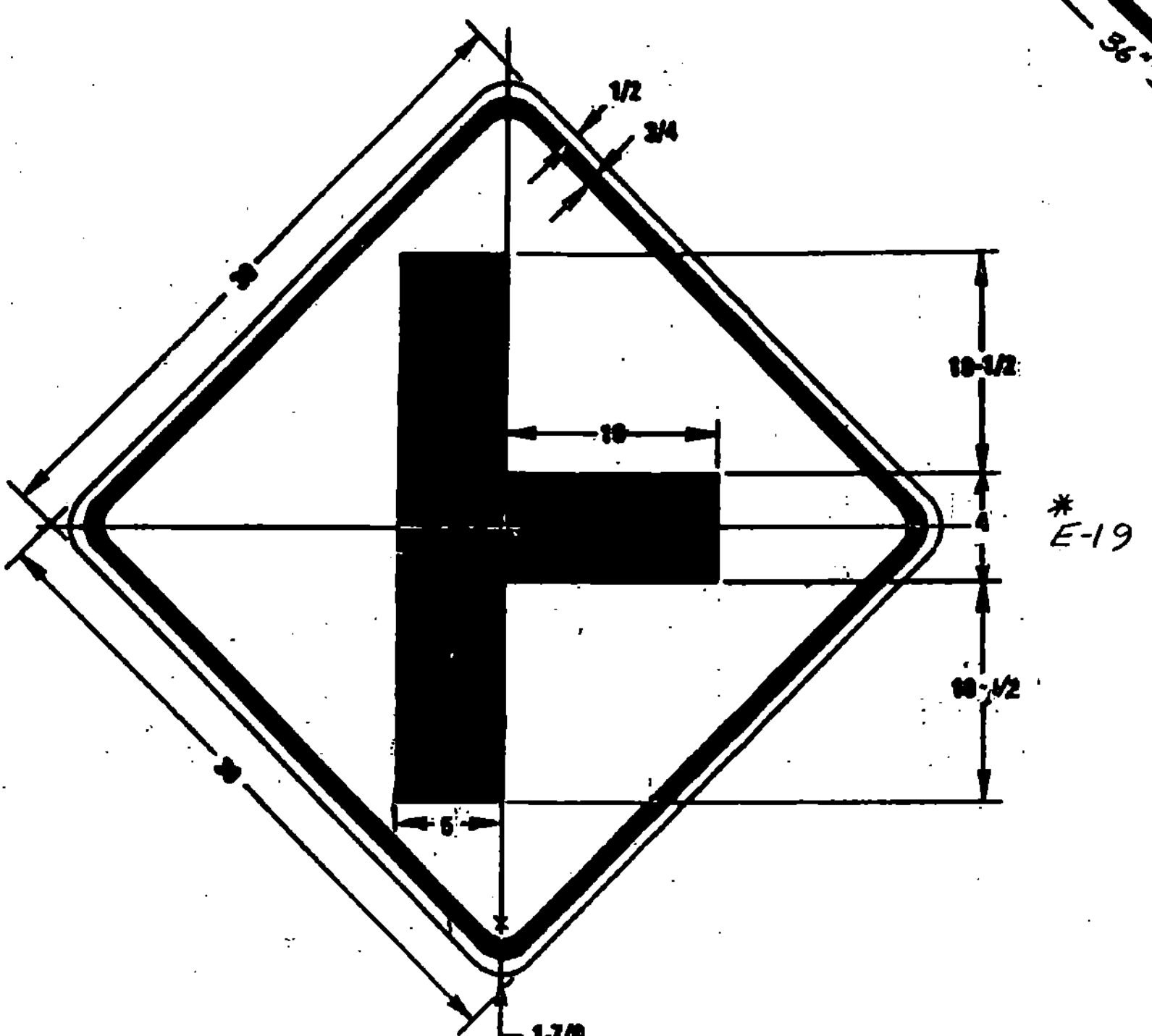
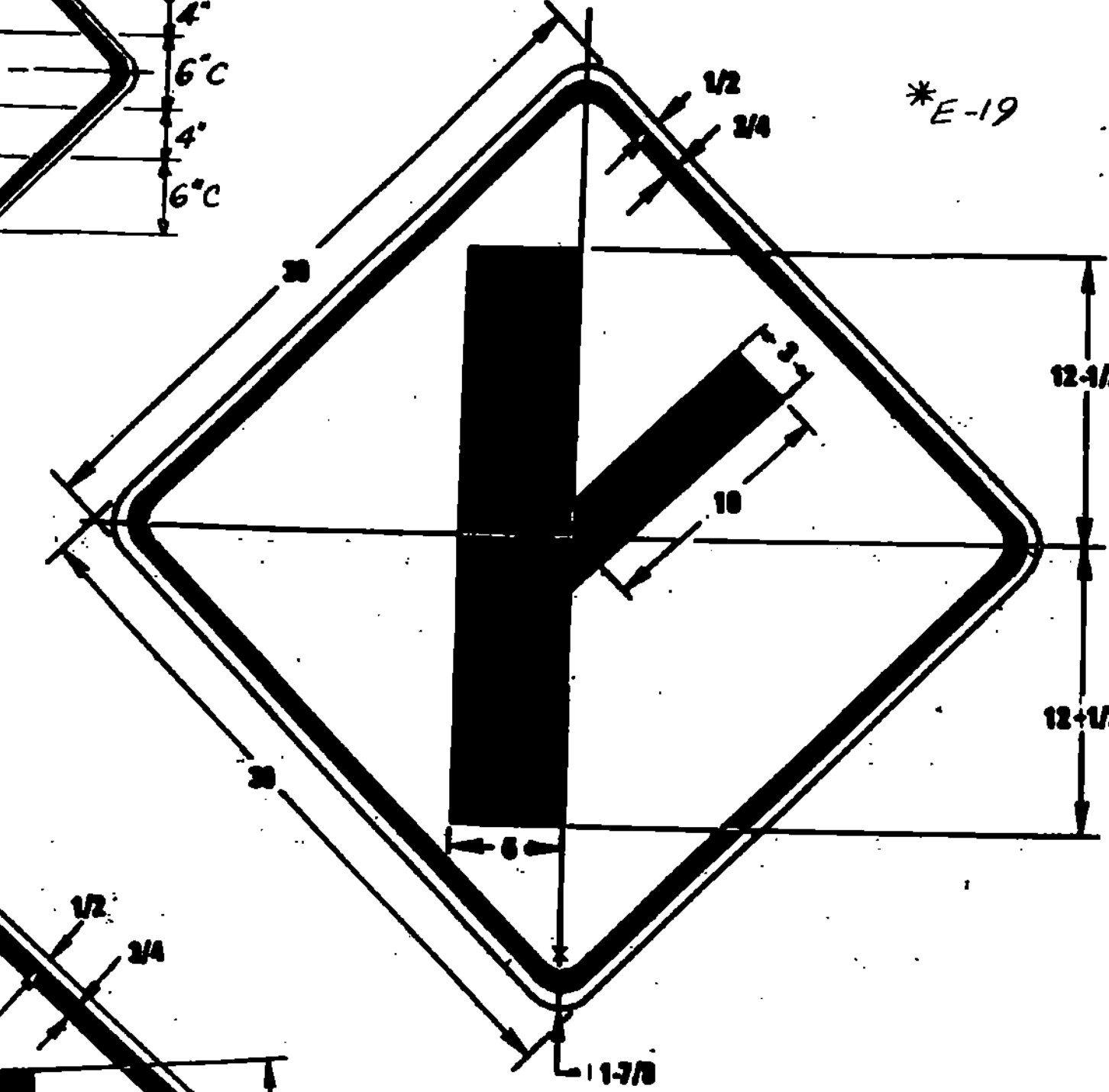
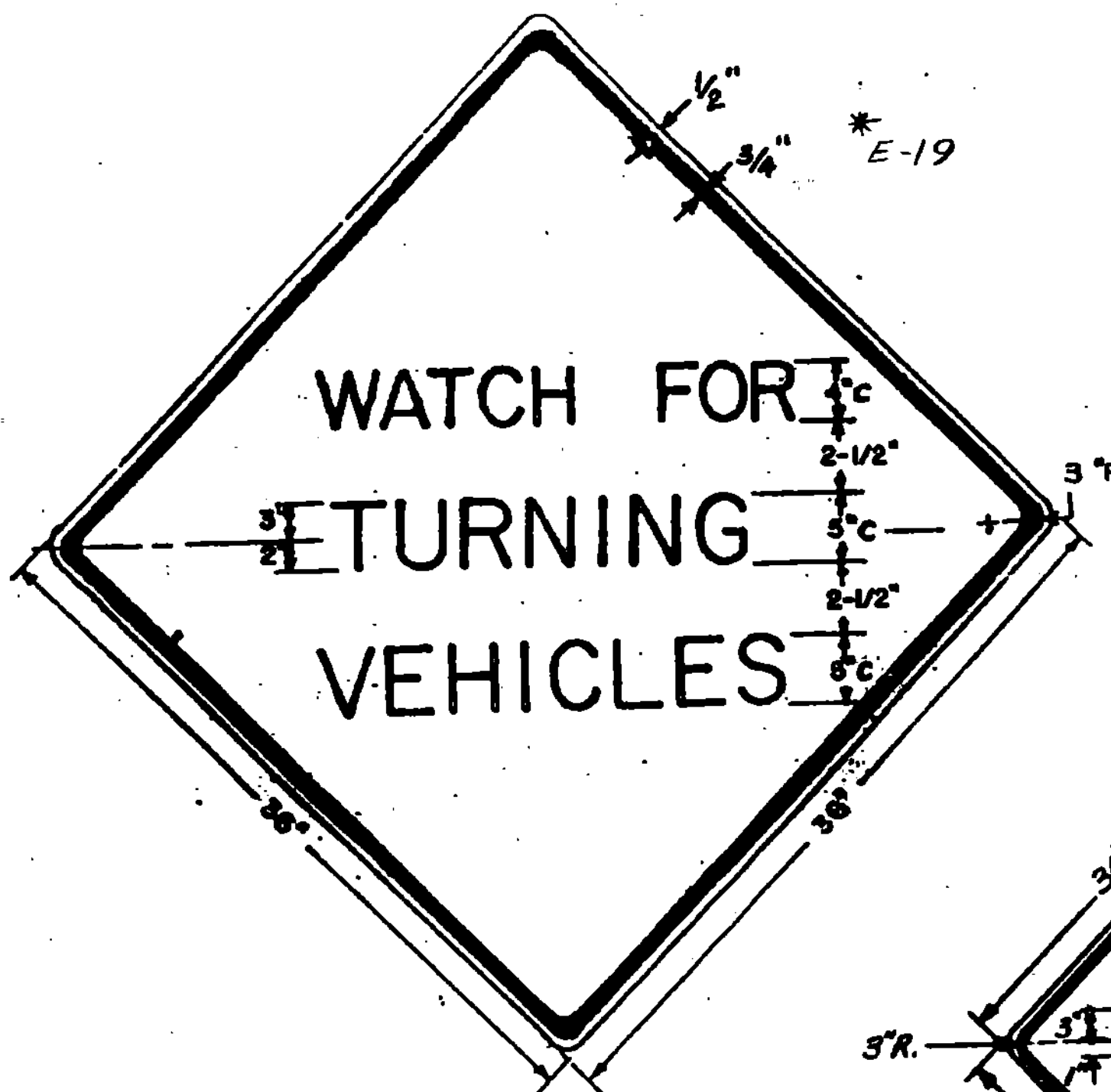
TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	EXISTING SIGNS TO BE SALVAGED				NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS									REMARKS	FOR SIGN DETAIL SHEET													
			REMOVE (EA.)	RETAIN (X)	NEW "A" (S.F.)	NEW "B" (S.F.)	SALV. SIGN (EA.)	SALV. T.I.S.(S.F.)	RET.	DRILL	REM.	SALV.	FLANGED CHANNEL			TUBULAR ALUMINUM			W SHAPED STEEL			PLAN SHEET NUMBER	STD. SHEET NUMBER															
													2.0 LB./FT.	2.5 LB./FT.	3.0 LB./FT.	3.0" Ø	3.0" □	4.0" Ø	4.0" Ø MOD.	POST SIZE	WEIGHT	FTG. SIZE 24" 30"																
085 Rt.	DO NOT PASS		1																																			
085 Rt.	UNSAFE TO PASS	36" x 36"			9.0									1																					TD 557			
087 Lt.	II		1																																			
089 Lt.	PED X-ING		1																																			
089 Lt.	PED X-ING	36" x 36"			9.0									1																						E-19B		
090 Rt.	Winterberry Resort Village			X						X(2)																												
092 Lt.	FORM SINGLE LANE		1																																			
095 Lt.	II	36" x 36"			9.0									1																						E-19A		
095 Rt.	Y		1																																			
094 Rt.	LEFT TURN OR U-TURN AHEAD	48" x 48"			16.0									2																						TD 557		
100 Rt.	+		1																																			
102 Rt.	♦	18" x 18"			2.3									1	X																					E-19B		
103 Rt.	LEFT TURN OR U-TURN	48" x 48"			16.0									2																						TD 557		
114 Lt.	SLOWER TRAFFIC KEEP RIGHT	24" x 30"			5.0									1	X																					E-15A		
120 Lt.	STOP	LEGAL LOAD LIMIT	1	X					1					1	X																						E-15A	
120 Lt.	WINTERBERRY RD.		1	X					1					1	X																							
120 Rt.	STOP	ONE WAY			6.3									1																							TD 558	E-15C
120 Rt.	ONE WAY	ONE WAY			6.3																																E-15C	
120 Rt.	ONE WAY	ONE WAY			3.0																																E-15B	
121 Rt.	ONE WAY	ONE WAY			3.0									1																							E-15B	
121 Rt.	STOP	ONE WAY			3.0																																E-15B	
121 Rt.	STOP	DO NOT ENTER	1		6.3																																E-15C	
121 Rt.	STOP	DO NOT ENTER			6.3																																E-15C	
122 Lt.	ONE WAY	ONE WAY			6.3									1																							E-15C	
124 Lt.	SLOWER TRAFFIC KEEP RIGHT		1																																			
TOTALS			12		113.8 ^{ph}			2						14	96"	40"	258"																					

FINAL LENGTHS ARE TO BE DETERMINED IN THE FIELD, POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S "SIGN POST DESIGN MANUAL".

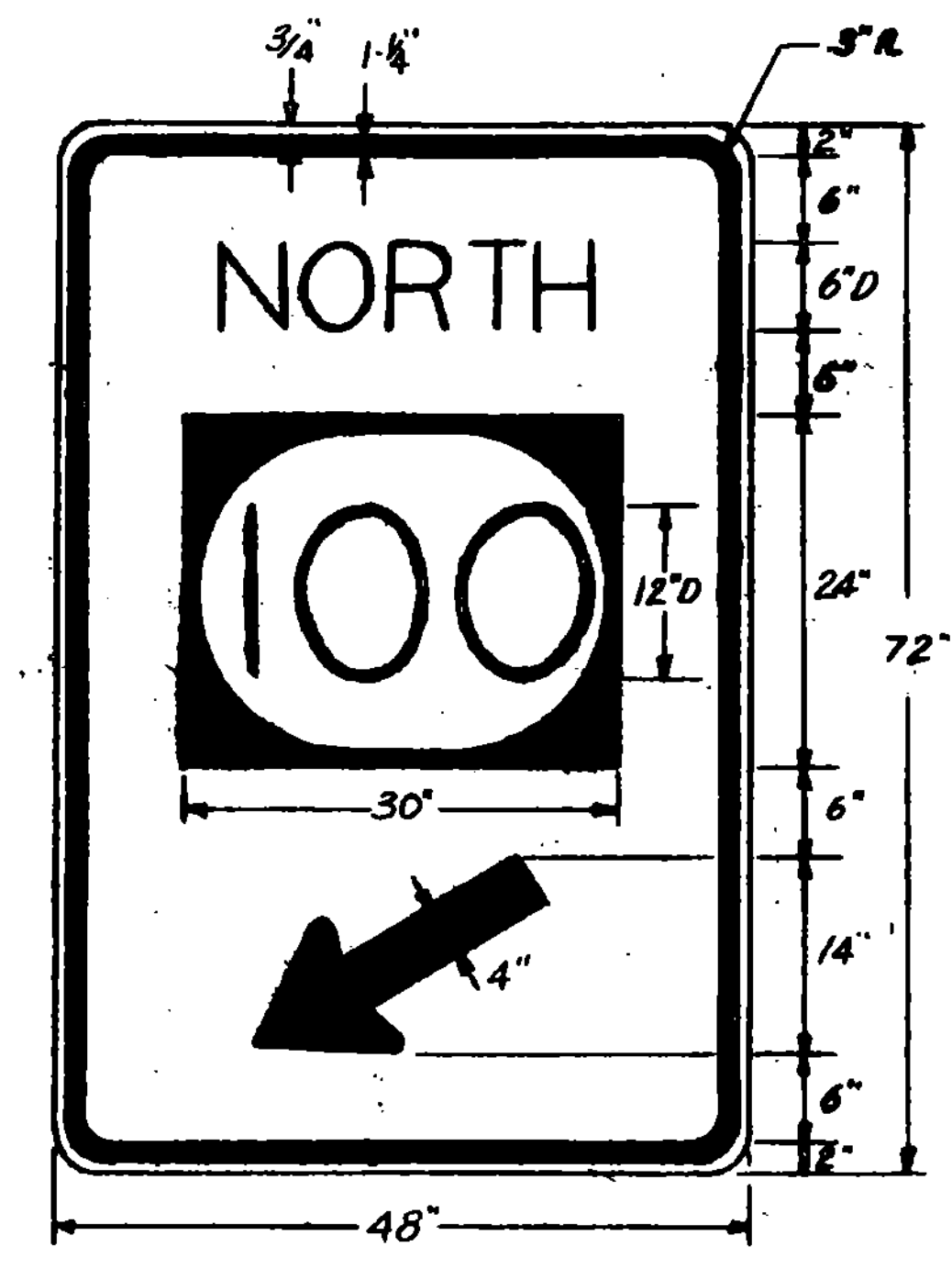
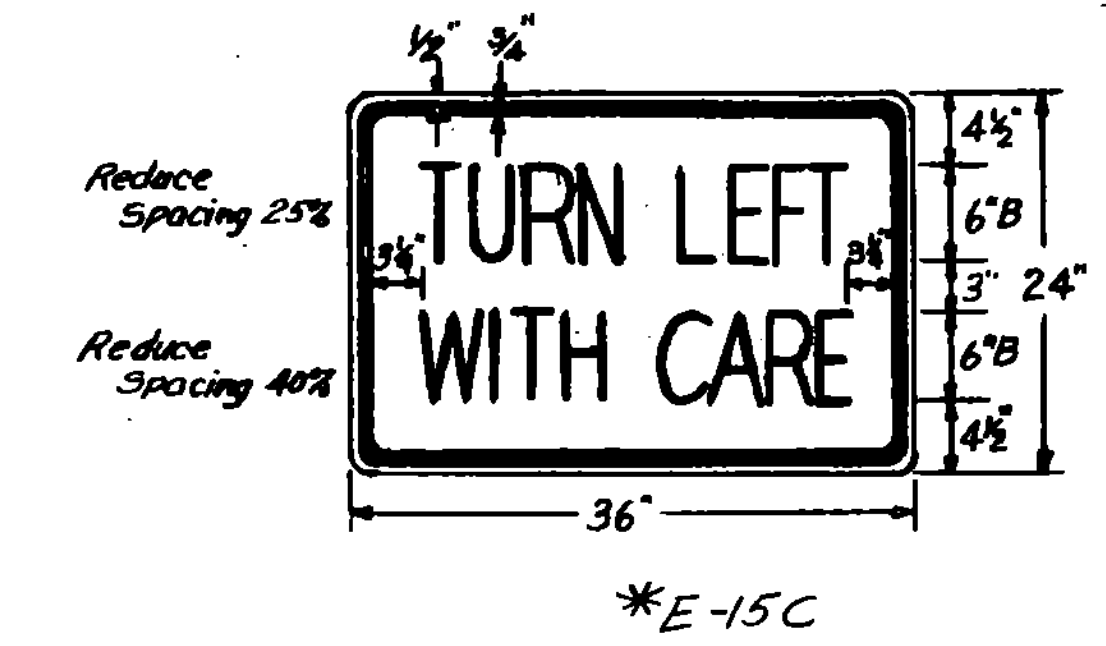
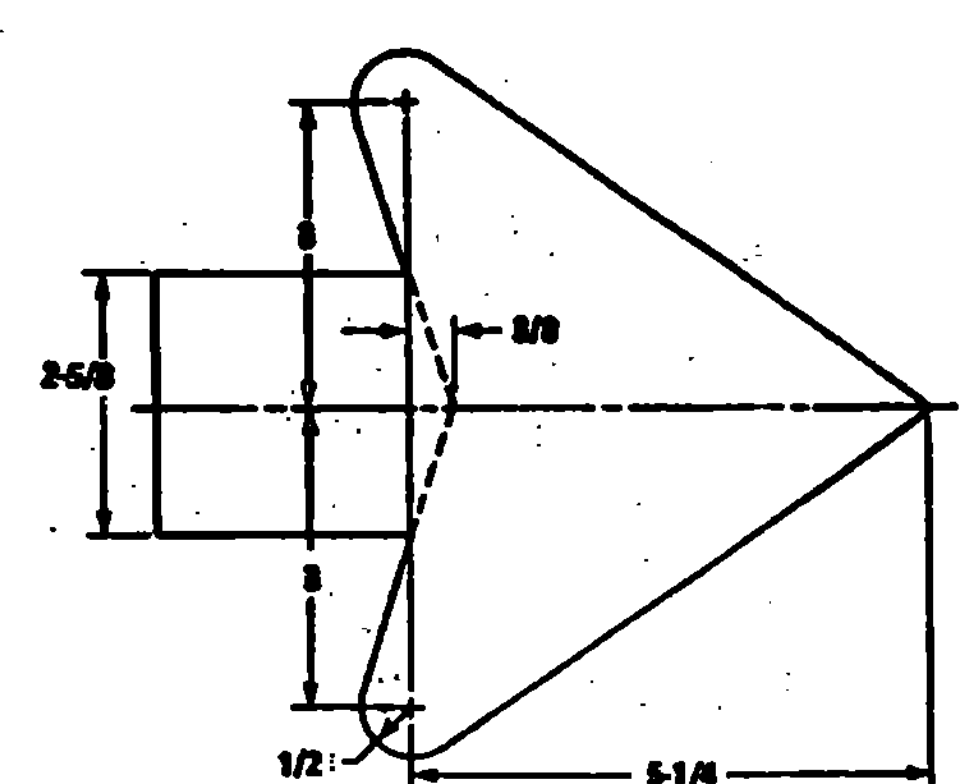
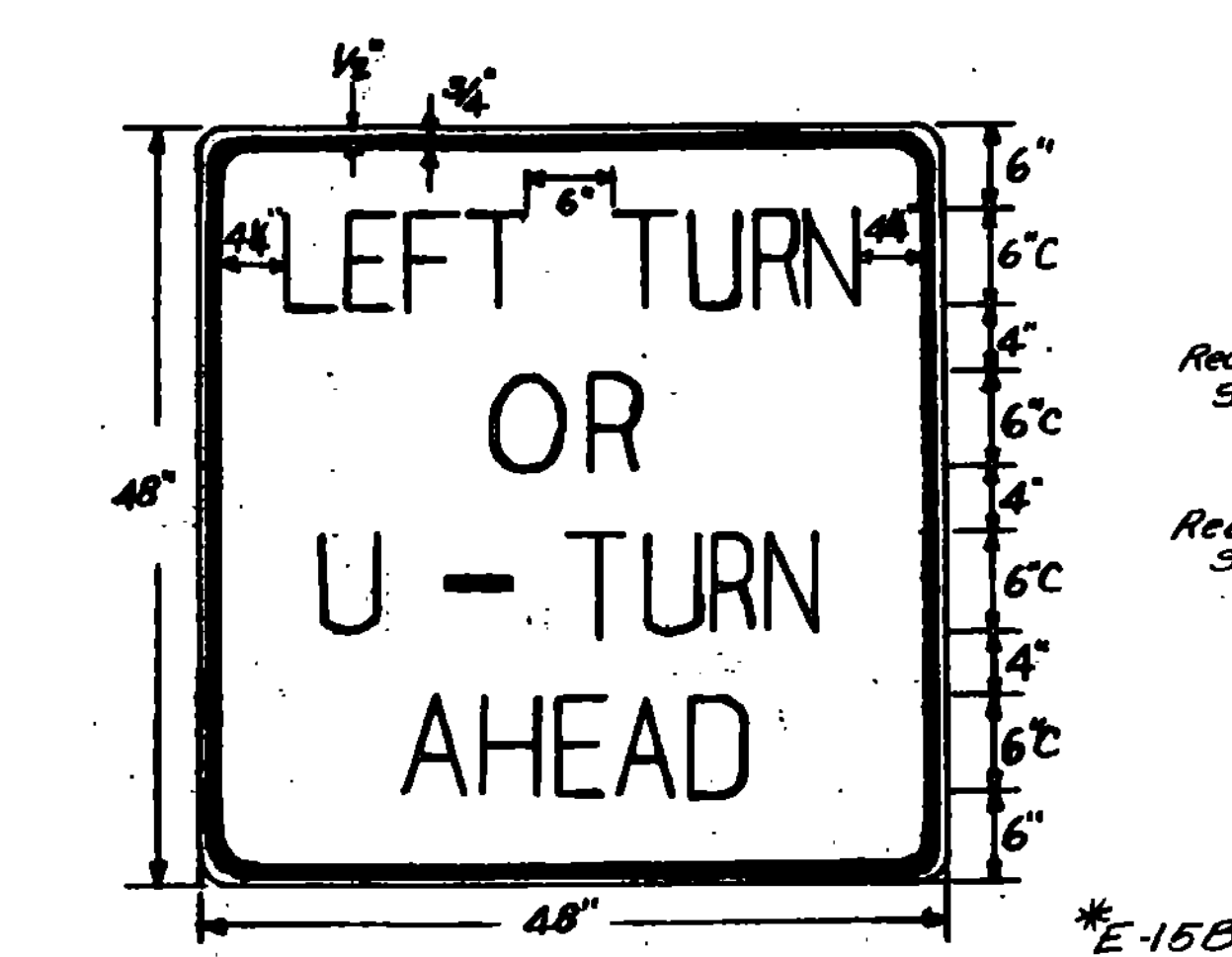
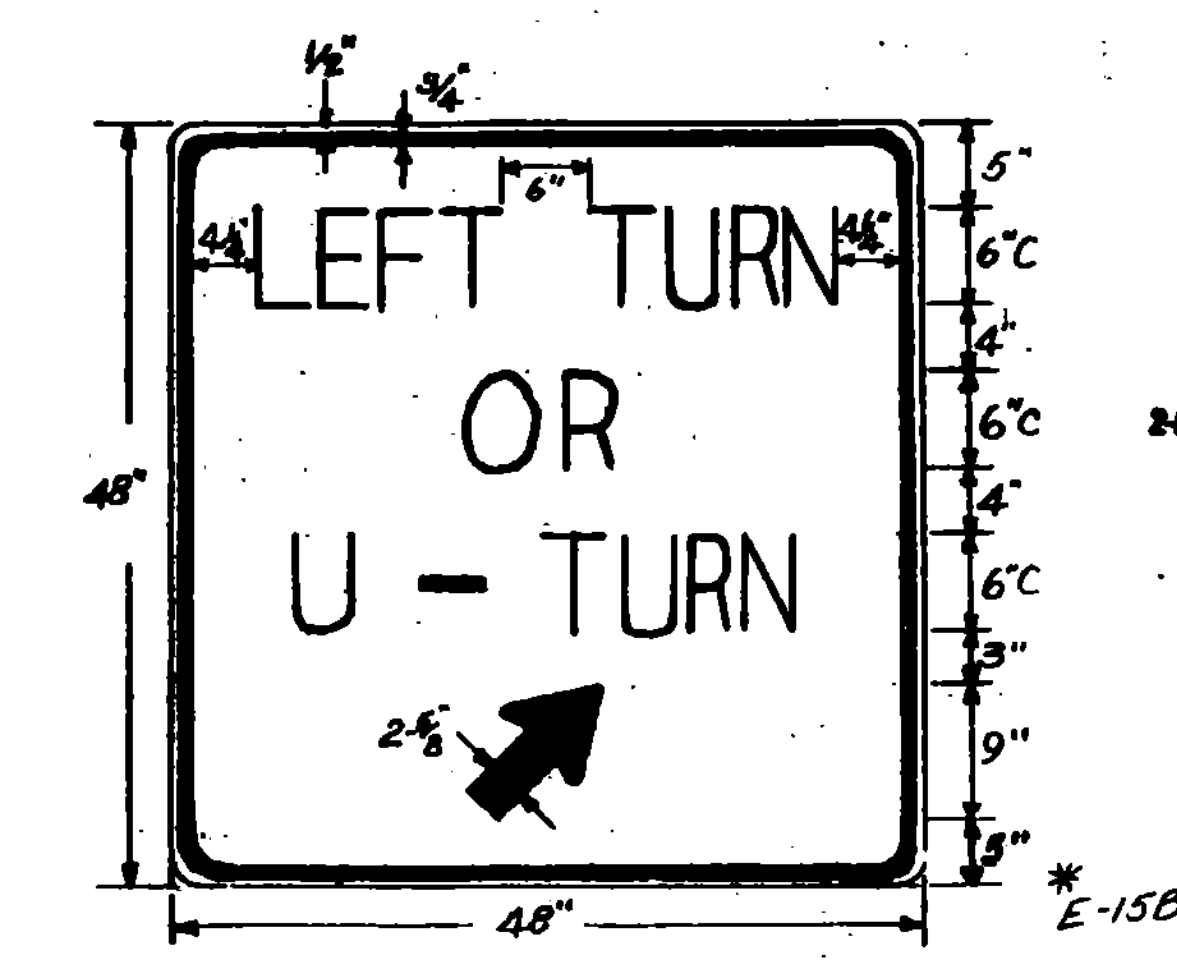
PREPARED BY JB DATE 1-26
 CHECKED BY _____ DATE _____
 MENDON ~ SHERBURNE
 PROJ. STATEWIDE NO. F-97Y(85)5
 TRAFFIC SHEET NO. 72532 SHEET 12B OF 200

For Materials, See Standard *E-

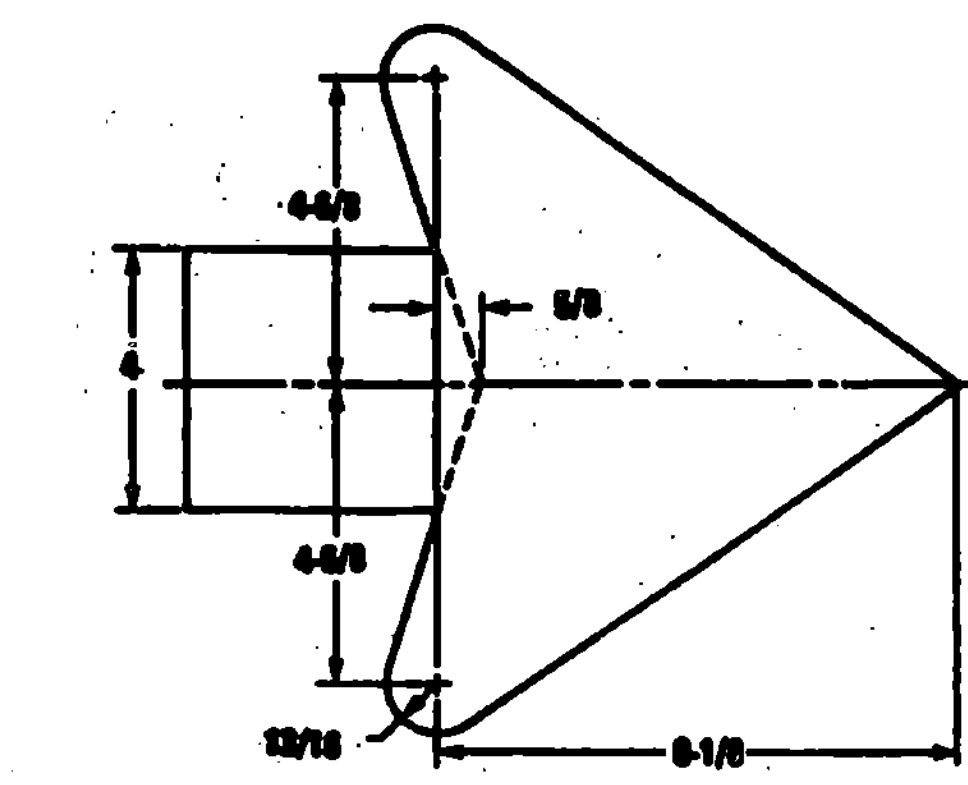


COLORS
 LEGEND - BLACK (NON-REFL)
 BACKGROUND - YELLOW (REFL)

COLORS
 LEGEND - BLACK (NON-REFL)
 BACKGROUND - WHITE (REFL)



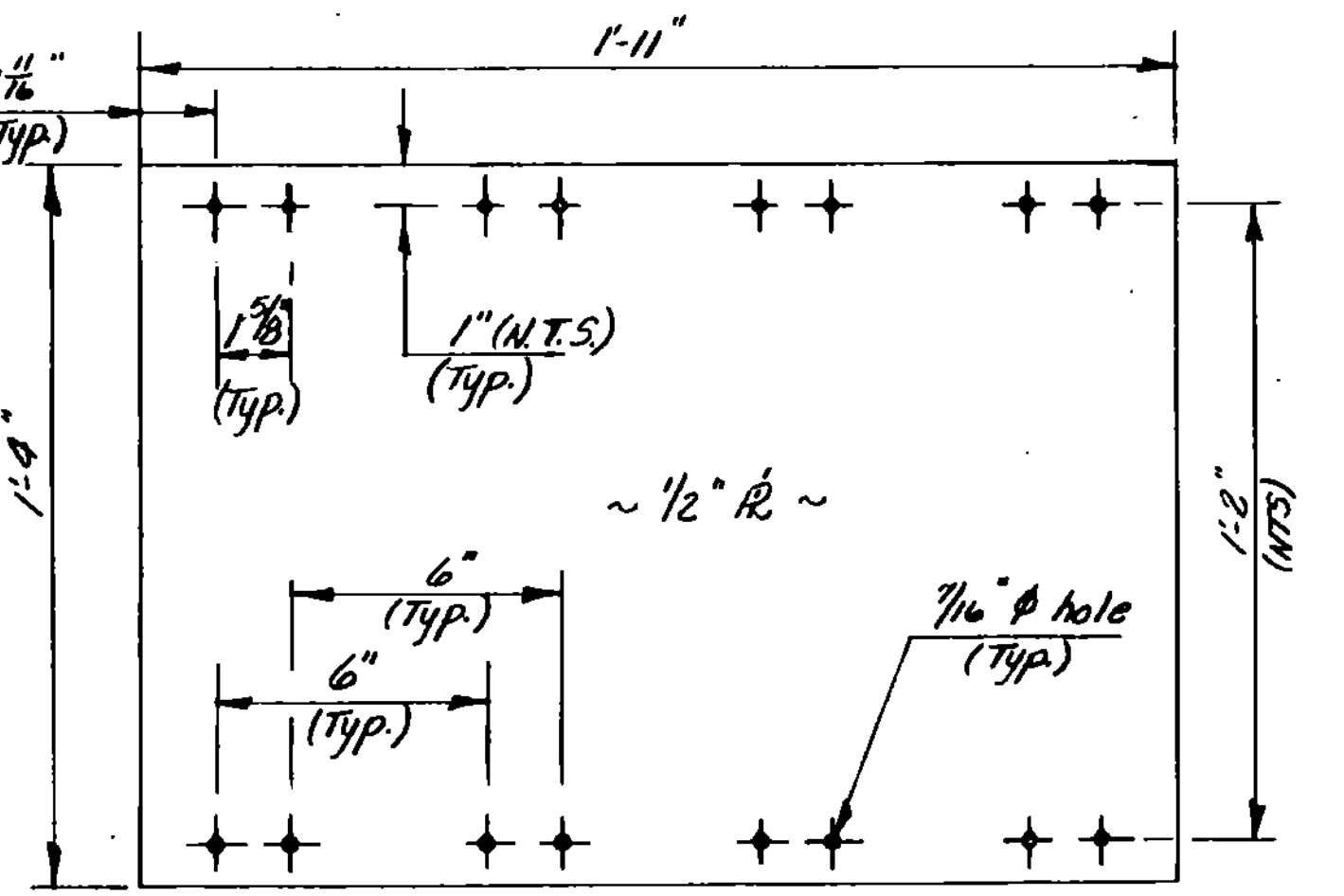
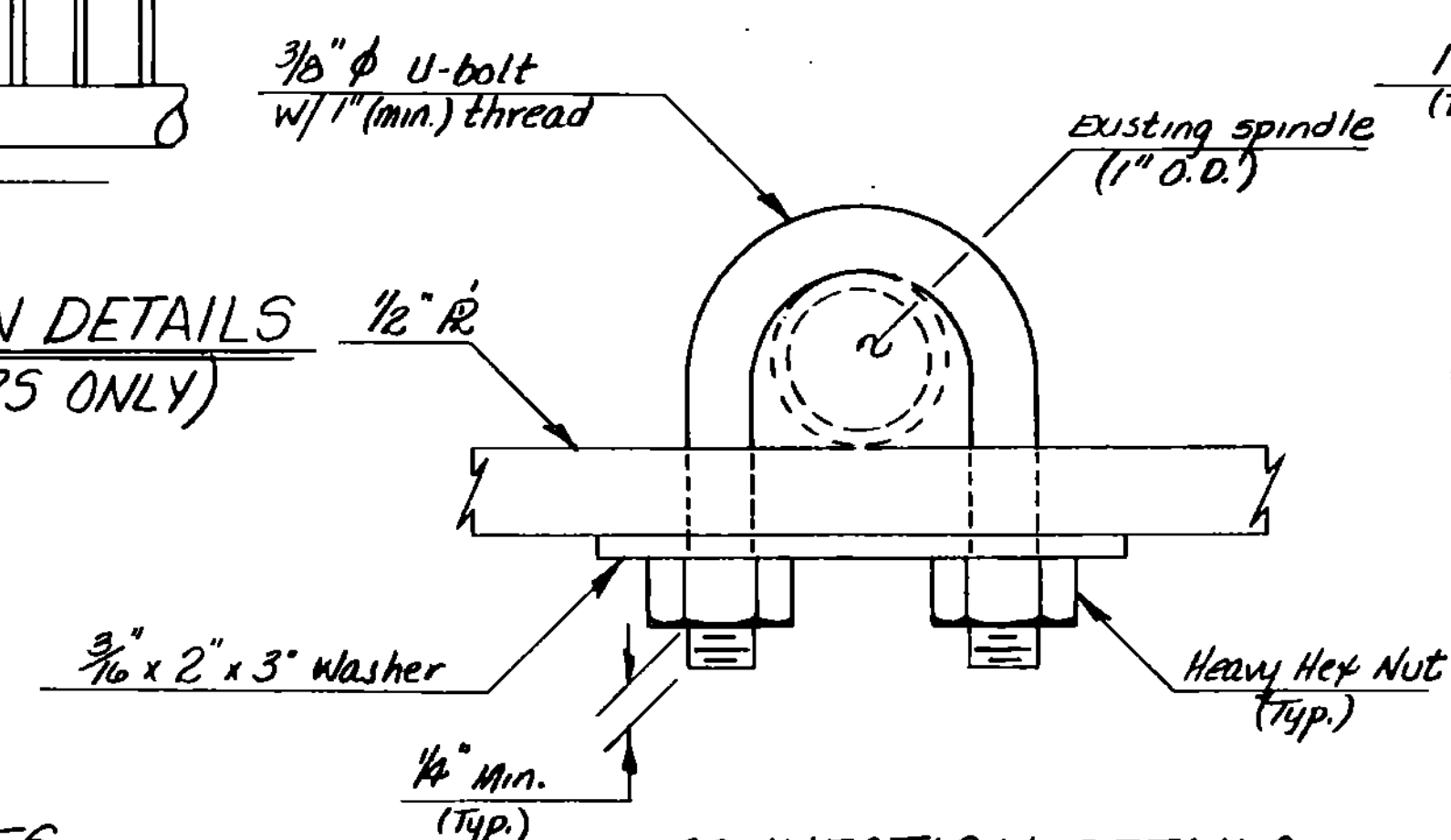
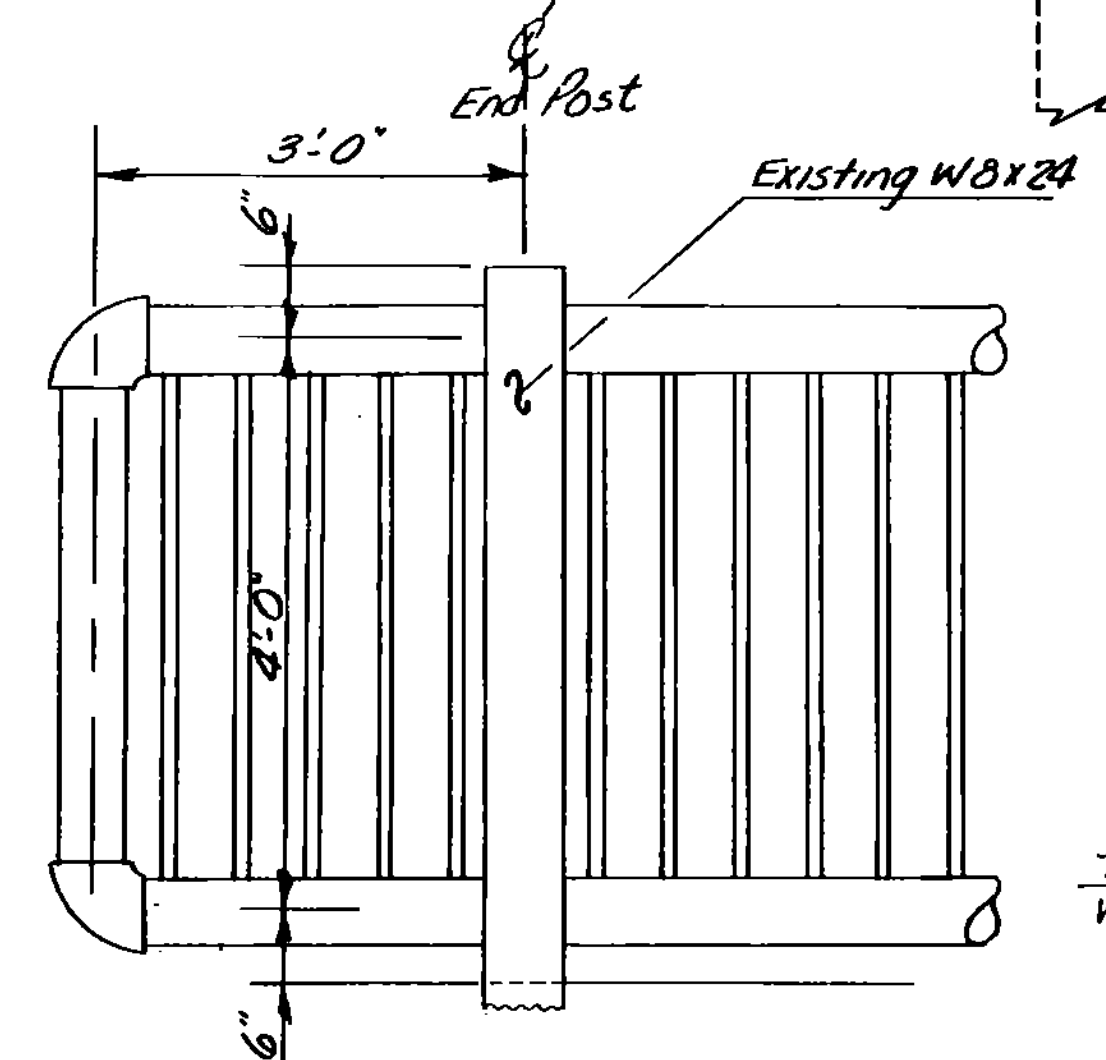
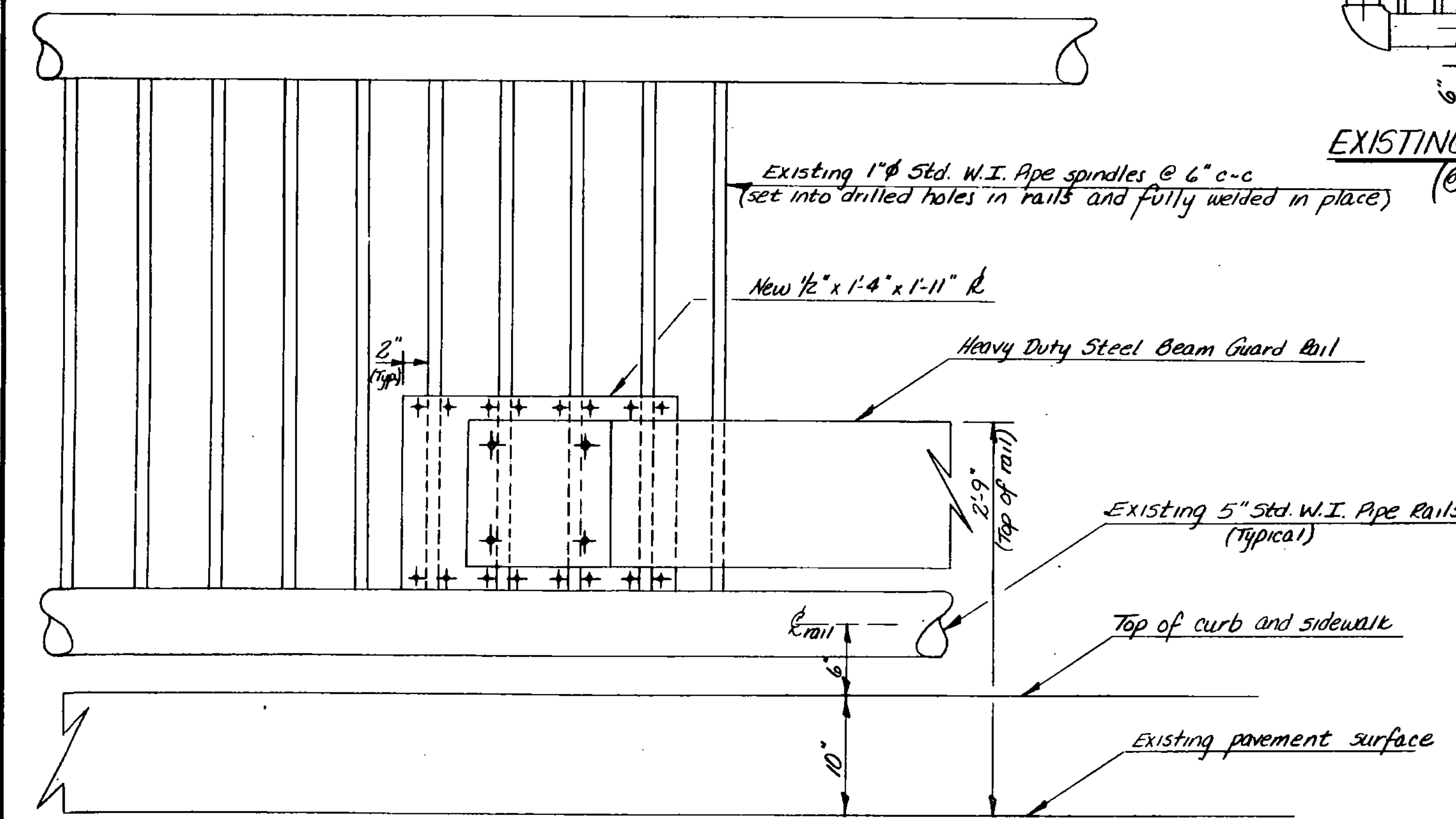
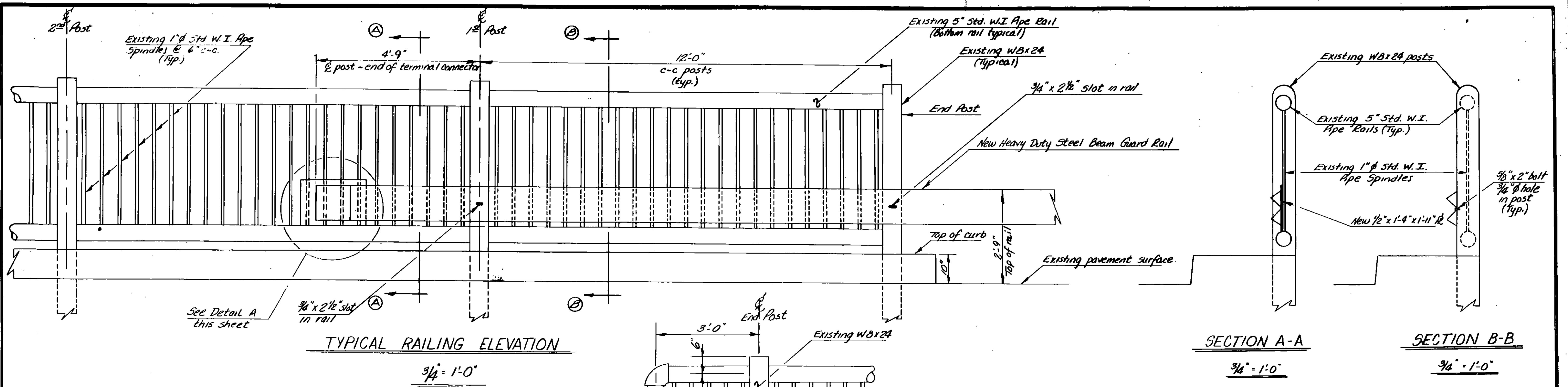
* FLAT SHEET ALUMINUM - 0.125"
 HIGH DENSITY OVERLAP PLYWOOD - 3/8"
 GALVANIZED FLAT SHEET STEEL - 12 GAUGE



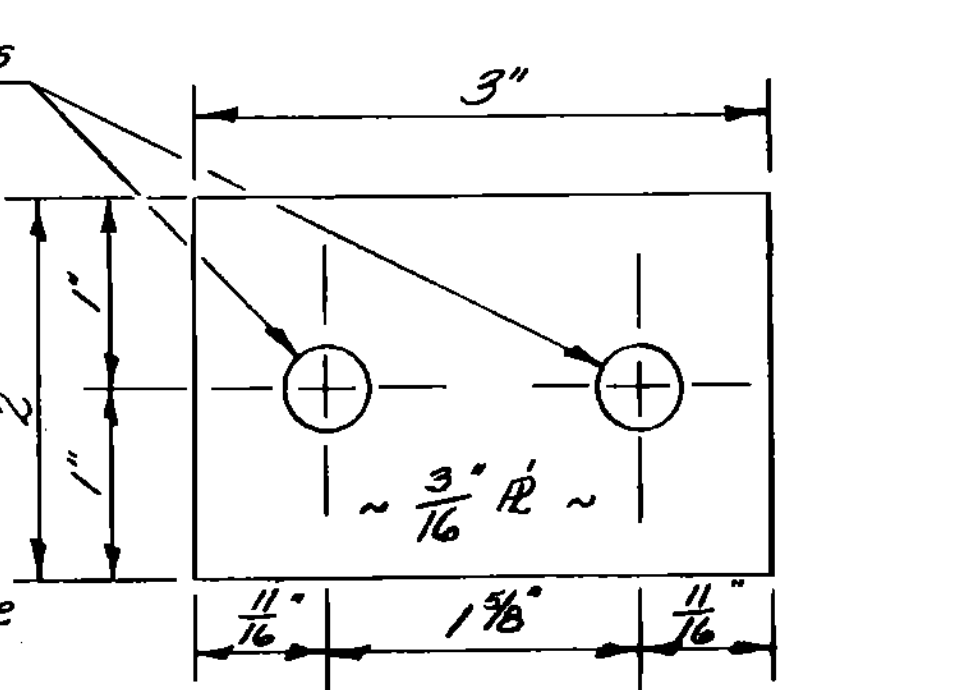
SURVEYED BY _____ DATE _____
 DRAWN BY J.B. DATE 3-26
 TRACED BY _____ DATE _____
 MENDON ~ SHERBURNE
 PROJ. NO. F-SFTY (85)S
 STATEWIDE NO. F-SFTY (85)S
 TRAFFIC SHEET NO. 133 OF 200

1985 STATEWIDE SAFETY PROJECT ITEM DETAIL SHEET

MILE MARKER	POS	REMOVING TREES		UNCLASSIFIED EXCAVATION	EARTH BORROW	TRENCH EARTH	TRENCH ROCK	GRAVEL SHOULDERS	METAL PIPE			RC PIPES			M.E.S	RC.PES	CONC	STEEL	REHAB. DI.	GRATE TYPE B	STONE FILL			TIMBER CURB	ITEM 60440	SELECTIVE THINNING	GUARD RAIL ITEMS						REMARKS		
		SMALL	LARGE						D	L	TH	D	L	CL							I	II	621.80				621.21	621.20	621.70	621.60	621.50	DELINEATORS			
NORTH-HERO																																			
9.06-9.32	RT.							97																		1325	18.75	1288.75	1		1	REPLACE EXISTING GUARD RAIL WITH NEW STEEL BEAM, CONNECT TO BRIDGE WITH HEAVY DUTY STEEL BEAM. SEE SHEET 142 FOR BRIDGE CONNECTION DETAILS, & SHEET 3 FOR B.C.T. USE GUARD RAIL APPROACH SECTION, TYPE I (MOD.)			
9.13-9.32	LT.							85																		1010	18.75	956.25	1		1	REPLACE EXISTING GUARD RAIL WITH NEW STEEL BEAM, CONNECT TO BRIDGE WITH HEAVY DUTY STEEL BEAM. SEE SHEET 142 FOR BRIDGE CONNECTION DETAILS, AND SHEET 3 FOR B.C.T. USE GUARD RAIL APPROACH SECTION, TYPE I MOD.			
GRAND-ISLE																																			
0.02-0.17	RT.							78																		810	18.75	756.25	1		1	REPLACE EXISTING GUARD RAIL WITH NEW STEEL BEAM, CONNECT TO BRIDGE WITH HEAVY DUTY STEEL BEAM. SEE SHEET 142 FOR BRIDGE CONNECTION DETAILS, AND SHEET 3 FOR B.C.T. USE GUARD RAIL APPROACH SECTION, TYPE I MOD.			
0.03	LT.																									24	45.8		1			CONNECT NEW HEAVY DUTY STEEL BEAM TO BRIDGE. USE RADIUS BEAM TO RUN GUARD RAIL 90° +/- TO ROAD. SEE SHEET 142 FOR BRIDGE CONNECTION DETAILS. USE 621.60 TYPE ANCHOR. QUANTITY COMPUTATION: 16.75*20.75*1.4=45.8. ACTUAL LENGTH=37.3FT.			
0.03-0.18	LT.							78																		770		825	1	1		REPLACE EXISTING GUARD RAIL WITH NEW STEEL BEAM WRAP NORTHERN END AROUND PARKING AREA AND USE A 621.60 TYPE ANCHOR, USE A B.C.T. ON SOUTH END.			
NORTH HERO - GRAND ISLE TOTALS								338																3939	102.05	3806.25	3	2	4						



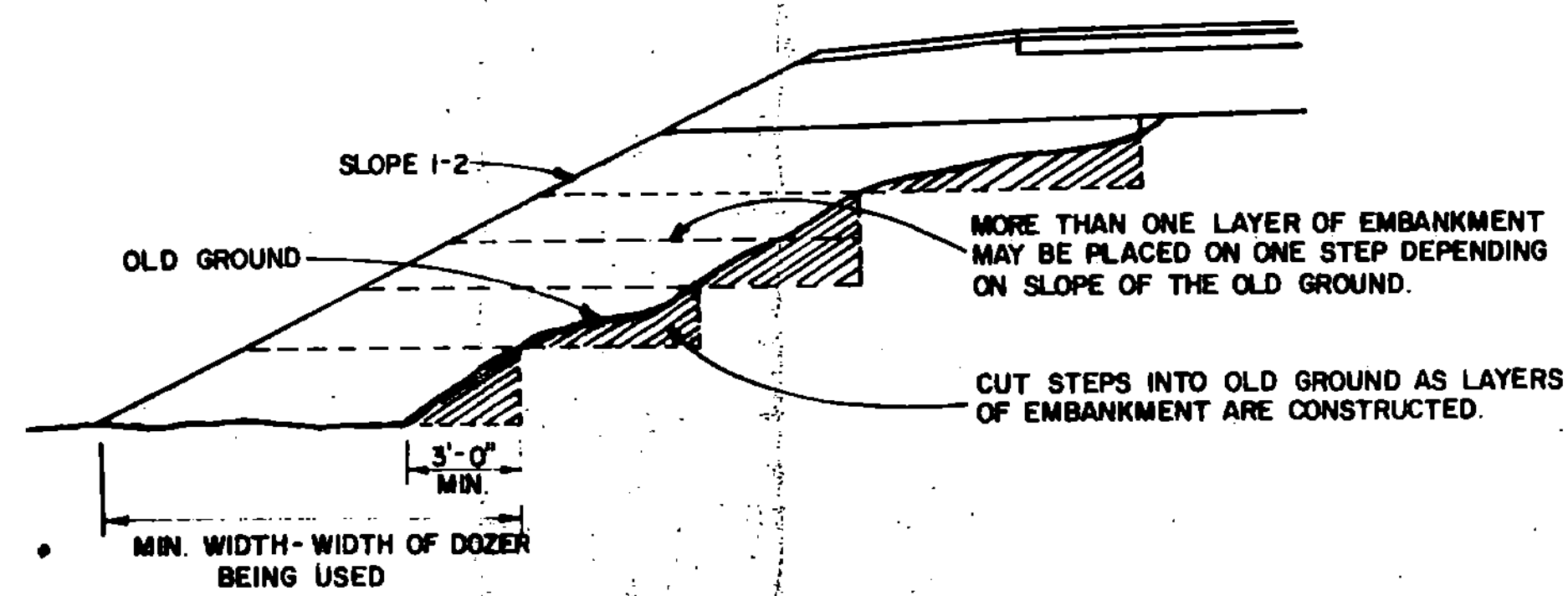
- NOTES**
- The 1/2" x 1-4" x 1-11" R and the 3/16" x 2" x 3" R washer shall be A-36 steel.
 - The anchorage plates and plate washers shall be galvanized in accordance with ASTM A123.
 - The anchor bolts and heavy hex nuts shall be galvanized in accordance with ASTM A153.
 - The unit price bid per linear foot of Heavy Duty Steel Beam Guard Rail shall include the cost of furnishing, fabricating and galvanizing the anchorage plates, plate washers, terminal connectors and all related hardware.
 - Any field alterations to galvanized members shall be painted with two(2) coats of zinc rich paint. (See Section 708.02 d).
 - Terminal connectors shall be standard HM-TF-15/RE-B.
 - Only one side of the bridge may be worked on at any one time.
 - All hardware including U-bolts shall conform to ASTM A 507.



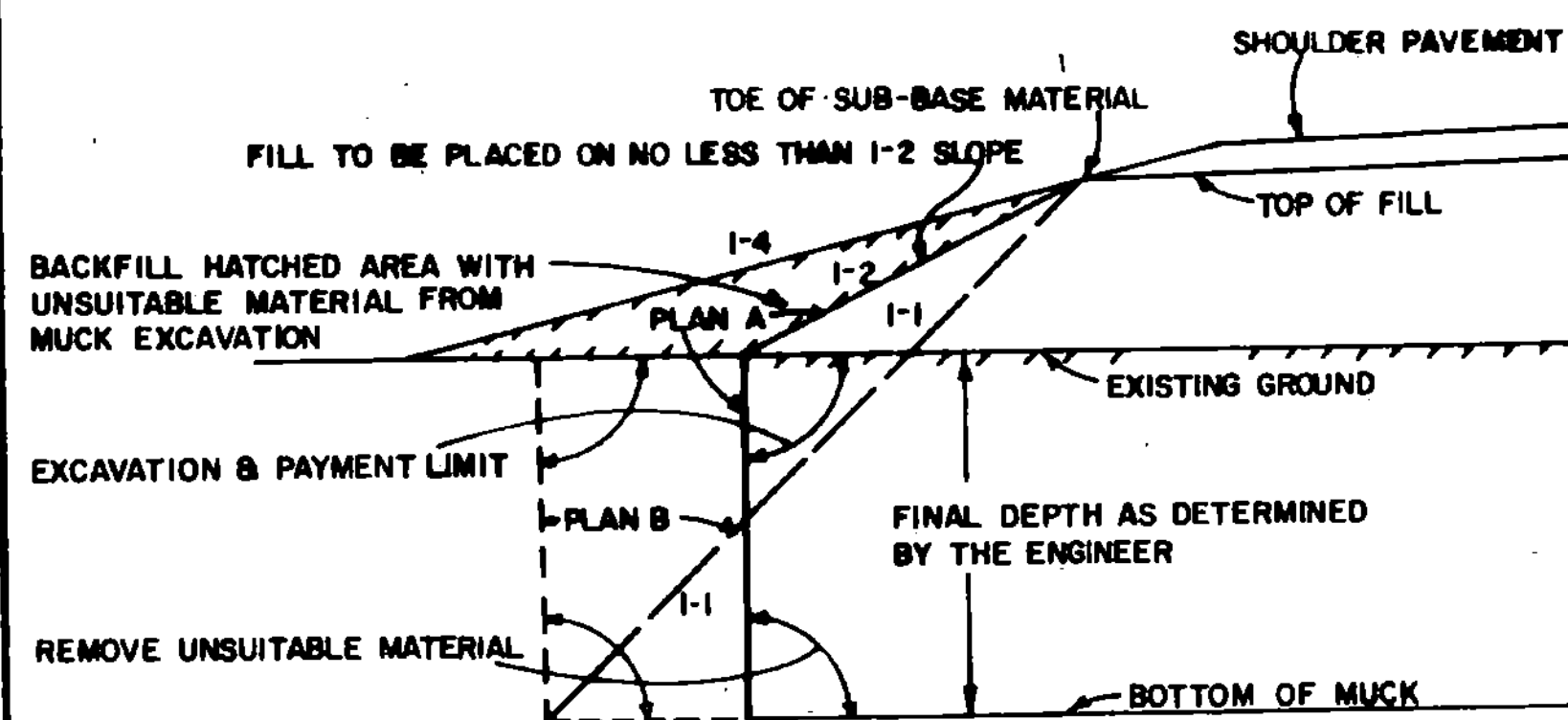
9. Add 50 LF of Guard Rail Approach Section, Type I (Mod.) to the SW, NW, and NE corners of the bridge. For details, see Standard Dwg. SB-R4B-82.

STATE OF VERMONT		AGENCY OF TRANSPORTATION	
Town Of GRAND ISLE - No HERO	Bridge No. 8	Log Sta.	
Highway No. U.S. ROUTE 2	Surv. Sta.		
U.S. 2 OVER LAKE CHAMPLAIN			
GUARD RAIL ANCHORAGE DETAILS			
Designed By D.W. NEWTON	Drawn By D.W. NEWTON		
Checked By G.S. ROGERS	Date 6/86	Bridge Design Supervisor F.W. Bolcum	Date 6/86
PROJECT STATEWIDE		PROJECT NO. F5FTY(85)	
L.C. Info.		Sheet 142 of 200	

DRAWING 44-232 04/84

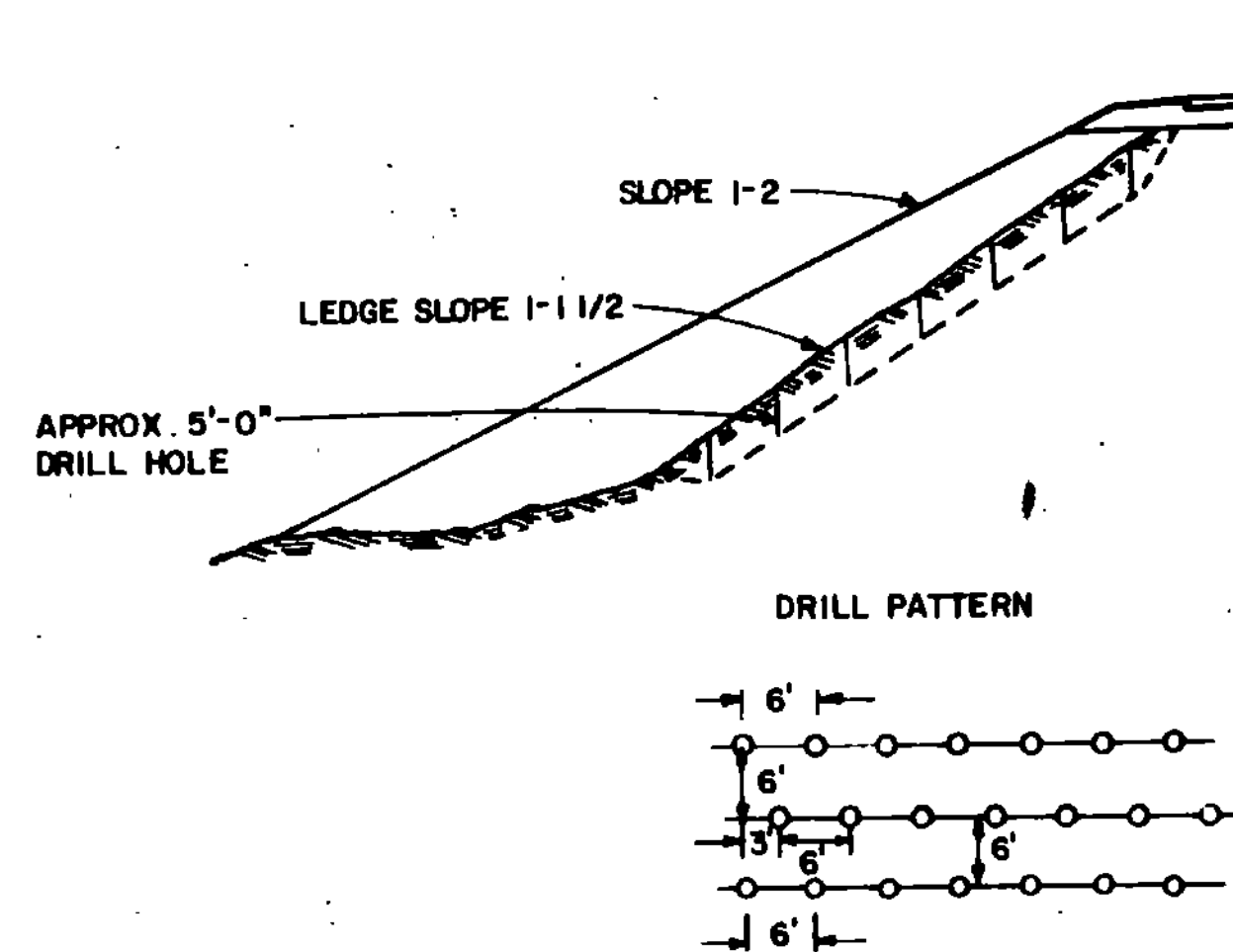


METHOD FOR CONSTRUCTING AN EMBANKMENT ON EARTH SLOPE



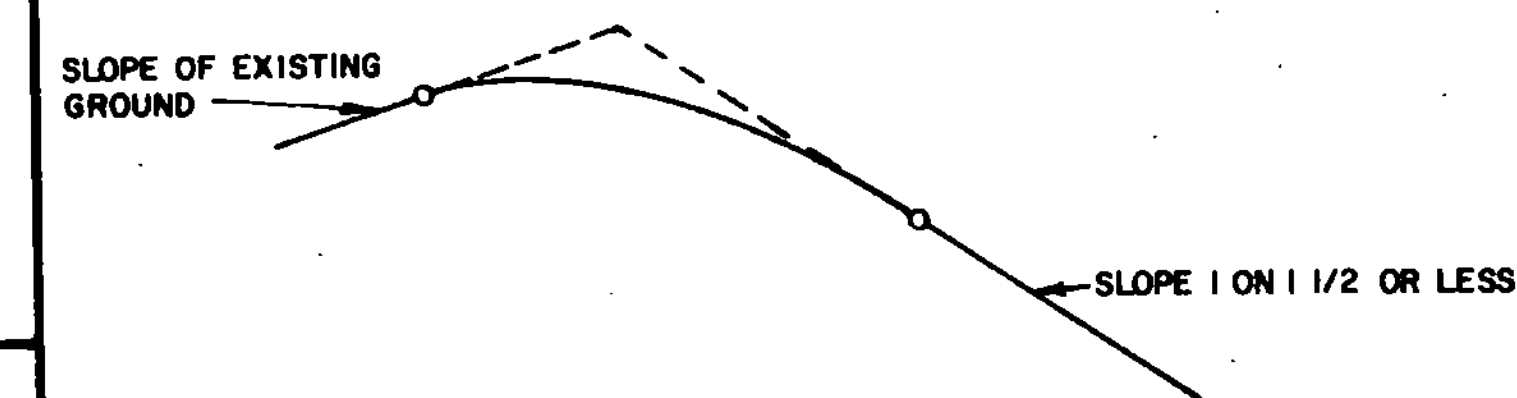
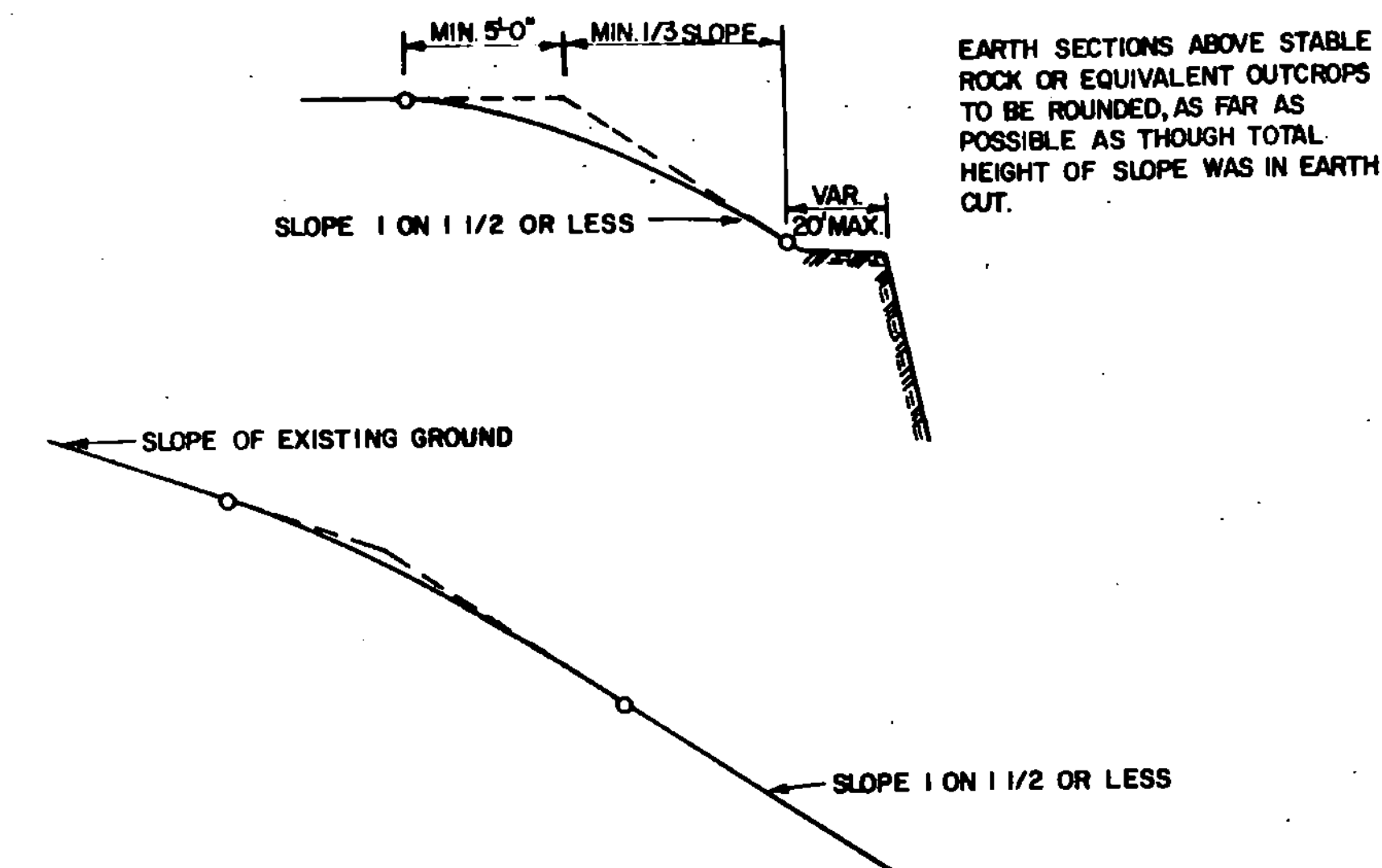
GENERAL NOTES:
 THE MUCK OR UNSUITABLE MATERIAL SHALL BE EXCAVATED TO THE NEAT LINES SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER.
 EXCAVATION AND PAYMENT LIMIT WILL BE DETERMINED FROM EITHER PLAN "A" OR PLAN "B", WHICHEVER PRODUCES THE GREATER WIDTH IN A GIVEN MUCK AREA.
 BACKFILL MATERIAL MUST MEET THE REQUIREMENTS SET FORTH UNDER MUCK EXCAVATION, SECTION 203.

TYPICAL NEAT PAY LINES FOR MUCK EXCAVATION



DRILLING AND BLASTING OF SOLID ROCK.
 PROCEDURE TO BE FOLLOWED WHEN LEDGE SLOPE ON OLD GROUND IS BETWEEN A 1 ON 1 AND A 1 ON 5 SLOPE.
 ALL HOLES TO BE APPROXIMATELY 5'-0" DEEP. HOLES TO BE IN ROWS, SPACED AND STAGGERED AS SHOWN IN DRILL PATTERN, OR AS DIRECTED BY THE ENGINEER, SEE SECTION 205.

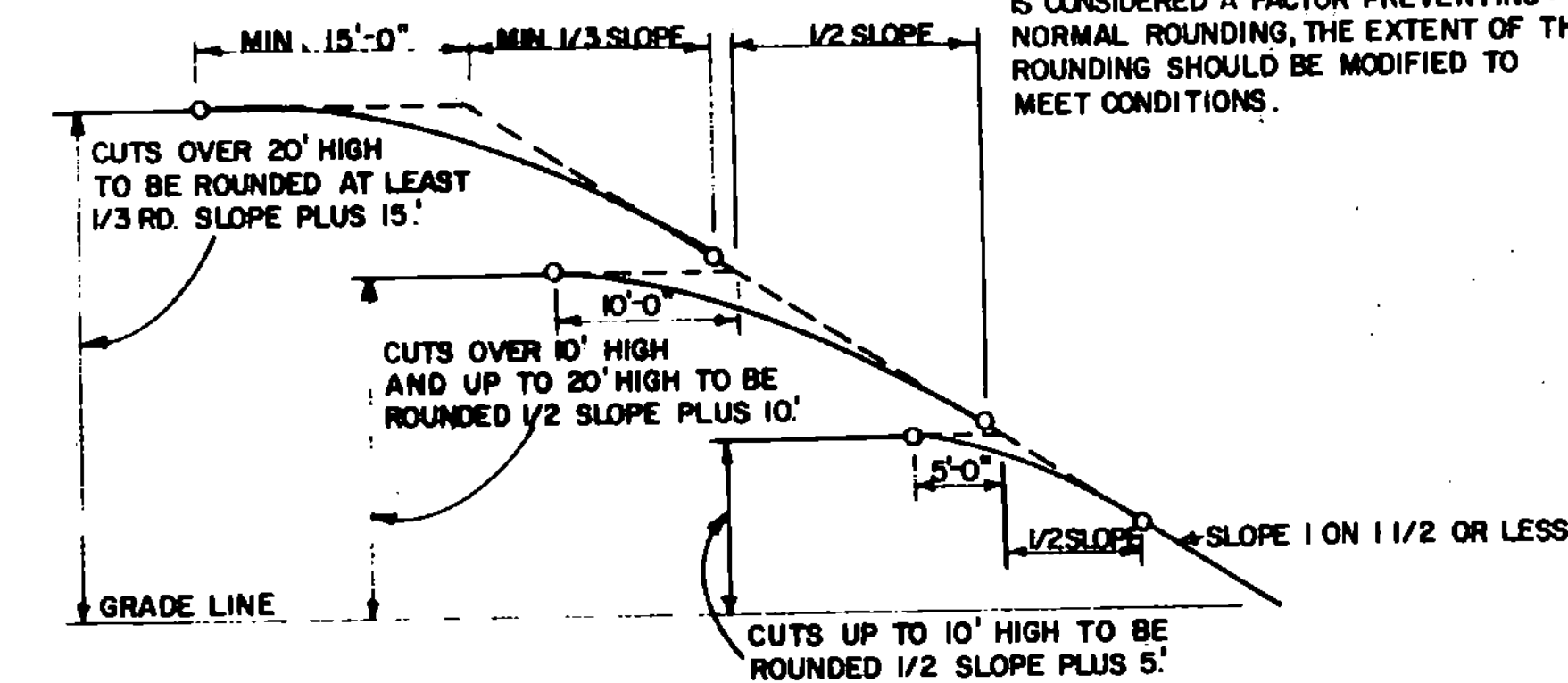
A METHOD FOR PREPARING LEDGE SLOPE BEFORE CONSTRUCTING AN EMBANKMENT



SLOPES TO BE ROUNDED AS SHOWN IN ORDER TO ALLOW FOR PERSPECTIVE FORESHORTENING AS SEEN FROM THE ROAD AND SO THAT FINISHED SLOPES WILL BETTER SUPPORT VEGETATIVE COVER.

ROUNDING TO MERGE WITH EXISTING GROUND SURFACE SO THAT NO HARD GRADE LINE WILL REMAIN WITHIN THE LINE OF SIGHT.

WHEN STEEPNESS OF EXISTING GROUND OR PRESENCE OF EXISTING VEGETATION IS CONSIDERED A FACTOR PREVENTING NORMAL ROUNDING, THE EXTENT OF THE ROUNDING SHOULD BE MODIFIED TO MEET CONDITIONS.



TYPICAL SLOPE ROUNDING

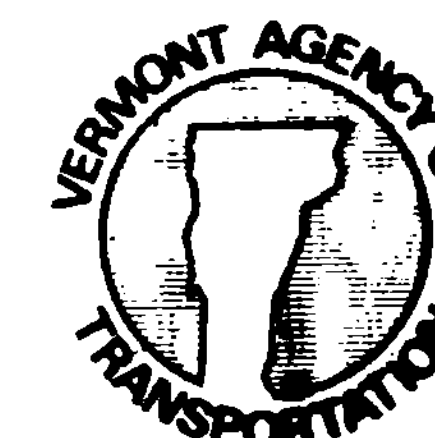
REVISIONS AND CORRECTIONS

APPROVED:

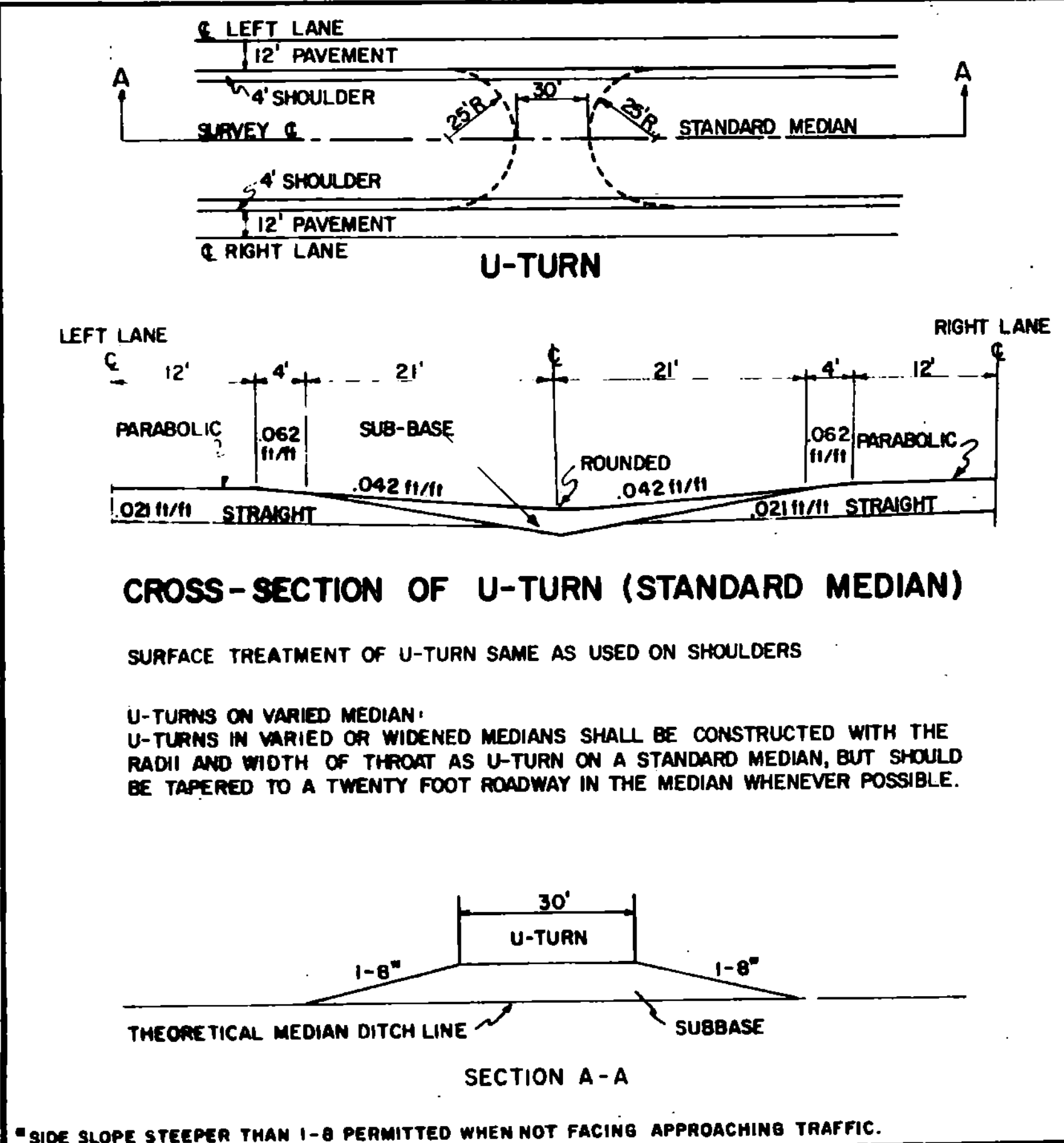
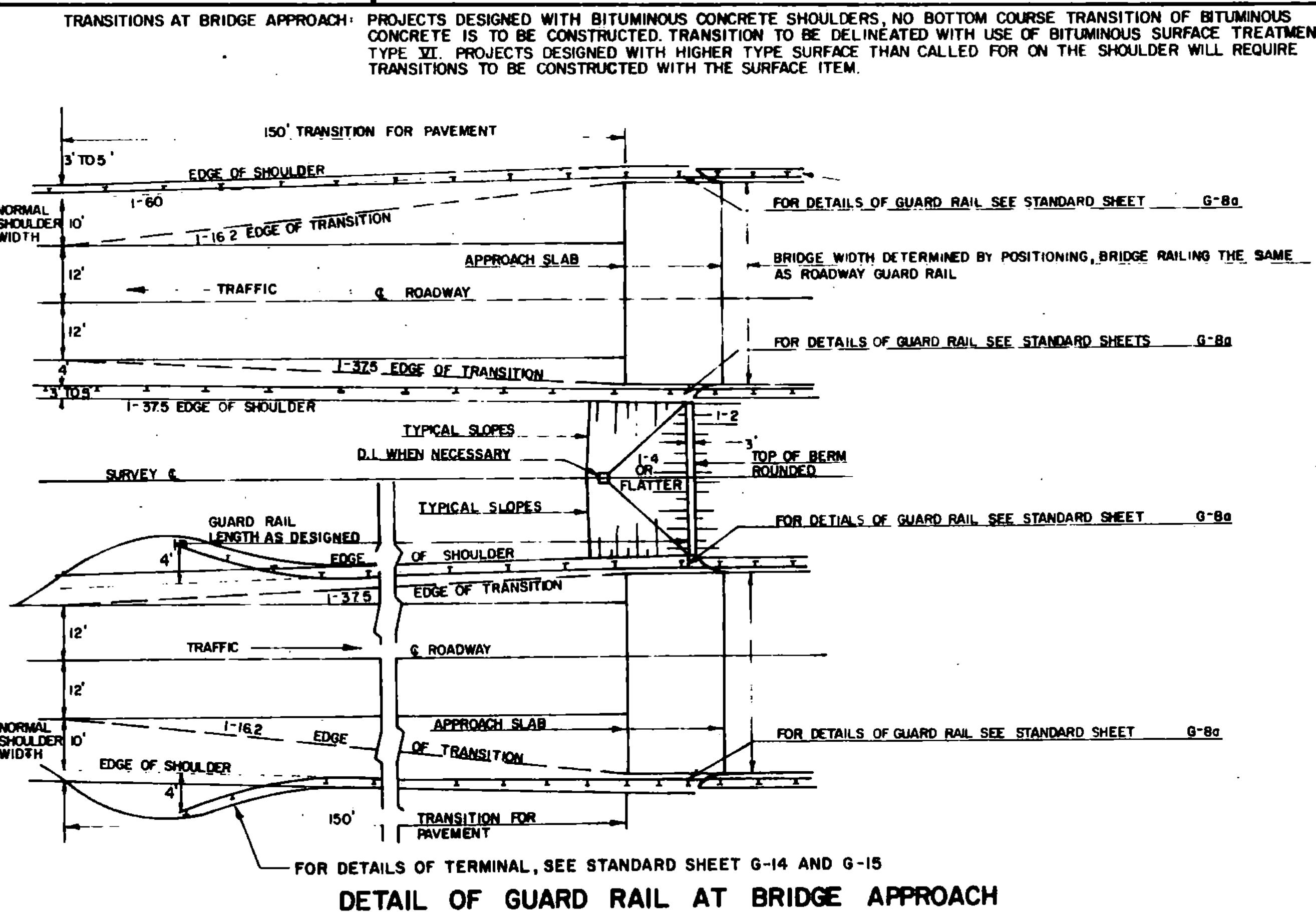
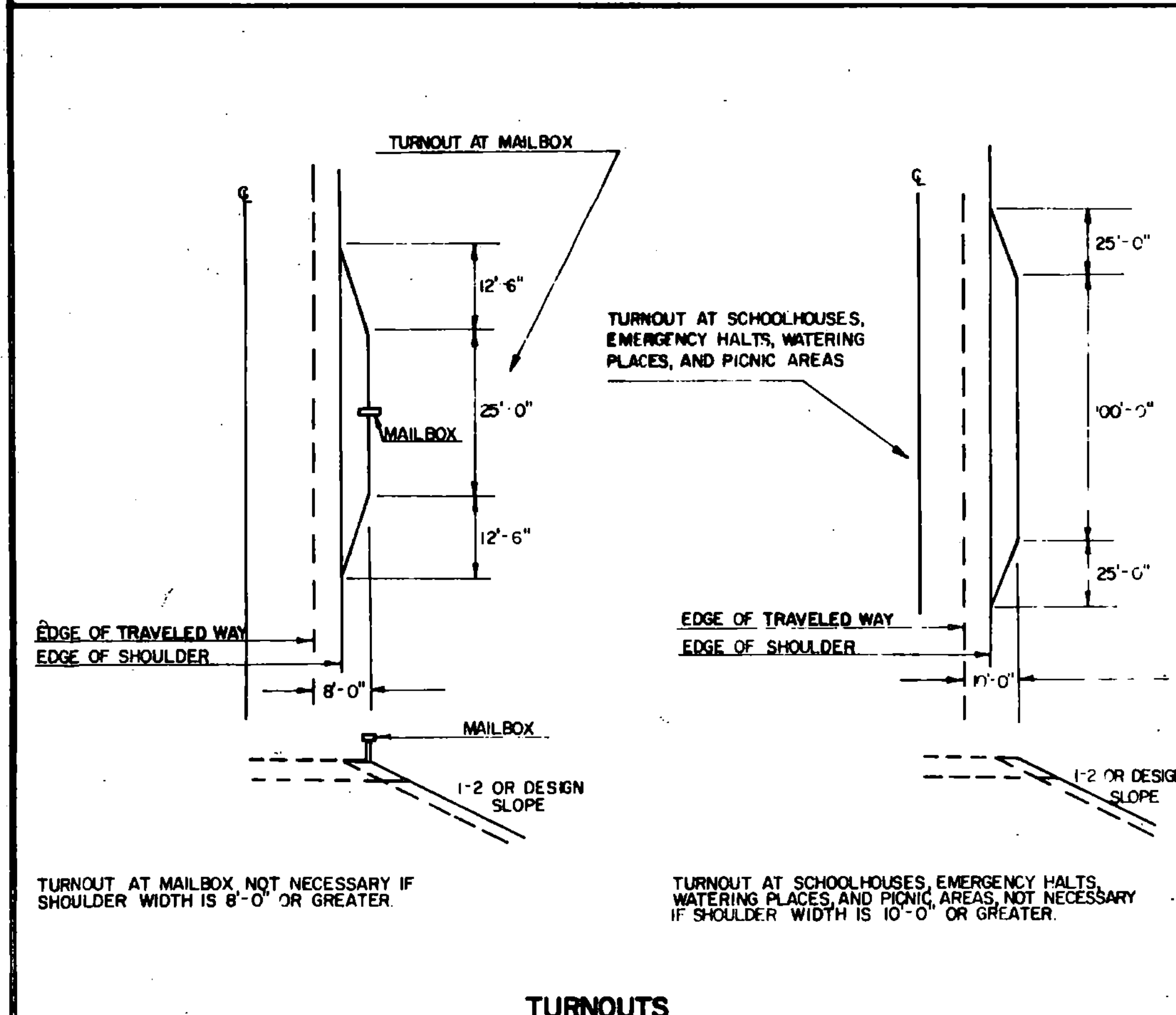
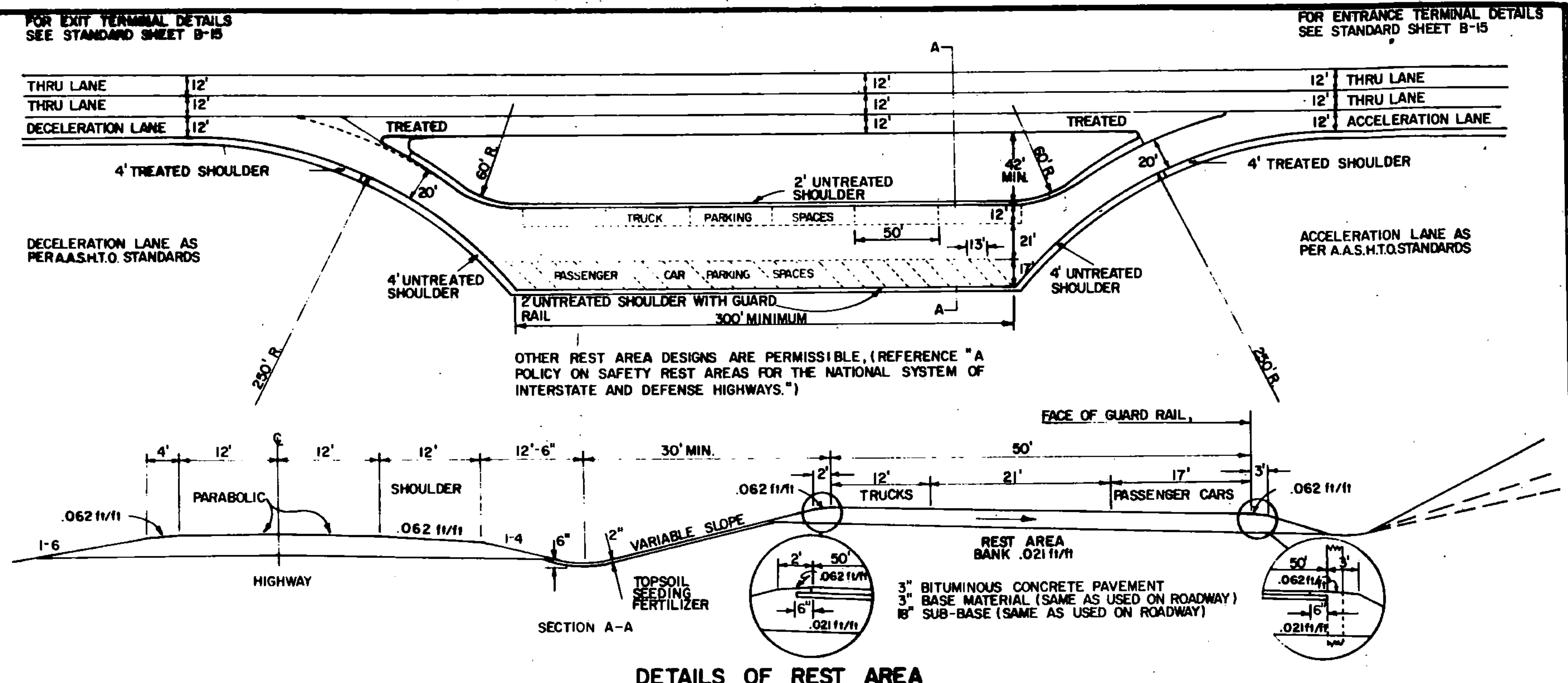
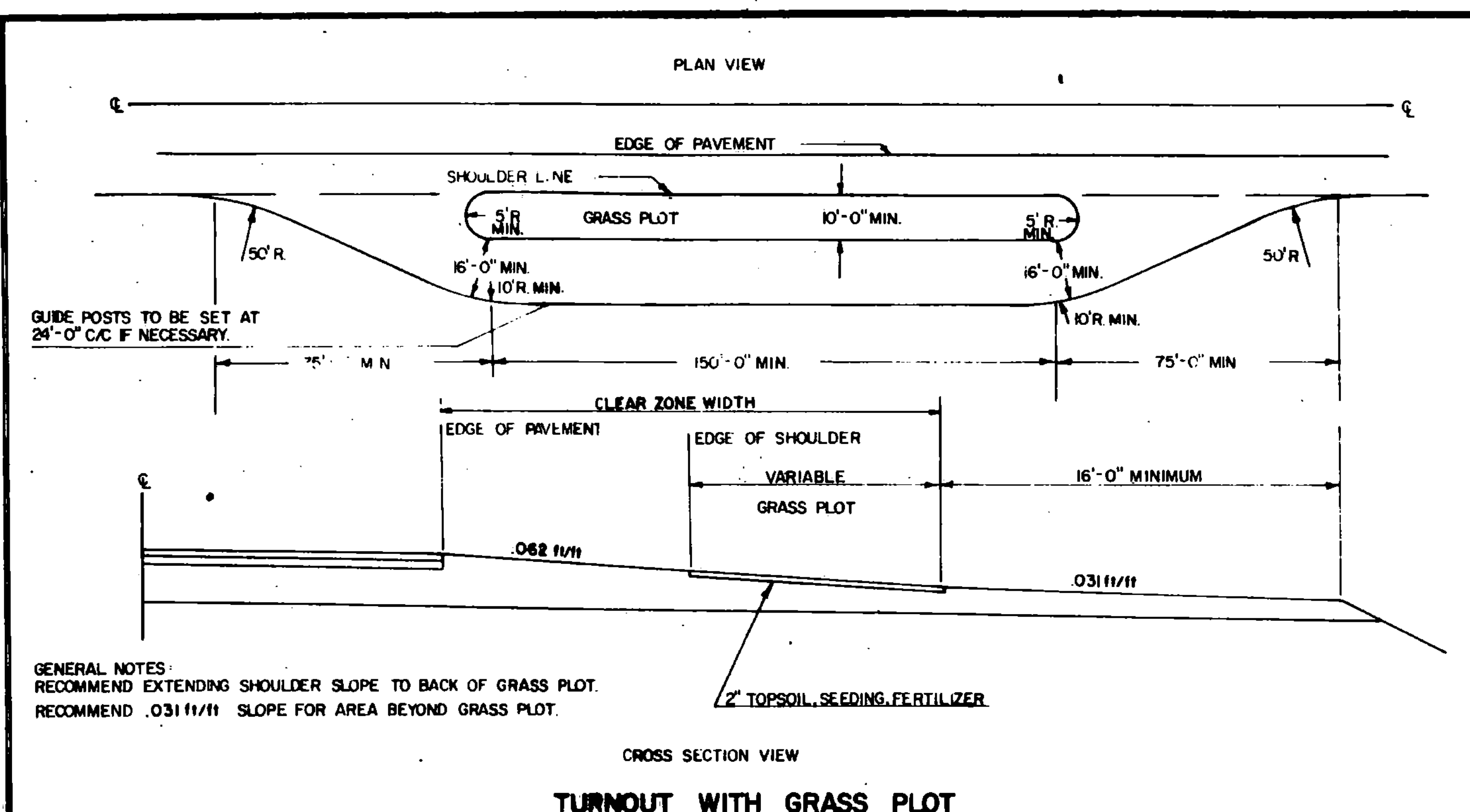
DATE Dec 6, 1971

R.H. Arnold
 CHIEF ENGINEER
E.H. Stinchney
 ASST. CHIEF ENGINEER
G.M. Lane
 HIGHWAY ENGINEER

**EMBANKMENT ON EARTH SLOPE
 EMBANKMENT ON ROCK SLOPE
 MUCK EXCAVATION
 TYPICAL SLOPE ROUNDING**



**STANDARD
 B-5**



REVISIONS AND CORRECTIONS

DEC. 19, 1972 REFERENCE TO G-8 REMOVED
CEDAR LOG GUARD RAIL REMOVED FROM REST AREA.

JUNE 11, 1973 G-8 ADDED TO EXIT SIDE OF STRUCTURES.

DEC. 16, 1980 INCREASED SHOULDER WIDENING FOR GUARDRAIL;
ADDED CLEAR ZONE WIDTH TO DETAIL OF TURNOUT
W/GRASS PLOT; ADDED SECTION A-A FOR U-TURN.

OCT. 25, 1985 REVISED TO CONFORM TO 1986 SPECIFICATIONS,
GUARD RAIL AT BRIDGE APPROACHES

APPROVED

LATE: Dec. 9, 1971

R. W. Arnold
CHIEF ENGINEER

E. H. Stichevey
ASST. CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

DETAIL OF GUARD RAIL AT BRIDGE APPROACH

DETAIL OF REST AREA

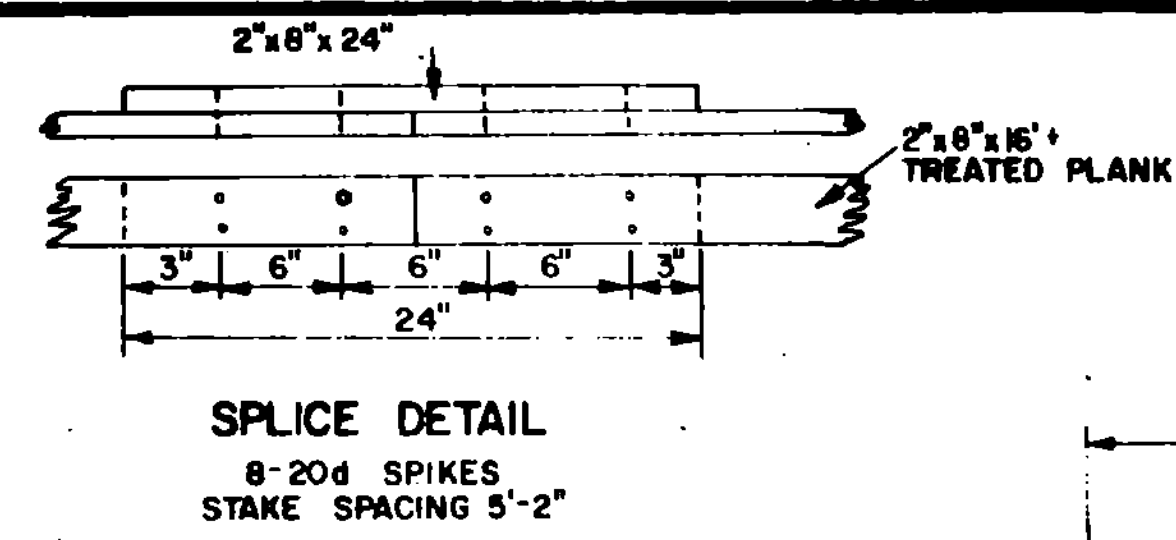
DETAIL OF U-TURN

TURNOUTS

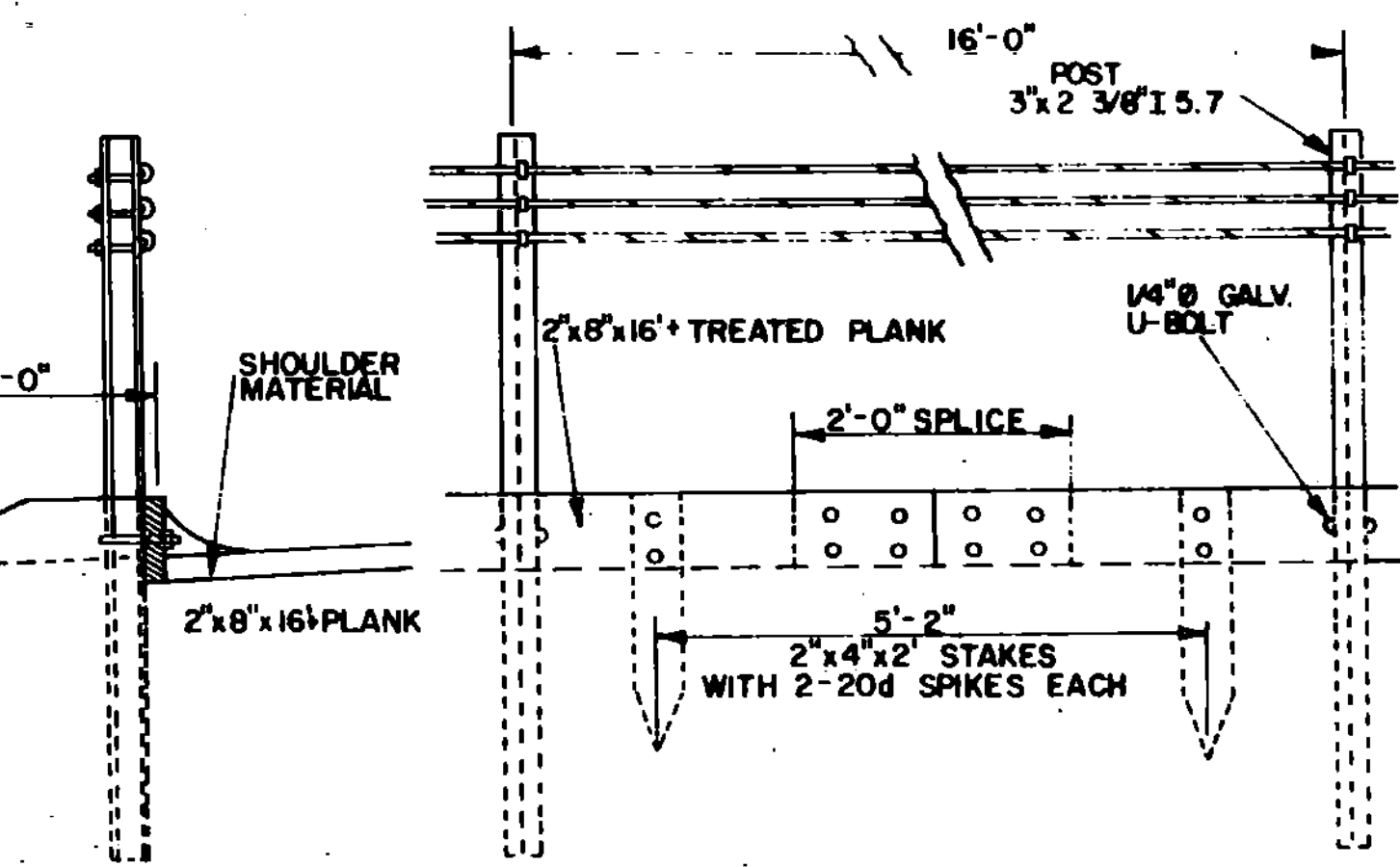
VERMONT AGENCY OF TRANSPORTATION

STANDARD

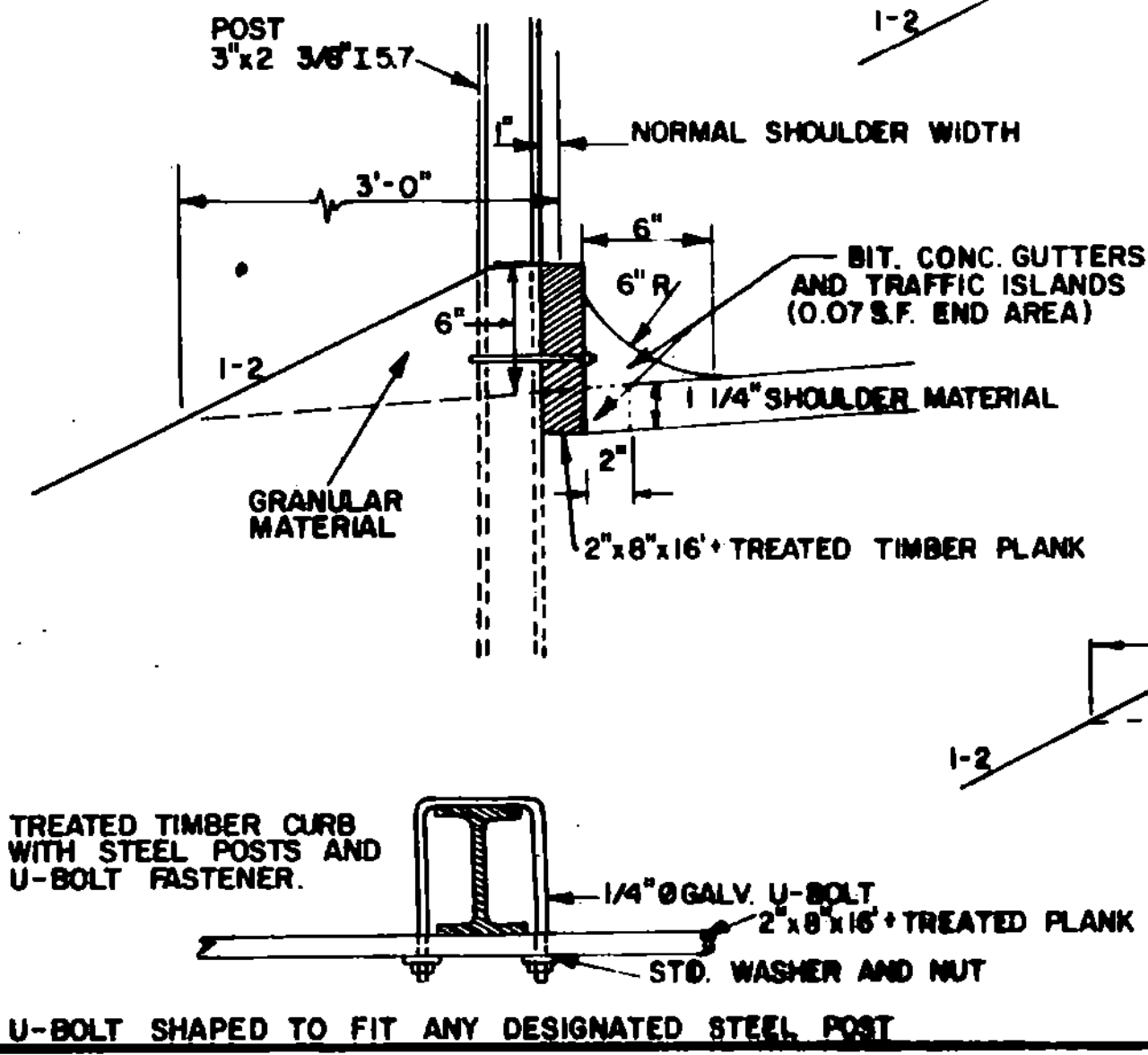
B-17



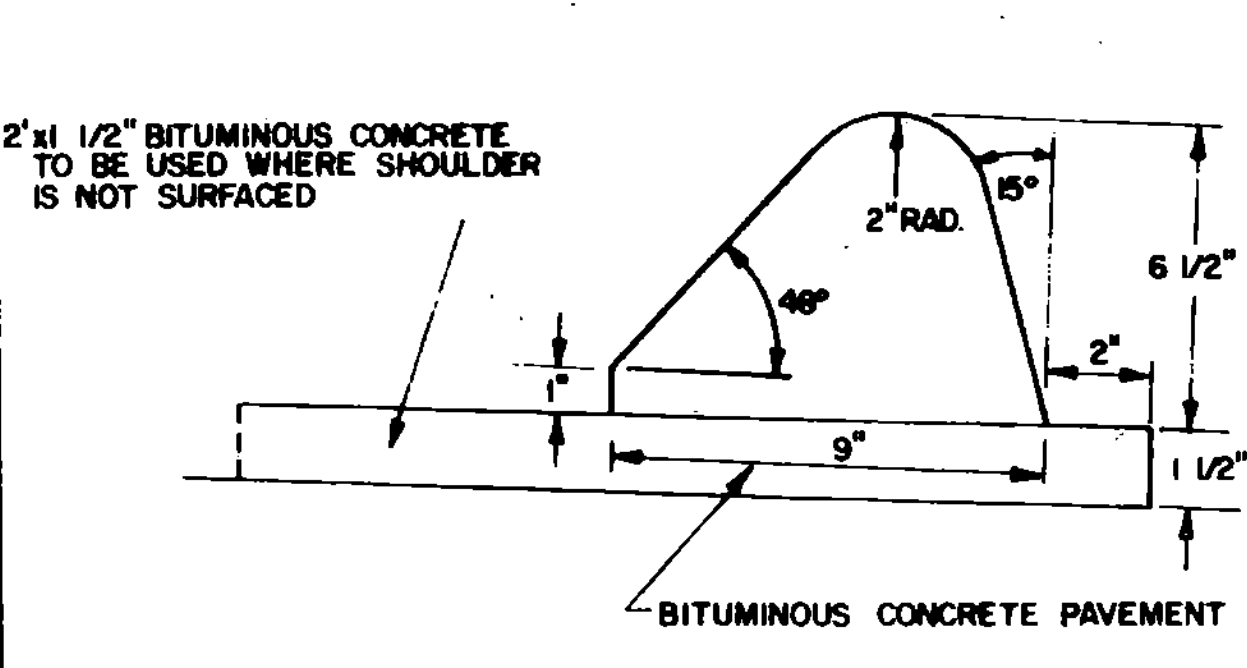
SPLICE DETAIL
8-20d SPIKES
STAKE SPACING 5'-2"



TREATED TIMBER CURB with CABLE GUARD RAIL



TREATED TIMBER CURB with STEEL BEAM GUARD RAIL

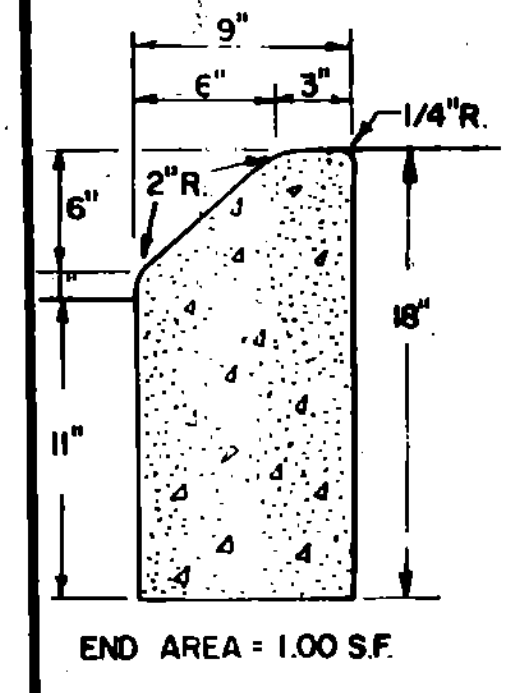


BITUMINOUS CONCRETE CURB, TYPE A

CURB SURFACE TO BE TREATED (TWO COATS) AFTER CURB HAS BEEN IN PLACE 7 DAYS WITH EMULSIFIED BITUMINOUS MATERIAL.

2" x 1/2" BITUMINOUS CONCRETE TO BE USED WHERE SHOULDER IS NOT SURFACED

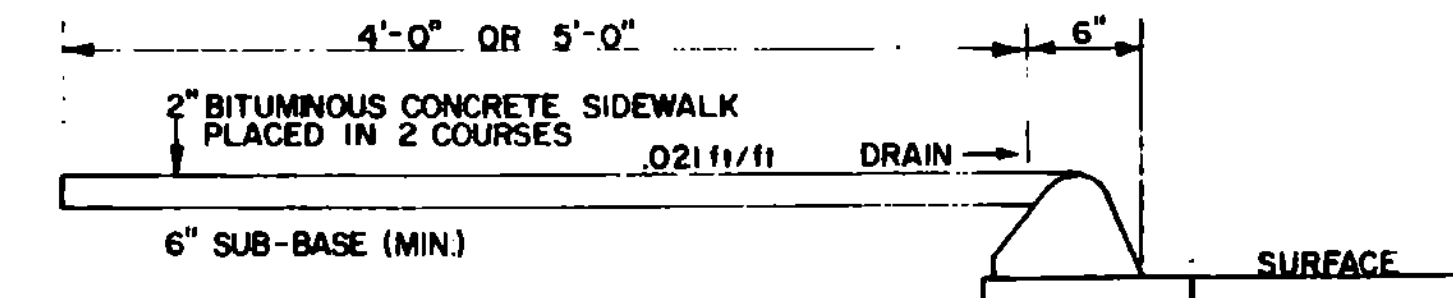
WEIGHT OF CURB = 40.4 LBS./LF. (FOR ESTIMATING TONNAGE)



CAST IN PLACE CONCRETE CURB, TYPE A

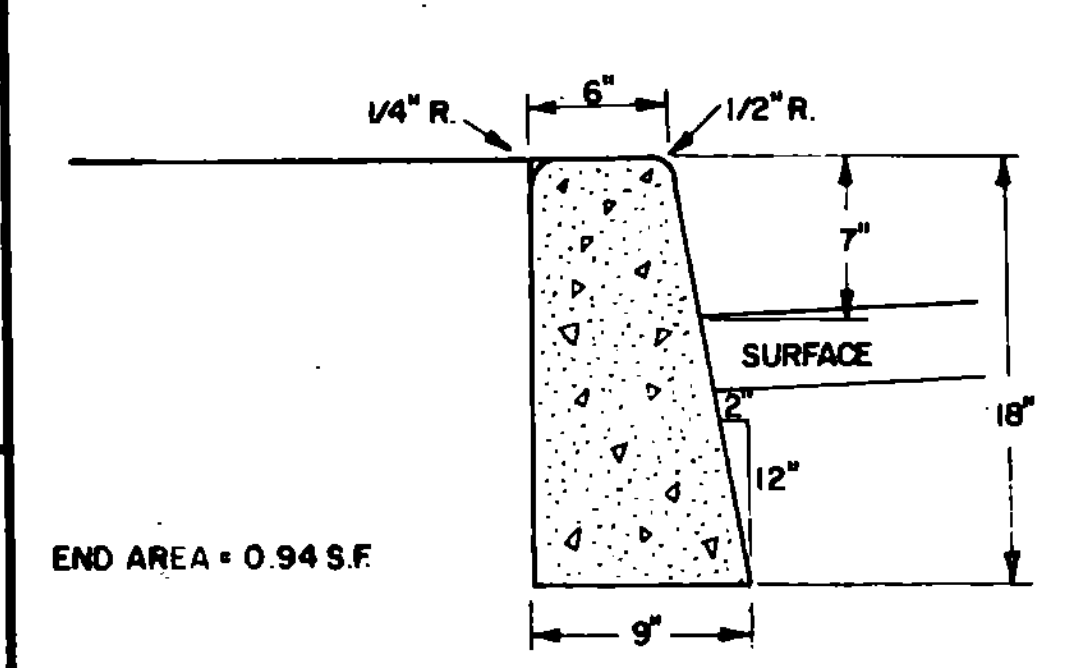
WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDEWALK AND CURB.

SEE SPECIFICATIONS FOR DETAILS ON EXPANSION AND CONSTRUCTION JOINTS.



BITUMINOUS CONCRETE SIDEWALK

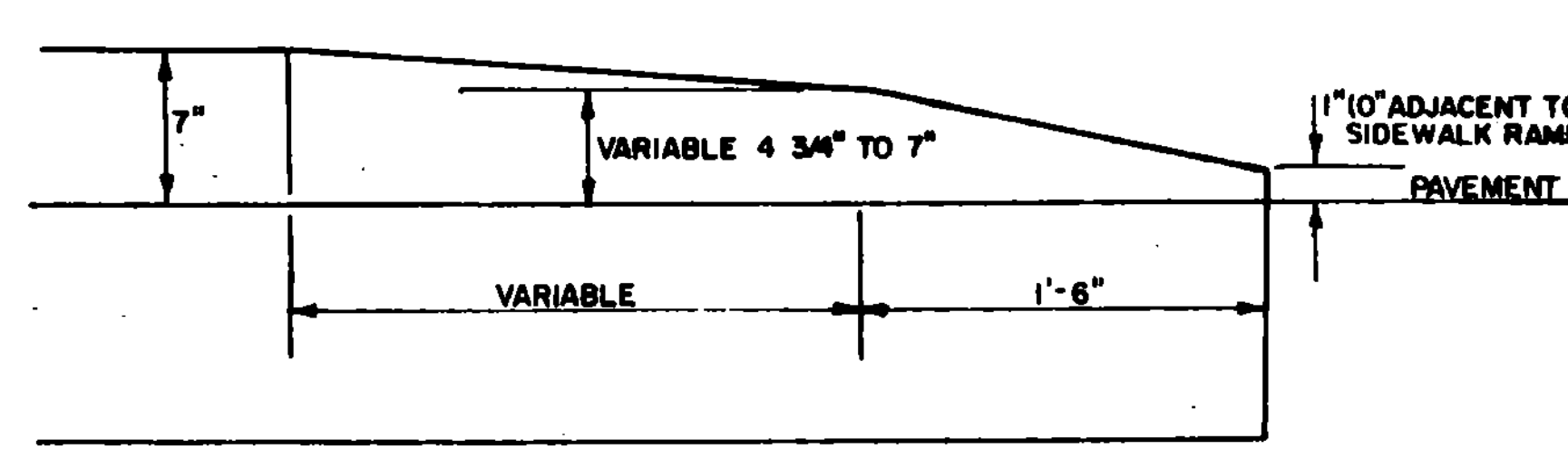
CURB SURFACE TO BE TREATED (TWO COATS), AFTER CURB HAS BEEN IN PLACE 7 DAYS, WITH EMULSIFIED BITUMINOUS MATERIAL.



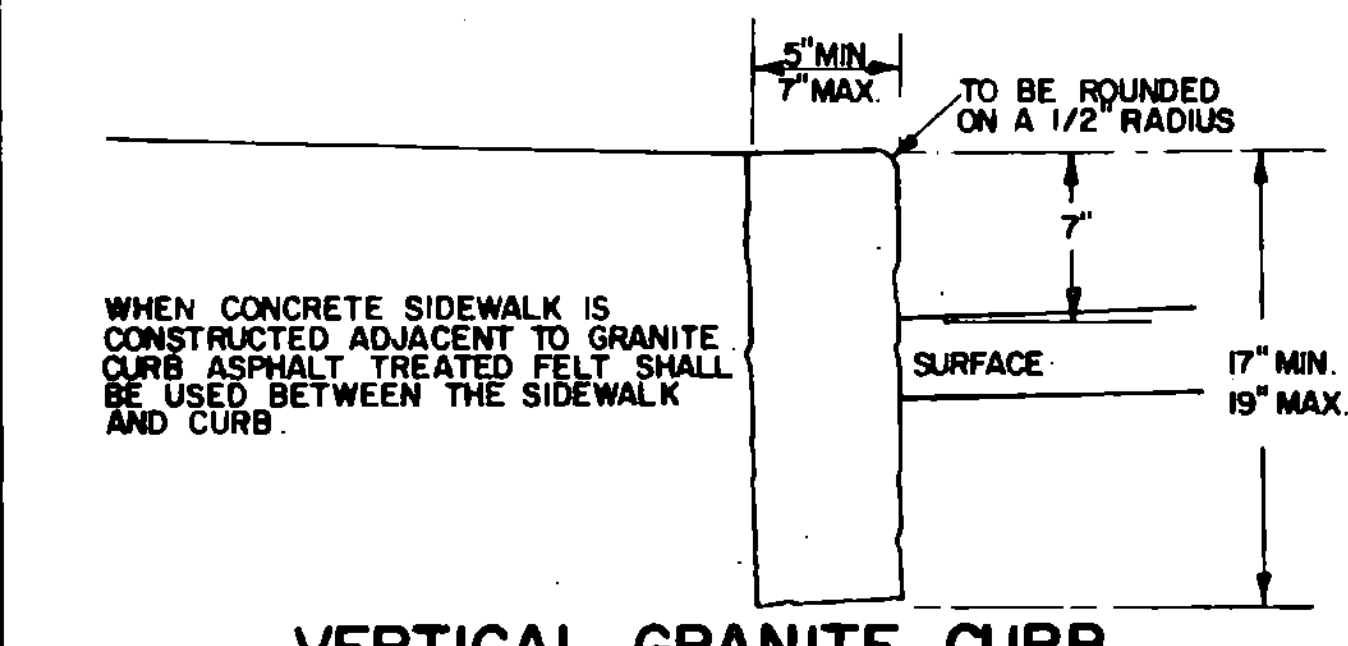
CAST IN PLACE CONCRETE CURB, TYPE B

WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDEWALK AND CURB.

SEE SPECIFICATIONS FOR DETAILS ON EXPANSION AND CONSTRUCTION JOINTS.

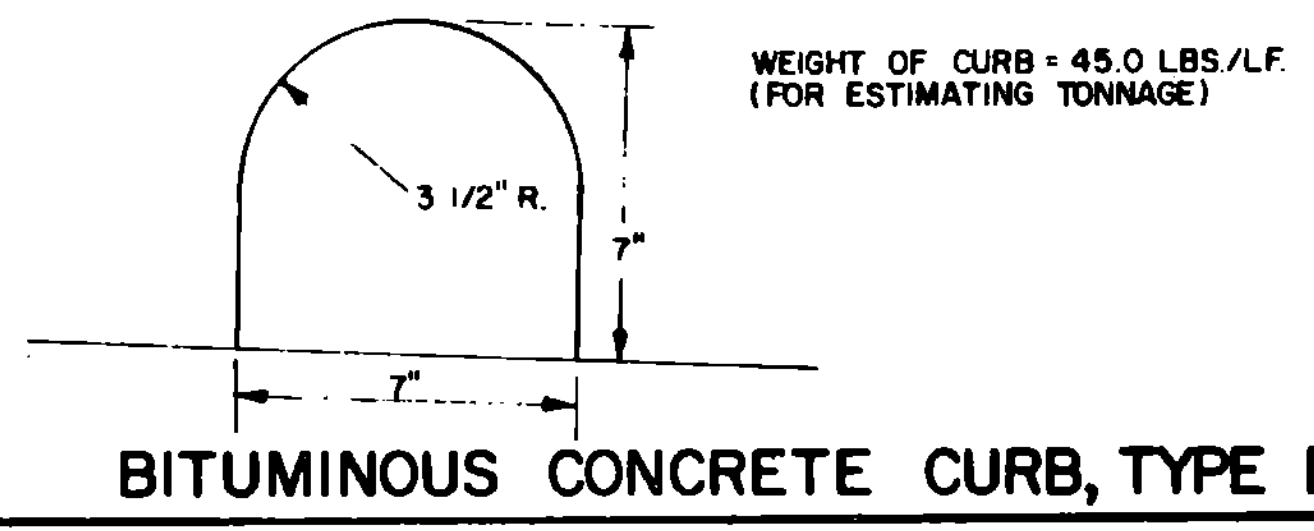


DETAIL OF CONCRETE CURB END FOR PRECAST REINFORCED CONCRETE CURB OR CAST IN PLACE CONCRETE CURB



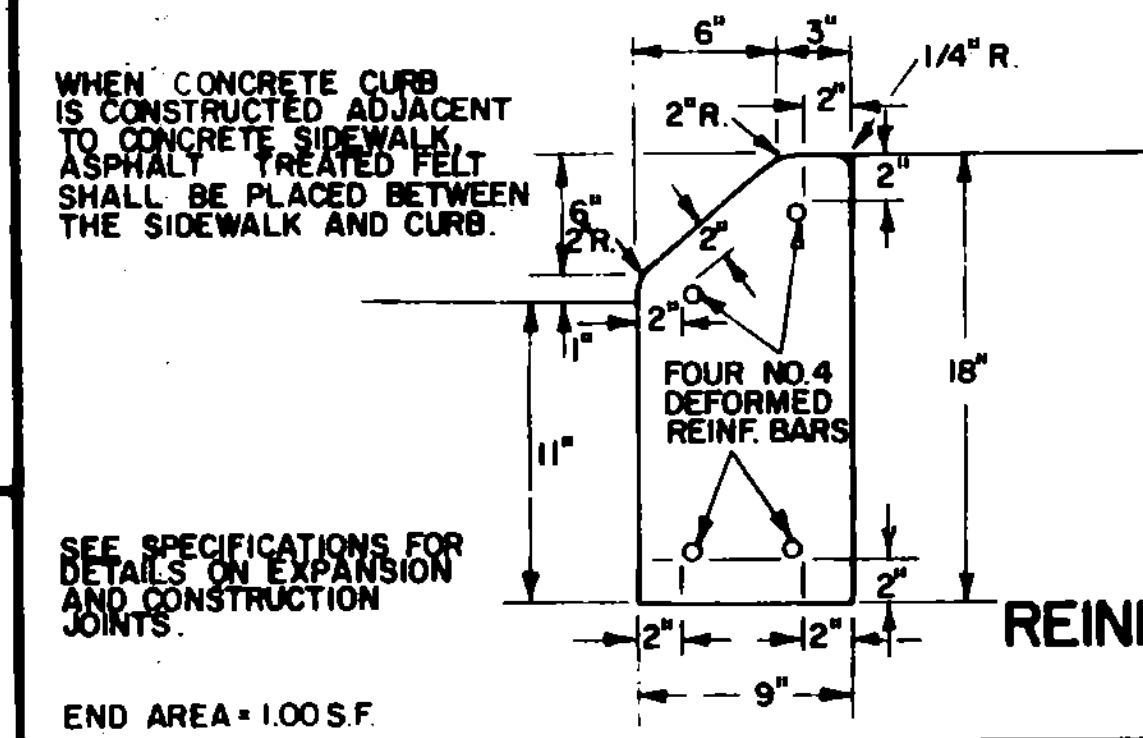
VERTICAL GRANITE CURB

WHEN CONCRETE SIDEWALK IS CONSTRUCTED ADJACENT TO GRANITE CURB ASPHALT TREATED FELT SHALL BE USED BETWEEN THE SIDEWALK AND CURB.



BITUMINOUS CONCRETE CURB, TYPE B

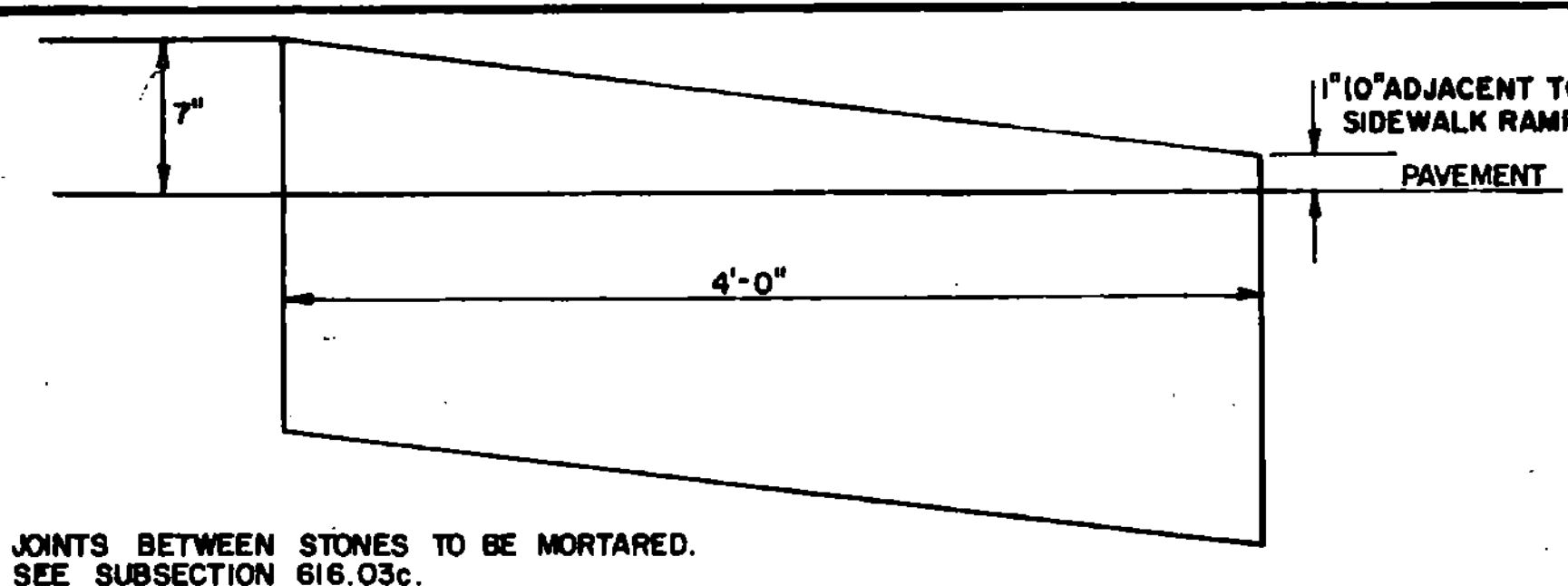
WEIGHT OF CURB = 45.0 LBS./LF. (FOR ESTIMATING TONNAGE)



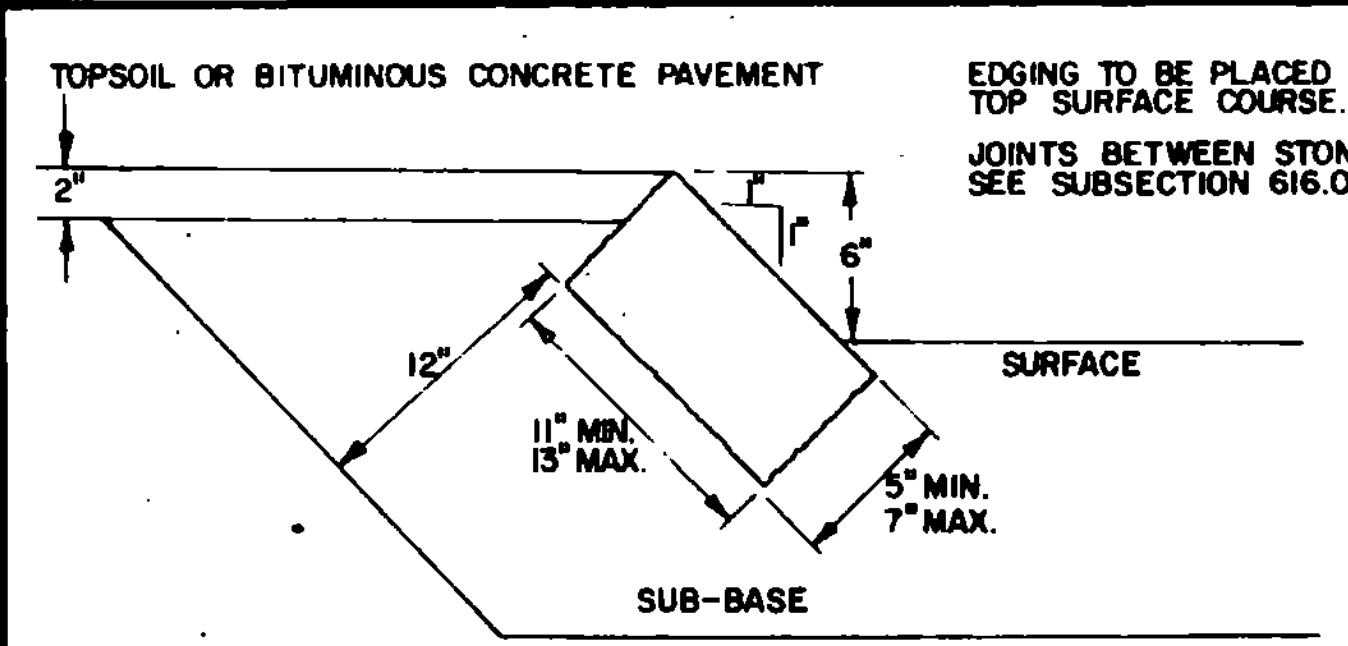
PRECAST REINFORCED CONCRETE CURB, TYPE A

WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDEWALK AND CURB.

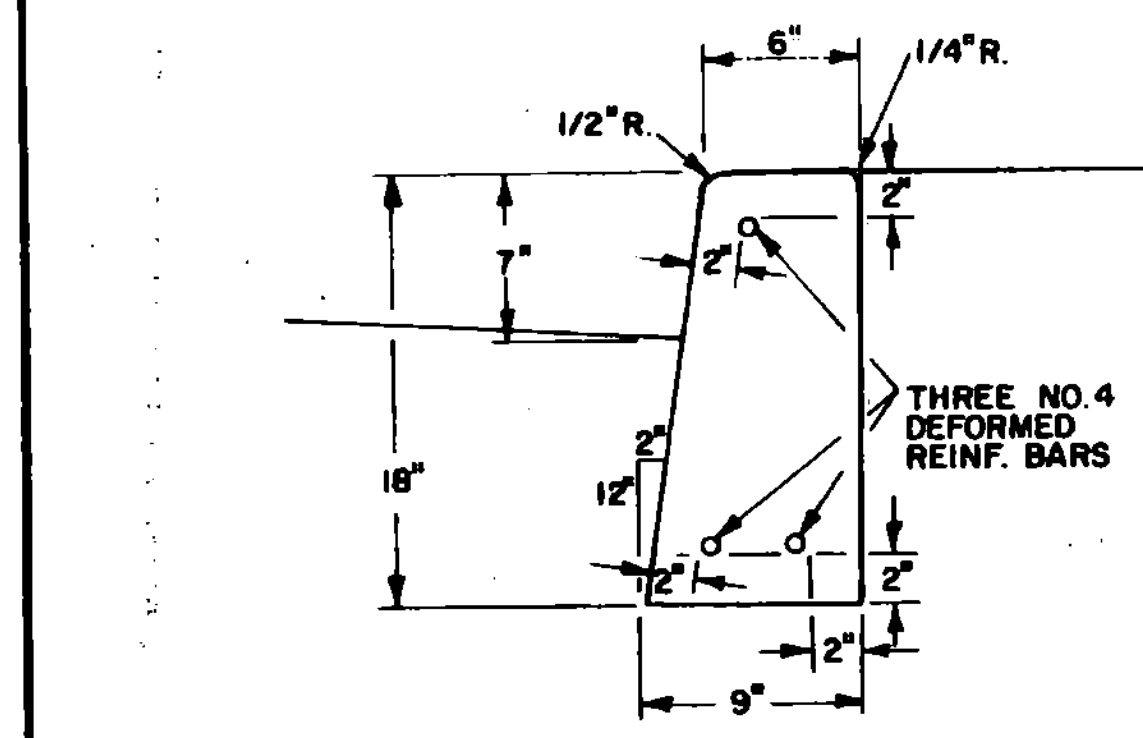
SEE SPECIFICATIONS FOR DETAILS ON EXPANSION AND CONSTRUCTION JOINTS.



DETAIL OF GRANITE CURB END FOR VERTICAL GRANITE CURB



GRANITE SLOPE EDGING



PRECAST REINFORCED CONCRETE CURB, TYPE B

WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDEWALK AND CURB.

SEE SPECIFICATIONS FOR DETAILS ON EXPANSION AND CONSTRUCTION JOINTS.

REVISIONS AND CORRECTIONS

AUG. 30, 1973 - TREATED TIMBER PLANK INCREASED TO 8" SIZE.

MAY 7, 1976 - TREATED TIMBER CURB HEIGHT INCREASED FROM 4 1/2" TO 6"

DEC. 16, 1980 - INCREASED SHOULDER WIDENING FOR GUARD RAIL.

OCT. 25, 1986 - REVISED TO CONFORM TO 1986 SPECIFICATIONS REPLACED DETAILS OF TIMBER CURB WITH 2 CABLE GUARD RAIL TO ONE WITH STEEL BEAM GUARD RAIL.

APPROVED:

DATE: Dec. 8, 1971

R.H. Arnold
CHIEF ENGINEER

E.H. Stinchney
ASST. CHIEF ENGINEER

G.M. Lane
HIGHWAY ENGINEER

GRANITE SLOPE EDGING

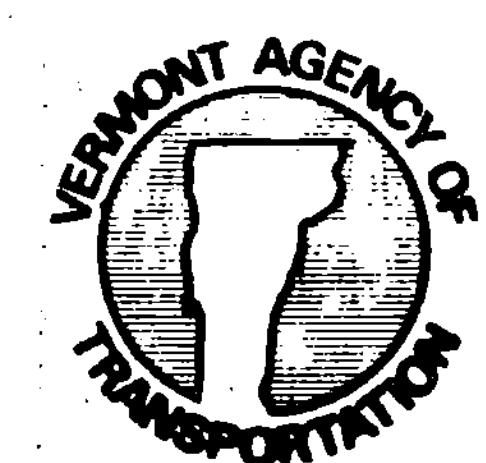
VERTICAL GRANITE CURB

PRECAST REINFORCED CONCRETE CURB

CAST IN PLACE CONCRETE CURB

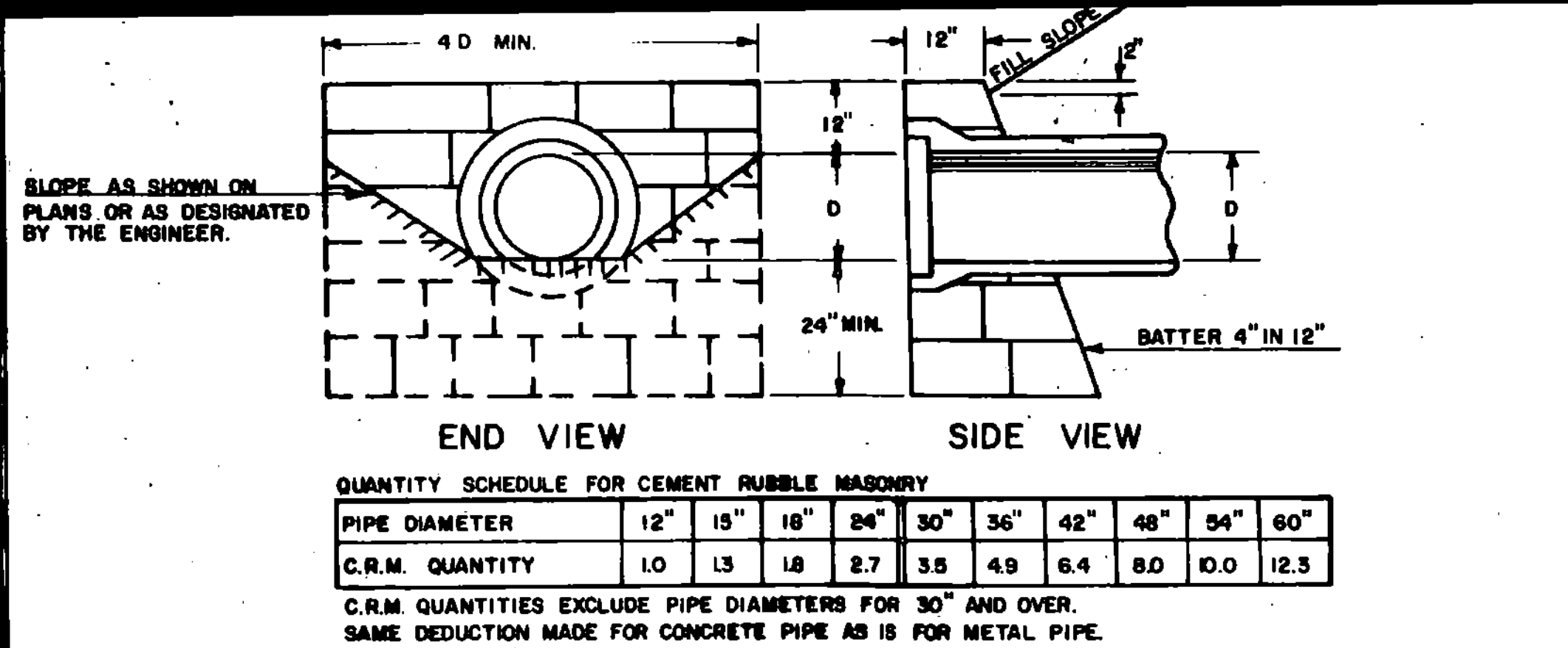
BITUMINOUS CONCRETE CURB

TREATED TIMBER CURB

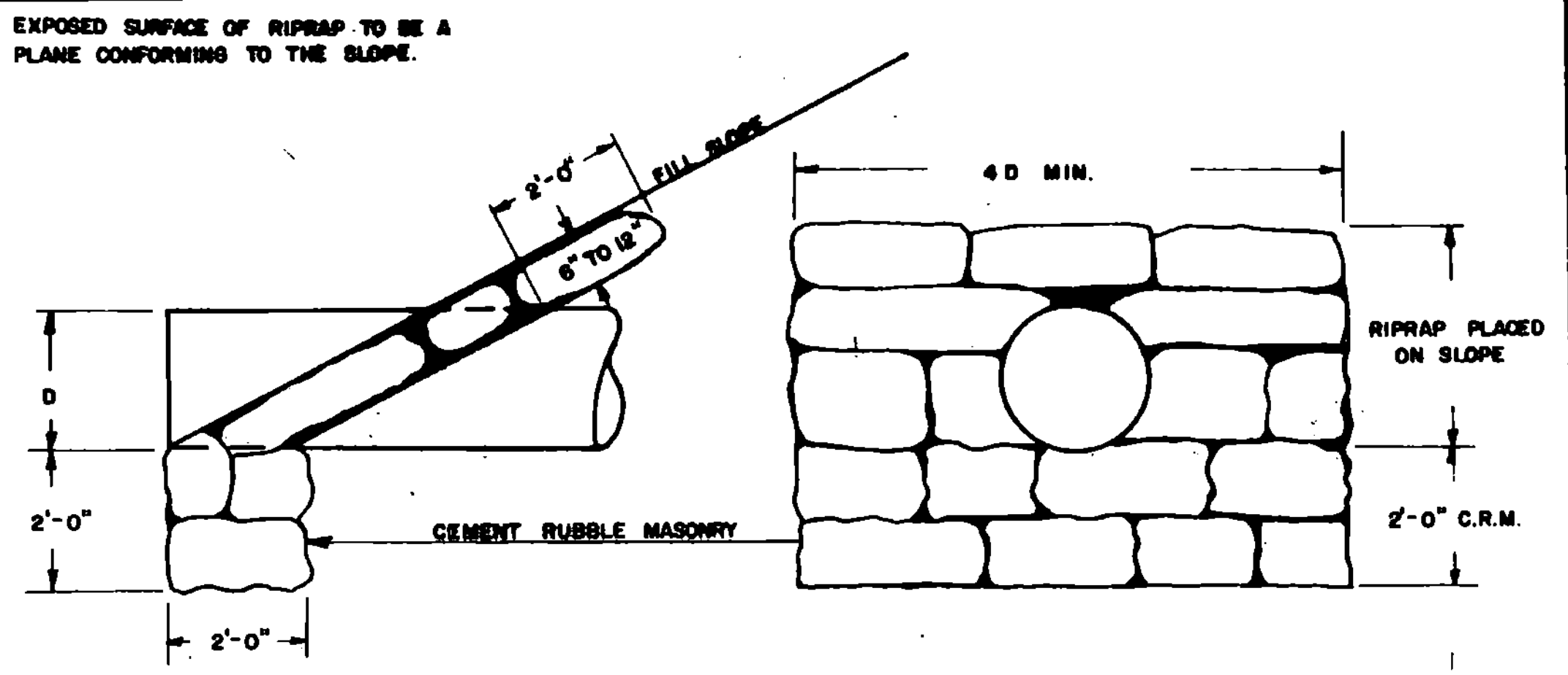


STANDARD

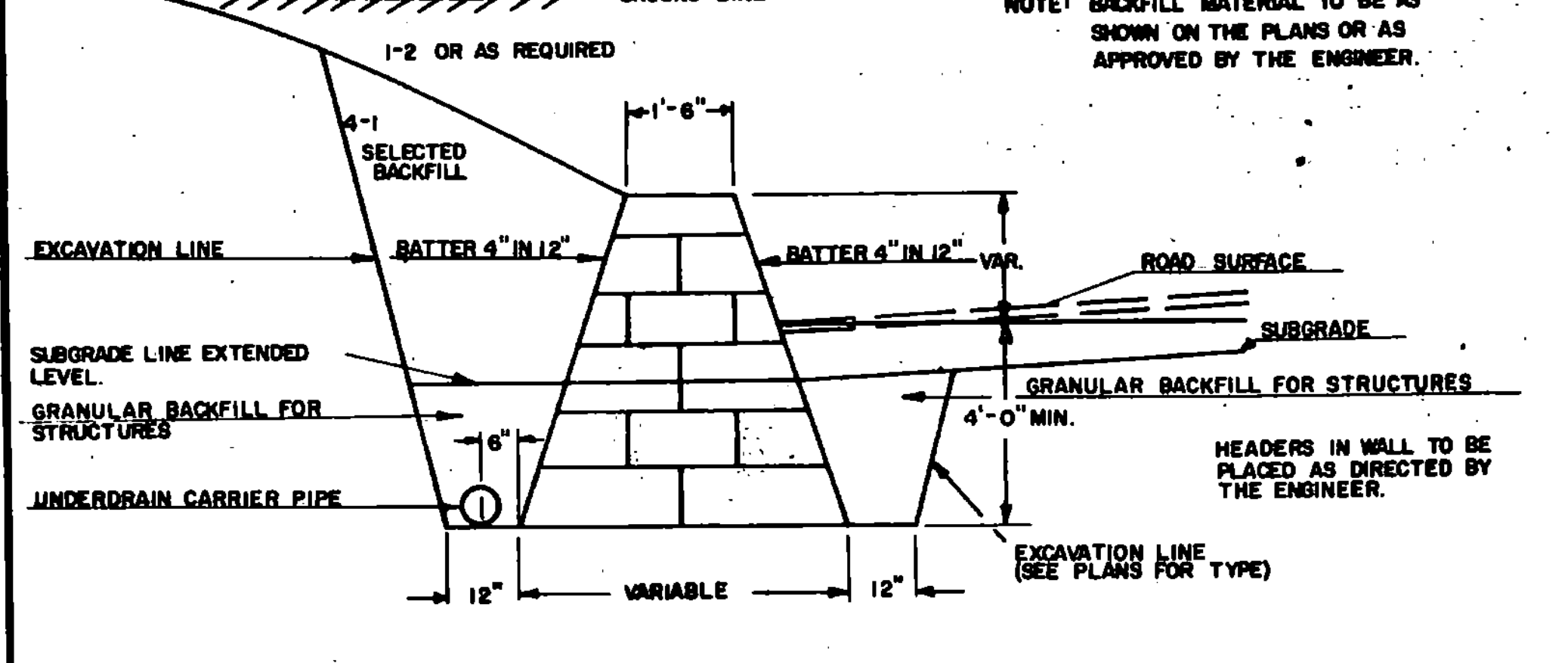
C-1



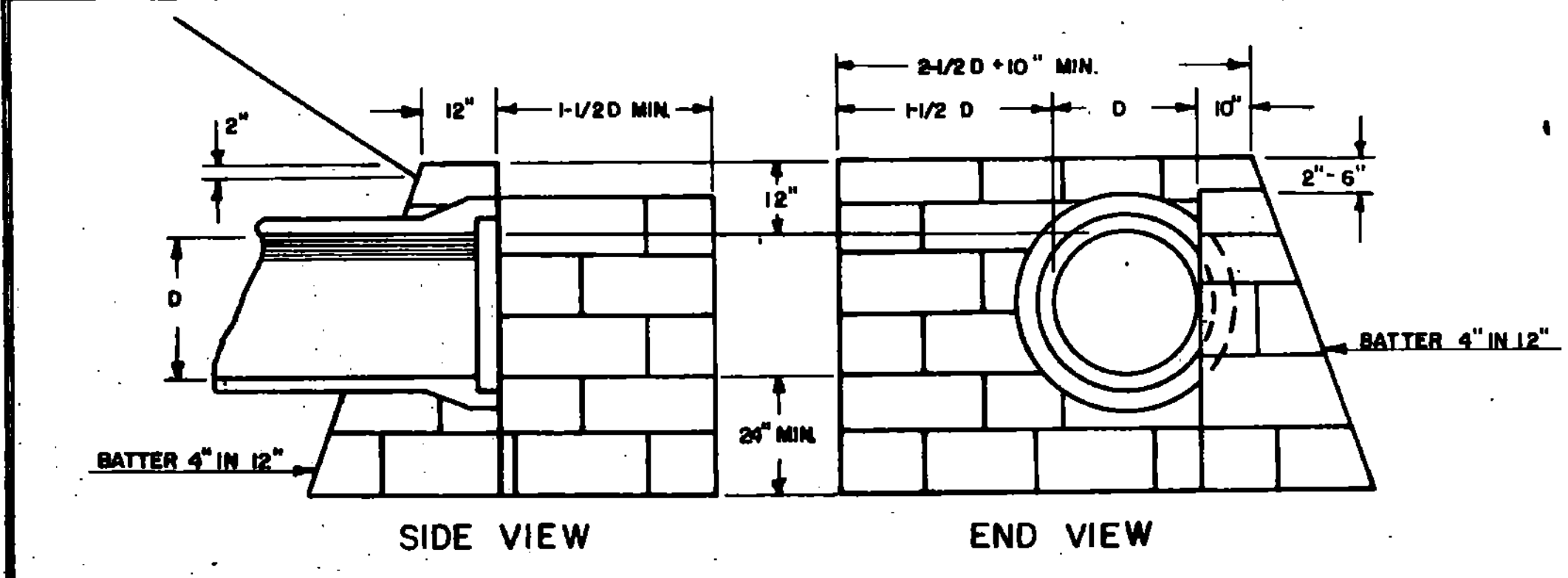
CEMENT RUBBLE MASONRY STRAIGHT HEADWALL



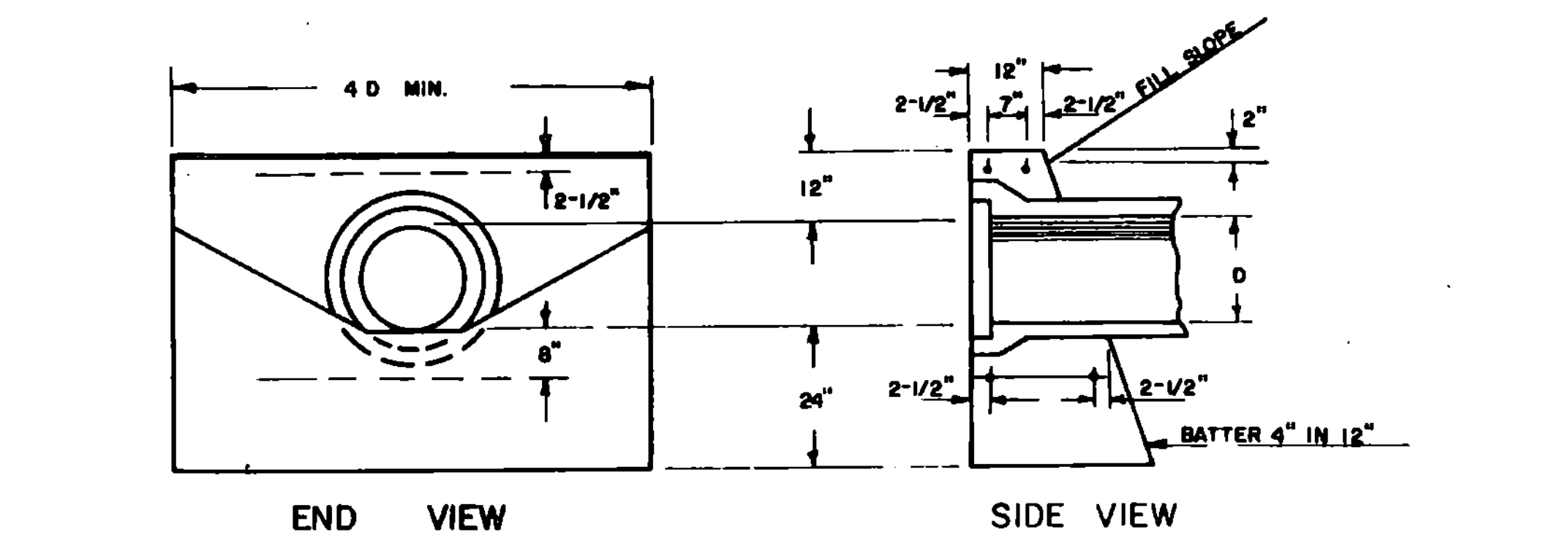
RIPRAP LIGHT TYPE SLOPE HEADWALL WITH CEMENT RUBBLE MASONRY FOOTING



CEMENT RUBBLE MASONRY RETAINING WALL



CEMENT RUBBLE MASONRY "L" TYPE HEADWALL



QUANTITY SCHEDULE FOR REINFORCED CONCRETE HEADWALL, CLASS B

PIPE DIAMETER	12"	15"	18"	24"	30"	36"	42"	48"	54"	60"
CONCRETE QUANTITY	1.0	1.3	1.8	2.7	3.5	4.9	6.4	8.0	10.0	12.3

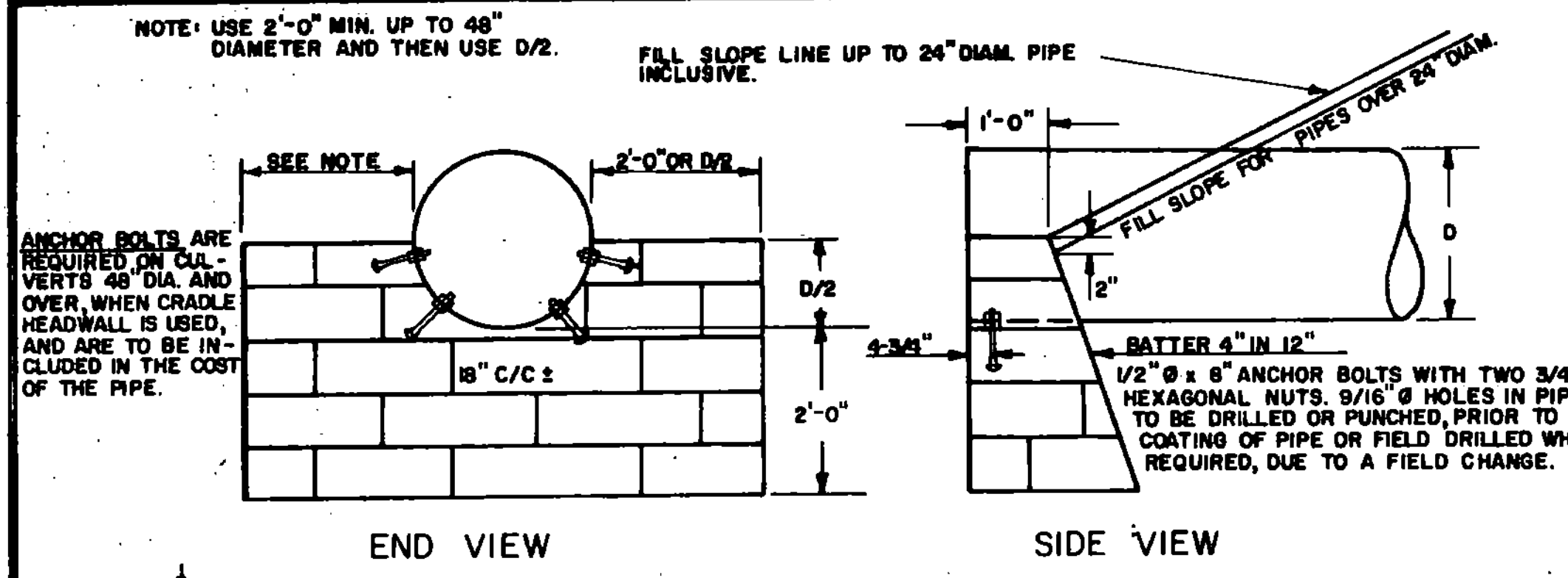
STEEL SCHEDULE FOR REINFORCED CONCRETE HEADWALL

PIPE DIAMETER	12"	15"	18"	24"	30"	36"	42"	48"	54"	60"
NUMBER	4	4	4	4	4	4	4	4	4	4
LENGTH OF BARS	3'-0"	3'-0"	3'-0"	3'-0"	4'-0"	4'-0"	5'-0"	5'-0"	6'-0"	6'-0"

ALL REINFORCING STEEL TO BE 5/8" DIAMETER DEFORMED BARS.
CONCRETE QUANTITIES EXCLUDE PIPE DIAMETERS FOR 30" AND OVER.
SAME DEDUCTION MADE FOR CONCRETE PIPE AS IS MADE FOR METAL PIPE.

REINFORCED CONCRETE STRAIGHT HEADWALL

- GENERAL NOTES - HEADWALLS:
1. THE HEIGHT OF HEADWALLS ON DRIVEWAY PIPES IS TO BE REDUCED TO 6" ABOVE THE TOP OF PIPE.
 2. BELL AND SPIGOT PIPE IS TO BE LAID WITH THE BELL UPSTREAM.
 3. HEADWALL QUANTITIES, FOR THE SAME TYPE HEADWALLS ON PIPES OF EQUAL DIAMETER, ARE THE SAME FOR BOTH CONCRETE AND METAL PIPE. LENGTH OF HEADWALLS ARE BASED ON INSIDE DIAMETER OF PIPES.
 4. THE NECESSITY OF CONSTRUCTING A FLOOR AT THE ENTRANCE TO AN L TYPE HEADWALL SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER AND ANY INSTALLATION THEREOF SHALL BE AT HIS DIRECTION.



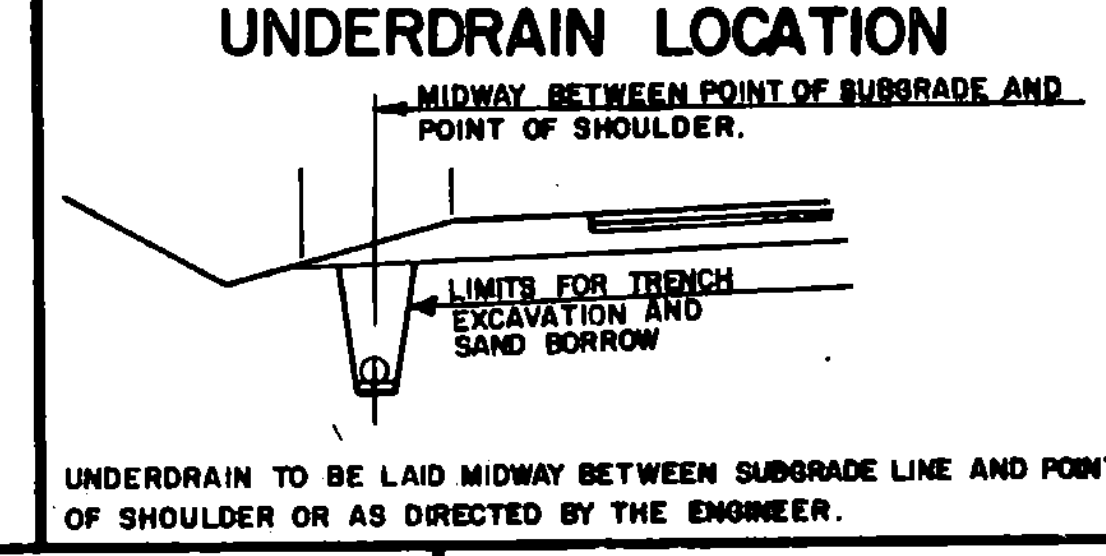
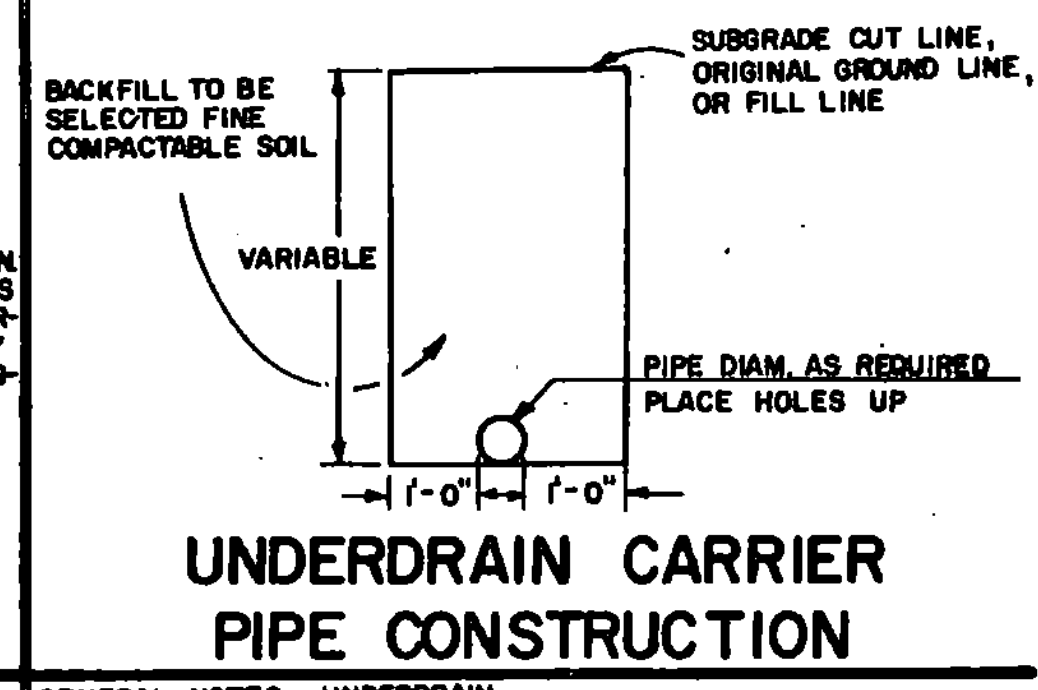
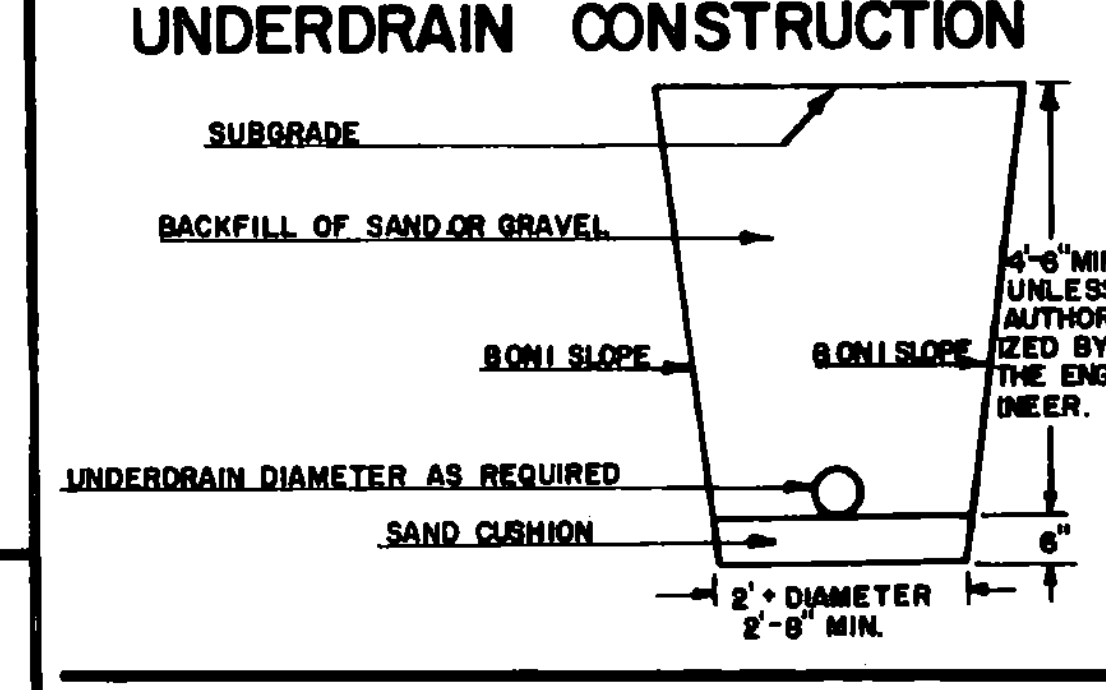
CEMENT RUBBLE MASONRY CRADLE HEADWALL

QUANTITY SCHEDULE FOR CEMENT RUBBLE MASONRY

PIPE DIAMETER	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"
C.R.M. QUANTITY	0.8	1.0	1.2	1.4	1.5	1.7	2.0	2.4	2.8	3.3

C.R.M. QUANTITIES ARE DEDUCTED WHEN PIPE DIAMETER 42" OR LARGER
SAME DEDUCTION MADE FOR CONCRETE PIPE AS FOR METAL PIPE.

WHEN CONCRETE CLASS B IS USED, TWO PIECES OF REINFORCING STEEL WILL BE PLACED BELOW THE CULVERT SIMILAR TO THOSE SHOWN ON REINFORCED CONCRETE STRAIGHT HEADWALL.



- GENERAL NOTES - UNDERDRAIN:
1. GRADE FOR UNDERDRAIN PIPE SHALL BE PARALLEL WITH THE GRADE OF THE ROAD UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 2. A FLUSHING BASIN IS TO BE INSTALLED AT INLET WHEN LESS THAN 3% GRADE IS USED OR AS ORDERED BY THE ENGINEER.
 3. THE UNDERDRAIN SHALL BE TAKEN TO A PROPER OUTLET AND PROTECTED WITH A HEADWALL OF CEMENT RUBBLE MASONRY IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER.
 4. ELBOWS, T, AND OTHER JUNCTION UNITS NECESSARY FOR PROPER INSTALLATION OF UNDERDRAIN, AS DIRECTED BY THE ENGINEER, ARE TO BE INCLUDED IN THE UNIT BID PRICE FOR UNDERDRAIN OR CARRIER PIPE.

REVISIONS AND CORRECTIONS

MAR. 8, 1972: CHANGED ANCHOR BOLTS FROM 10" "L" TO 8" CARRIAGE BOLTS

DEC. 16, 1976: NOTE ADDED ON REINFORCING STEEL FOR CRADLE HEADWALLS

OCT. 30, 1988: REVISED TO CONFORM TO 1986 SPECIFICATIONS.

APPROVED: DATE: Dec. 6, 1971

R.N. Arnold
CHIEF ENGINEER

E.H. Stinchey
ASST. CHIEF ENGINEER

L.M. Lane
HIGHWAY ENGINEER

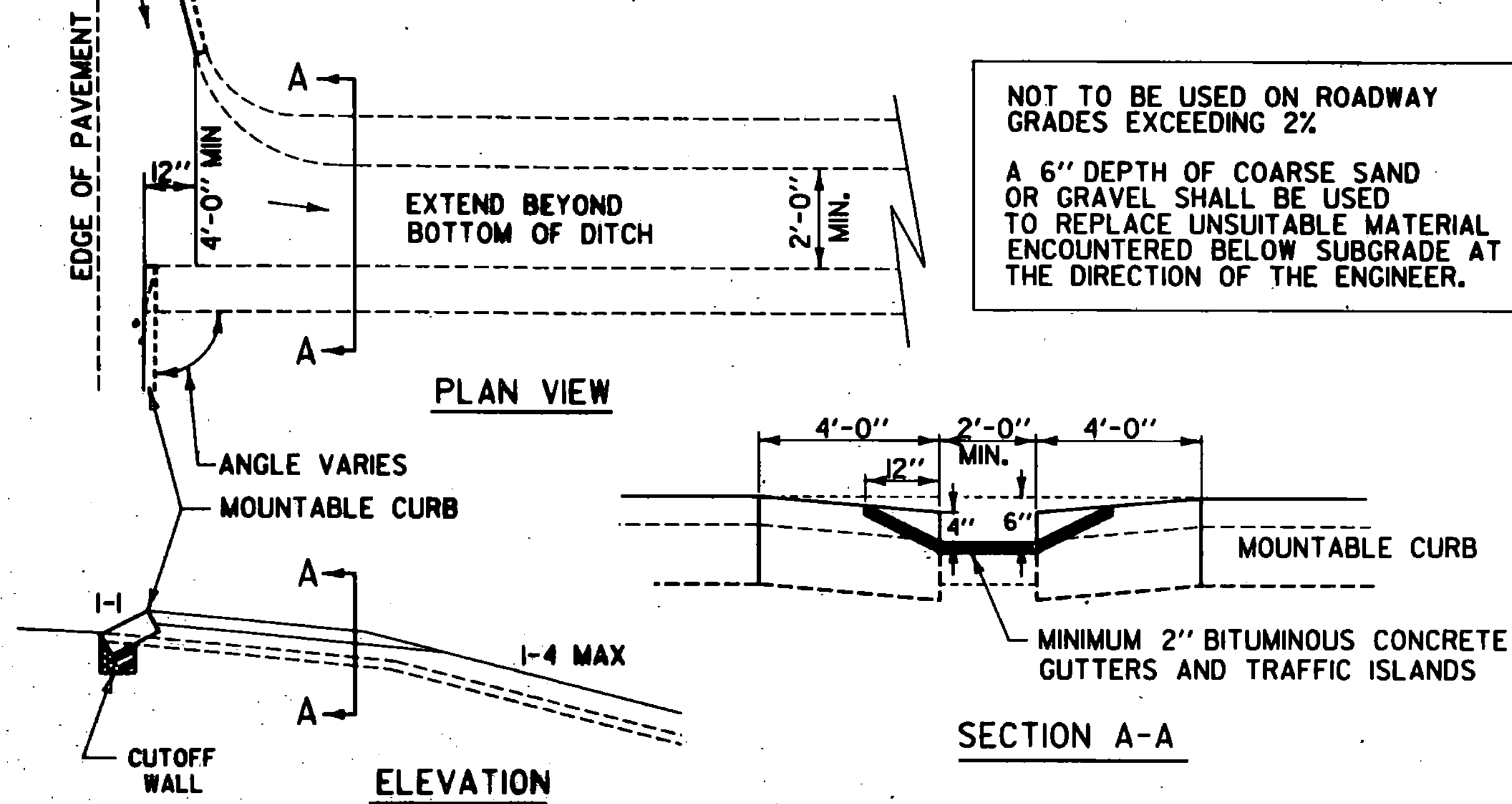
**CEMENT RUBBLE MASONRY HEADWALLS & RETAINING WALL
RIPRAP LIGHT TYPE SLOPE HEADWALL
REINFORCED CONCRETE HEADWALL
UNDERDRAIN & CARRIER PIPE CONSTRUCTION DETAILS**



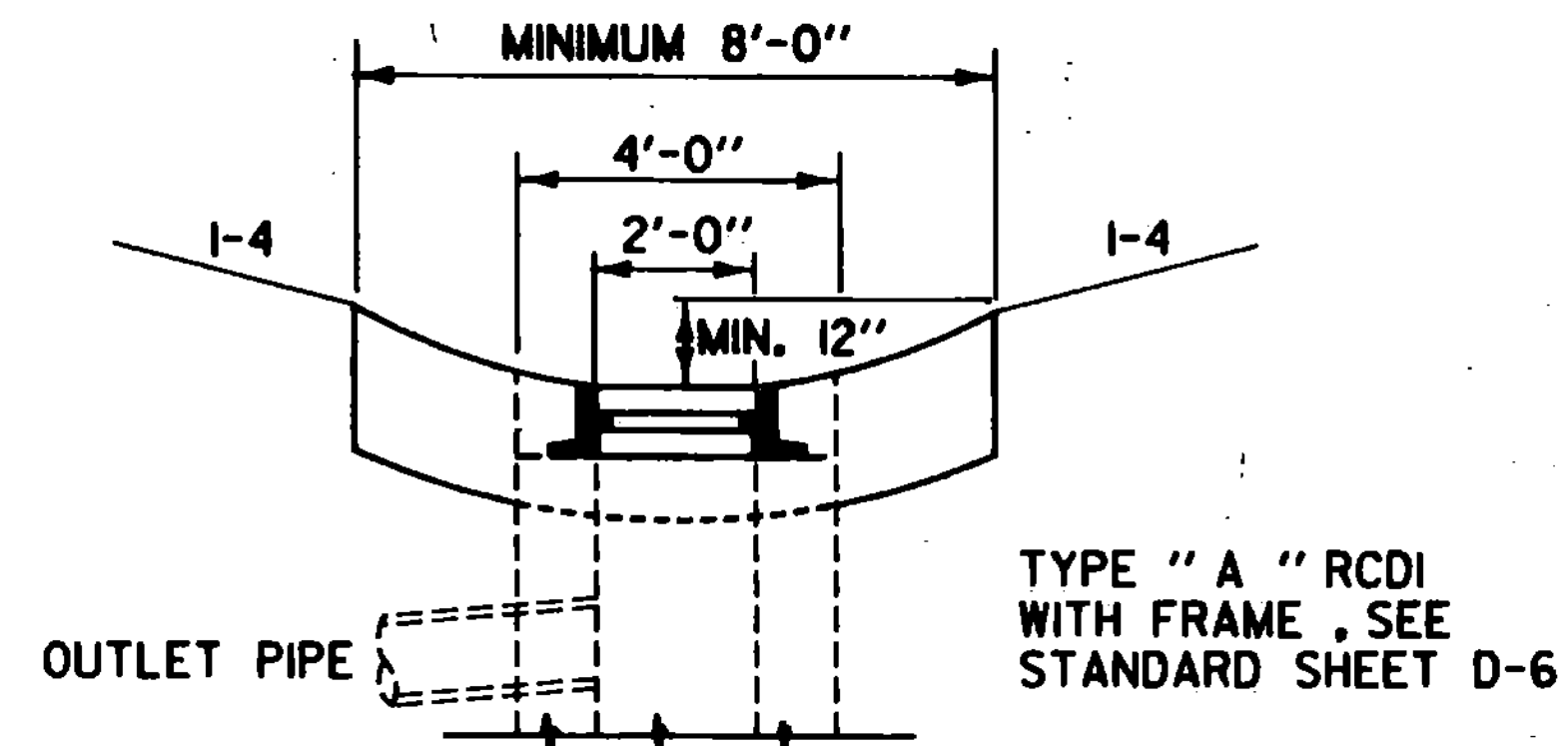
STANDARD

D-2

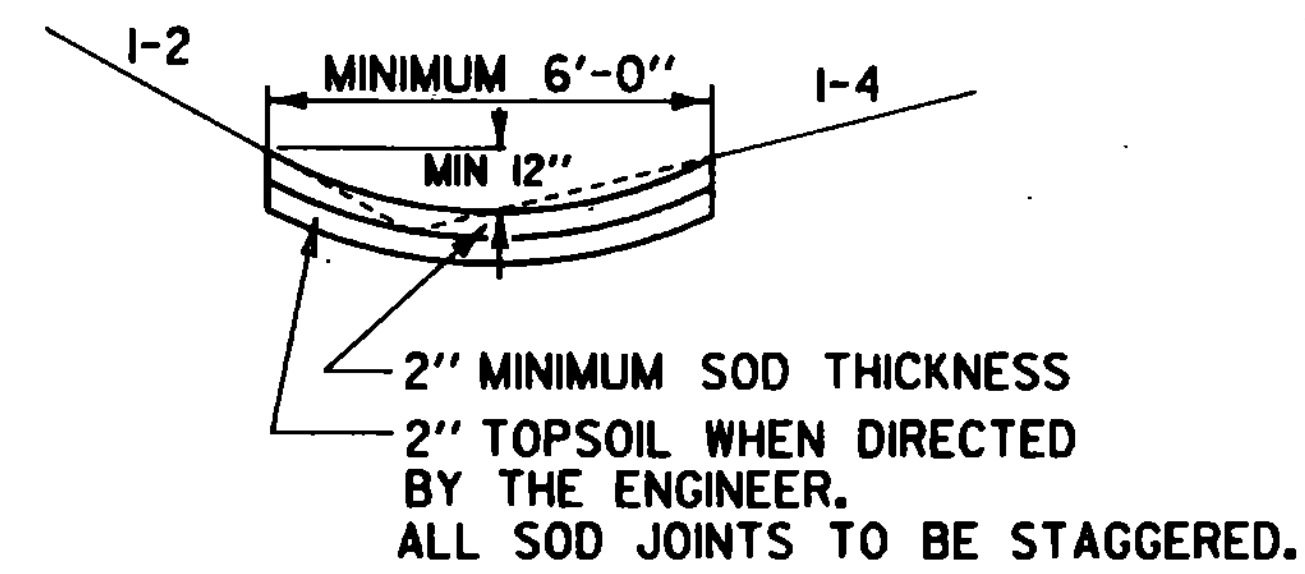
DETAILS OF CURB DRAINS



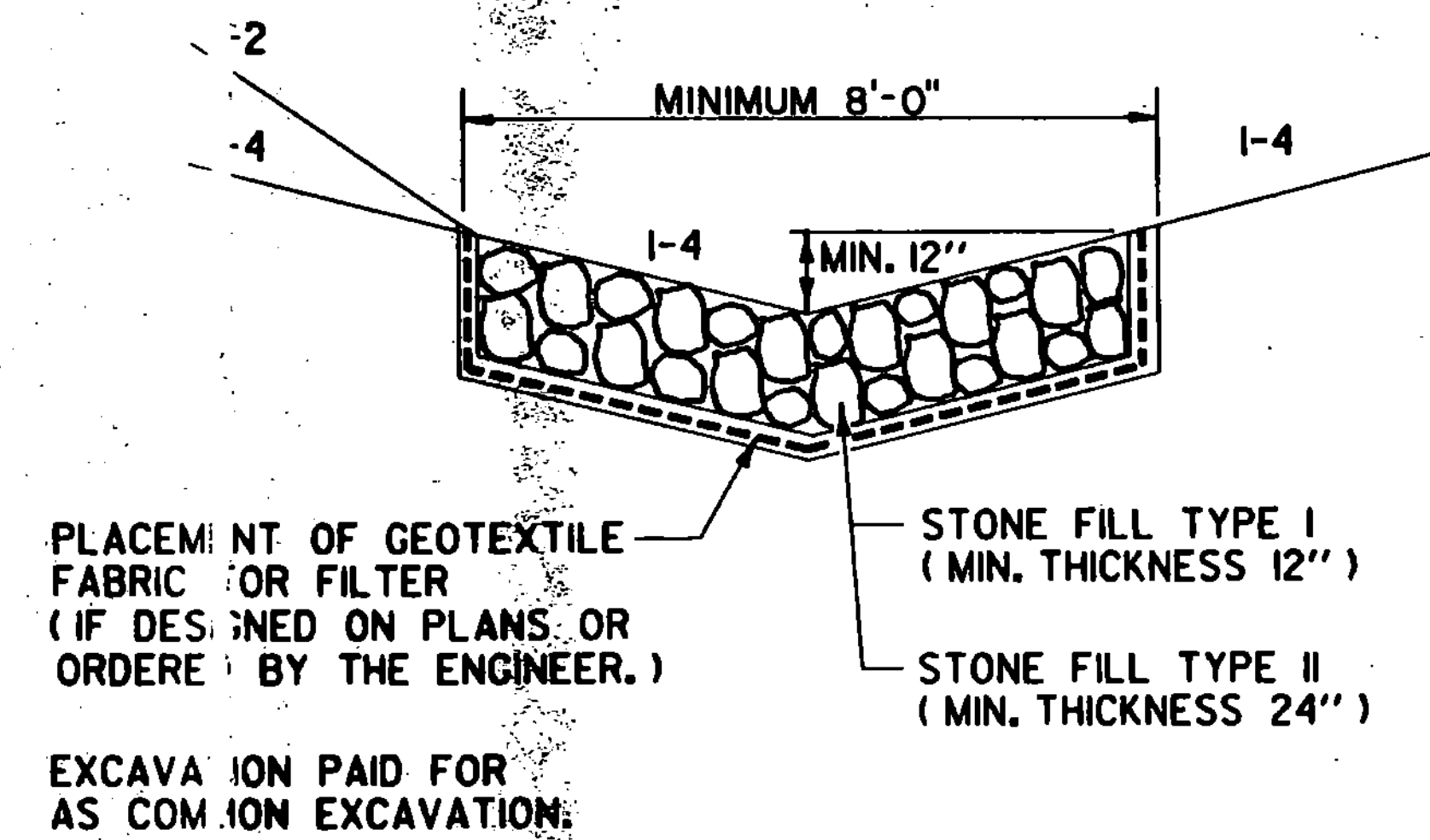
DROP INLET WITH GRATE IN TREATED GUTTER



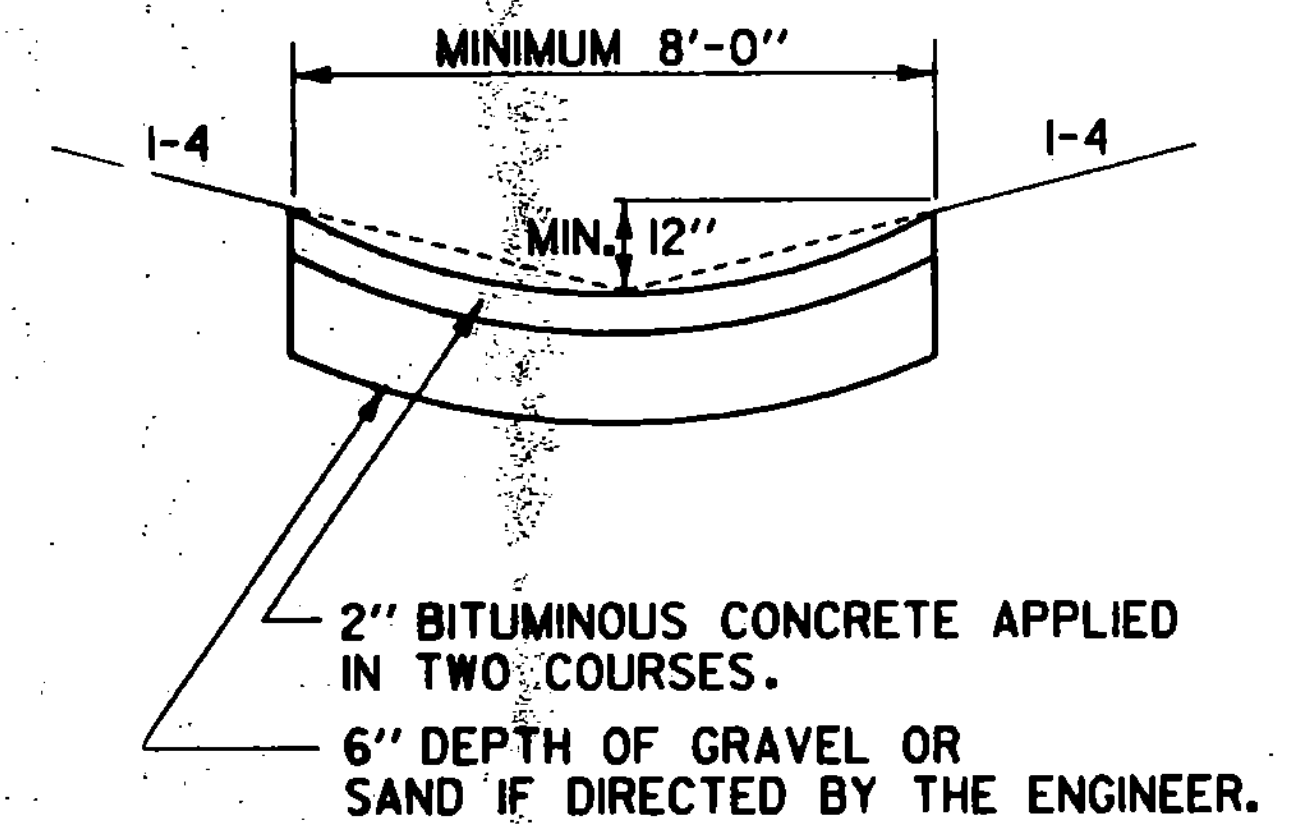
SODDING



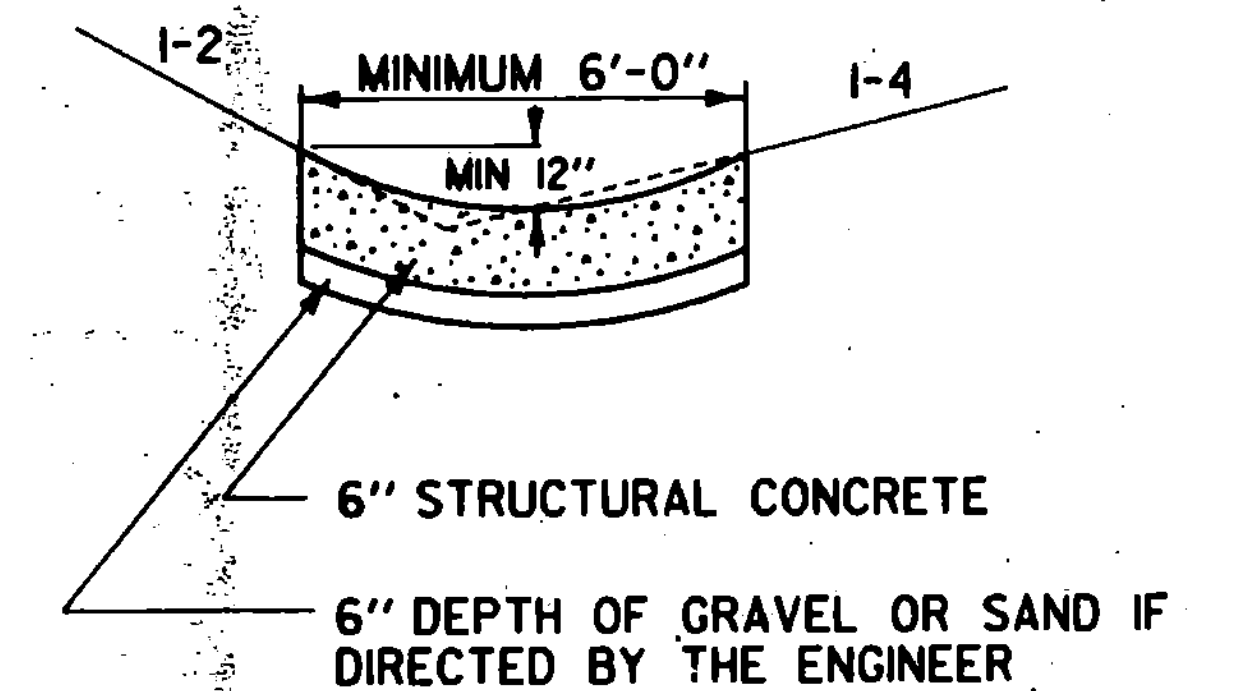
**STONE FILL TYPE I
STONE FILL TYPE II**



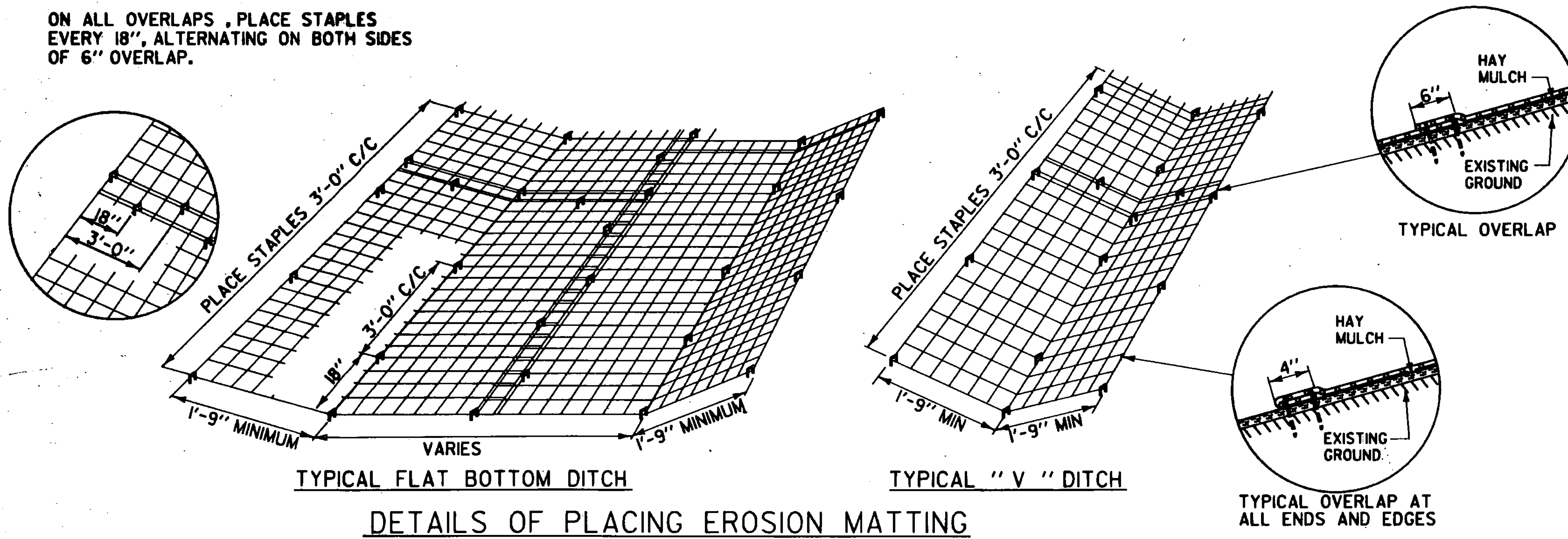
BITUMINOUS CONCRETE GUTTERS AND TRAFFIC ISLANDS



PORTLAND CEMENT CONCRETE GUTTER



ON ALL OVERLAPS, PLACE STAPLES EVERY 18", ALTERNATING ON BOTH SIDES OF 6" OVERLAP.



REVISIONS AND CORRECTIONS

APPROVED

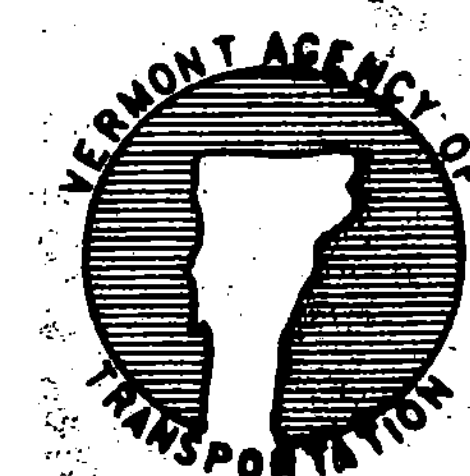
APRIL 2, 1986
DATE

CHIEF ENGINEER

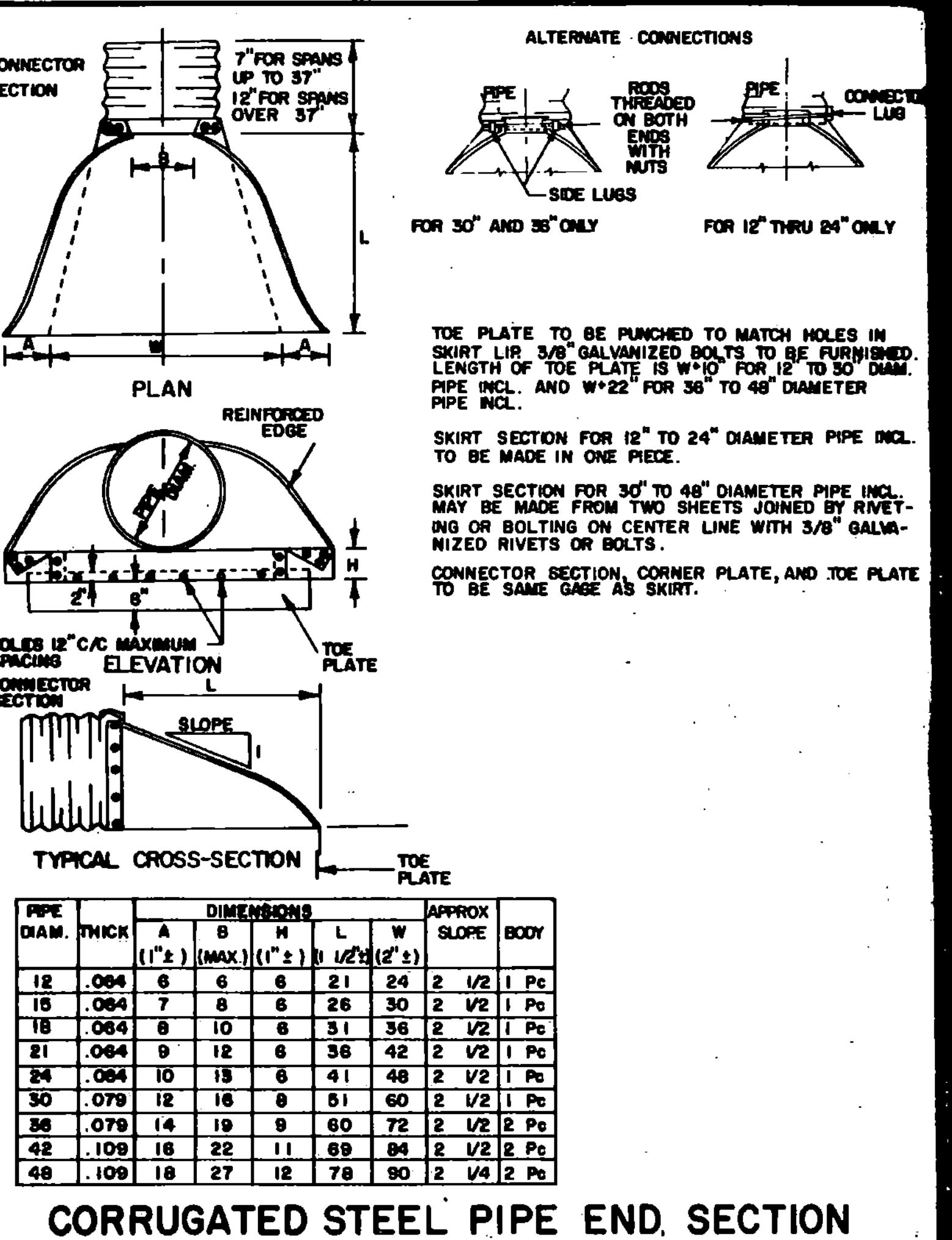
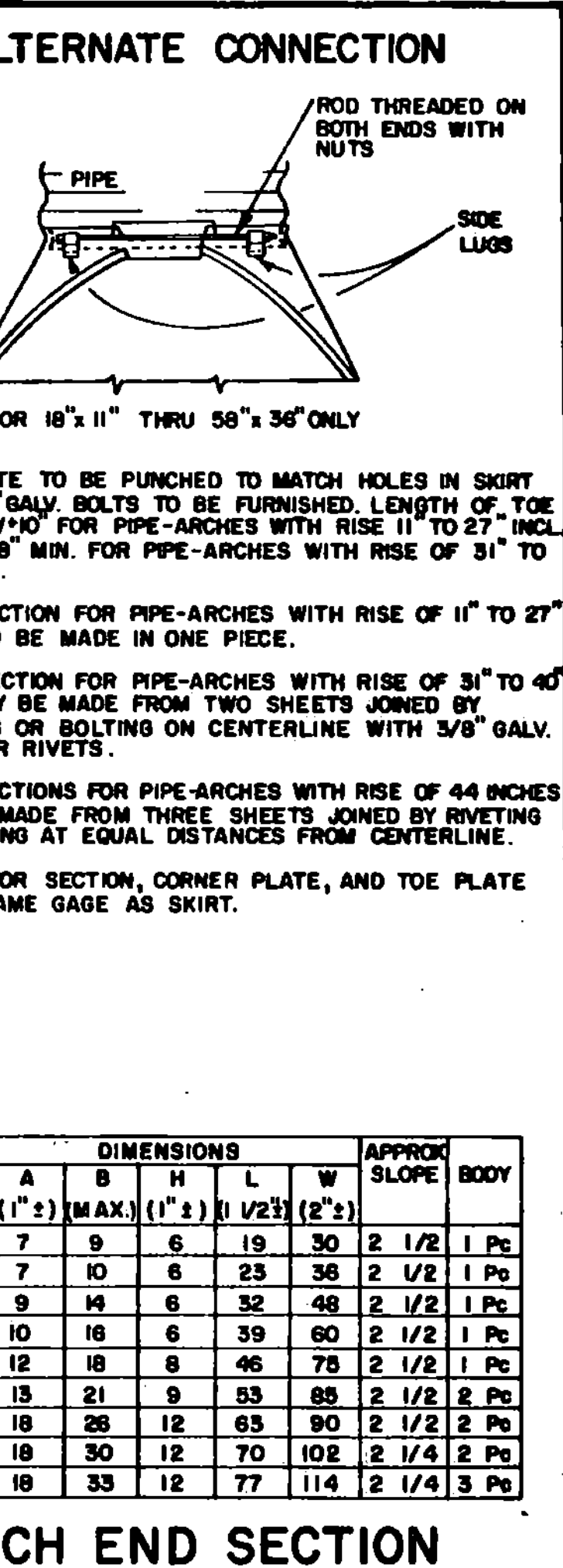
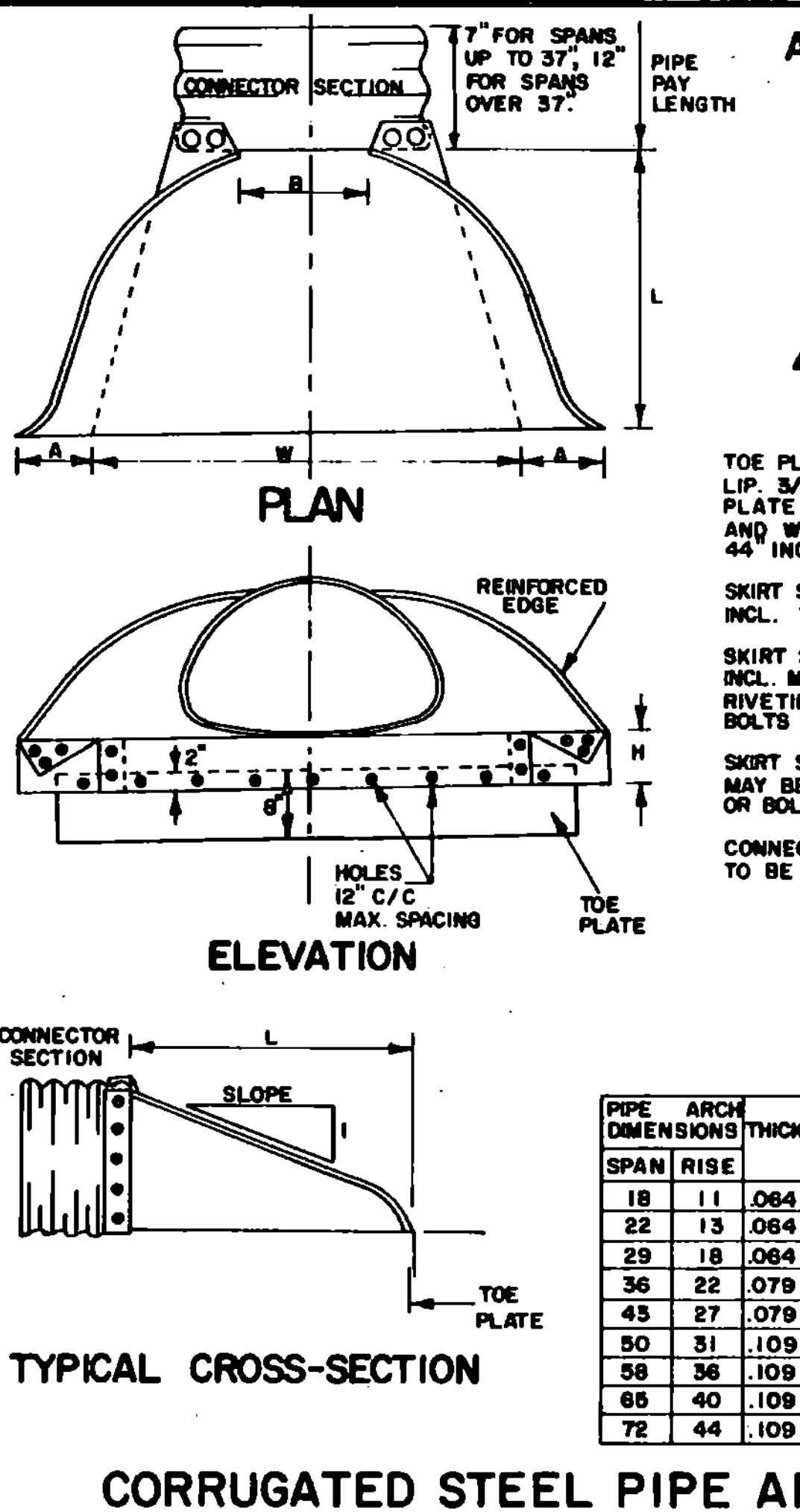
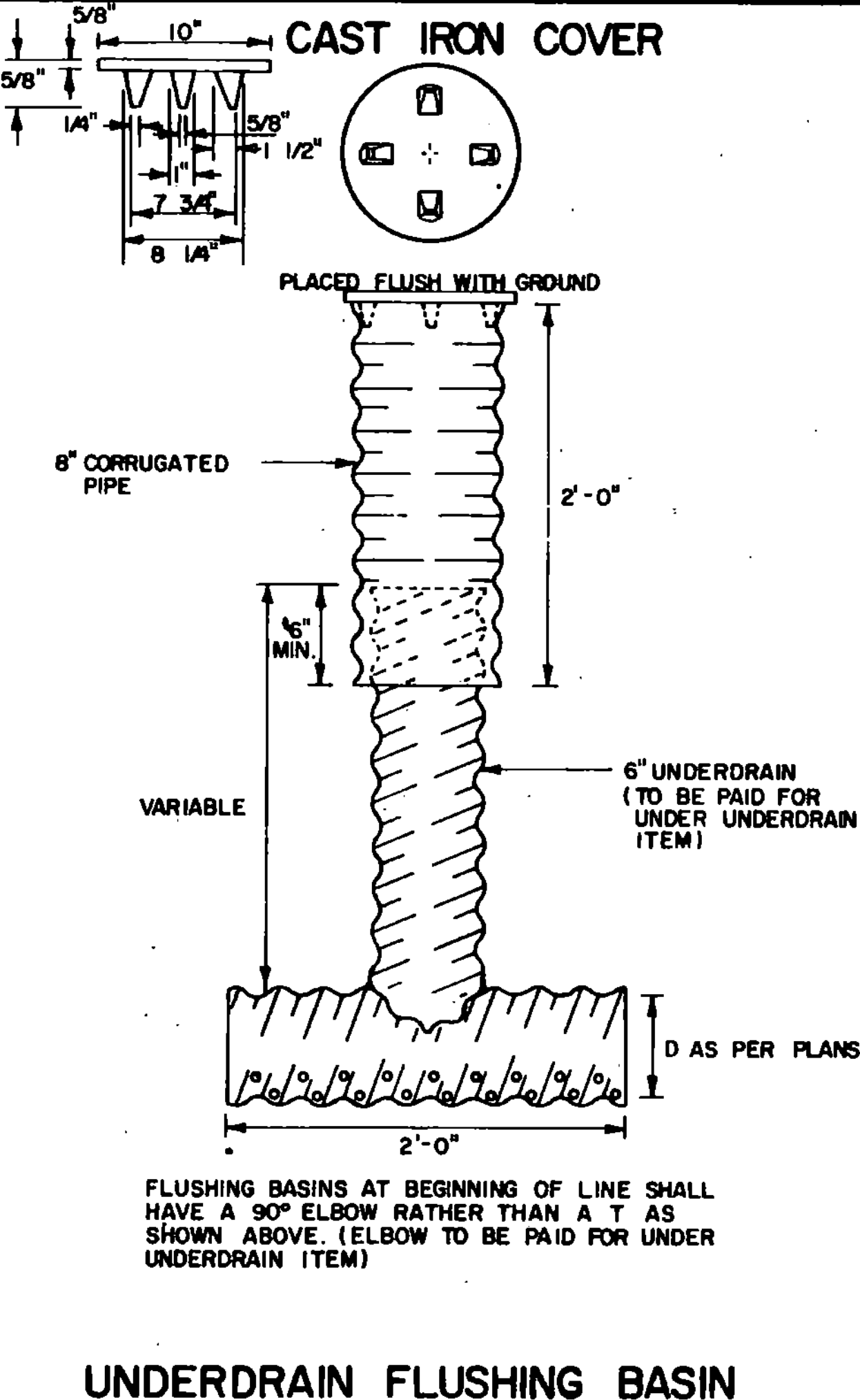
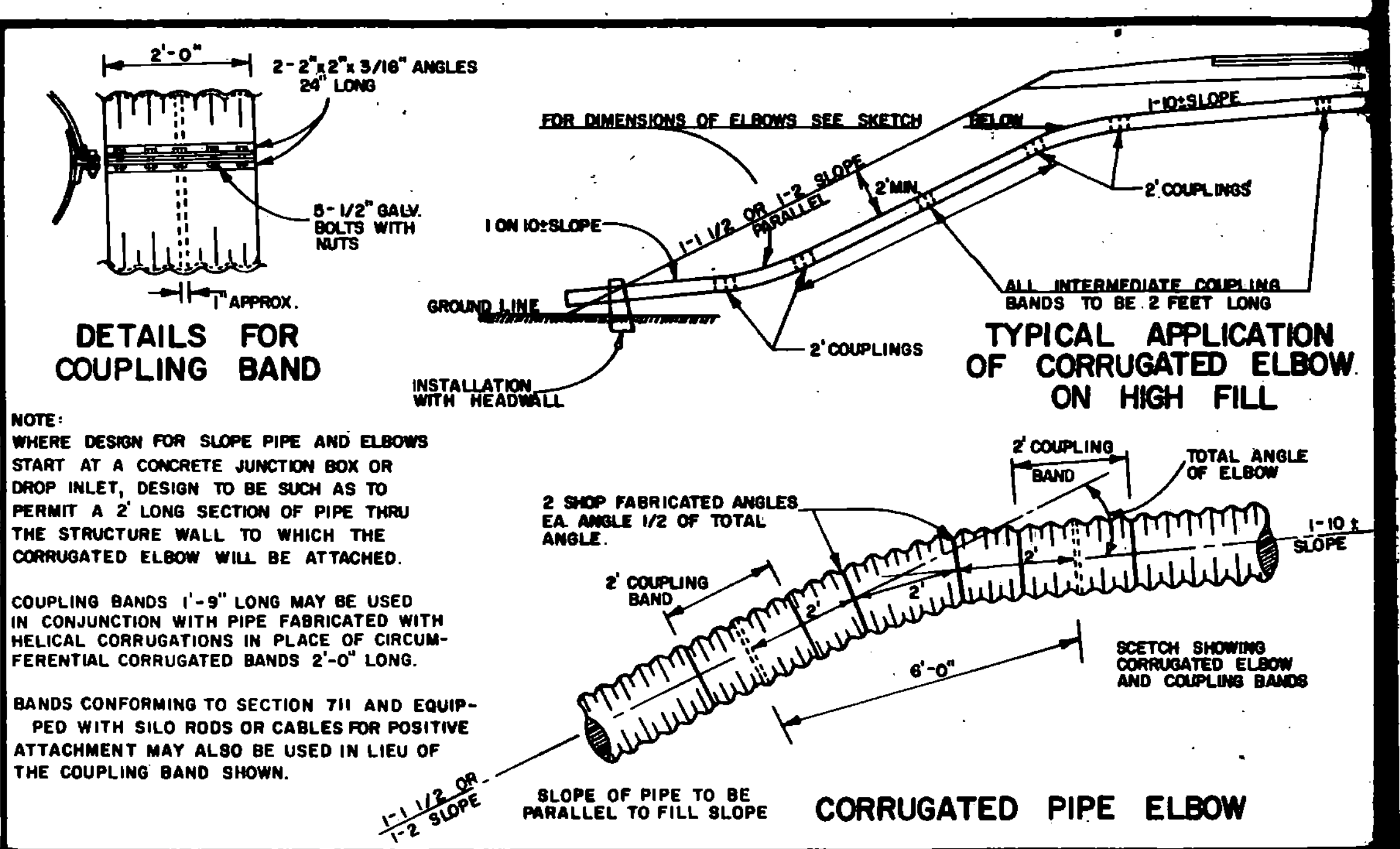
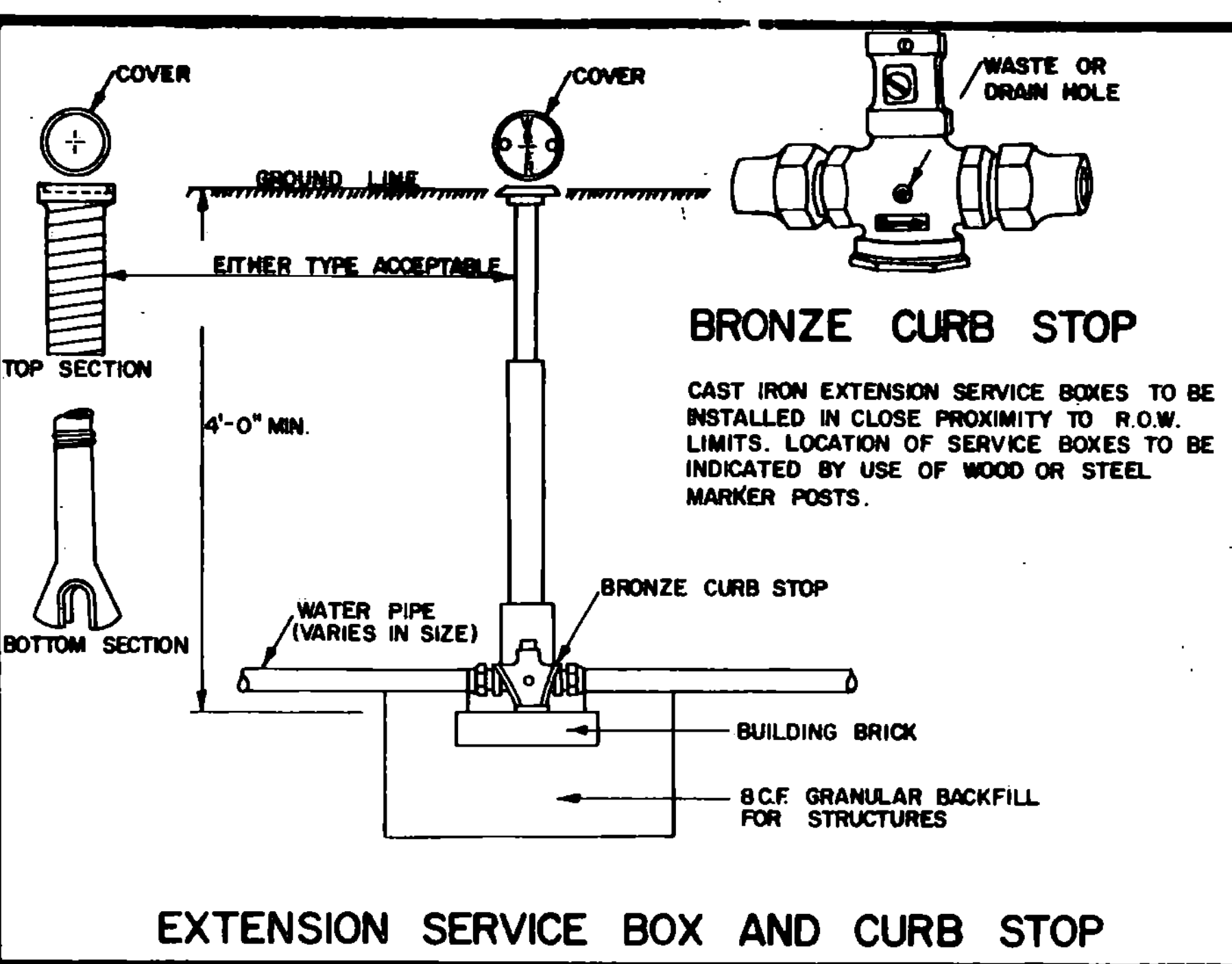
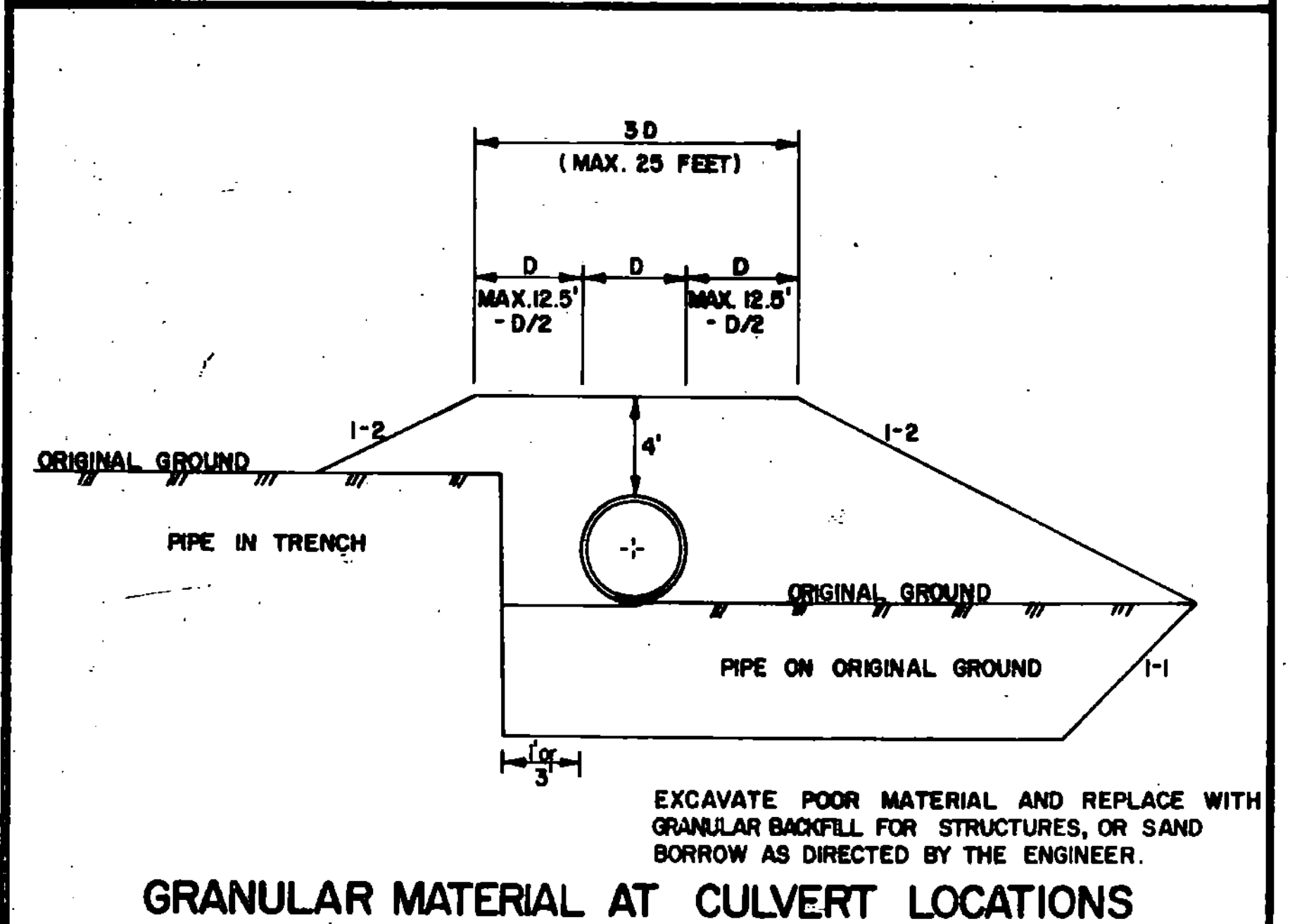
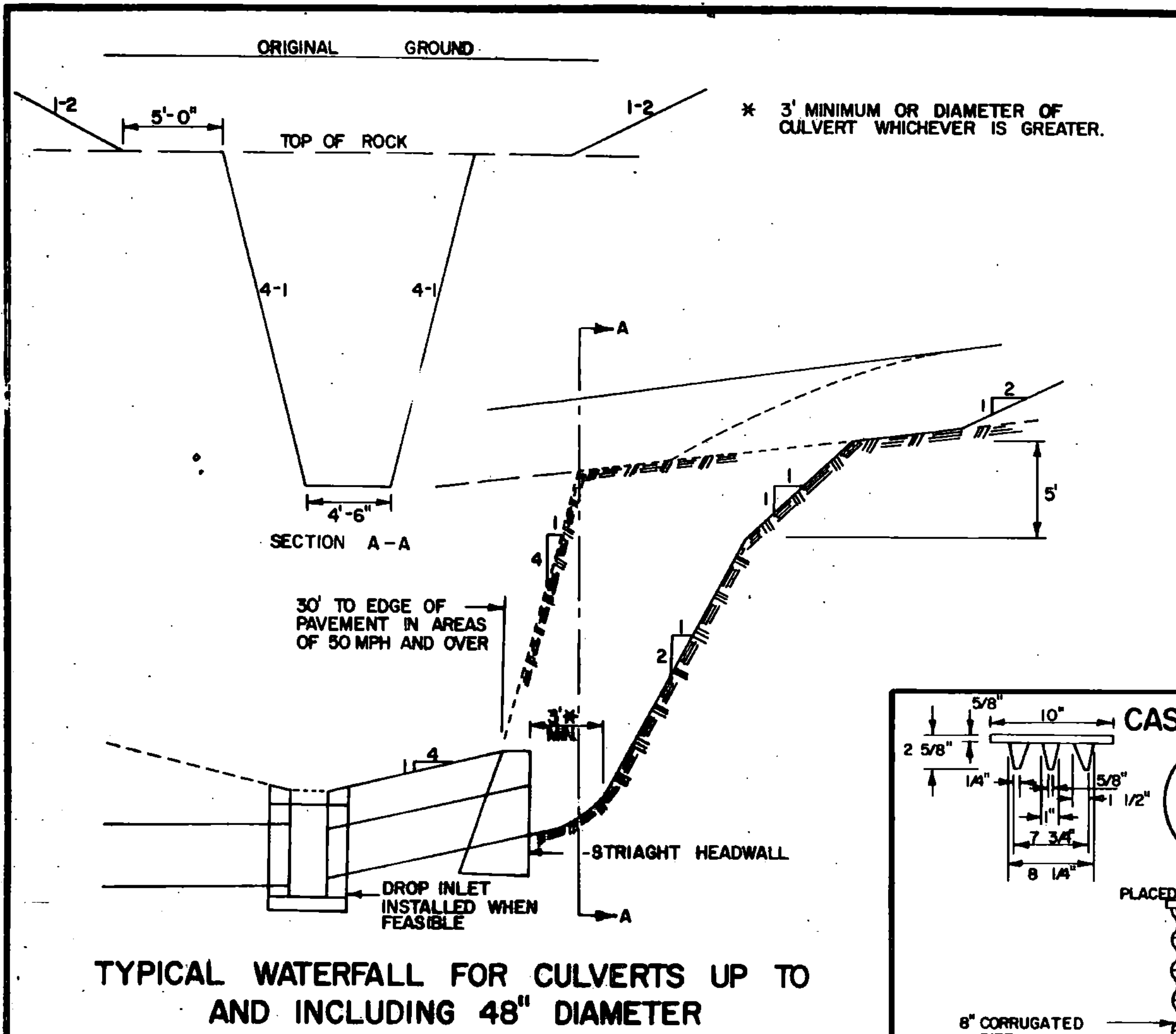
CHIEF OF DESIGN

SURVEY AND PLANS ENGINEER

TREATED GUTTERS



**STANDARD
D-3**



PIPE ARCH DIMENSIONS	THICK	DIMENSIONS				APPROX SLOPE	BODY		
SPAN	RISE	A (1"±)	B (MAX)	H (1"±)	L (1/2"±)	W (2"±)			
18	11	.064	7	9	6	19	30	2 1/2	1 Pc
22	13	.064	7	10	6	23	36	2 1/2	1 Pc
29	18	.064	9	16	6	32	48	2 1/2	1 Pc
36	22	.079	10	16	6	39	60	2 1/2	1 Pc
45	27	.079	12	18	6	46	78	2 1/2	1 Pc
50	31	.109	13	21	9	53	88	2 1/2	2 Pc
58	36	.109	18	28	12	63	90	2 1/2	2 Pc
65	40	.109	18	30	12	70	102	2 1/4	2 Pc
72	44	.109	18	33	12	77	114	2 1/4	3 Pc

PIPE DIAM.	THICK	DIMENSIONS				APPROX SLOPE	BODY	
		A (1"±)	B (MAX)	H (1"±)	L (1/2"±)	W (2"±)		
12	.064	6	6	6	21	24	2 1/2	1 Pc
18	.064	7	6	6	26	30	2 1/2	1 Pc
18	.064	8	10	6	31	36	2 1/2	1 Pc
21	.064	9	12	6	36	42	2 1/2	1 Pc
24	.064	10	15	6	41	48	2 1/2	1 Pc
30	.079	12	16	6	51	60	2 1/2	1 Pc
36	.079	14	19	9	60	72	2 1/2	2 Pc
42	.109	18	22	11	69	84	2 1/2	2 Pc
48	.109	18	27	12	78	90	2 1/4	2 Pc

REVISIONS AND CORRECTIONS
 JULY 17, 1972 HELICAL CORRUGATED COUPLING BAND NOTE ADDED.
 JULY 24, 1975 GRANULAR MATERIAL AT CULVERT LOCATIONS CORRECTED.
 OCT 30, 1988 REVISED TO CONFORM WITH 1986 SPECIFICATIONS.

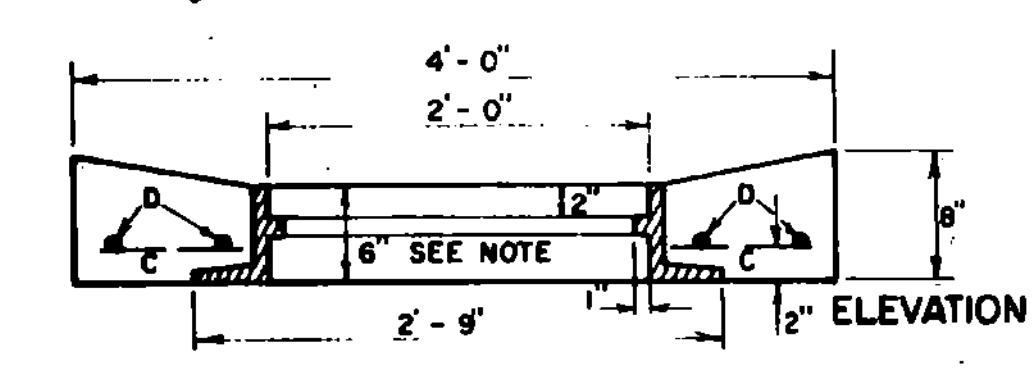
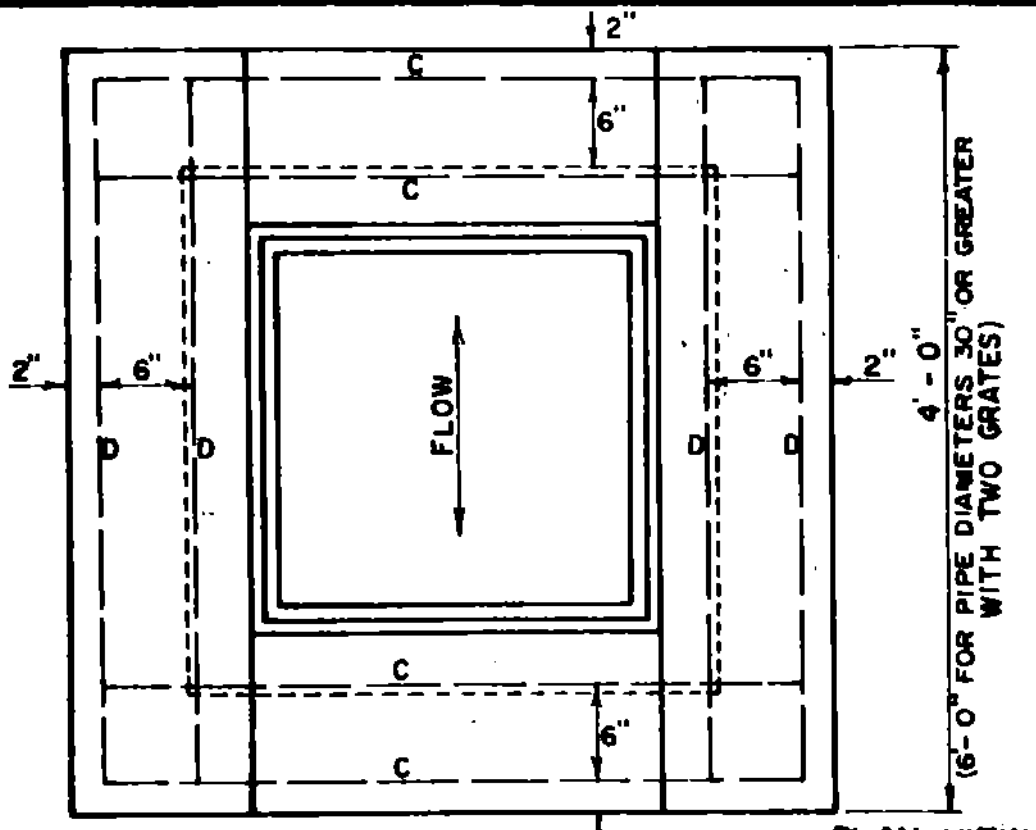
APPROVED: *R.H. Arnold* CHIEF ENGINEER
C.H. Stachney ASST CHIEF ENGINEER
L.M. Lane HIGHWAY ENGINEER

DATE: *Dec 6, 1971*

TYPICAL WATERFALL FOR CULVERTS UP TO AND INCLUDING 48" DIAMETER
 EXTENSION SERVICE BOX AND CURB STOP
 CORRUGATED PIPE ELBOW
 GRANULAR BORROW AT CULVERT LOCATIONS
 UNDERDRAIN FLUSHING BASIN
 CORRUGATED STEEL PIPE END SECTION
 CORRUGATED STEEL PIPE ARCH END SECTION

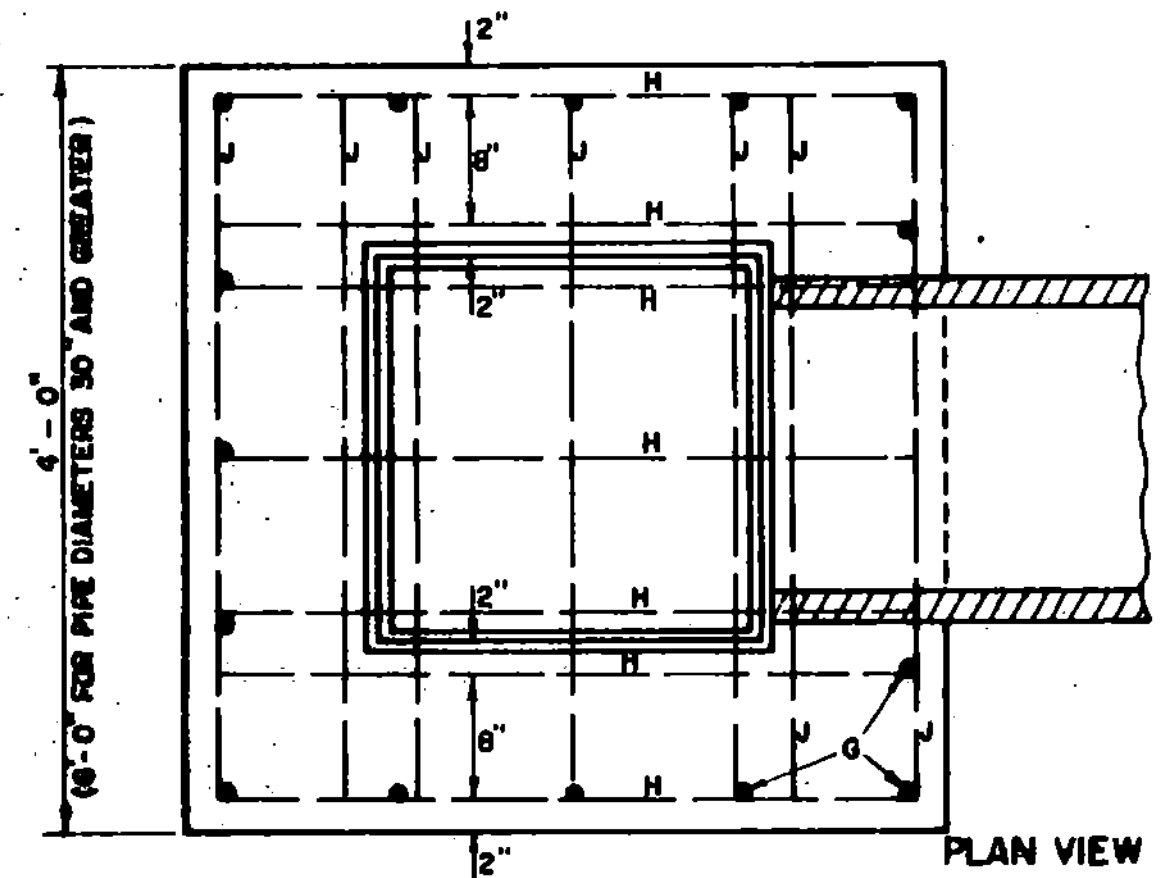


STANDARD
 D-4

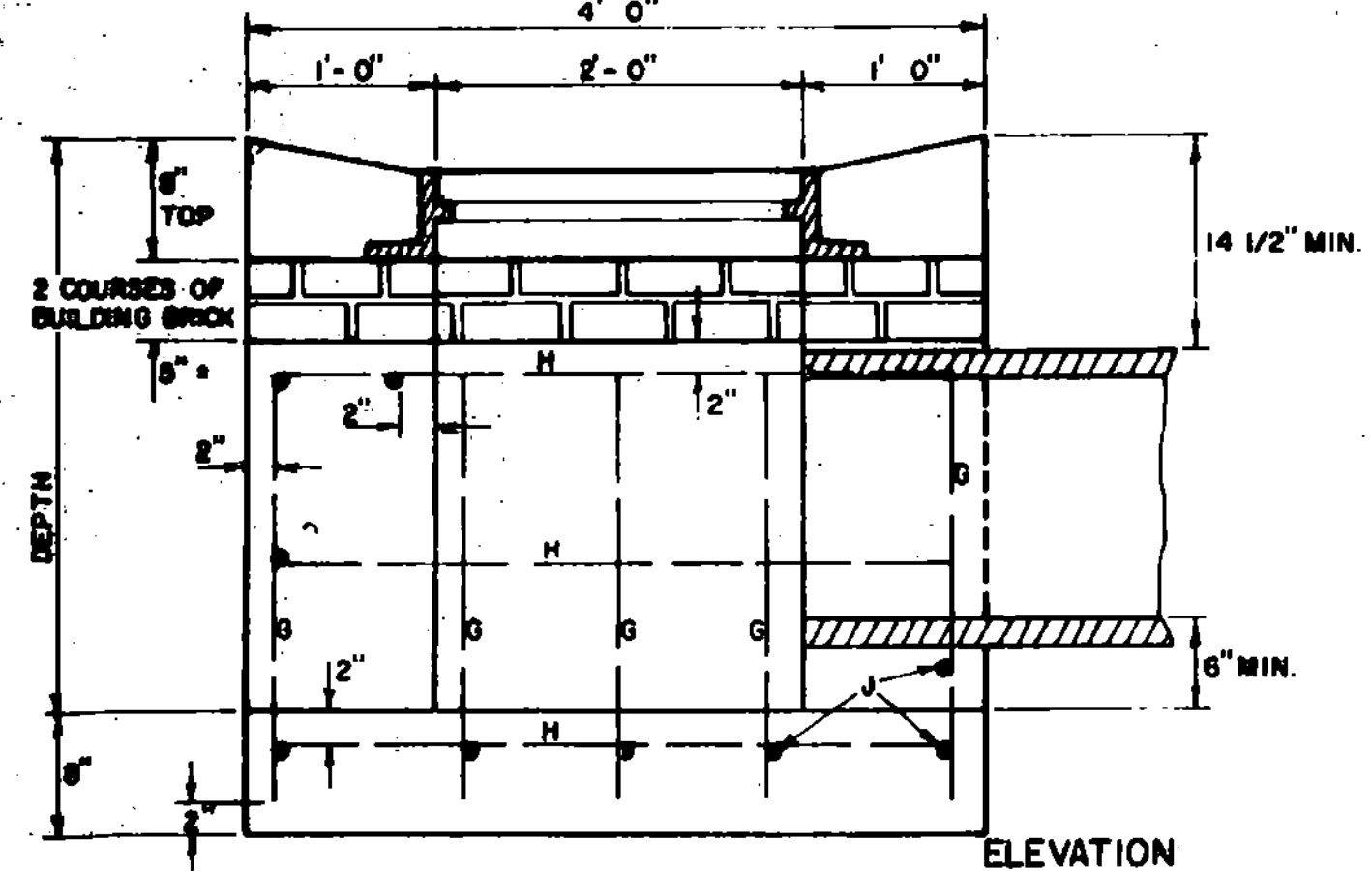


NOTE - FRAME SHOWN IS FOR TYPE A GRATE, SEE SHEET D-11. FOR TYPE B GRATE AND FRAME, SEE SHEET D-16 (EXCEPT THE FRAME DEPTH DIMENSION SHALL BE 6").

TOP FOR REINFORCED CONCRETE DROP INLET WITH GRATE FOR USE IN DITCHES



- TYPE A -



REINFORCED CONCRETE DROP INLET FOR USE IN DITCHES

STEEL SCHEDULE																									
4x4 DROP INLET TYPE A						4x6 DROP INLET WITH TWO GRATES TYPE B						TYPE C						4x6 DROP INLET WITH ONE GRATE WITH 4x6 TOP							
12", 15", 18", 24"						30", 36"						30", 36"						30", 36"							
DEPTH	G	LENGTH	H	J	LENGTH	G	LENGTH	H	J	LENGTH	C	LENGTH	D	LENGTH	DEPTH	G	LENGTH	H	J	LENGTH	C	LENGTH	D	LENGTH	DEPTH
3'-0"	15	2'-3"	22	3'-8"	8	3'-8"									3'-0"										
3'-6"	15	2'-9"	22	3'-8"	8	3'-8"									3'-6"										
4'-0"	15	3'-3"	29	3'-8"	8	3'-8"	17	3'-3"	19	3'-8"	10	5'-8"	4	3'-8"	4	3'-8"	19	3'-8"	10	5'-8"	6	3'-8"	4	5'-8"	4'-0"
4'-6"	15	3'-9"	29	3'-8"	8	3'-8"	17	3'-9"	19	3'-8"	10	5'-8"	4	3'-8"	4	3'-8"	19	3'-8"	10	5'-8"	6	3'-8"	4	5'-8"	4'-6"
5'-0"	15	4'-3"	35	3'-8"	8	3'-8"	17	4'-3"	23	3'-8"	13	5'-8"	4	3'-8"	4	3'-8"	19	3'-8"	13	5'-8"	6	3'-8"	4	5'-8"	5'-0"
5'-6"	15	4'-9"	35	3'-8"	8	3'-8"	17	4'-9"	23	3'-8"	13	5'-8"	4	3'-8"	4	3'-8"	19	3'-8"	13	5'-8"	6	3'-8"	4	5'-8"	5'-6"
6'-0"	15	5'-3"	41	3'-8"	8	3'-8"	17	5'-3"	27	3'-8"	15	5'-8"	4	3'-8"	4	3'-8"	19	3'-8"	15	5'-8"	6	3'-8"	4	5'-8"	6'-0"
6'-6"	15	5'-9"	41	3'-8"	8	3'-8"	17	5'-9"	31	3'-8"	15	5'-8"	4	3'-8"	4	3'-8"	19	3'-8"	15	5'-8"	6	3'-8"	4	5'-8"	6'-6"
7'-0"	15	6'-3"	47	3'-8"	8	3'-8"	17	6'-3"	35	3'-8"	17	5'-8"	4	3'-8"	4	3'-8"	19	3'-8"	17	5'-8"	6	3'-8"	4	5'-8"	7'-0"
7'-6"	15	6'-9"	47	3'-8"	8	3'-8"	17	6'-9"	39	3'-8"	17	5'-8"	4	3'-8"	4	3'-8"	19	3'-8"	17	5'-8"	6	3'-8"	4	5'-8"	7'-6"
8'-0"	15	7'-3"	53	3'-8"	8	3'-8"	17	7'-3"	39	3'-8"	19	5'-8"	4	3'-8"	4	3'-8"	19	3'-8"	19	5'-8"	6	3'-8"	4	5'-8"	8'-0"

STEEL AND CONCRETE QUANTITIES																								
4x4 DROP INLET				4x6 DROP INLET WITH TWO GRATES				4x6 DROP INLET WITH ONE GRATE WITH 4x6 TOP				STEEL SCHEDULE TYPE D												
12", 15", 18", 24"				30"				36"				30", 36"												
DEPTH	CONCRETE C.Y.	STEEL LBS.	DEPTH	CONCRETE C.Y.	STEEL LBS.	CONCRETE C.Y.	STEEL LBS.	DEPTH	CONCRETE C.Y.	STEEL LBS.	CONCRETE C.Y.	STEEL LBS.	DEPTH	G	LENGTH	H	LENGTH	J	LENGTH	C	LENGTH	D	LENGTH	DEPTH
3'-0"	1.7	180	3'-0"					3'-0"					3'-0"	17	3'-7"	23	3'-8"	13	5'-8"	12	3'-8"	4	5'-8"	5'-0"
3'-6"	1.9	188	3'-6"					3'-6"					3'-6"	17	4'-1"	23	3'-8"	13	5'-8"	12	3'-8"	4	5'-8"	5'-6"
4'-0"	2.1	193	4'-0"	2.7	228			4'-0"	2.8	244			4'-0"	17	4'-7"	27	3'-8"	15	5'-8"	12	3'-8"	4	5'-8"	6'-0"
4'-6"	2.3	200	4'-6"	3.0	237	2.9	237	4'-6"	3.1	252	3.0	252	4'-6"	17	5'-1"	31	3'-8"	15	5'-8"	12	3'-8"	4	5'-8"	6'-6"
5'-0"	2.6	231	5'-0"	3.3	279	3.2	279	5'-0"	3.4	294	3.3	294	5'-0"	17	5'-7"	35	3'-8"	17	5'-8"	12	3'-8"	4	5'-8"	7'-0"
5'-6"	2.8	239	5'-6"	3.6	288	3.5	288	5'-6"	3.7	303	3.6	303	5'-6"	17	6'-1"	35	3'-8"	17	5'-8"	12	3'-8"	4	5'-8"	7'-6"
6'-0"	3.0	270	6'-0"	3.9	324	3.8	324	6'-0"	4.0	339	3.9	339	6'-0"	17	6'-7"	39	3'-8"	19	5'-8"	12	3'-8"	4	5'-8"	8'-0"
6'-6"	3.2	278	6'-6"	4.2	348	4.1	348	6'-6"	4.3	363	4.2	363	6'-6"	17	6'-7"	39	3'-8"	19	5'-8"	12	3'-8"	4	5'-8"	8'-0"
7'-0"	3.5	308	7'-0"	4.5	384	4.4	384	7'-0"	4.6	399	4.5	399	7'-0"	17	6'-7"	39	3'-8"	19	5'-8"	12	3'-8"	4	5'-8"	8'-0"
7'-6"	3.7	316	7'-6"	4.8	393	4.7	393	7'-6"	4.9	408	4.8	408	7'-6"	17	6'-7"	39	3'-8"	19	5'-8"	12	3'-8"	4	5'-8"	8'-0"
8'-0"	3.9	347	8'-0"	5.1	429	5.0	429	8'-0"	5.2	444	5.1	444	8'-0"	17	6'-7"	39	3'-8"	19	5'-8"	12	3'-8"	4	5'-8"	8'-0"

FOR 2nd 30" PIPE DEDUCT 0.18 C.Y. FOR 2nd 36" PIPE DEDUCT 0.26 C.Y. FOR 2nd 42" PIPE DEDUCT 0.36 C.Y. OR 0.18 FOR 1 PIPE FOR 2nd 48" PIPE DEDUCT 0.47 C.Y. OR 0.24 FOR 1 PIPE

ALL REINFORCING STEEL TO BE NO. 5 DEFORMED BARS, EVENLY SPACED WITH A MAXIMUM SPACING OF 12" C/C.

ALL STEEL TO HAVE 2 INCH MIN. COVER.

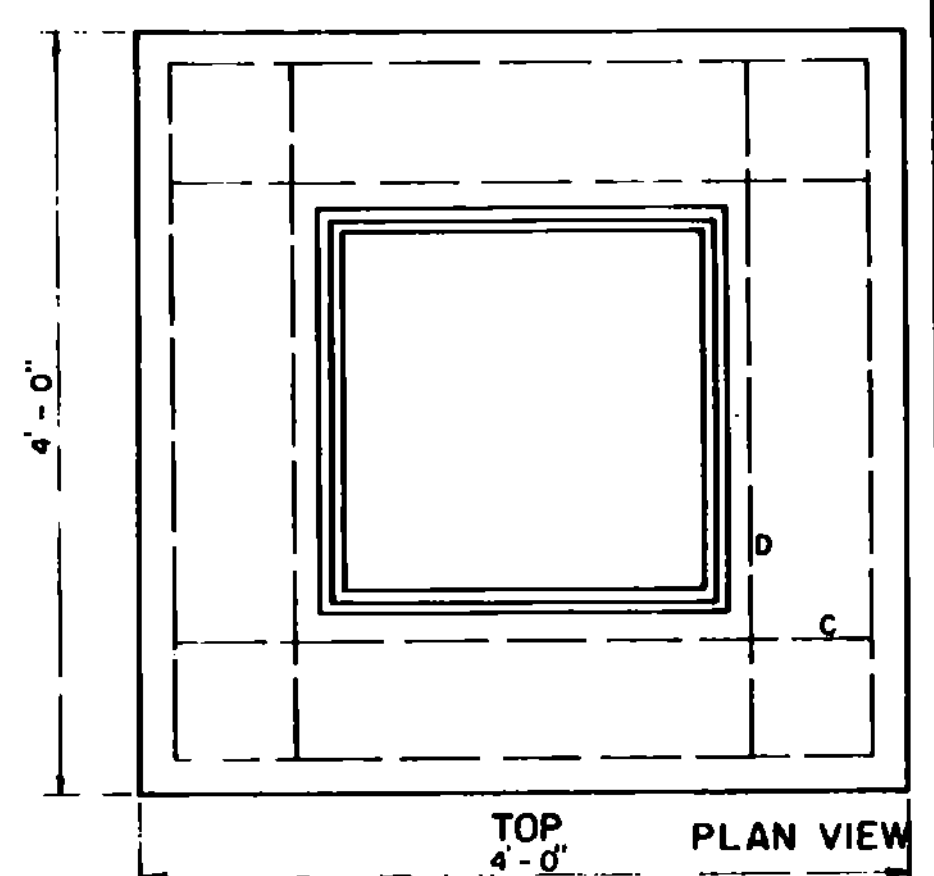
DROP INLET TO BE CONSTRUCTED IN ACCORDANCE WITH STRUCTURAL CONCRETE, SECTION 501.

GRATES TO CONFORM TO DROP INLETS, CATCH BASINS, AND MANHOLES, SECTION 604.

FURNISHING AND LAYING OF BRICKS FOR ADJUSTING ELEVATION OF GRATE SHALL BE INCLUDED IN UNIT BID PRICE FOR CONCRETE, CLASS B, PAY ITEM 501.25, AND THEIR VOLUME TO BE INCLUDED IN THE FINAL QUANTITIES.

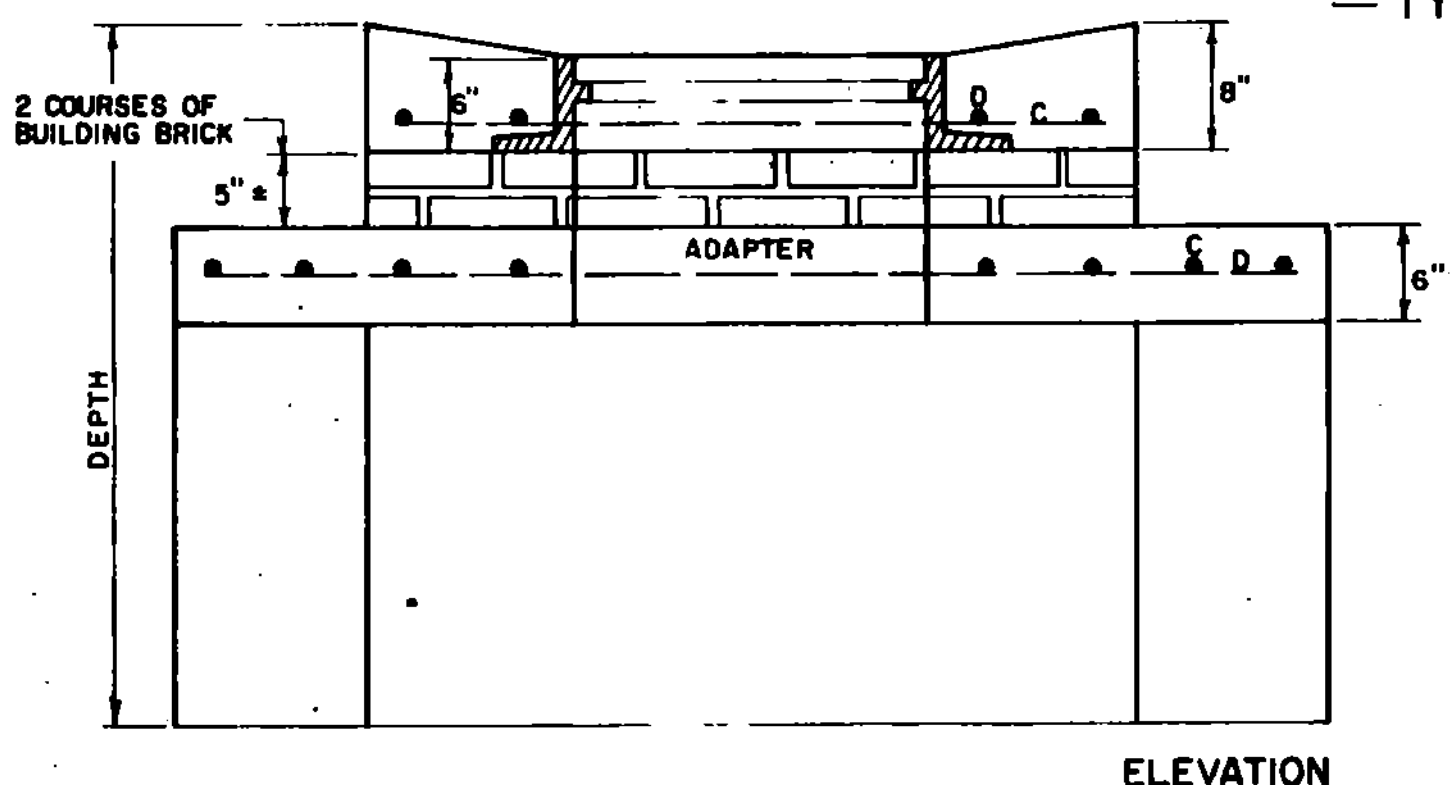
MORTAR, TYPE II, TO BE USED AS JOINT FILLER AND LAYING OF BRICK.

FOR PIPES OF 30" OR MORE IN DIAMETER, ALLOWANCE SHALL BE MADE FOR THE OPENING IN COMPUTING CONCRETE VOLUMES. THIS DEDUCTION WILL BE BASED ON THE RATED DIAMETER OF THE PIPE USED, WITH THE SAME DEDUCTION FOR CONCRETE AND METAL PIPE. ABOVE TABLES INDICATE DEDUCTION FOR ONE PIPE.

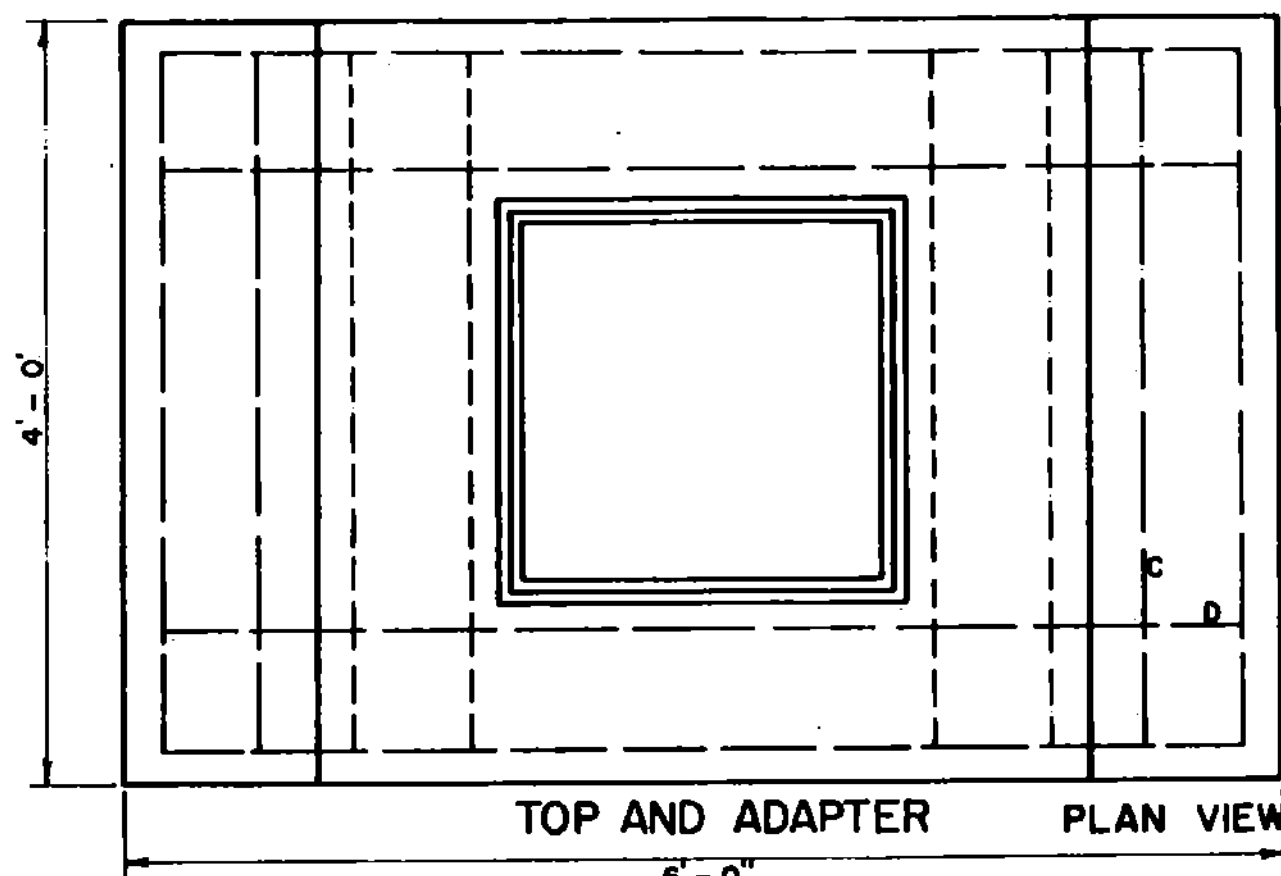


TOP PLAN VIEW

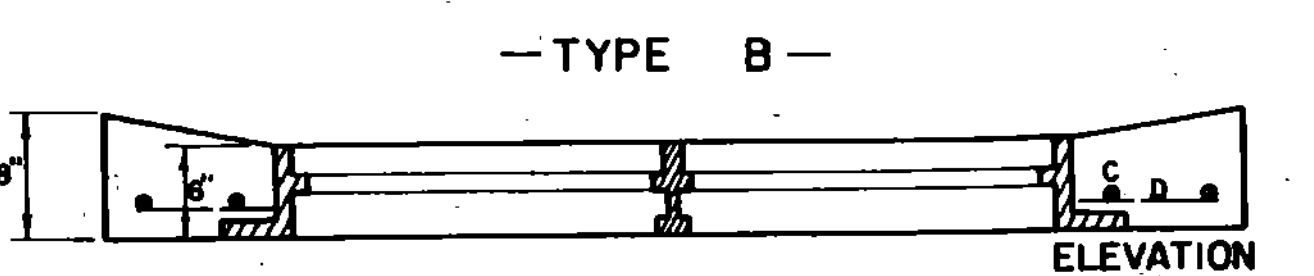
STEEL AND CONCRETE QUANTITIES				
4x6 DROP INLET WITH ONE GRATE WITH 4x4 TOP TYPE D				
DEPTH	30"		36"	
	CONCRETE C.Y.	STEEL LBS.	CONCRETE C.Y.	STEEL LBS.
5'-0"	3.2	313	3.1	313
5'-6"	3.5	322	3.4	322
6'-0"	3.8	358	3.7	358
6'-6"	4.1	382	4.0	382
7'-0"	4.4	418	4.3	418
7'-6"	4.7	427	4.6	427
8'-0"	5.0	463	4.9	463



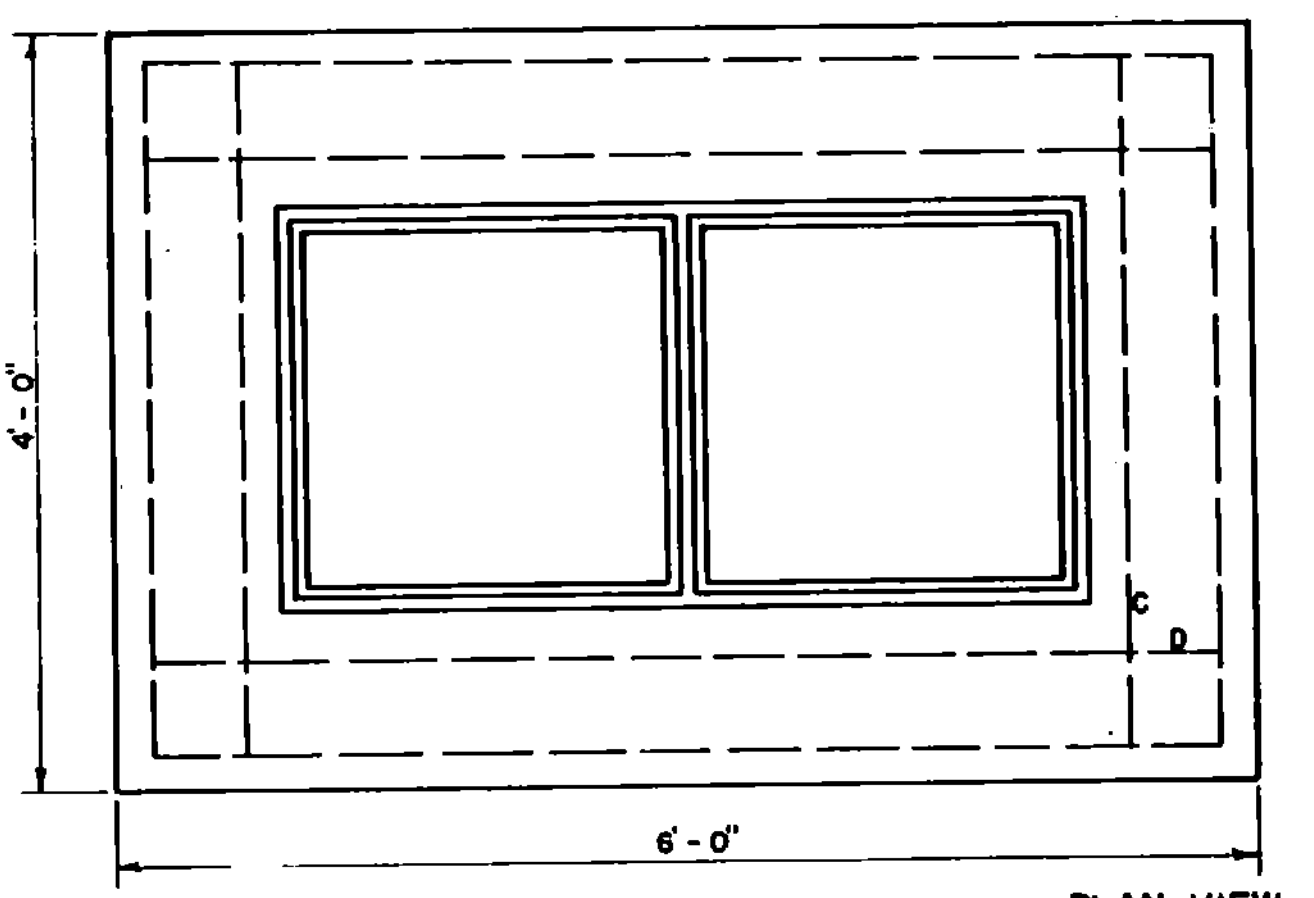
4x6 DROP INLET WITH 4x4 TOP TOP WITH ONE CAST IRON GRATE



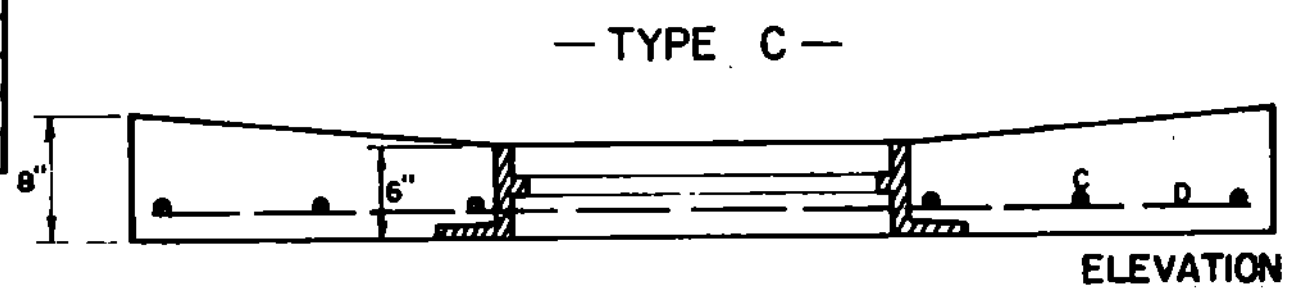
TOP AND ADAPTER PLAN VIEW



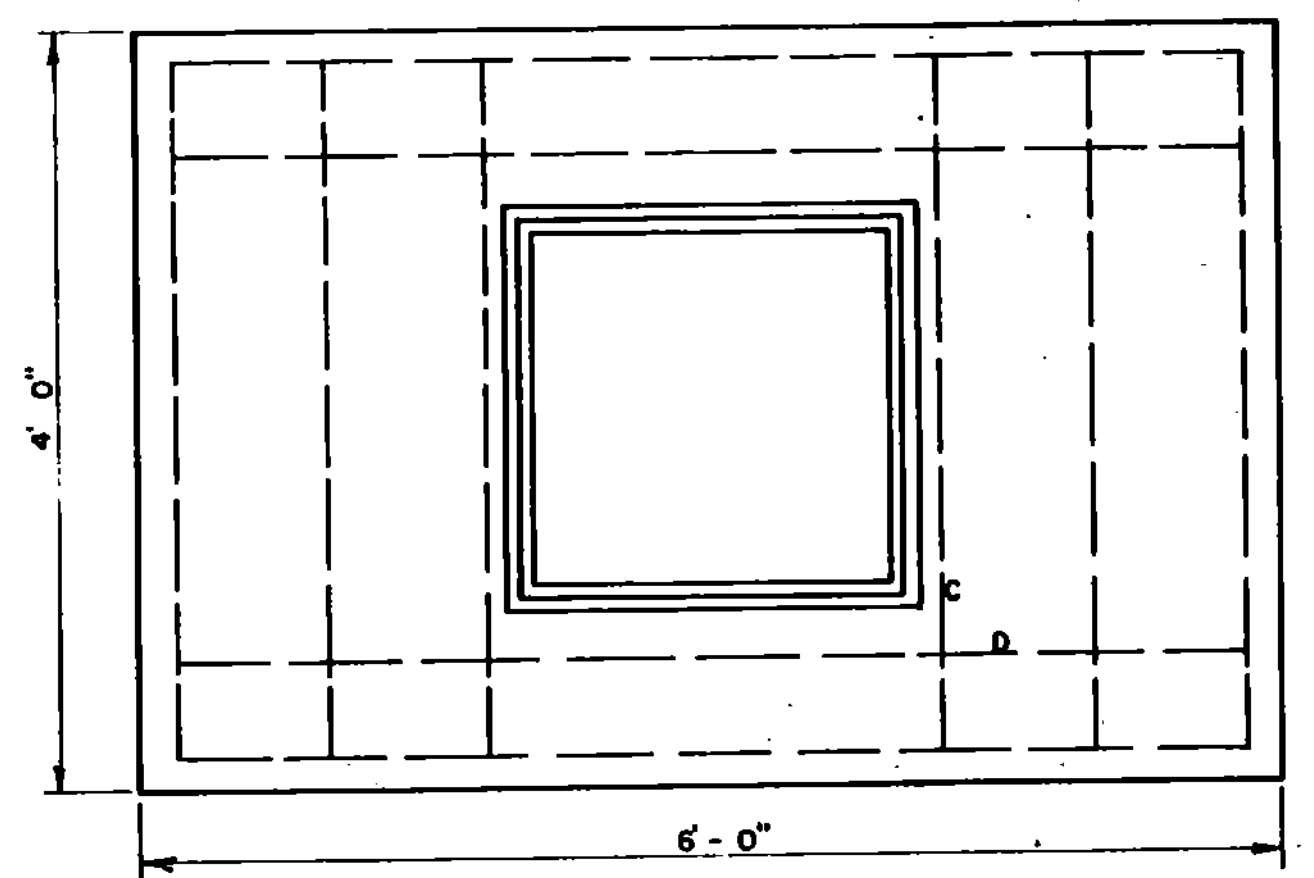
- TYPE B -



4x6 DROP INLET TOP WITH TWO CAST IRON GRATES



- TYPE C -



4x6 DROP INLET TOP WITH ONE CAST IRON GRATE

REVISIONS AND CORRECTIONS
APR. 2, 1973 - ORIGINAL D-6 REDRAWN.

APPROVED
April 4, 1973
DATE

P.H. Arnold
CHIEF ENGINEER

E.H. Sturtevant
ASST. CHIEF ENGINEER

J.M. Low
HIGHWAY ENGINEER

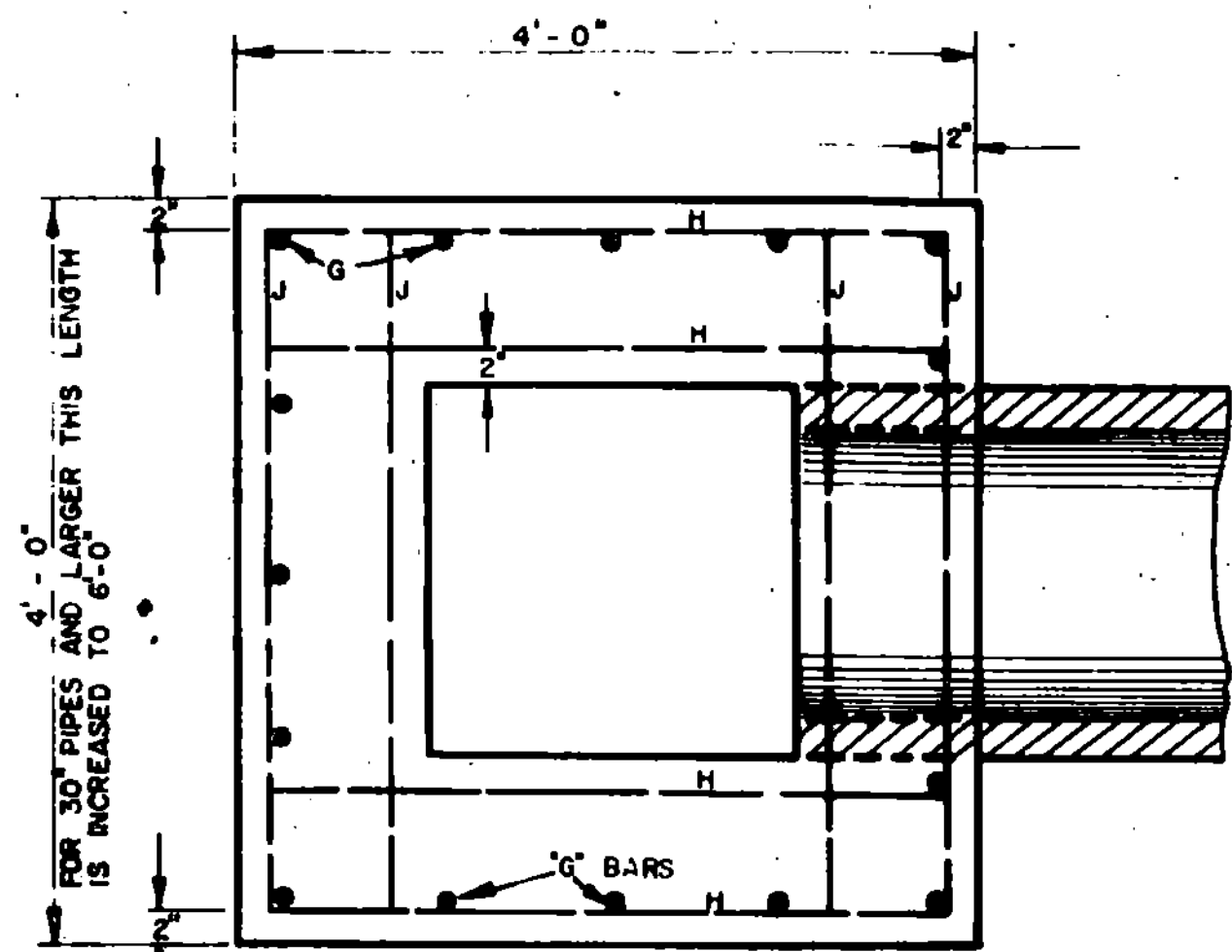
REINFORCED CONCRETE DROP INLET WITH GRATE
FOR USE IN DITCHES



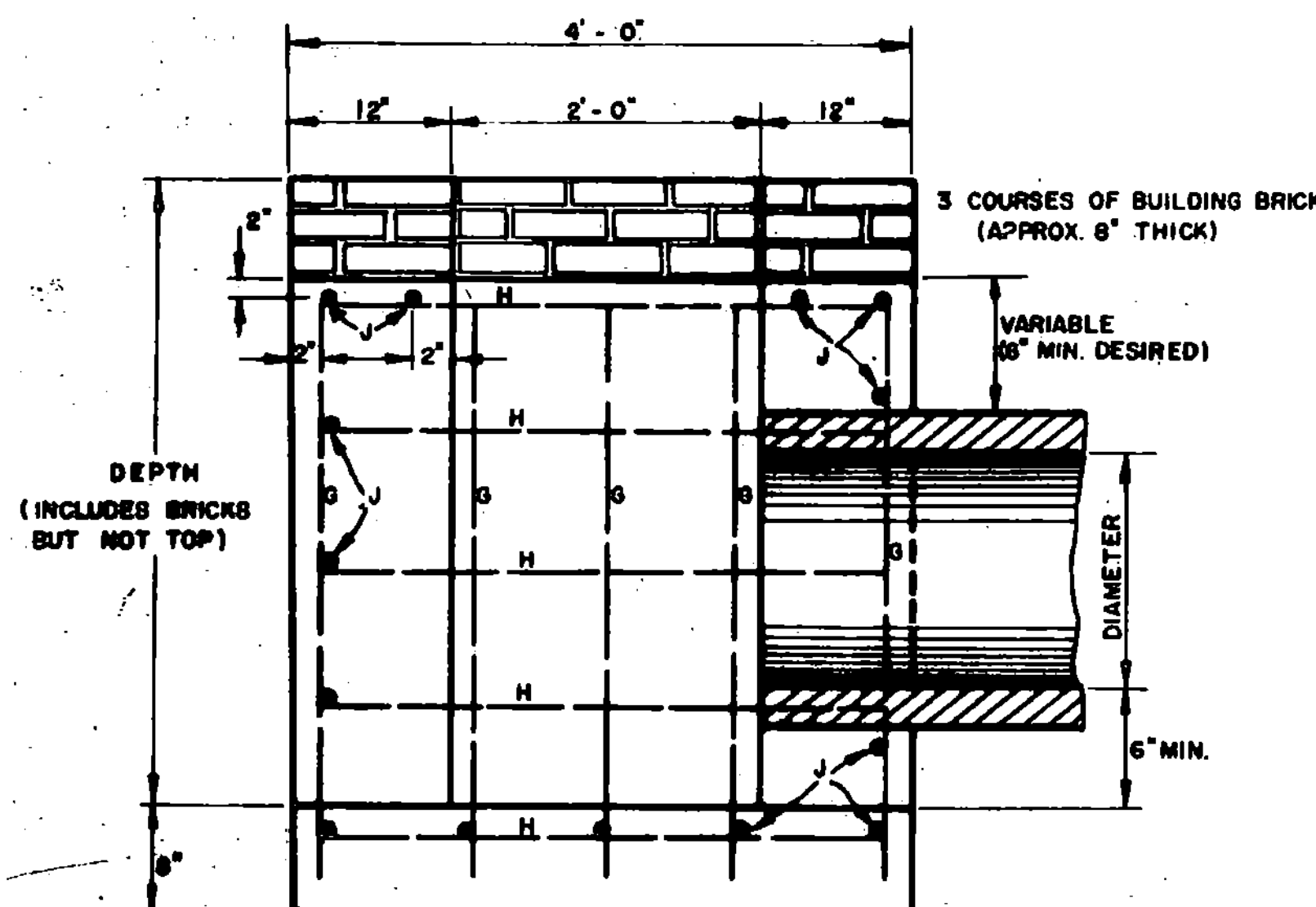
STANDARD
D-6

REINFORCED CONCRETE DROP INLET WITH GRATE (BOTTOM SECTION)

SEE SHEETS D-9, D-10, D-11 AND D-16 FOR TOP SECTION



TOP VIEW



SIDE VIEW

STEEL SCHEDULE FOR DROP INLET (BOTTOM SECTION ONLY)

DEPTH	12" TO 24" DIAMETER 4' X 4' D.I.						30" DIAMETER 4' X 6' D.I.					
	NO. J	LENGTH	NO. H	LENGTH	NO. G	LENGTH	NO. J	LENGTH	NO. H	LENGTH	NO. G	LENGTH
3'-0"	12	3'-8"	13	3'-8"	15	2'-8"						
3'-6"	12	3'-8"	13	3'-8"	15	3'-2"						
4'-0"	14	3'-8"	15	3'-8"	15	3'-8"						
4'-6"	14	3'-8"	15	3'-8"	15	4'-2"	12	5'-8"	17	3'-8"	17	4'-8"
5'-0"	16	3'-8"	17	3'-8"	15	4'-8"	14	5'-8"	19	3'-8"	17	4'-8"
5'-6"	16	3'-8"	17	3'-8"	15	5'-2"	14	5'-8"	19	3'-8"	17	5'-2"
6'-0"	18	3'-8"	19	3'-8"	15	5'-8"	16	5'-8"	21	3'-8"	17	5'-8"

MINIMUM DEPTH FOR
15" 3'-6"
18" 3'-6"
24" 4'-0"

36" DIAMETER 4' X 6' D.I.

DEPTH	36" DIAMETER 4' X 6' D.I.					
	NO. J	LENGTH	NO. H	LENGTH	NO. G	LENGTH
5'-0"	14	5'-8"	19	3'-8"	17	4'-8"
5'-6"	14	5'-8"	19	3'-8"	17	5'-2"
6'-0"	16	5'-8"	21	3'-8"	17	5'-8"

BRICKS ARE INCLUDED IN CONCRETE QUANTITIES IN CHART

CONCRETE AND STEEL QUANTITIES FOR DROP INLETS (BOTTOM SECTION ONLY)

DEPTH	12"-24" DIA.		30" DIA.		36" DIA.	
	CONC. B. C.Y.	STEEL	CONC. B. C.Y.	STEEL	CONC. B. C.Y.	STEEL
3'-0"	1.73	13.8				
3'-6"	1.95	14.5				
4'-0"	2.17	16.8				
4'-6"	2.40	17.6	3.08	210		
5'-0"	2.62	19.9	3.37	238	3.29	238
5'-6"	2.84	20.7	3.67	247	3.59	247
6'-0"	3.06	230	3.97	276	3.89	276

TO FIND VOLUME OF CONCRETE FOR THE ENTIRE STRUCTURE, ADD THE VOLUME FOR THE TOP USED, TO THE VOLUME IN THIS TABLE. FOR VOLUME IN TOP, SEE SHEETS D-9, D-10

ALL REINFORCING STEEL TO BE NO. 5 DEFORMED BARS, EVENLY SPACED, WITH A MAXIMUM SPACING OF 12" CENTER TO CENTER.

DROP INLET TO BE CONSTRUCTED IN ACCORDANCE WITH STRUCTURAL CONCRETE, SECTION 501.

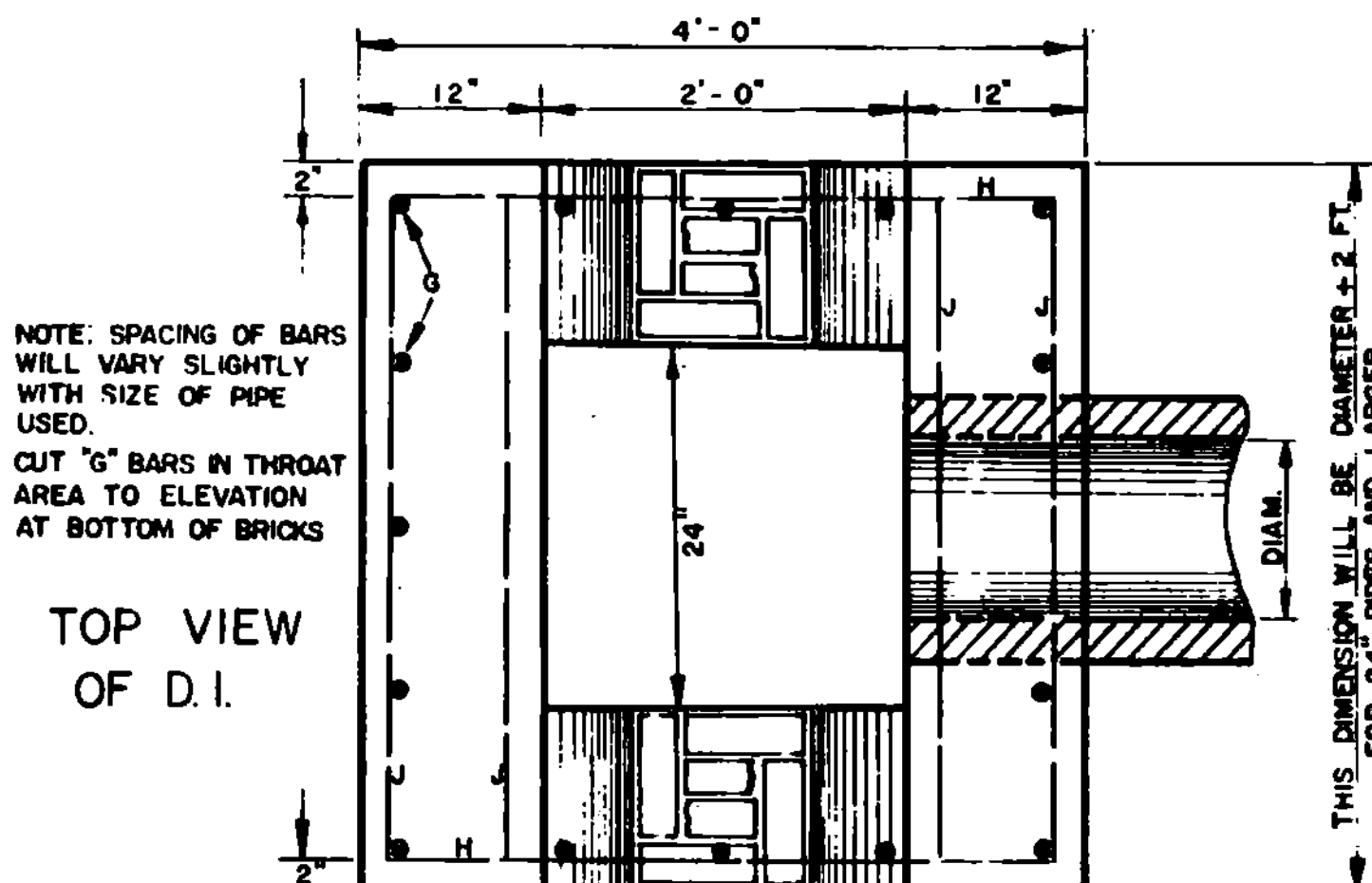
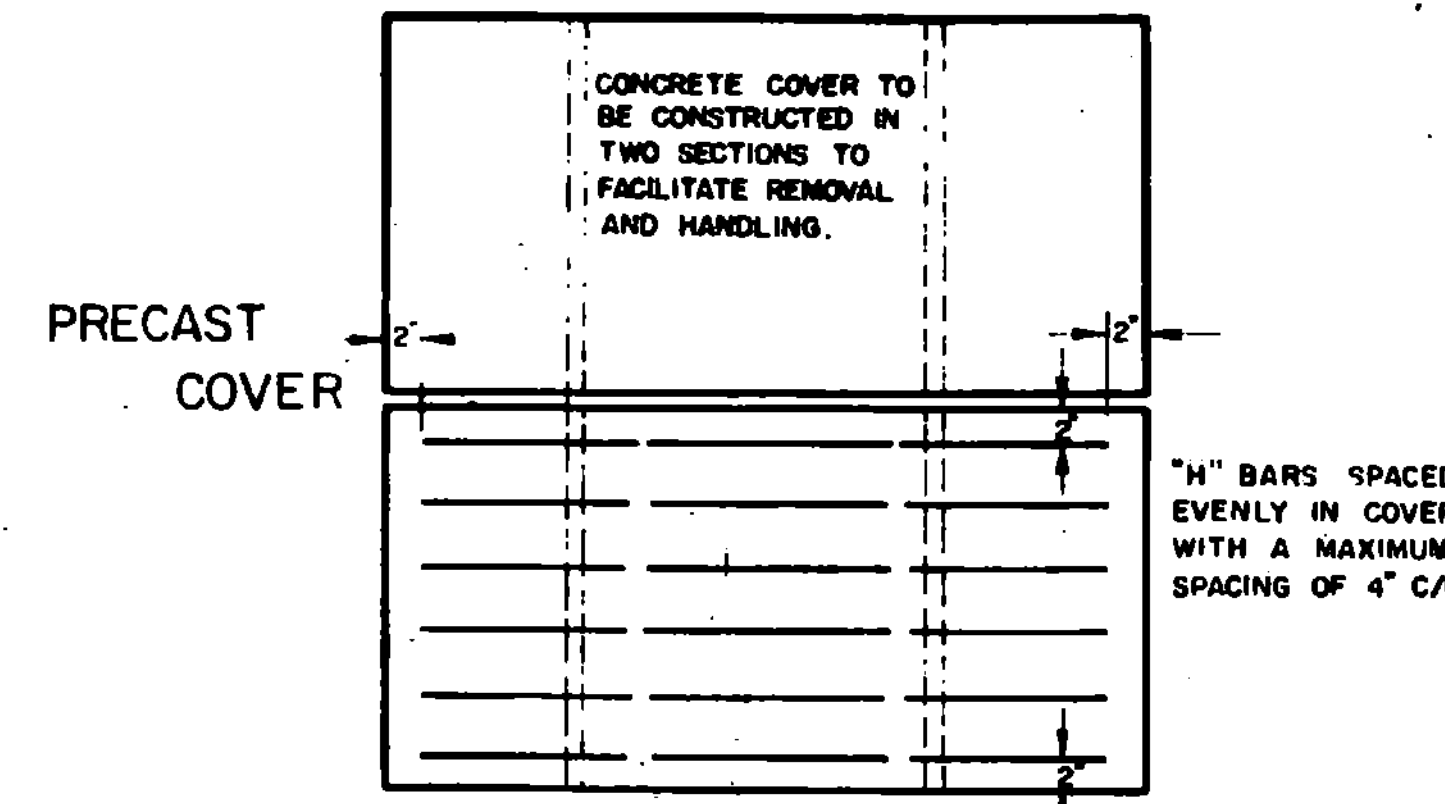
FURNISHING AND LAYING OF BRICKS FOR ADJUSTING ELEVATION OF GRATE, SHALL BE INCLUDED IN UNIT BID PRICE FOR CONCRETE, CLASS B, PAY ITEM 501.25, AND THEIR VOLUME TO BE INCLUDED IN THE FINAL QUANTITIES.

MORTAR, TYPE II, TO BE USED FOR JOINT FILLER AND LAYING OF BRICK.

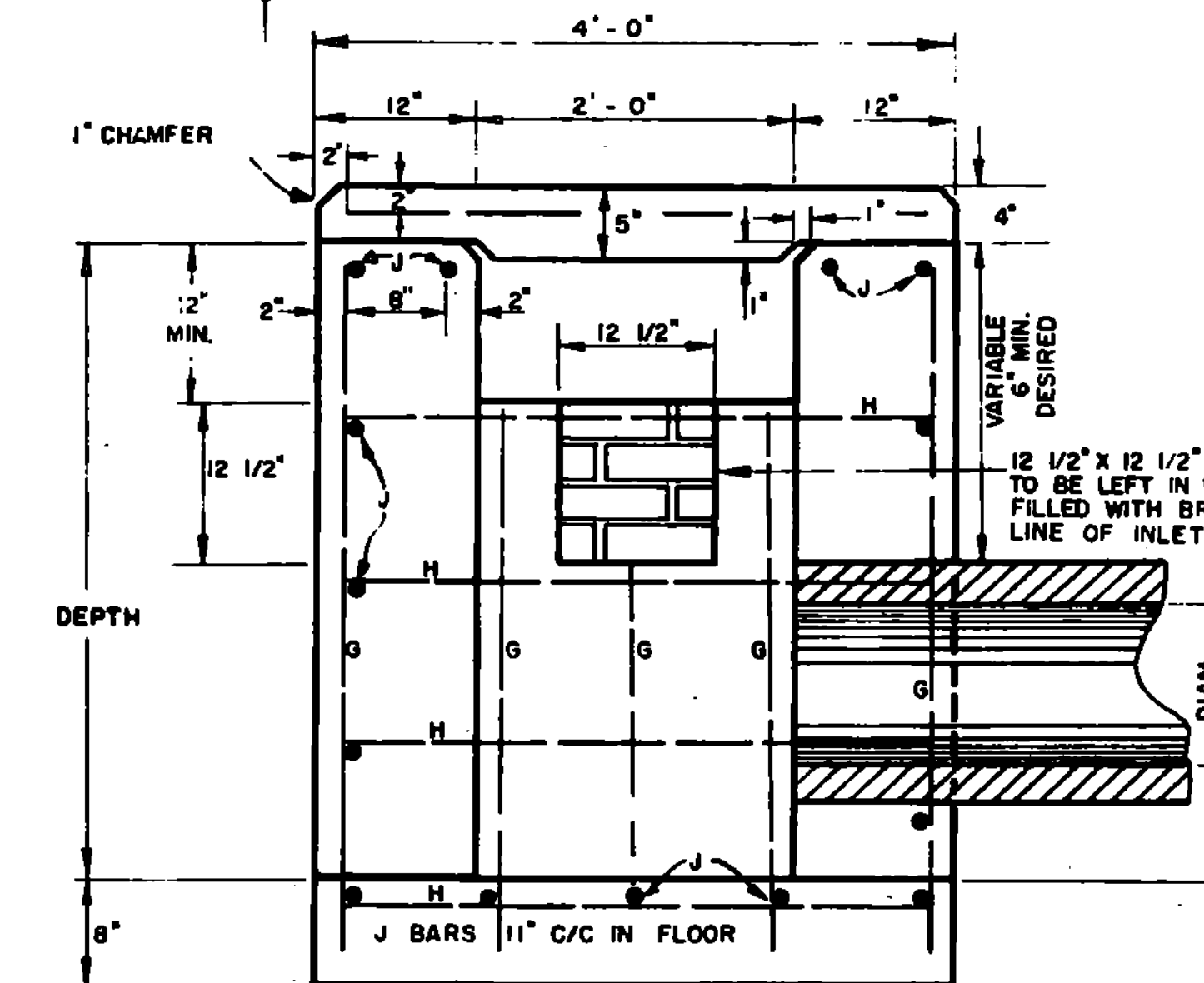
FOR PIPES OF 30" OR MORE IN DIAMETER, ALLOWANCE SHALL BE MADE FOR THE OPENING IN COMPUTING CONCRETE VOLUMES. THIS DEDUCTION WILL BE BASED ON THE RATE DIAMETER OF THE PIPE USED, WITH THE SAME DEDUCTION FOR CONCRETE AND METAL PIPE.

REINFORCED CONCRETE DROP INLET WITH PRECAST COVER

DROP INLET AND COVER TO BE CONSTRUCTED IN ACCORDANCE WITH STRUCTURAL CONCRETE, SECTION 501



TOP VIEW OF D.I.



SIDE VIEW OF D.I.

STEEL SCHEDULE FOR DROP INLETS WITH PRECAST COVERS

DEPTH	12" TO 24" DIAMETER				30" DIAMETER					
	G	LENGTH	H-J	LENGTH	G	LENGTH	J	LENGTH	H	LENGTH
2'-0"	15	2'-4"	31	3'-8"						
2'-6"	15	2'-10"	33	3'-8"						
3'-0"	15	3'-4"	36	3'-8"						
3'-6"	15	3'-10"	36	3'-8"	16	3'-10"	12	4'-2"	23	3'-8"
4'-0"	15	4'-4"	39	3'-8"	16	4'-4"	14	4'-2"	23	3'-8"
4'-6"	15	4'-10"	39	3'-8"	16	4'-10"	14	4'-2"	25	3'-8"
5'-0"	15	5'-4"	42	3'-8"	16	5'-4"	16	4'-2"	25	3'-8"
5'-6"	15	5'-10"	42	3'-8"	16	5'-10"	16	4'-2"	27	3'-8"
6'-0"	15	6'-4"	45	3'-8"	16	6'-4"	18	4'-2"	27	3'-8"

36" DIAMETER

DEPTH	36" DIAMETER					
	G	LENGTH	J	LENGTH	H	LENGTH
4'-0"	16	4'-4"	14	4'-8"	28	3'-8"
4'-6"	16	4'-10"	14	4'-8"	28	3'-8"
5'-0"	16	5'-4"	16	4'-8"	30	3'-8"
5'-6"	16	5'-10"	16	4'-8"	30	3'-8"
6'-0"	16	6'-4"	18	4'-8"	32	3'-8"

CONCRETE AND STEEL QUANTITIES FOR DROP INLETS OF VARIOUS DEPTHS

DROP INLETS WITH PRECAST COVERS

DEPTH	12" 15" 18"		24"		30"		36"	
	CONC. B. C.Y.	STEEL LBS.	CONC. B. C.Y.	STEEL LBS.	CONC. B. C.Y.	STEEL LBS.	CONC. B. C.Y.	STEEL LBS.
2'-0"	1.4	155						
2'-6"	1.6	171	1.6	171				
3'-0"	1.8	190	1.8	190				
3'-6"	2.0	198	2.0	198	2.1	204		
4'-0"	2.3	217	2.3	217	2.3	221	2.5	248
4'-6"	2.5	225	2.5	225	2.6	237	2.7	256
5'-0"	2.7	244	2.7	244	2.8	254	3.0	282
5'-6"	2.9	252	2.9	252	3.0	270	3.2	290
6'-0"	3.2	271	3.2	271	3.3	287	3.5	316

ALL REINFORCING BARS SHALL BE NO. 5 DEFORMED BARS, EVENLY SPACED, WITH A MAXIMUM SPACING OF 12" CENTER TO CENTER, EXCEPT IN THE COVER, WHERE THE MAXIMUM SPACING IS 4" CENTER TO CENTER.

FOR PIPES OF 30" OR MORE IN DIAMETER, ALLOWANCE SHALL BE MADE FOR THE OPENING IN COMPUTING CONCRETE VOLUMES. THIS DEDUCTION WILL BE BASED ON THE RATED DIAMETER OF THE PIPE USED, WITH THE SAME DEDUCTION FOR CONCRETE AND METAL PIPE.

FURNISHING AND LAYING OF BRICKS, SHALL BE INCLUDED IN THE UNIT BID PRICE FOR CONCRETE, CLASS B, AND THEIR VOLUME TO BE INCLUDED IN THE FINAL QUANTITIES. ONLY SUFFICIENT MORTAR TO BE USED TO PROVIDE A VERY LIGHT BOND TO ALLOW WITH EASE, FUTURE REMOVAL, FOR CORRECTION OF ELEVATION OF FLOW LINE.

MORTAR, TYPE II, TO BE USED FOR JOINT FILLER AND LAYING OF BRICK.

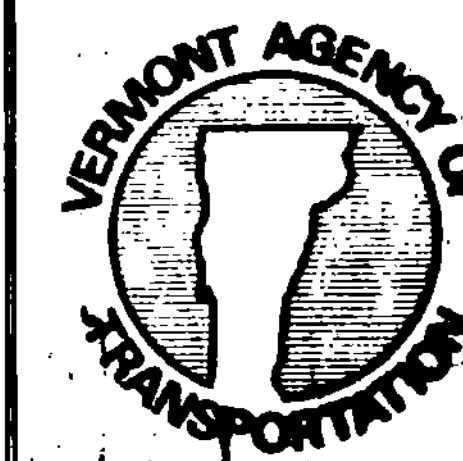
REVISIONS AND CORRECTIONS

APPROVED: DATE Dec 6, 1971

R.H. Arnold
CHIEF ENGINEER
E.H. Steinhilber
ASST. CHIEF ENGINEER
G.M. Lane
HIGHWAY ENGINEER

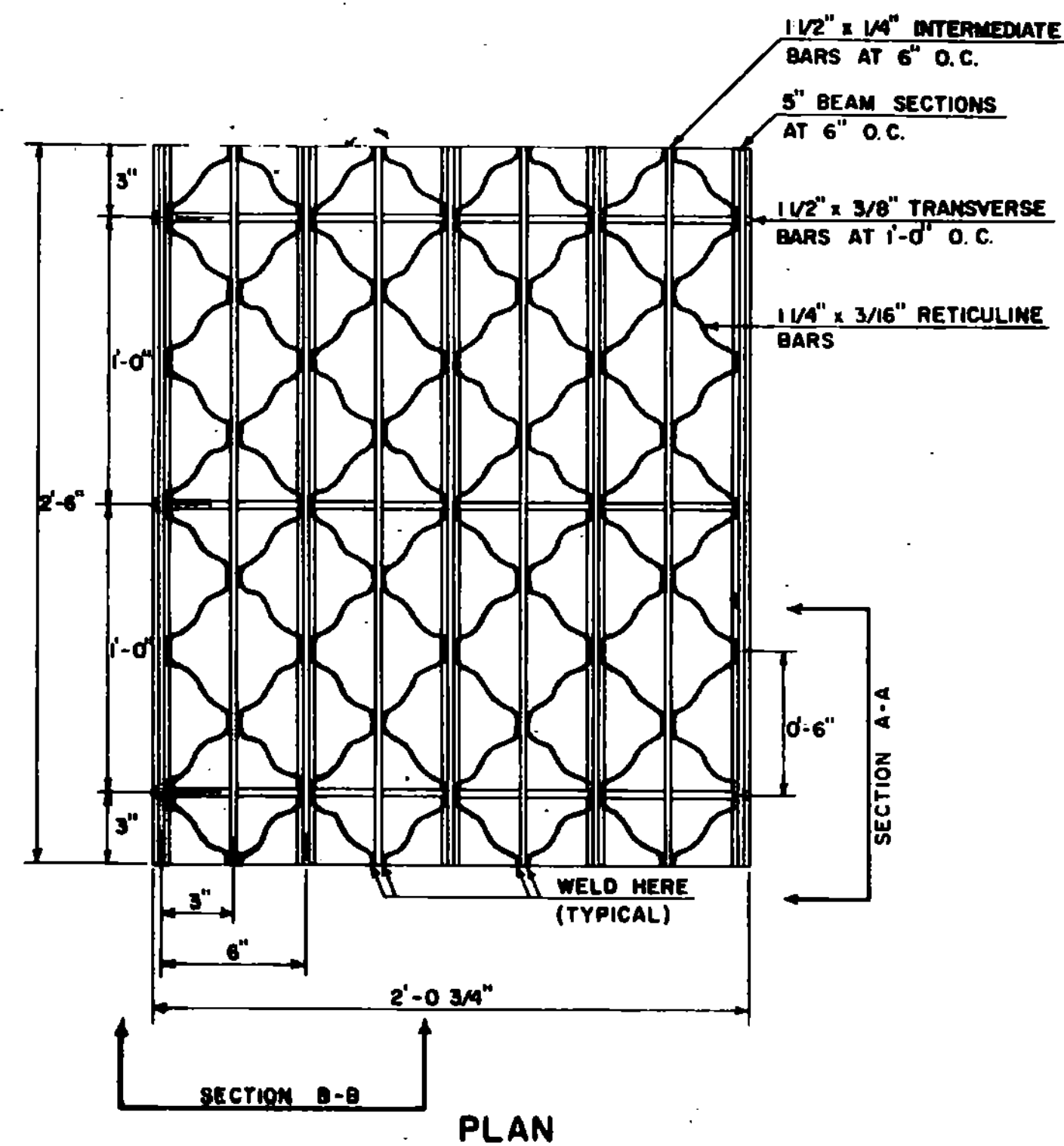
DRAWN: R.M.
TRACED: A.A.

REINFORCED CONCRETE DROP INLET WITH PRECAST COVER
REINFORCED CONCRETE DROP INLET WITH GRATE (BOTTOM SECTION)
(SEE SHEETS D-9, D-10 & D-11 FOR TOP SECTION)



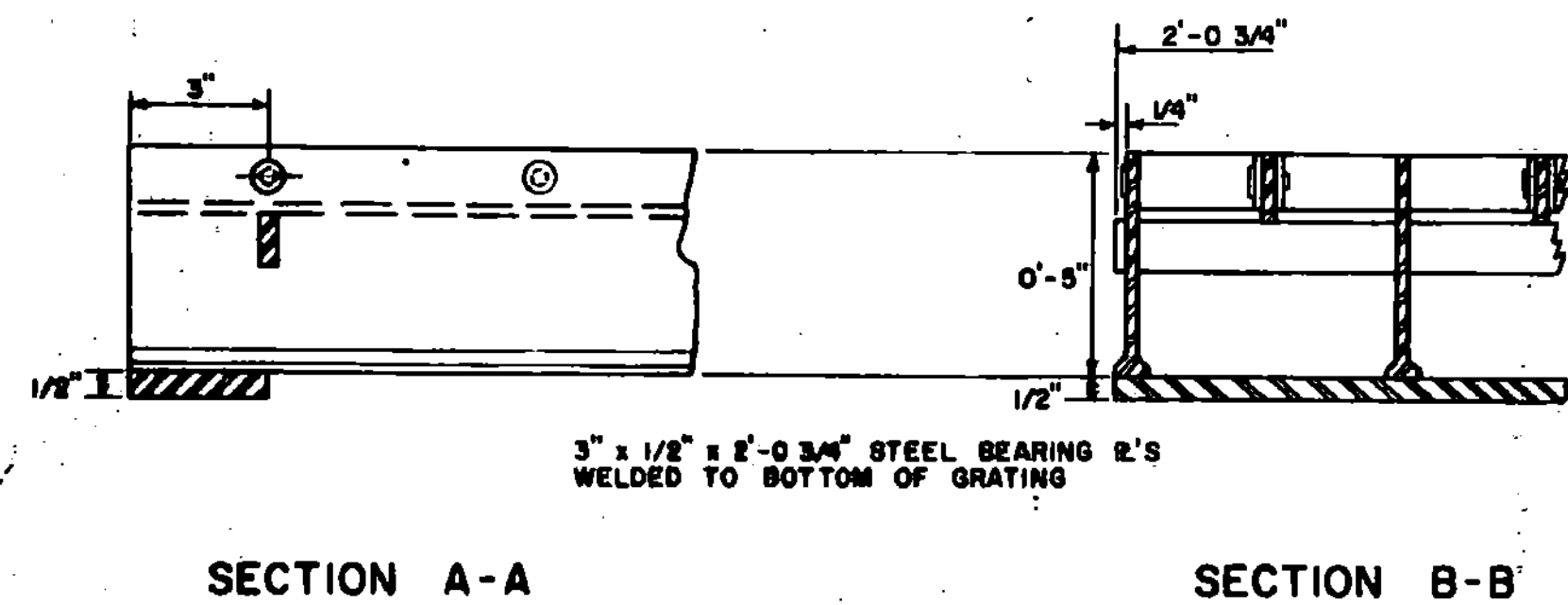
STANDARD
D-8

STEEL GRATE

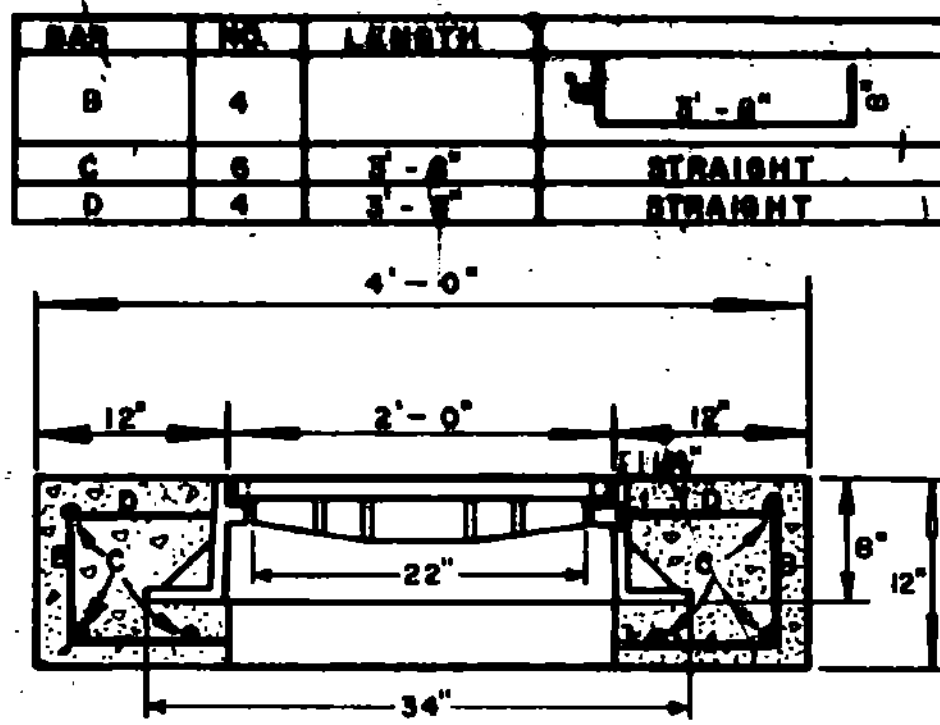


GRATE SIZE SINGLE 24 3/4" x 30"
DOUBLE 24 3/4" x 64"
WEIGHT 95 LBS OR MORE
GRATES SHALL BE CAPABLE OF SUPPORTING H-20 (32,000 LB. AXLE LOAD) INCLUDING 30% IMPACT.

UNIT STRESSES (LBS PER SQ. IN.)	18,000	20,000
MAIN BAR PARALLEL TO TRAFFIC	H-20 48"	53"
MAIN BAR PERPENDICULAR TO TRAFFIC	H-20 38"	42"



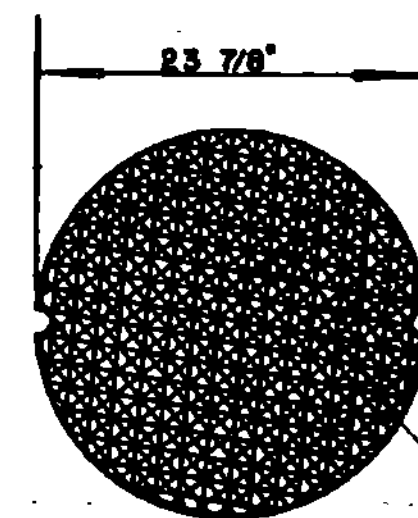
CAST IRON COVER WITH FRAME



ELEVATION

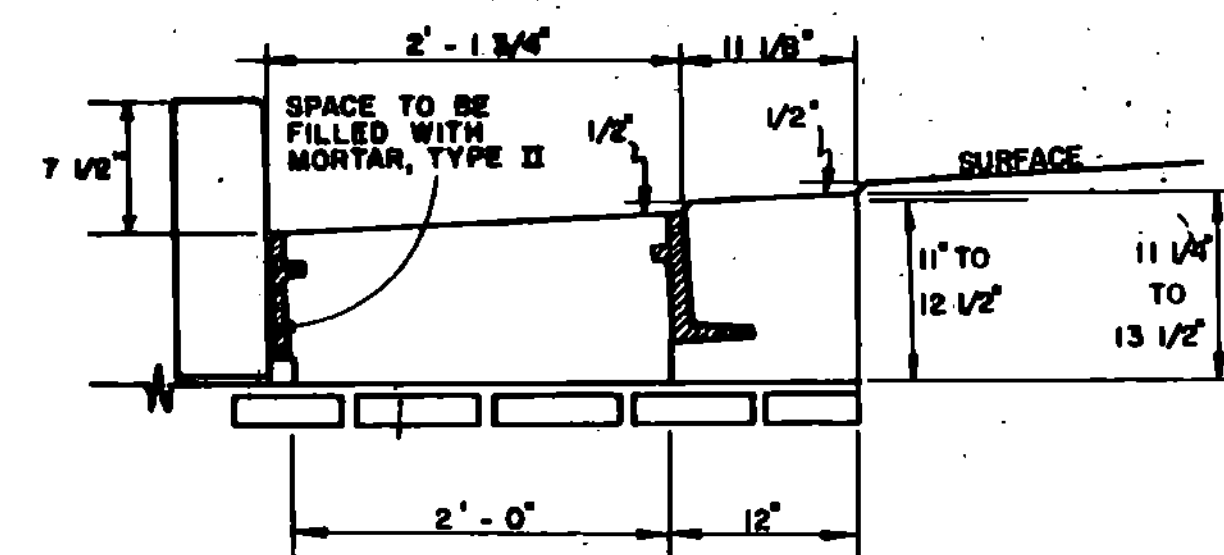
ALL REINFORCING STEEL TO BE No. 5 DEFORMED BARS

GENERAL NOTES:
WEIGHT OF FRAME AND COVER = 425 LBS



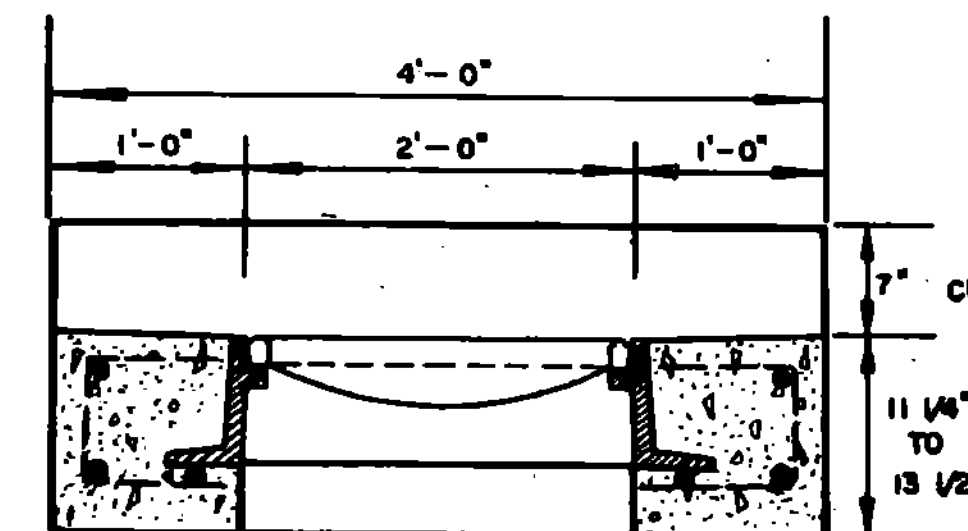
PLAN

CAST IRON GRATE WITH FRAME

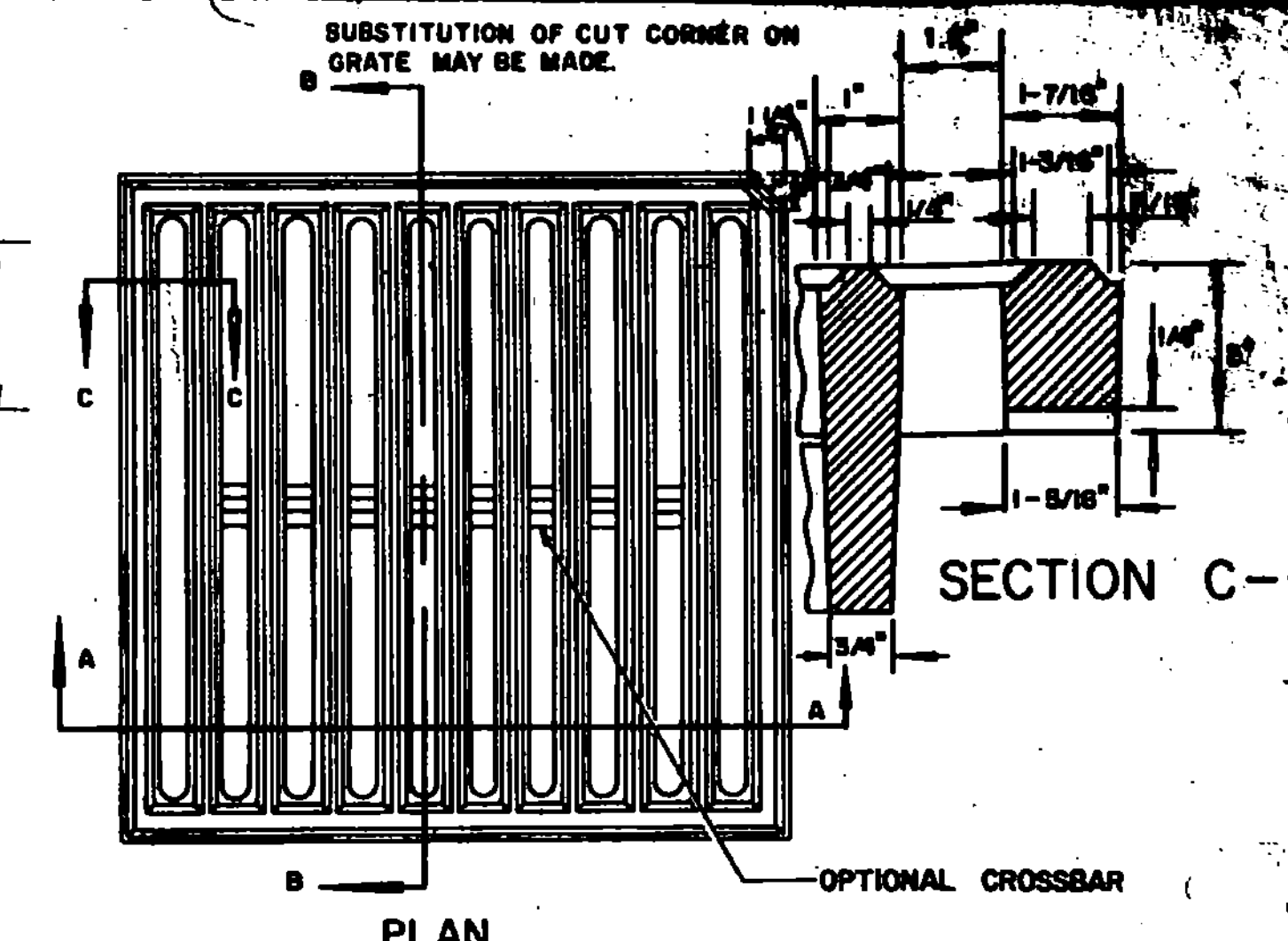


ELEVATION OF REINFORCED CONCRETE DROP INLET WITH VERTICAL GRANITE CURB AND 3 FLANGE CAST IRON FRAME FOR CAST IRON GRATE.

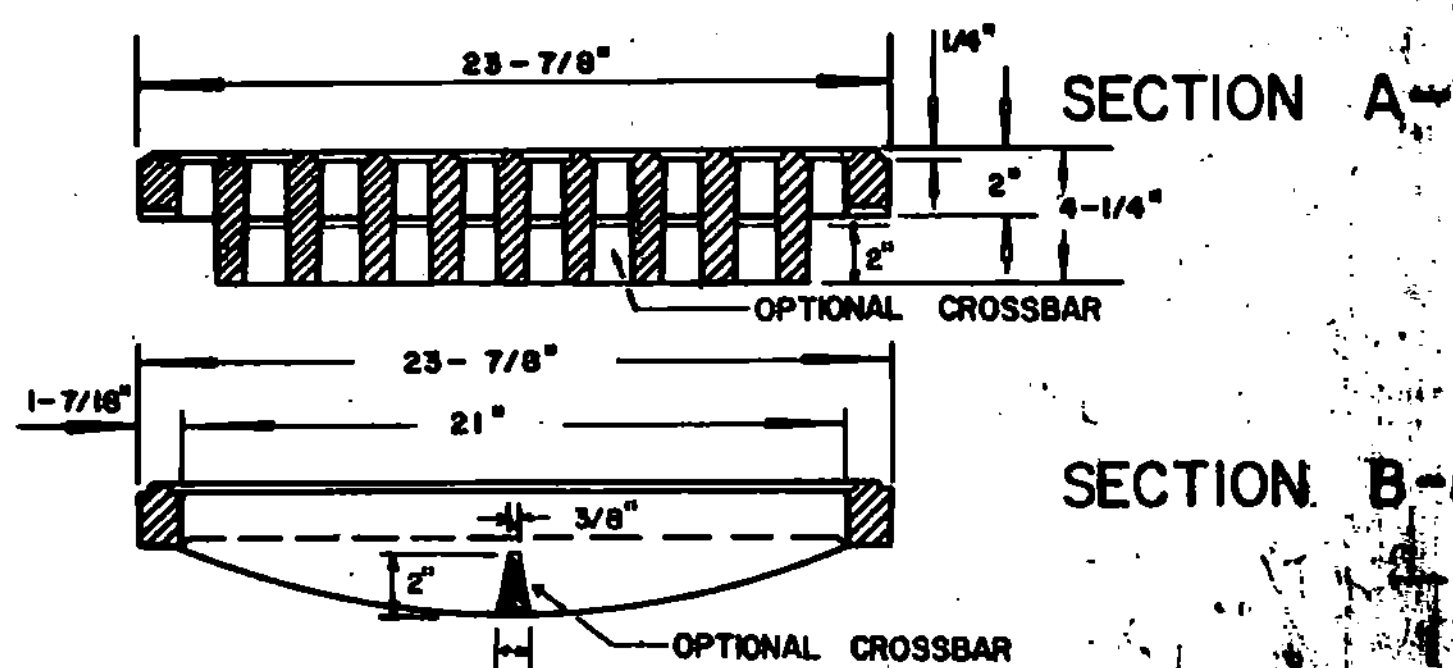
SEE STANDARD D-9 FOR CONCRETE VOLUME, REINFORCING STEEL SCHEDULE AND CURB JOINT DETAIL.



ELEVATION



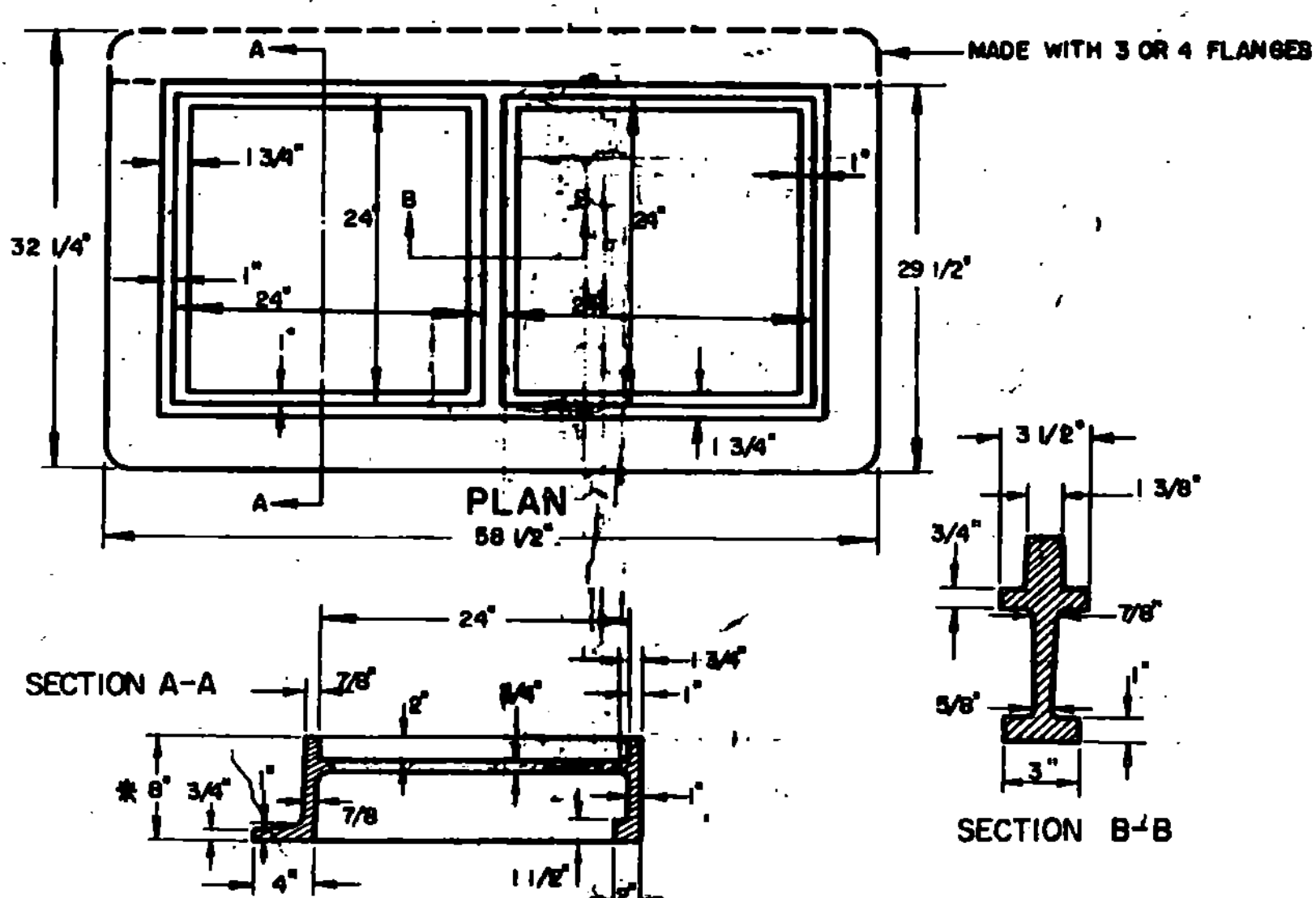
PLAN



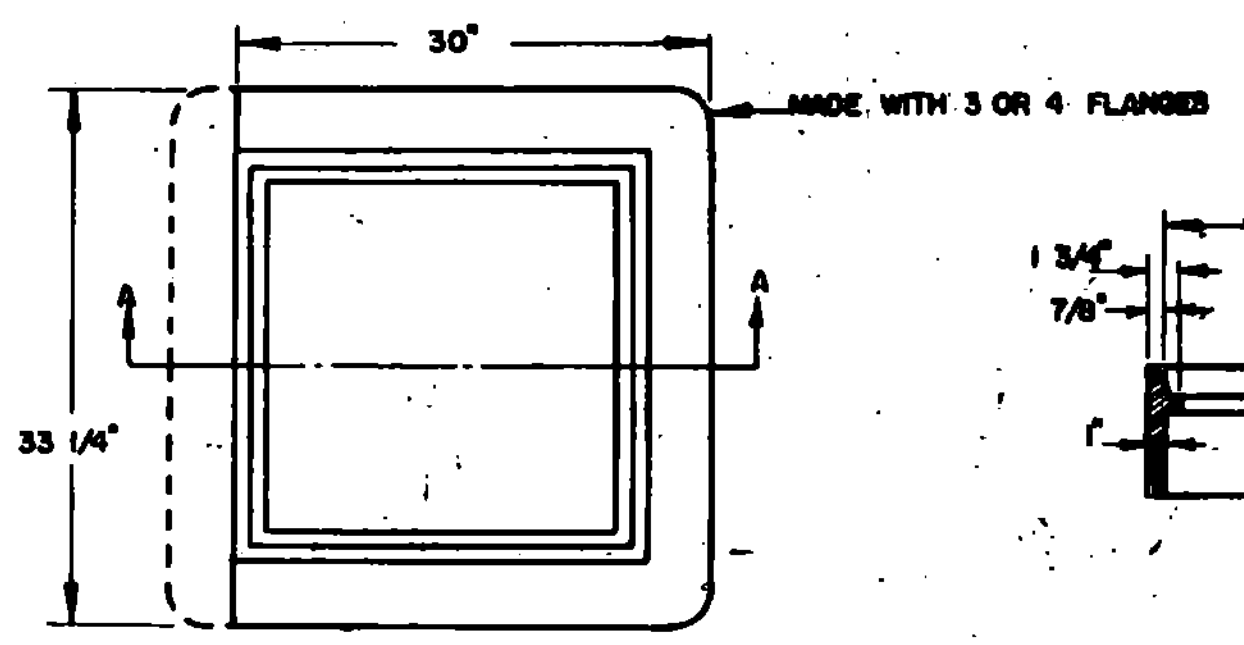
WEIGHT OF 3 FLANGE FRAME AND GRATE	
GRATE	220 LBS
FRAME	260 LBS
TOTAL	480 LBS

CAST IRON GRATE, TYPE A

USE OF THE TYPE A GRATE IS PROHIBITED WHERE BICYCLE TRAFFIC IS EXPECTED.

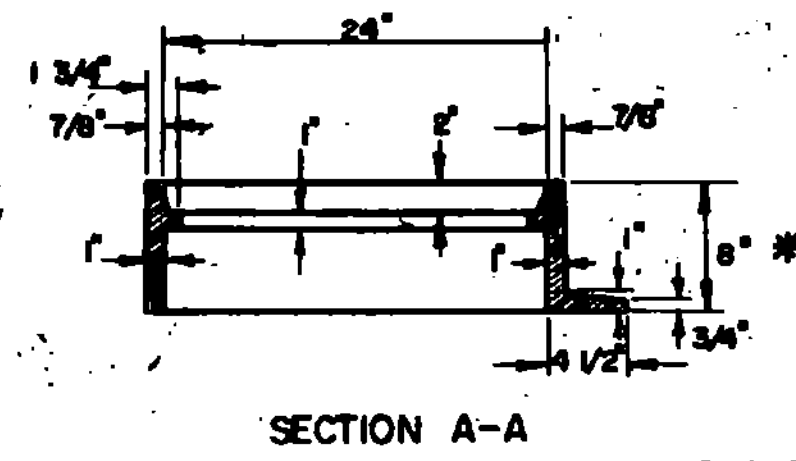


RECTANGULAR CAST IRON FRAME FOR TWO 24" SQUARE CAST IRON GRATES



SQUARE CAST IRON FRAME FOR CAST IRON GRATE TYPE A

*NOTE: FRAME DEPTH TO BE "6" WHEN USED IN CONJUNCTION WITH DROP INLET DETAILED ON STANDARD D-6.



SECTION A-A

THIS FRAME TO BE PLACED IN DROP INLET TOP BEFORE CONCRETE IS POURED. 4 FLANGES UNLESS OTHERWISE INDICATED. FRAMES TO BE FURNISHED WITH 3 FLANGES WHEN USED IN CONJUNCTION WITH CURB OR AS DIRECTED BY THE ENGINEER.

REVISIONS AND CORRECTIONS

APRIL 28, 1978: CAST IRON COVER CHANGED FROM SQUARE TO CIRCULAR BERT. A, 1980. OPTIONAL CROSSBAR ADDED TO 'A' GRATE; NOTE ADDED TO 'A' GRATE FRAME DETAIL.
AUG 24, 1981, NOTE, ADDED RESTRICTING USE OF TYPE A GRATE

APPROVED DATE Dec 6, 1971

R. H. Canoll
CHIEF ENGINEER

E. H. Steinhilber
ASST. CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

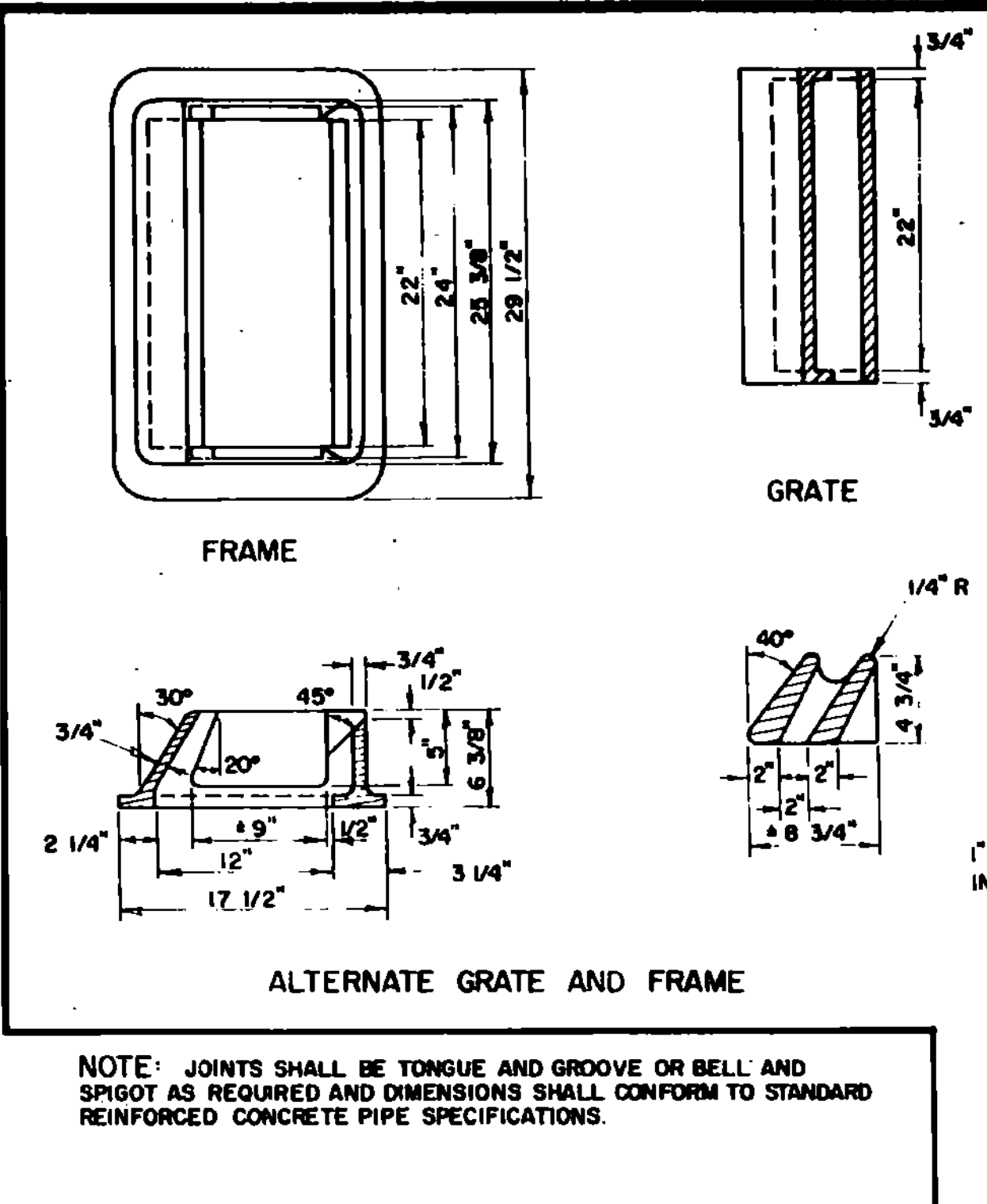
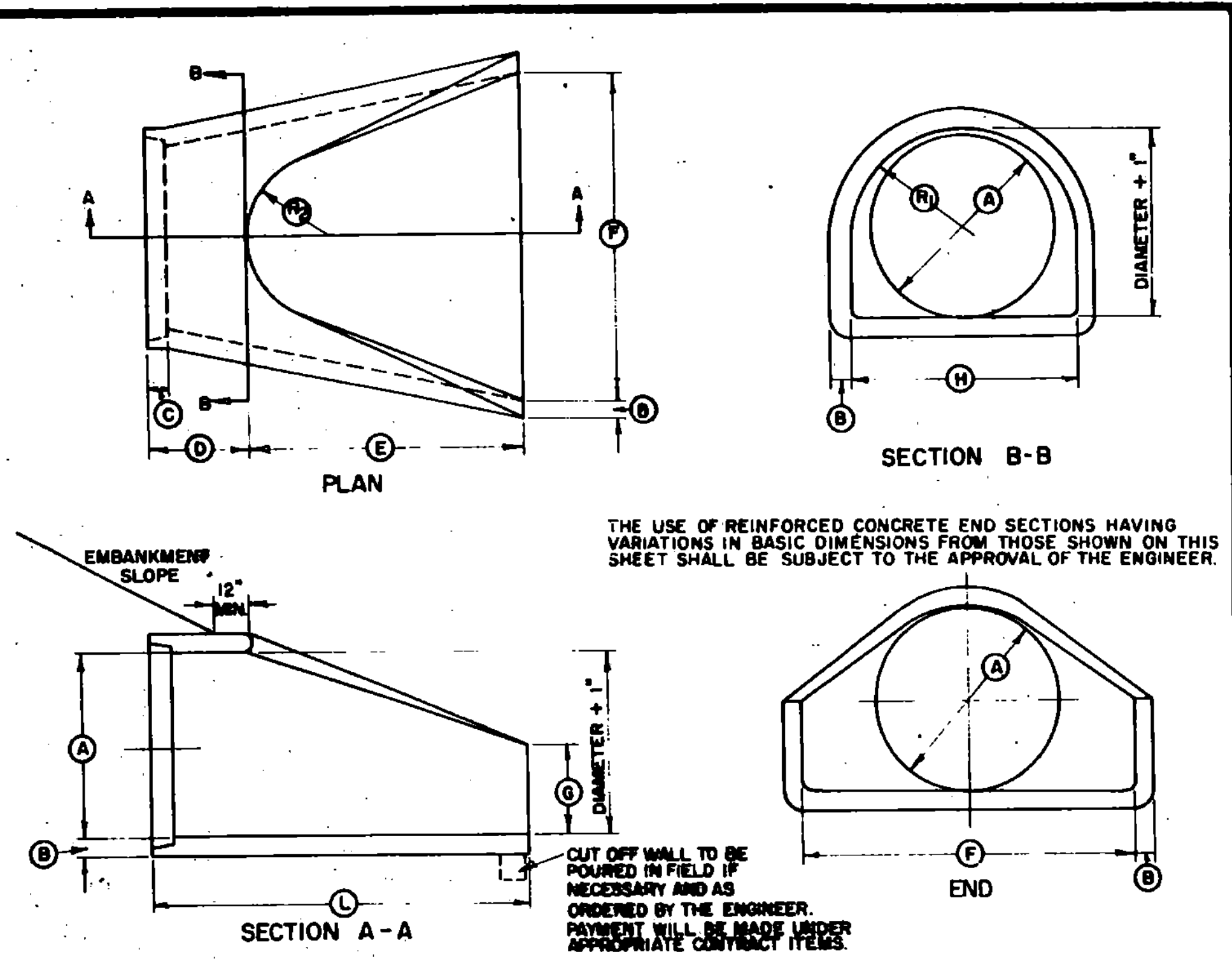
DRAWN: G. A. J.
TRACED: A. A. J.

**STEEL GRATE
CAST IRON GRATE TYPE A
CAST IRON COVER**



STANDARD

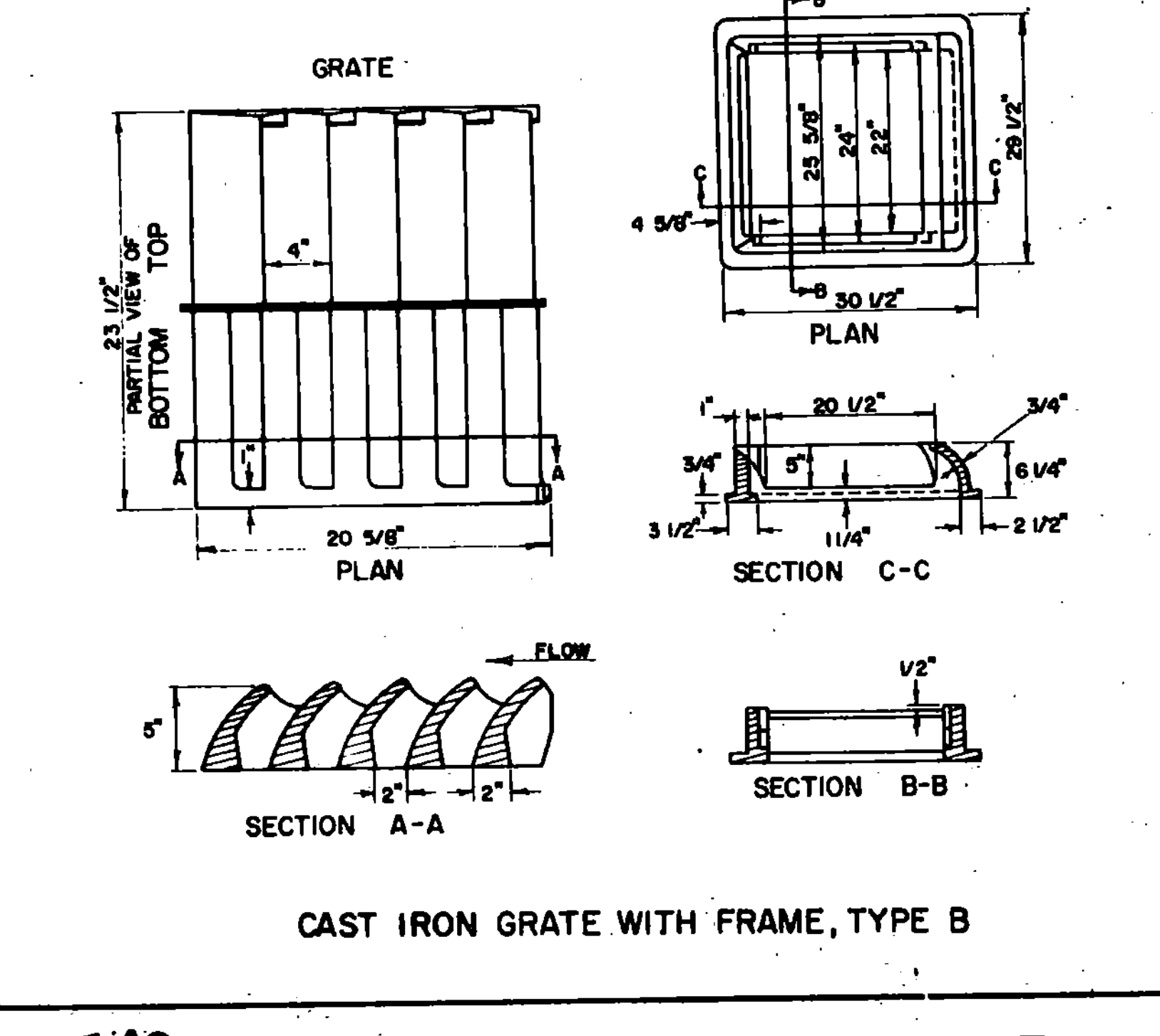
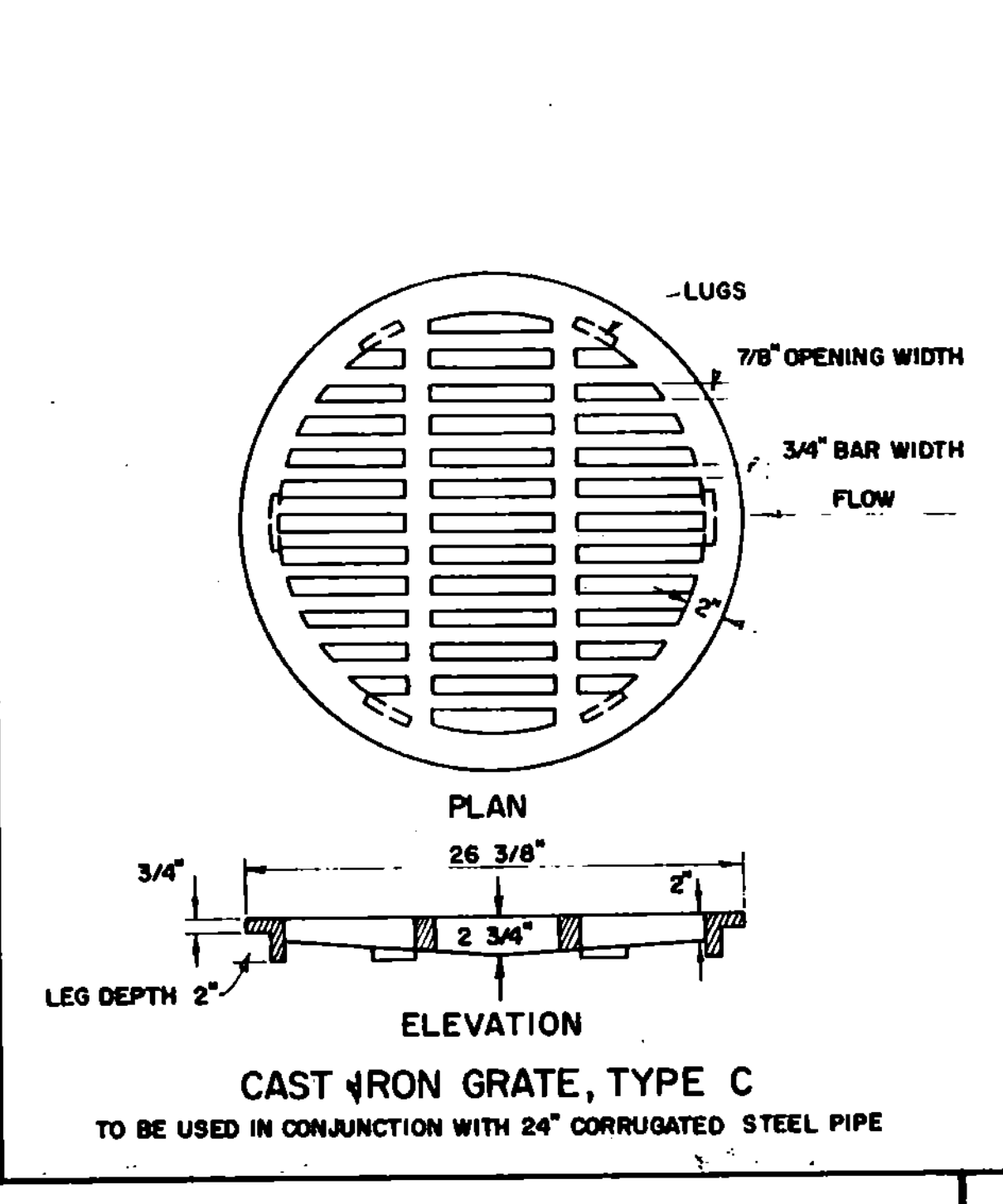
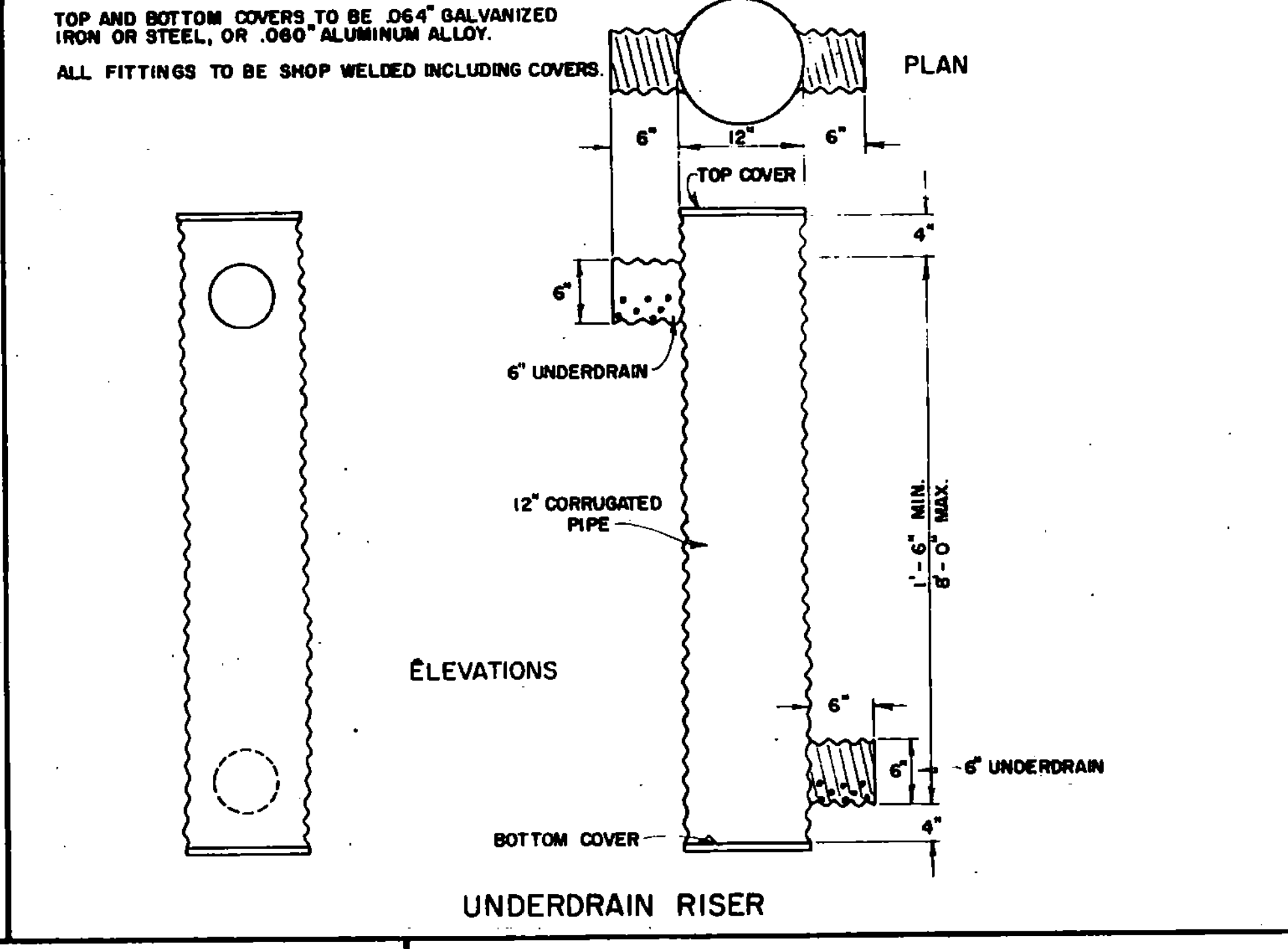
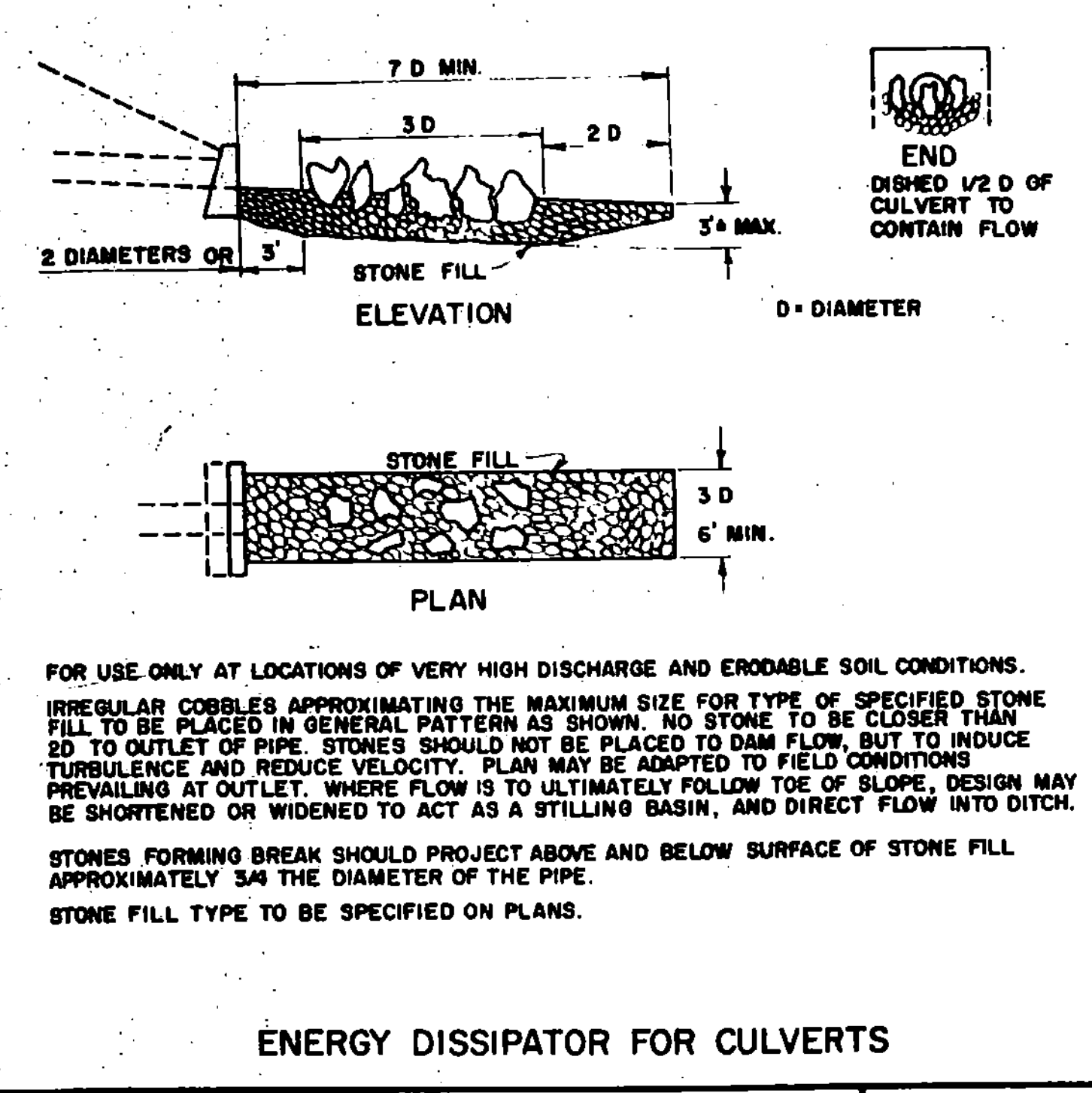
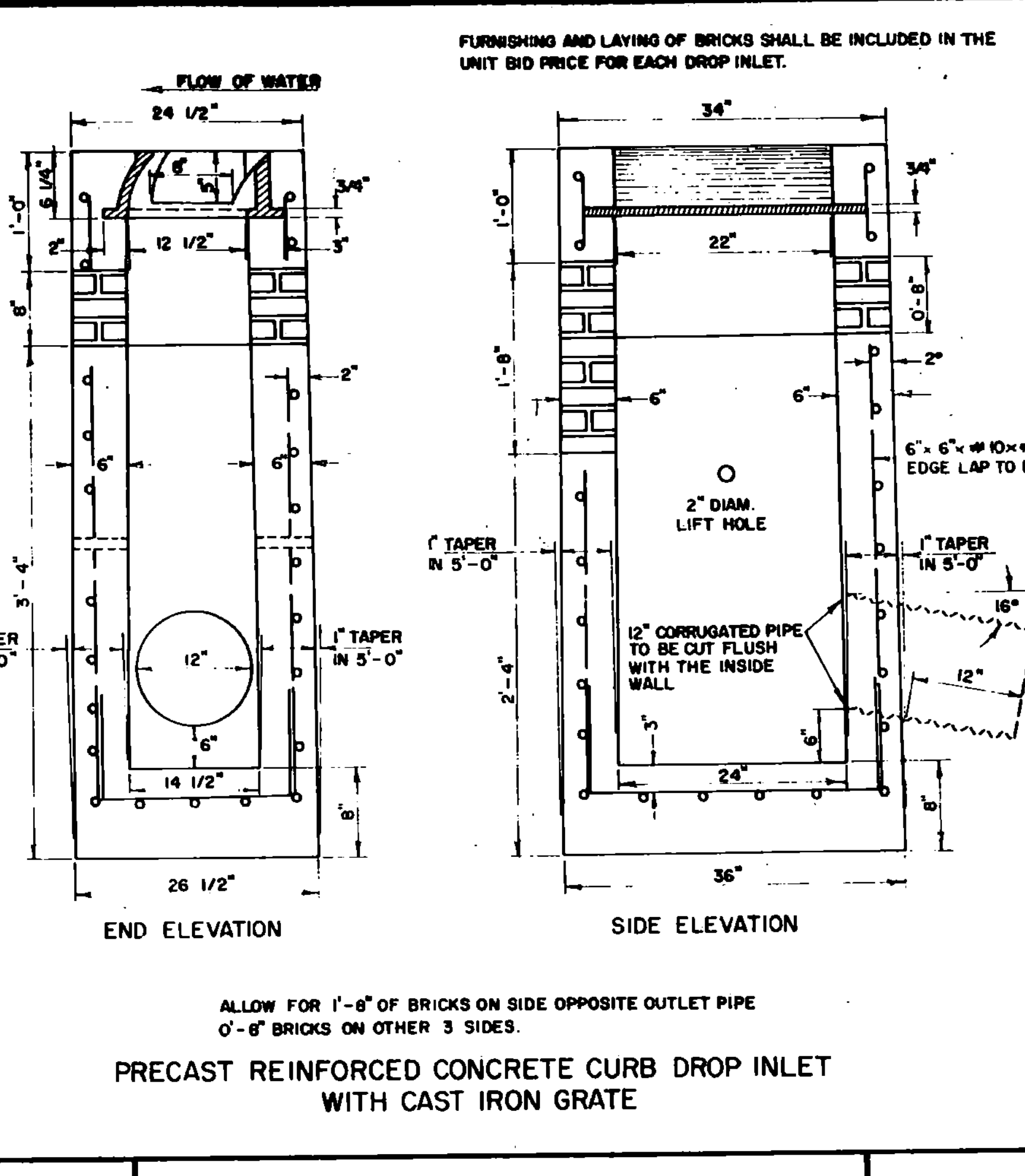
D-11



BASIC DIMENSIONS													
A	B	C	D	E	F	G	H	DIAM. + 1"	SLOPE	R ₁	R ₂	AREA - 1*	L
12"	2"	SEE NOTE	48 3/8"	24"	24"	4"	18 15/16"	15"	2.7:1	10 1/8"	9"	1.92	6'-0 3/8"
18"	2 1/2"	SEE NOTE	46"	27"	36"	9"	20"	19"	2.7:1	15 1/2"	12"	1.88	6'-1"
24"	3"	SEE NOTE	30"	43 1/2"	48"	9 1/2"	33 3/8"	25"	2.8:1	16 13/16"	14"	1.58	6'-1 1/2"
30"	3 1/2"	SEE NOTE	19 3/4"	54"	60"	12"	37"	31"	2.8:1	18 1/2"	15"	1.41	6'-1 3/4"
36"	4"	SEE NOTE	34 3/4"	63"	72"	15"	47 13/16"	37"	2.9:1	24 5/16"	20"	1.80	6'-1 3/4"
42"	4 1/2"	SEE NOTE	35"	63"	78"	18"	53 7/8"	43"	2.9:1	27 1/2"	22"	1.46	6'-2"
48"	5"	SEE NOTE	26"	72"	87"	24"	66 1/2"	49"	2.9:1	30"	22"	1.40	6'-2"

* AREA - 1 = AREA OF NOMINAL DIAMETER
* AREA - 2 = AREA THRU SECTION B-B

REINFORCED CONCRETE PIPE END SECTION



REVISIONS & CORRECTIONS

NOV. 14, 1972 - RCP END SECTION DIMENSION VARIANCE NOTE ADDED.

30 OCT 1983 - REVISED TO CONFORM WITH 1986 SPECIFICATIONS.

APPROVED

DATE Dec. 8, 1971

CHIEF ENGINEER

ASST. CHIEF ENGINEER

HIGHWAY ENGINEER

PRECAST REINFORCED CONCRETE CURB DROP INLET WITH CAST IRON GRATE

CAST IRON GRATE, TYPE B

CAST IRON GRATE, TYPE C

UNDERDRAIN RISER

REINFORCED CONCRETE PIPE END SECTION

ENERGY DISSIPATOR FOR CULVERT

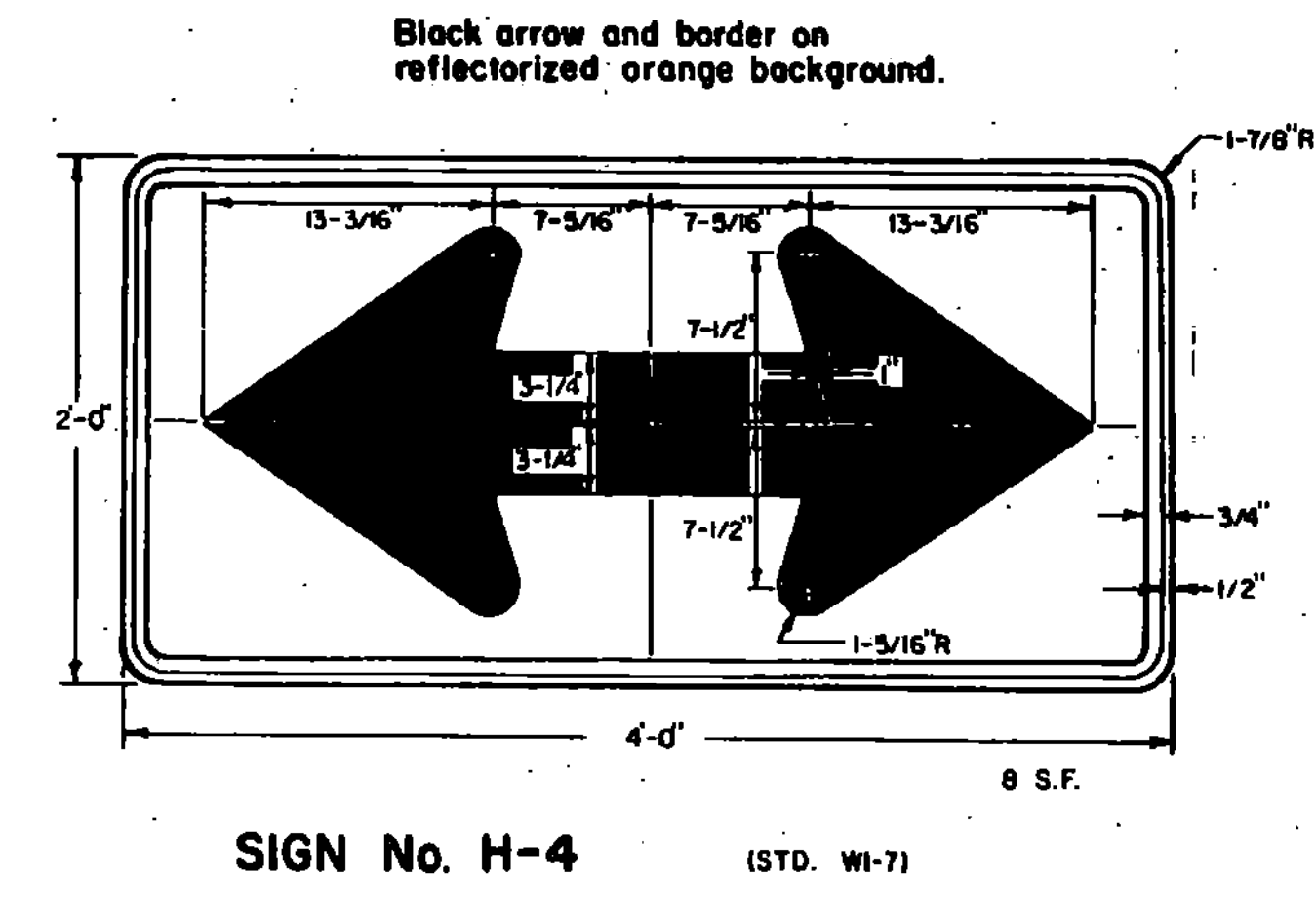
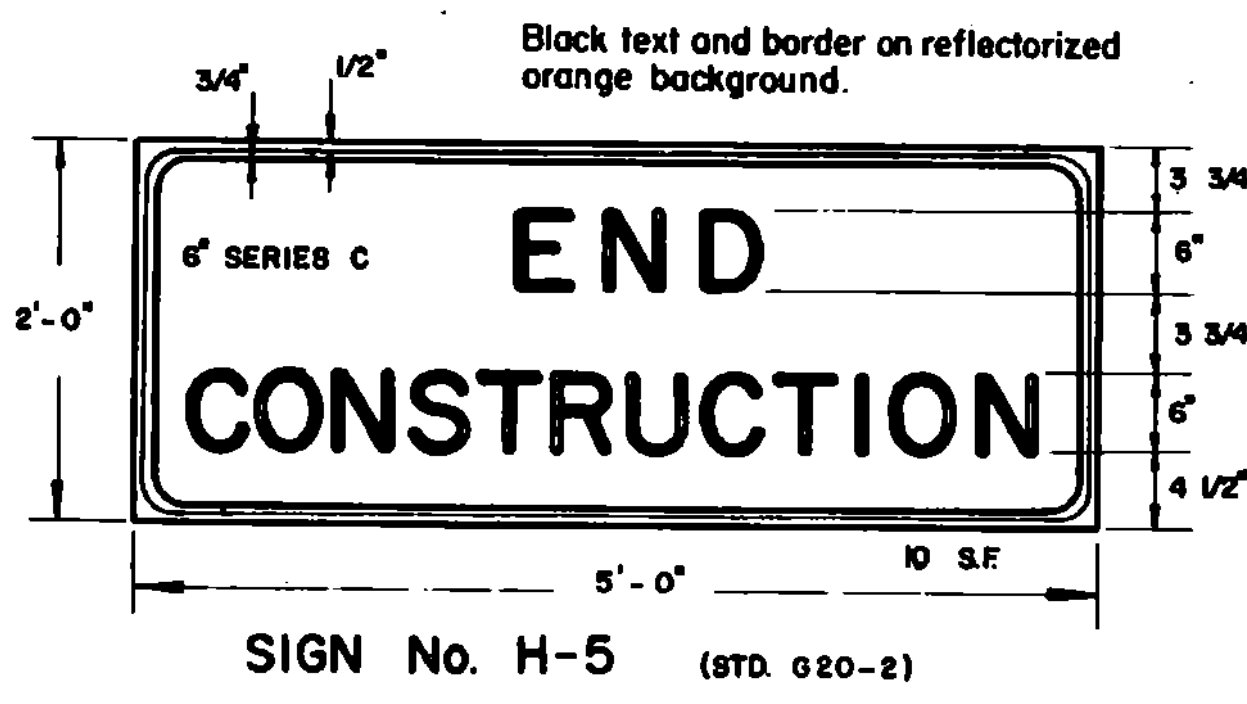
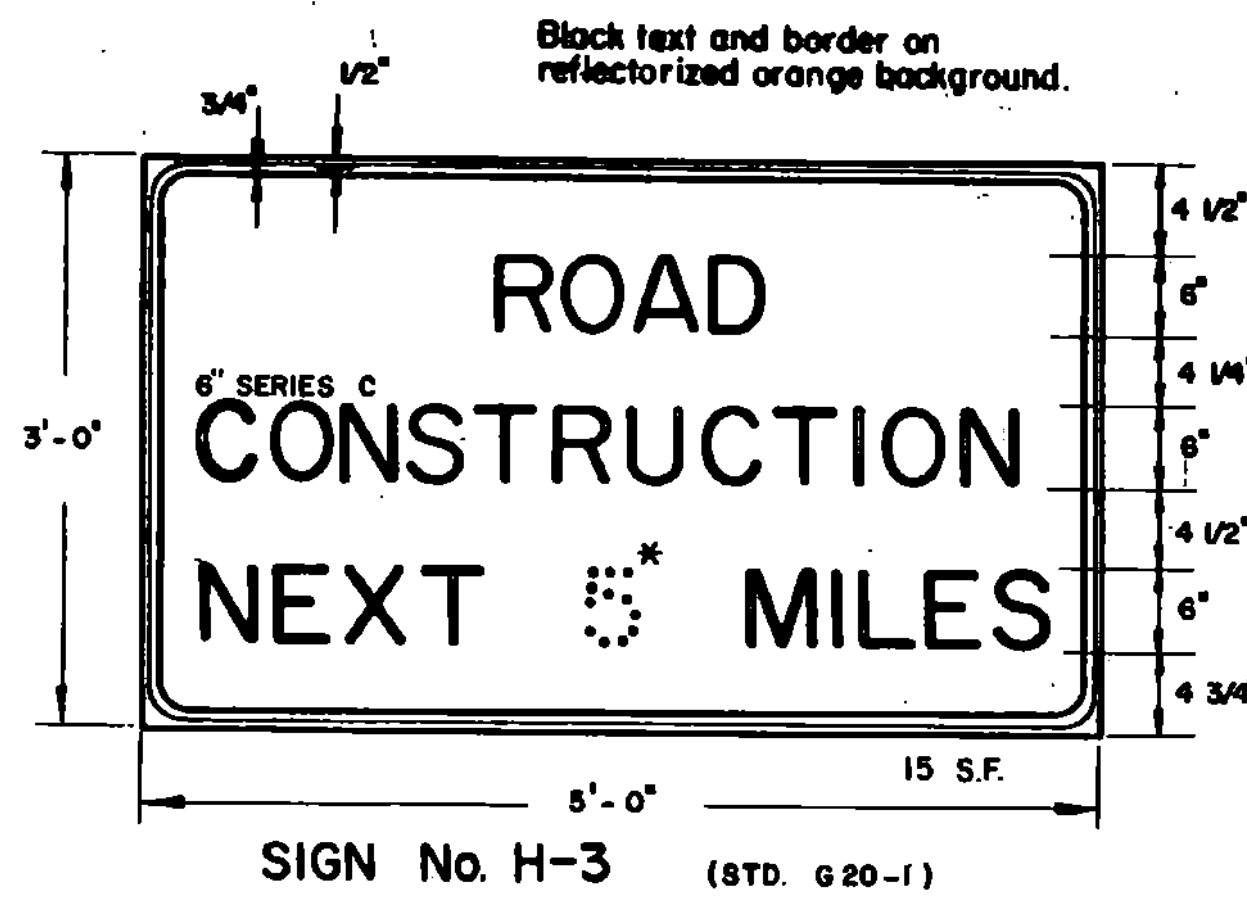
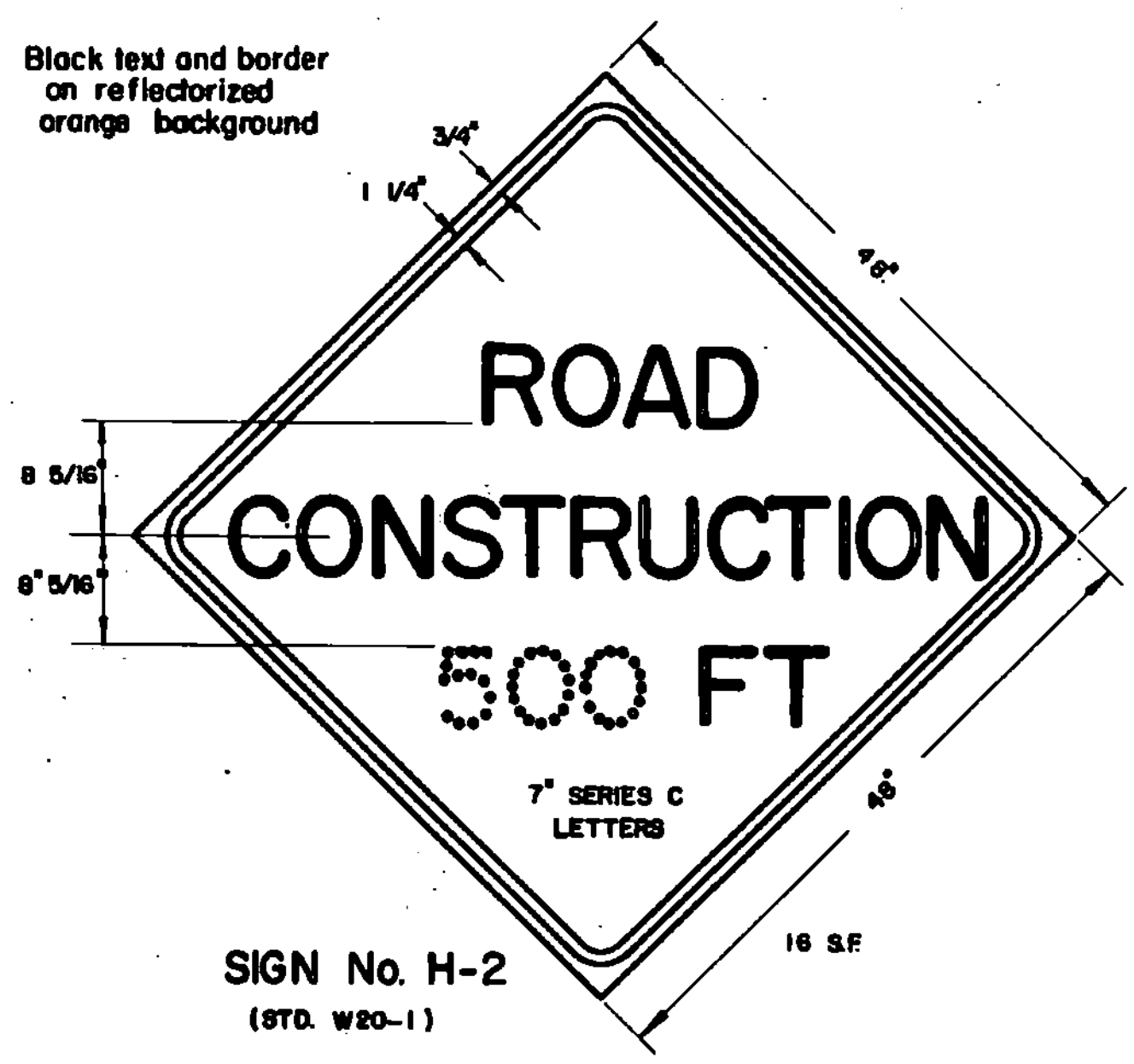
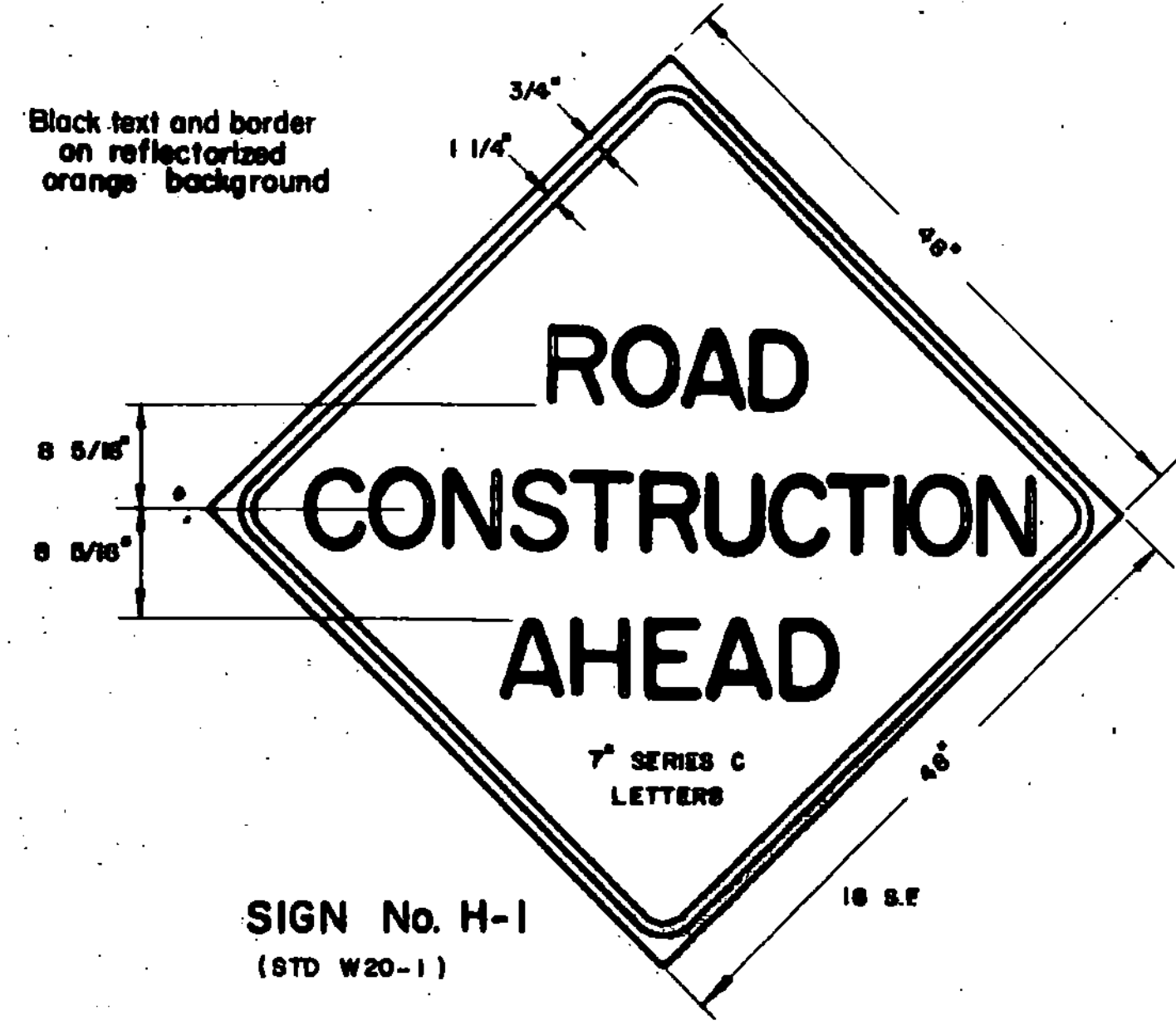
VERMONT AGENCY OF TRANSPORTATION

STANDARD

D-16

SIGN H-3 IS TO BE USED WHEN PROJECT LENGTH EXCEEDS 2 MILES, OR AS REQUESTED BY THE RESIDENT ENGINEER. THE TEXT MAY BE AS SHOWN OR MAY READ AS FOLLOWS "CONSTRUCTION AREA NEXT — MILES"

* Show mileage to nearest 1/4 mile



The road construction approach signs shown on this sheet are intended for use in providing advance warning and information on construction projects over which traffic will be maintained. When additional approach signs or other types of advance signing or control are necessary, the Plans and/or the Specifications for that project will give the details of the signs and devices required.

LOCATION

Construction approach signs shall be located as detailed on this sheet or otherwise shown on the Plans. They shall appear at each end of the highway under construction, and on all intersecting public highways. The exact placement of any sign will depend upon the alignment of the highway and the character of the roadways. The location measurements on this sheet are intended to indicate the sequence to be followed, and the minimum spacing to be observed by the Engineer in determining exact locations.

DESIGN

The designs of the signs shall conform with the details shown on this sheet and with the standards prescribed in the Manual on Uniform Traffic Control Devices prepared by National Joint Committee on Uniform Traffic Control Devices.

MATERIALS

The signs shall be of metal, wood, plywood, hardboard or any other material satisfactory to the Engineer. No material will be approved that will deteriorate by exposure to the weather during the required life of the sign.

REFLECTORIZATION

All reflectorized material shall consist of encapsulated lens reflective sheeting.

INSTALLATION

The signs shall be in place at the time the project officially commences. Each sign shall be erected in a neat and workmanlike manner on wood or metal posts set securely in the ground. The bottom of a sign shall be at least 5 feet above road level, and the nearest edge of a sign shall be at least 6 feet outside the shoulder or 2 feet outside guard rail, curbing or sidewalk. Posts and signs shall be braced or reinforced in back as necessary. The installation of signs shall be subject to approval of the Engineer. In urban areas, the bottom of the sign shall be at least 7' above the sidewalk.

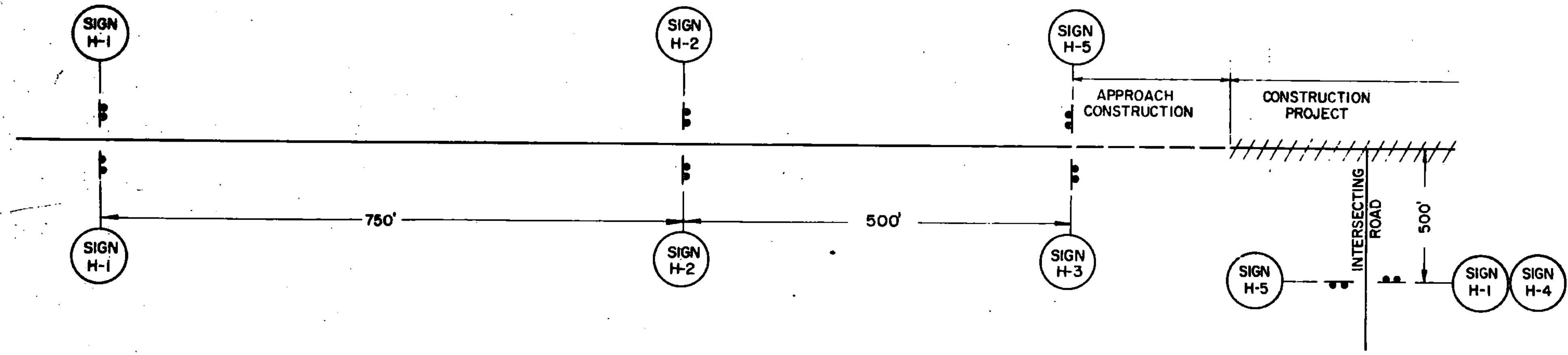
MAINTENANCE

Signs shall be maintained in a clean and legible condition satisfactory to the Engineer. They shall be completely visible to approaching traffic at all times. They shall be kept plumb and level, and always present a neat appearance. Damaged, defaced or dirty signs shall be repaired, cleaned or replaced as ordered by the Engineer.

GENERAL

The cost of furnishing, erecting, maintaining and removing all construction approach signs will be considered subsidiary work pertaining to the project as a whole and shall be included in the contract unit price bid for various items involved in the contract. In all phases of construction of approach signing, the requirements set forth in the Manual on Uniform Traffic Control Devices shall be met (See Standard Specifications, Section 107, Article 107.09 Traffic Control Devices).

When project is closed down for temporary periods the signs shall be covered in a workmanlike manner.



REVISIONS AND CORRECTIONS

SEPT. 11, 1973	- REVISED PER ORDER OF FHWA, SEPT. 11, 1973
OCT. 19, 1973	- SIGN H-4 REMOVED.
MAY 14, 1974	- REFLECTIVE MATERIAL CHANGE.
JUNE 7, 1977	- REFLECTIVE MATERIAL NOTE CHANGED.
DEC. 15, 1979	- ILLUMINATION DELETED.
DEC. 17, 1979	- SIGN H-3 REVISED, SIGN H-4 ADDED.
MAR. 4, 1981	- SIGN H-3 TEXT CHANGED, NOTE ADDED.

FIG. 3, 1980 - UPDATED TO 1985 SPECIFICATIONS

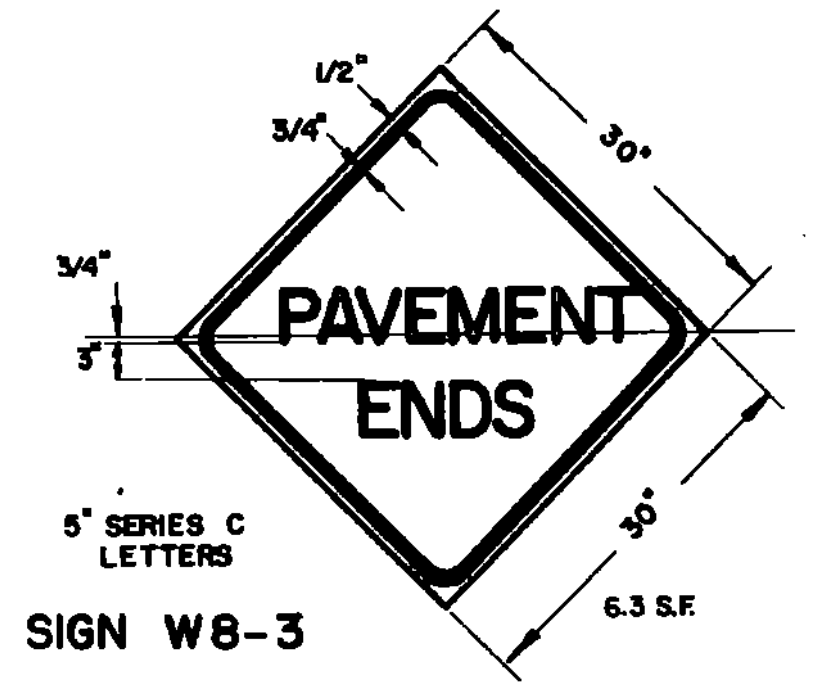
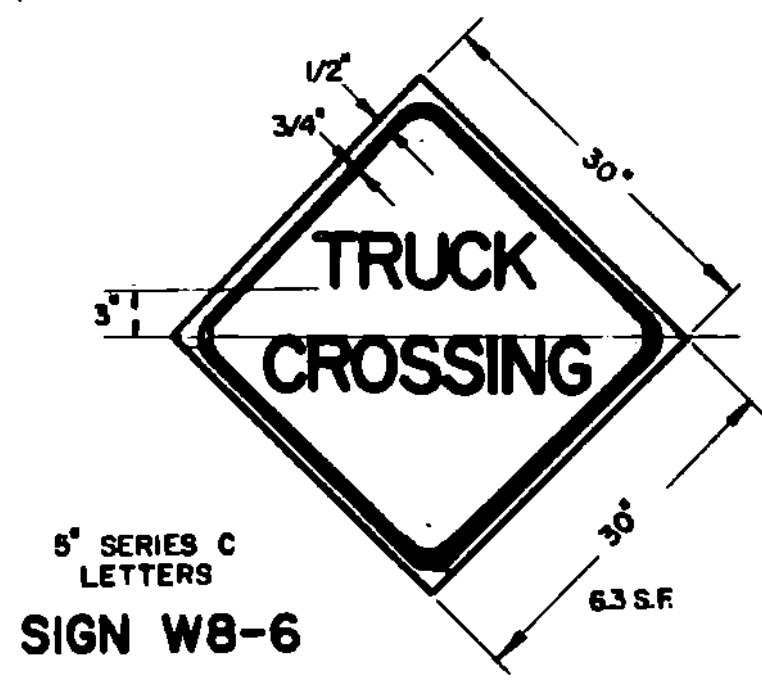
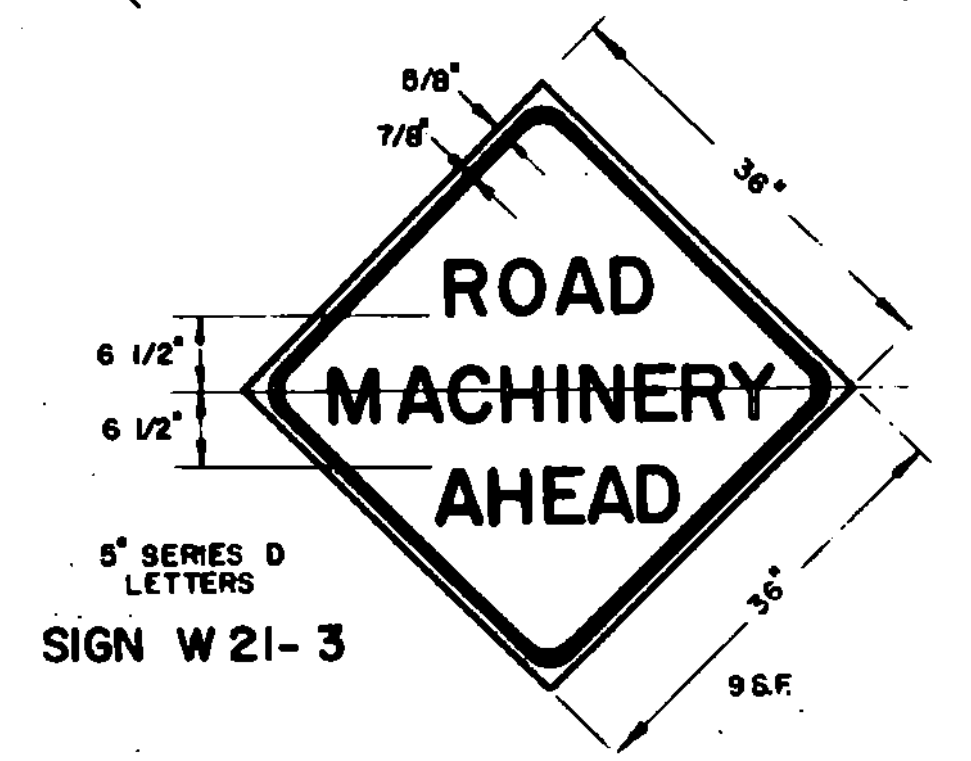
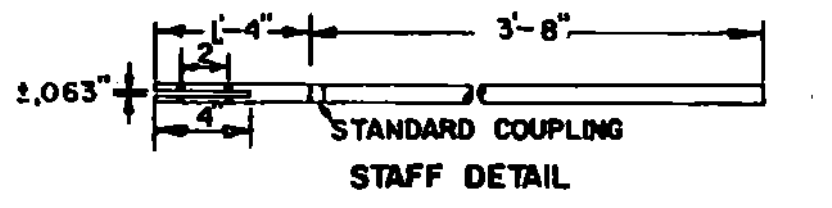
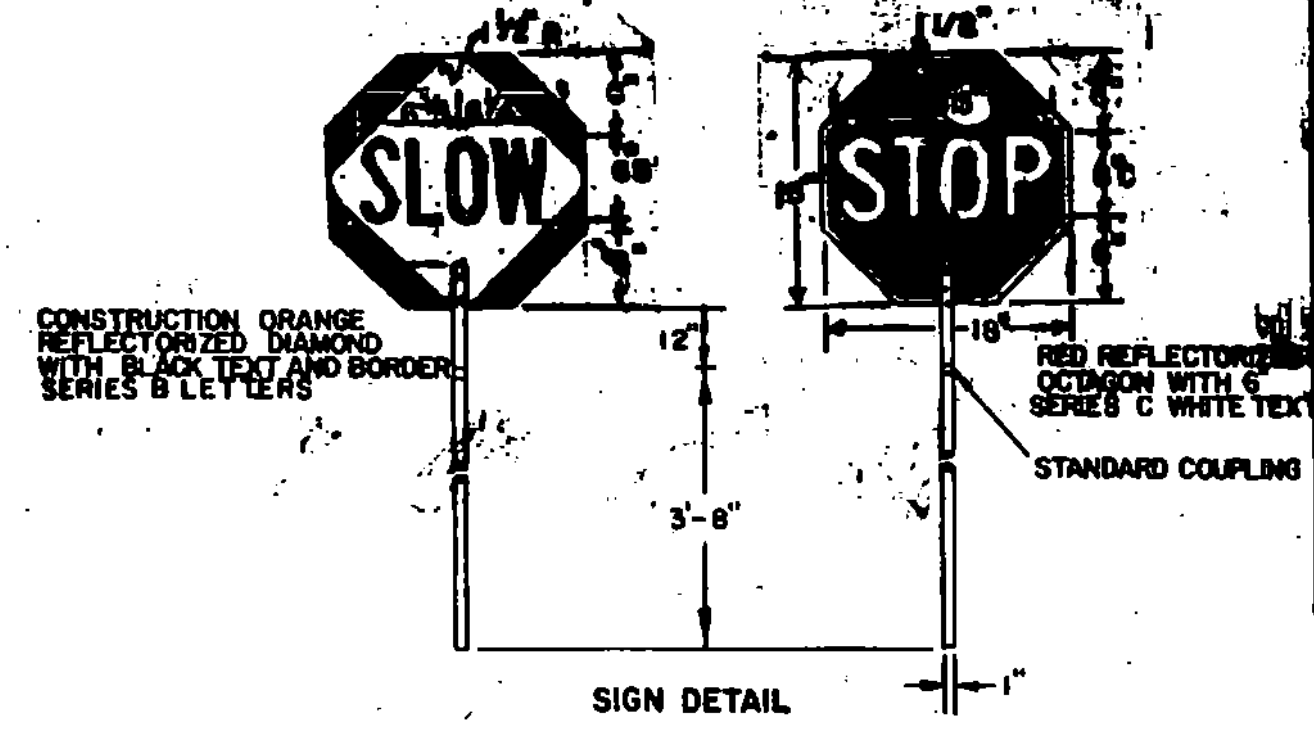
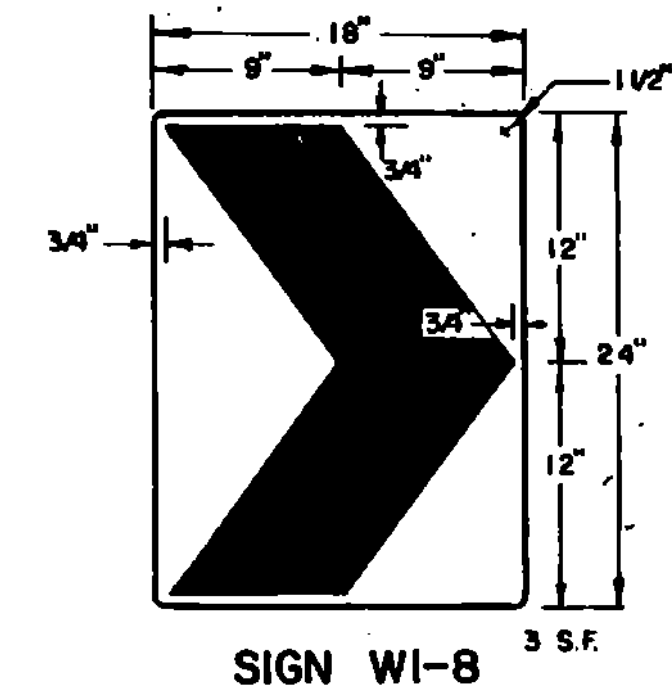
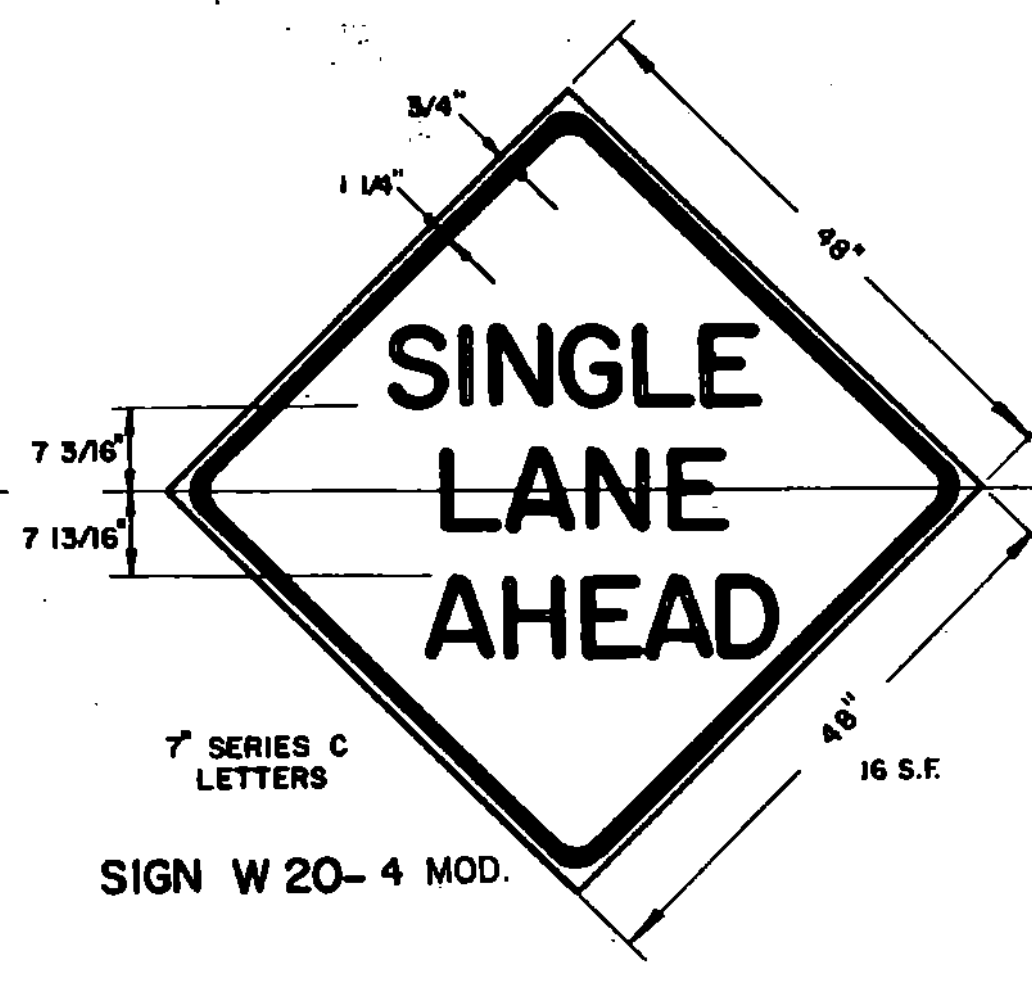
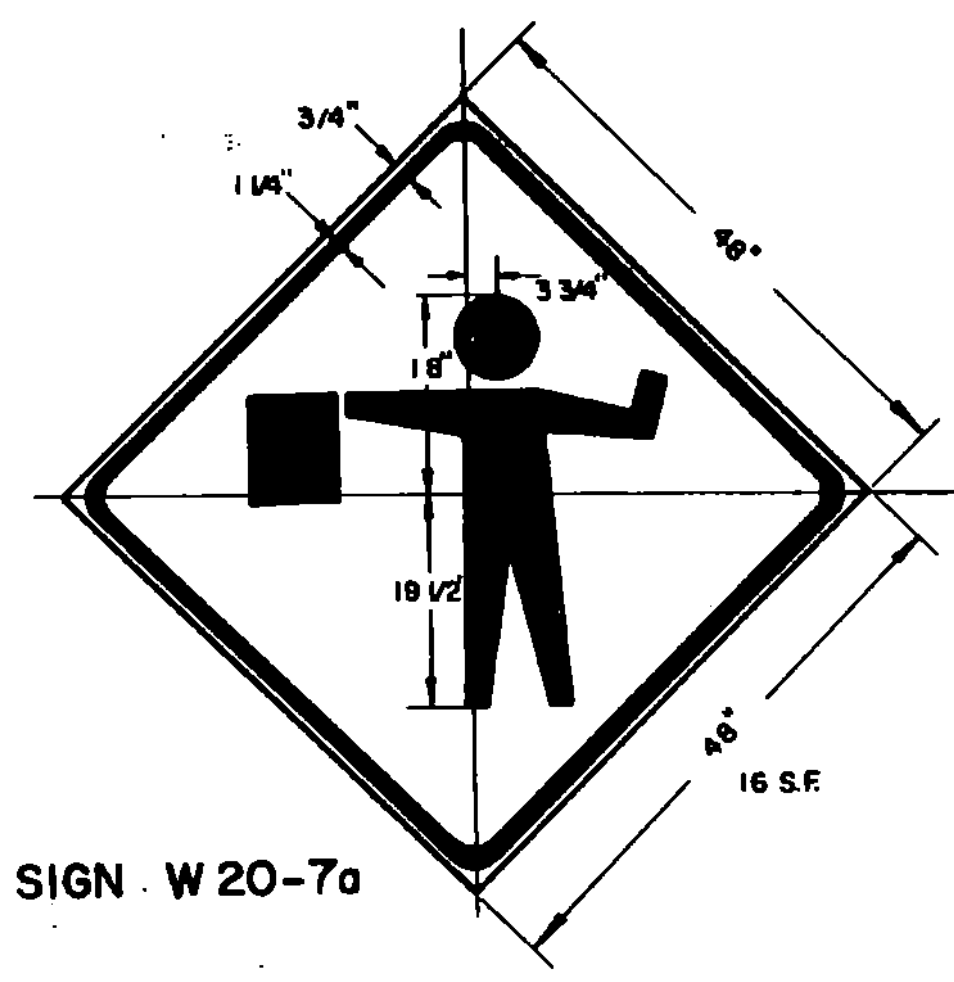
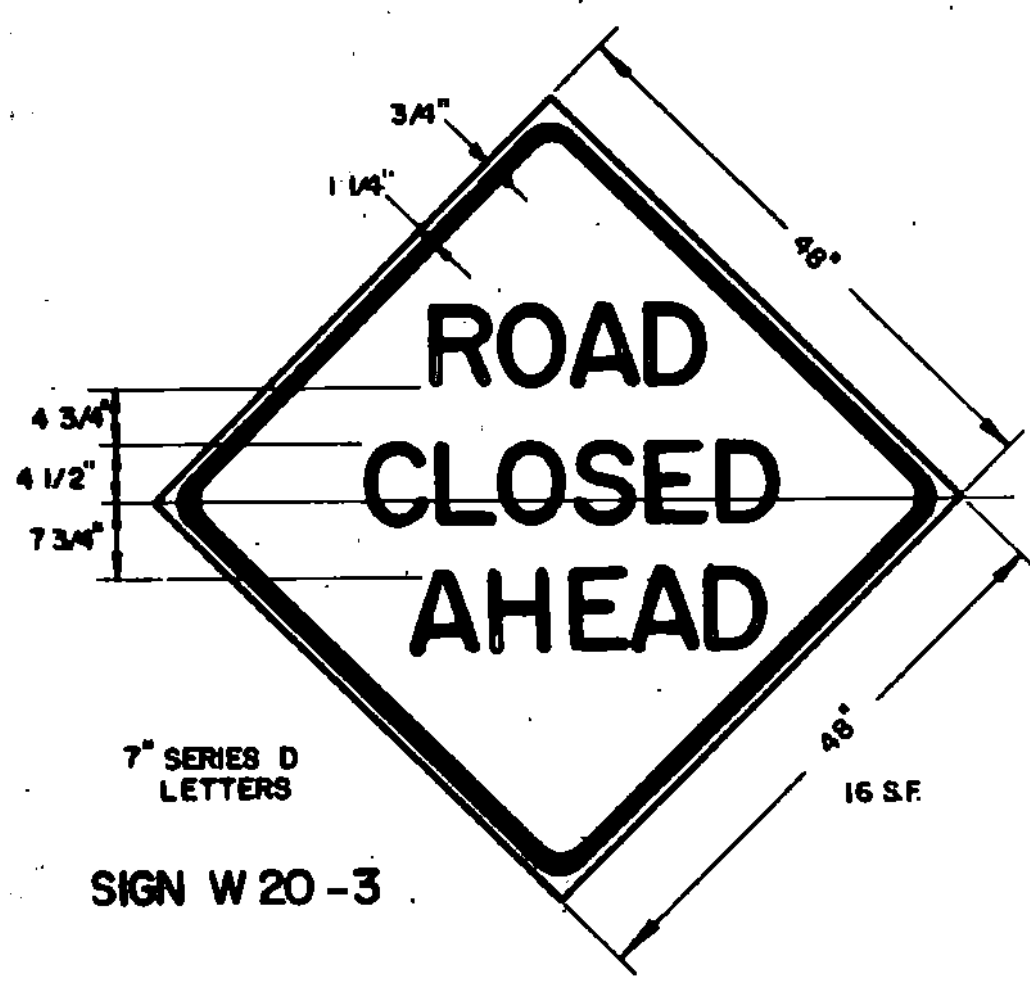
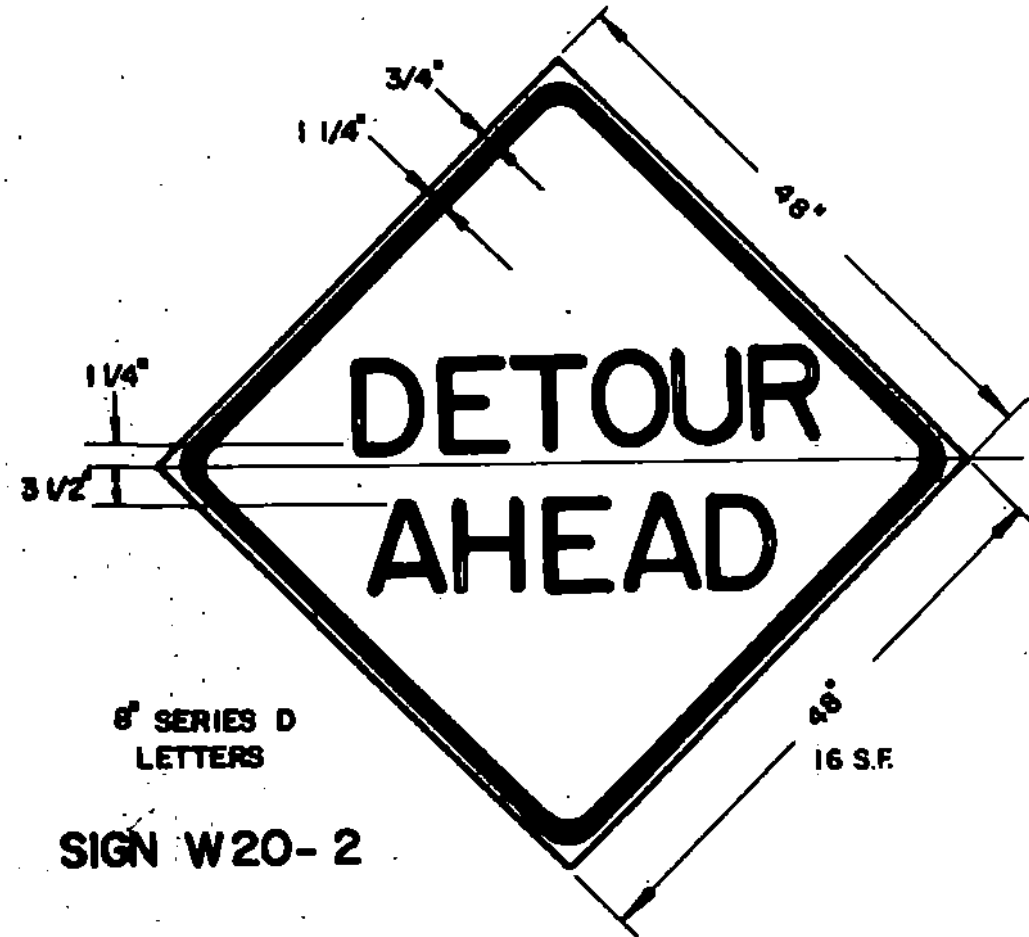
APPROVED
 DATE Dec. 14, 1971
R. H. Arnold
 CHIEF ENGINEER
E. W. Stiebny
 ASST. CHIEF ENGINEER
G. M. Lane
 HIGHWAY ENGINEER

TRAFFIC SIGNS
 ROAD CONSTRUCTION
 APPROACH SIGNS



STANDARD

E-2



MATERIALS
The sign materials shall be 0.063 aluminum with colors as indicated on details.
The staff shall be 1" ridged aluminum conduit or tubing with a wall thickness of 1/8 inch.

COLORS
The colors shall conform with the standard colors adopted by the American Association Of State Highway and Transportation Officials and approved by the U.S. Department Of Transportation, Federal Highway Administration.

MOUNTING
The staff shall be mounted with either 2-1/4" aluminum bolts or 2-1/4" aluminum rivets.

SIGN PADDLE FOR FLAGPERSON

NOTES

APPLICATION OF STANDARDS
Since it is not possible to prescribe detailed standards of application for all of the situations that may conceivably arise on a construction project, reference must be made to the Manual on Uniform Traffic Control Devices for the principles, procedures and standards that will be required in connection with on-project construction signs and barricades. The signs here shown represent a sample of those that probably will be most used.

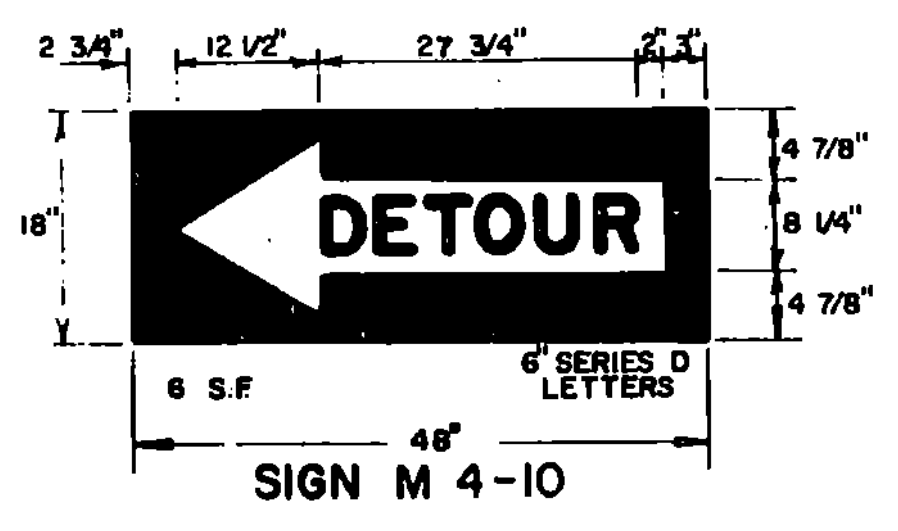
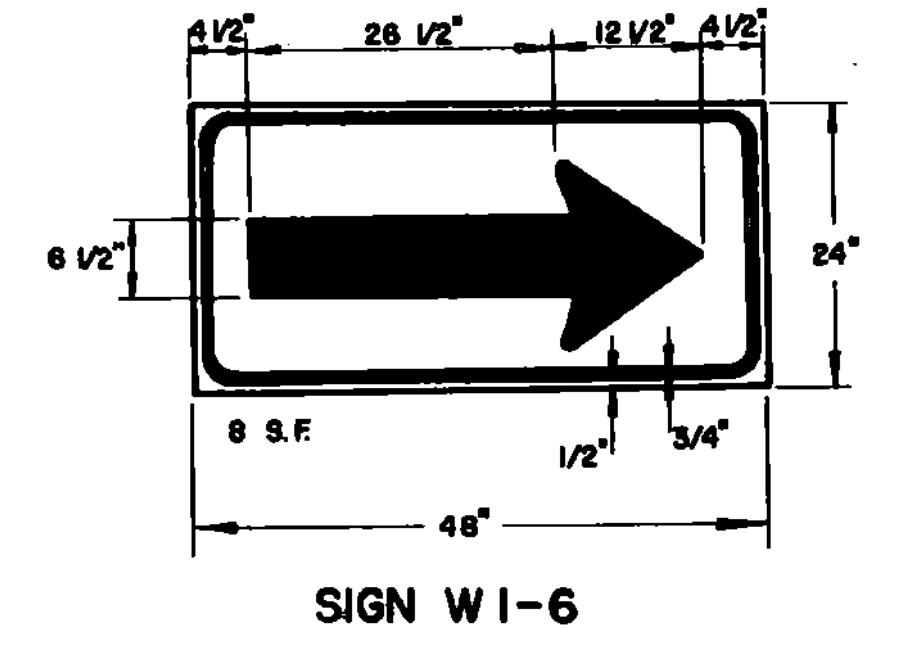
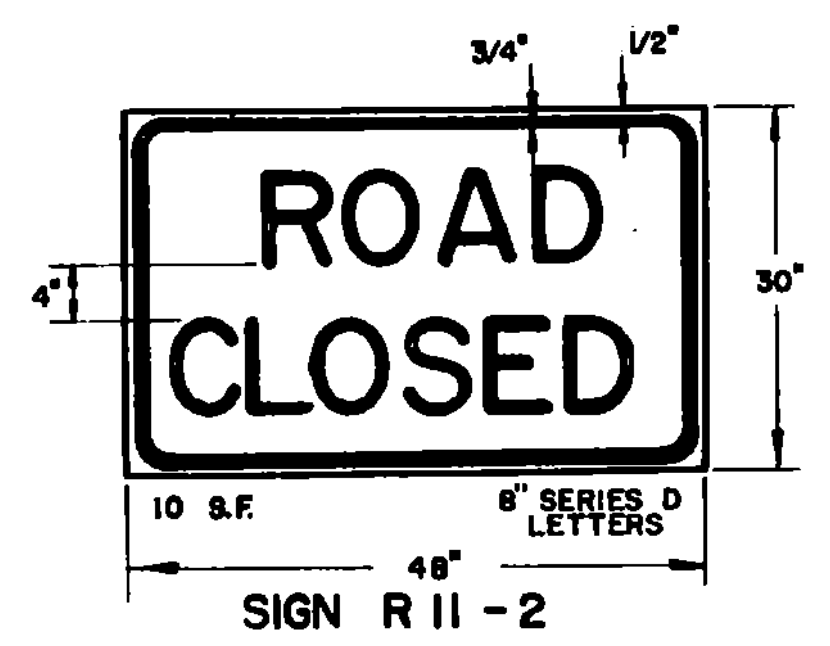
DESIGN
The designs of the signs and barricades shall conform with the details shown on this sheet and with the standards prescribed in the Manual. Deviations will not be permitted.

MATERIALS
The signs shall be of metal, wood, plywood, hardwood or any other material satisfactory to the Engineer. No material will be approved that will deteriorate by exposure to the weather during the required life of the sign.

REFLECTORIZATION AND COLORS
All signs except sign R11-2 and the sign paddle shall have black text and borders on an encapsulated lens reflective orange background. Sign R11-2 shall have black text and border on an encapsulated lens reflective white background.

INSTALLATION
Signs and barricades shall be in place prior to the start of the construction operation to which they apply, and shall be removed promptly when the need no longer exists. Each sign shall be erected in a neat and workmanlike manner on wood or metal posts set securely in the ground, or on portable supports for temporary use, or on barricades when appropriate. As a general rule, roadside signs shall be 5 feet above road level with the nearest edge at least 6 feet outside the shoulder point. The installation of all signs and barricades shall be subject to the approval of the Engineer.

MAINTENANCE
Signs shall be kept in a clean and legible condition at all times with the reflective quality completely unimpaired. Signs, sign supports, and barricades shall be repaired, cleaned, repainted or replaced whenever necessary.
Weeds, shrubbery, construction materials, equipment, and snow shall not be allowed to obscure any sign or barricade. The maintenance of all traffic control devices shall be subject to the orders of the Engineer.



The on-project construction signs covered by this sheet are intended to be used as the situations apply within normal two-lane highway construction areas, for the protection of the public and workmen and for the guidance of traffic through or around construction operations. When messages other than those shown here are needed, the signs and their applications shall conform with the standards set forth in the Manual on Uniform Traffic Control Devices.

The cost of furnishing, erecting, maintaining and removing all construction approach signs shall be considered as subsidiary work pertaining to the project as a whole and shall be included in the contract unit price bid for various items involved in the contract.

REVISIONS AND CORRECTIONS
DEC. 14, 1973 - BEADS ON PAINT FOR BACKGROUND MATERIAL REMOVED.
MAY 14, 1974 - REFLECTIVE MATERIAL CHANGE.
JUNE 7, 1977 - REFLECTIVE MATERIAL NOTE CHANGED.
JUNE 7, 1977 - SIGNS REFERENCED TO NUMBERS IN M.U.T.C.D.
APR. 20, 1978 - FLAGPERSON SIGN CHANGED TO SYMBOL.
DEC. 15, 1978 - ILLUMINATION DELETED.
FEB. 27, 1980 - SIGN W1-8 AND SIGN PADDLE ADDED. SIGN DETAILS REVISED.
APR. 1, 1980 - SIGN PADDLE SIGN REVISED.
FEB. 3, 1986 - UPDATED TO 1986 SPECIFICATIONS

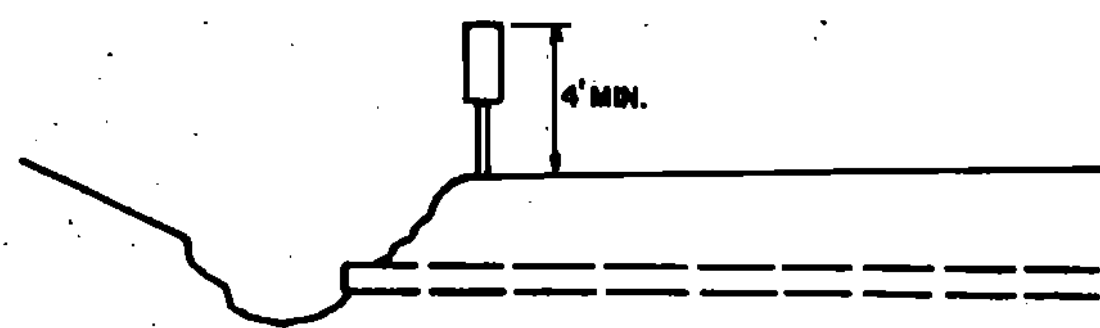
APPROVED
Dec. 14, 1971
R. H. Conrod
CHIEF ENGINEER
E. W. Stinchey
ASST. CHIEF ENGINEER
G. M. Lane
HIGHWAY ENGINEER

TRAFFIC SIGNS
ON-PROJECT CONSTRUCTION SIGNS



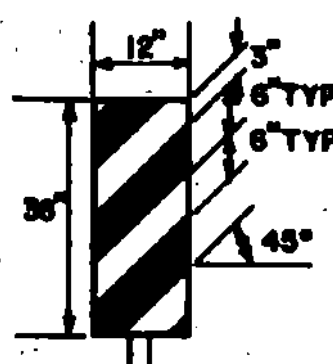
STANDARD
E-6

DELINEATOR AND HAZARD MARKER DETAILS FOR CONSTRUCTION AREAS WHERE TRAFFIC IS MAINTAINED



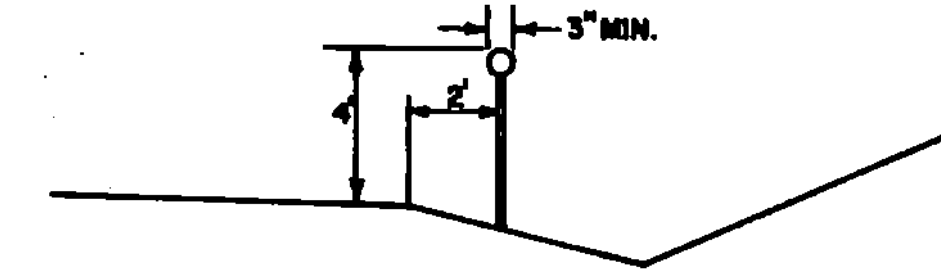
HAZARD MARKER TYPICAL

OBJECTS ADJACENT TO THE ROADWAY SHALL REQUIRE A HAZARD MARKER TO MARK THE OBSTRUCTION. IN SOME CASES THERE MAY NOT BE A PHYSICAL OBJECT INVOLVED BUT OTHER ROADSIDE CONDITIONS SUCH AS NARROW SHOULDER DROP-OFFS, GORES, D.I. EXCAVATIONS OR ABRUPT CHANGE IN THE ROADWAY ALIGNMENT MAY MAKE IT UNDERRABLE FOR A DRIVER TO LEAVE THE ROADWAY. THE INSIDE EDGE OF THE HAZARD MARKER SHALL BE IN LINE WITH THE INNER EDGE OF THE OBSTRUCTION, WHENEVER POSSIBLE.



VERTICAL PANEL

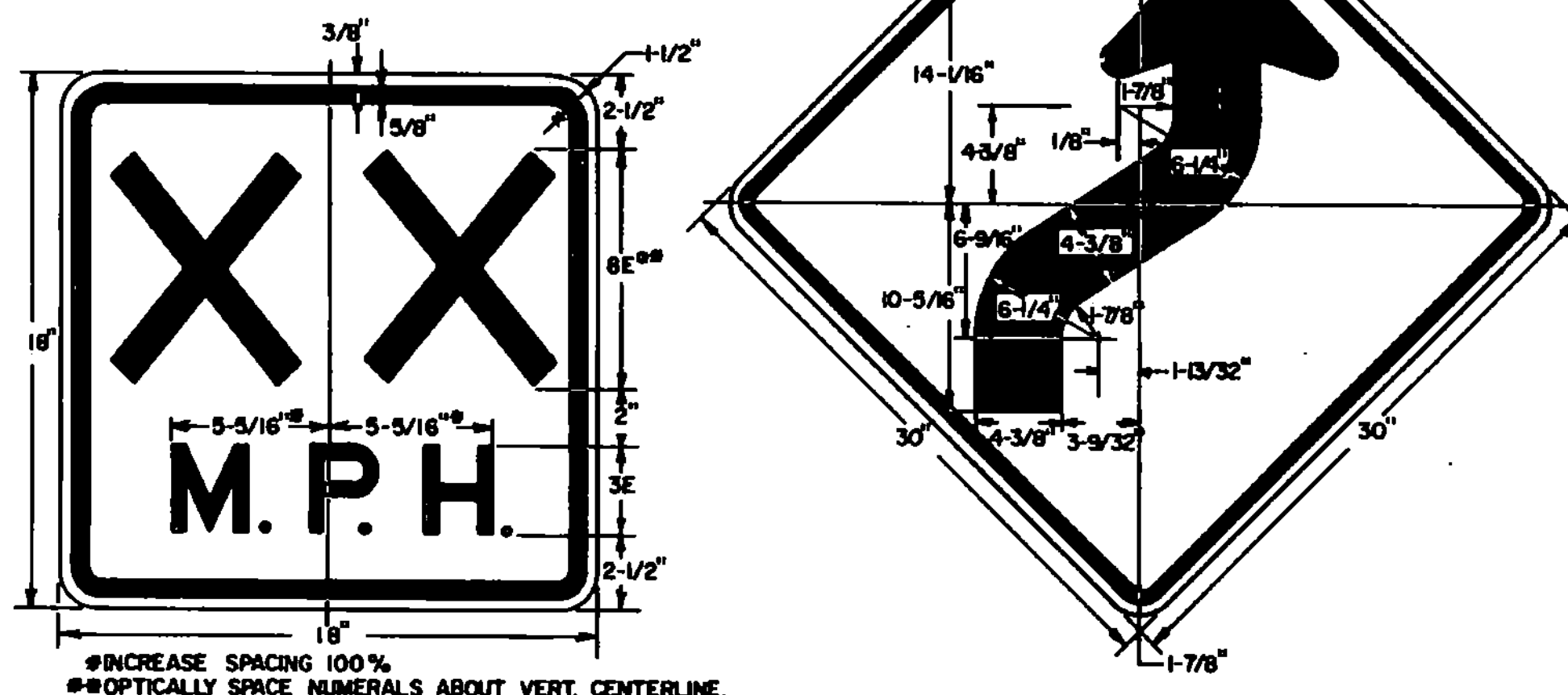
VERTICAL PANELS SHALL HAVE ALTERNATING ORANGE AND WHITE REFLECTORIZED STRIPS (SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS). THESE DEVICES MAY BE USED FOR TRAFFIC SEPARATION OR SHOULDER BARRICADES WHERE SPACE IS AT A PREMIUM.



SYMBOL DELINEATOR TYPICAL

DELINEATORS SHALL BE OF A REFLECTORIZED WHITE COLOR. THEY SHALL HAVE A MINIMUM OF 7 SQUARE INCHES. THEY MAY BE ROUND, SQUARE, OR OBLONG. THEY SHALL BE OF THE FOLLOWING:
 1- REFLECTORIZED TAPE WITH METAL BACKING.
 2- REFLECTORIZED TAPE APPLIED DIRECTLY TO POSTS.
 3- REFLECTORIZED PAINT APPLIED DIRECTLY TO POSTS.
 WHEN PAINT OR TAPE IS APPLIED DIRECTLY TO POSTS, A SURFACE OF 3' MINIMUM WIDTH FACING TRAFFIC IS REQUIRED.

SEE STANDARD SHEET E-2 FOR SIGN DETAILS FOR "ROAD CONSTRUCTION AHEAD" AND "END CONSTRUCTION" SIGNS.
 SEE STANDARD SHEET E-6 FOR SIGN DETAILS FOR THE FOLLOWING SIGNS: "DETOUR AHEAD", "ROAD CLOSED", "DETOUR" ARROW.
 SEE STANDARD SHEET E-8 FOR SIGN MATERIAL AND SPECIFICATION NOTES FOR ALL SIGNS DETAILED ON THIS SHEET.



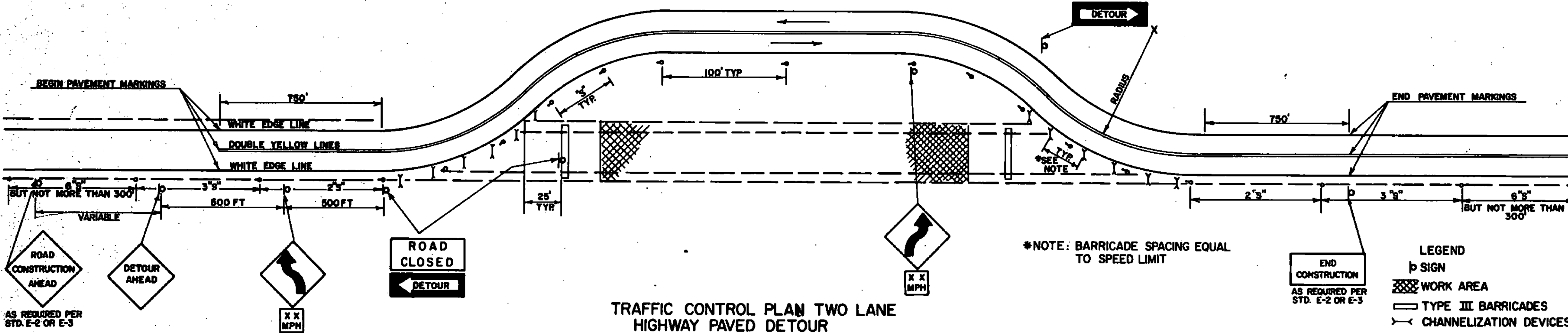
*INCREASE SPACING 100%
 **OPTICALLY SPACE NUMERALS ABOUT VERT. CENTERLINE.

NOTES

- SIGNS & DELINEATION SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
- CHANNELIZING DEVICES SHALL CONSIST OF TYPE II BARRICADES WITH STEADY BURN LIGHTS EXCEPT ON THE FIRST AND LAST BARRICADES WHICH SHALL HAVE A FLASHING LIGHT.
- FLASHING WARNING LIGHTS MAY BE USED TO CALL ATTENTION TO THE EARLY WARNING SIGNS.
- CONTRACTOR IS RESPONSIBLE FOR PAVEMENT MARKING AND SHALL REMOVE ANY CONFLICTING OR CONFUSING EXISTING MARKINGS.
- ADDITIONAL SIGNING MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER.
- UNPAVED DETOURS REQUIRE PAVEMENT MARKINGS FOR TRANSITIONS ON EXISTING PAVEMENT.

DELINEATOR SPACING

DESIGN SPEED MPH	REQUIRED RADIUS FT.	SPACING - "S" FT.
25	150	30
30	250	40
40	450	60
50	750	75



TRAFFIC CONTROL PLAN TWO LANE HIGHWAY PAVED DETOUR

BARRICADES

APPLICATION NOTES

TYPE I BARRICADES ARE TO BE USED ON CONVENTIONAL ROADS OR URBAN STREET AND ARTERIALS TO MARK A SPECIFIC HAZARD TO CHANNELIZE TRAFFIC.

TYPE II BARRICADES ARE TO BE USED ON EXPRESSWAYS AND FREEWAYS, SERVING THE SAME FUNCTIONS AS THE TYPE I BARRICADES.

TYPE III (SEE STANDARD E-7A) SHALL ONLY BE USED WHEN A ROAD SECTION IS CLOSED TO TRAFFIC TO BE ERECTED AT THE POINT OF CLOSURE.

MATERIALS

THE BARRICADES SHOWN ON THIS SHEET NORMALLY WILL BE OF LIGHTWEIGHT MATERIAL. IF WOOD IS USED THE FOLLOWING CONDITIONS SHALL APPLY.

1. WOODEN BARRICADES (TYPES I AND II)

A. SHALL NOT BE USED TO CHANNELIZE OR DELINEATE WORK AREAS WITHIN THE CLEAR ZONE OF ANY HIGHWAY WHERE OPERATING SPEEDS IN EXCESS OF 20 MILES PER HOUR ARE EXPECTED UNLESS INSTALLED FOR PEDESTRIAN CONTROL BEHIND APPROVED POSITIVE BARRIERS.

B. MAY BE USED IF OPERATING SPEEDS OF 20 M.P.H. OR LESS ARE EXPECTED.

2. TYPE III WOODEN BARRICADES SHALL NOT BE USED WITHIN THE CLEAR ZONE OF ANY HIGHWAY REGARDLESS OF THE TRAFFIC OPERATING SPEED.

DESIGN

THE DESIGN OF THE BARRICADES SHALL CONFORM WITH THE DETAILS SHOWN ON THIS SHEET AND THE MARKINGS ON THE BARRICADES SHALL BE ALTERNATE ORANGE AND WHITE STRIPES (SLOPING DOWNWARD AT AN ANGLE OF 45° IN THE DIRECTION TRAFFIC IS TO PASS).

COLORS

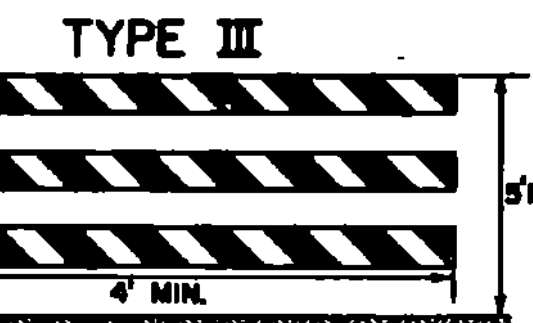
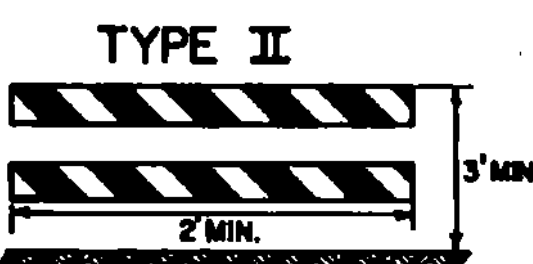
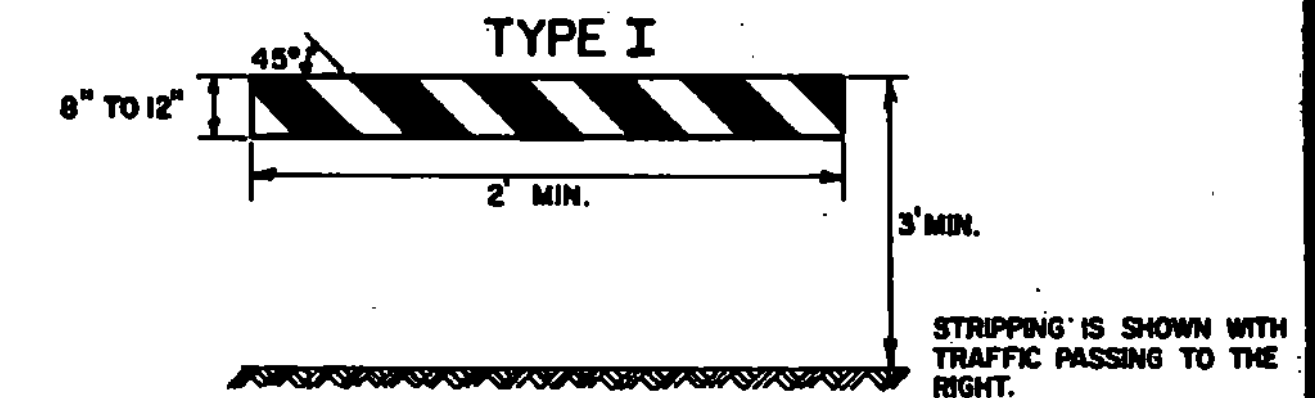
THE BARRICADES PANELS SHOWN ON THIS SHEET SHALL HAVE ALTERNATING REFLECTORIZED WHITE AND ORANGE STRIPES. THE ORANGE SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS AND APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION. THE BARRICADE COMPONENTS SHALL BE WHITE EXCEPT THAT UNPAINTED METAL OR ALUMINUM MAY BE USED.

REFLECTORIZATION

THE BARRICADES SHALL BE REFLECTORIZED WITH REFLECTIVE SHEETING.

LOCATION

THE BARRICADES SHOWN ON THIS SHEET WILL BE LOCATED BY THE ENGINEER IN THE FIELD OR AS SHOWN ON THE PLANS. THE LOCATION OF THE BARRICADES SHALL FOLLOW THE PROCEDURES SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, OR AS OTHERWISE NOTED.



BARRICADE CHARACTERISTICS		
	I	II
WIDTH OF RAIL	6" MIN. 12" MAX.	6" MIN. 12" MAX.
LENGTH OF RAIL	2' MIN.	2' MIN.
WIDTH OF STRIPS	6"	6"
HEIGHT	3' MIN.	3' MIN.
TYPE OF FRAME	DEMOUNTABLE OR A FRAME	LIGHT A FRAME NO STRY BRACE
FLEXIBILITY	ESSENTIALLY MOVEABLE	PORTABLE
ANGLE OF STRIPE	45°	45°
COLOR OF STRIPS	ORANGE AND WHITE	ORANGE AND WHITE

*FOR RAILS LESS THAN 3 FEET LONG, 4" WIDE STRIPS SHALL BE USED.

MAINTENANCE

BARRICADES SHALL BE MAINTAINED IN A CLEAN AND LEGIBLE CONDITION SATISFACTORY TO THE ENGINEER. THEY SHALL BE COMPLETELY VISIBLE TO APPROACHING TRAFFIC AT ALL TIMES. DAMAGED, DEFACED, OR DIRTY BARRICADES SHALL BE REPAIRED, CLEANED, OR REPLACED AS ORDERED BY THE ENGINEER.

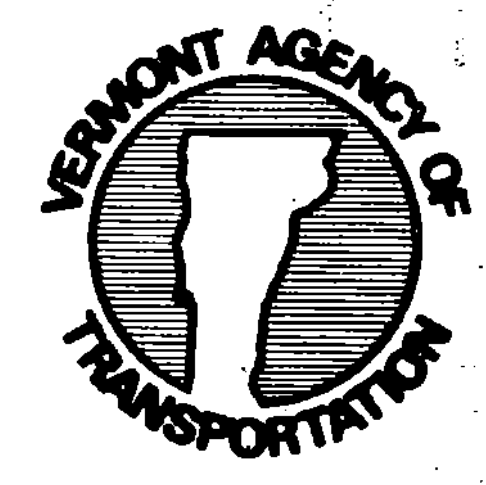
LIGHTING

FOR NIGHTTIME USE ADD FLASHING WARNING LIGHTS WHEN BARRICADES ARE USED SINGLY AND STEADY BURN LIGHTS WHEN BARRICADES ARE USED IN A SERIES FOR CHANNELIZATION. THE LIGHTING DEVICES SHALL CONFORM TO THOSE SPECIFIED IN THE MUTCD.

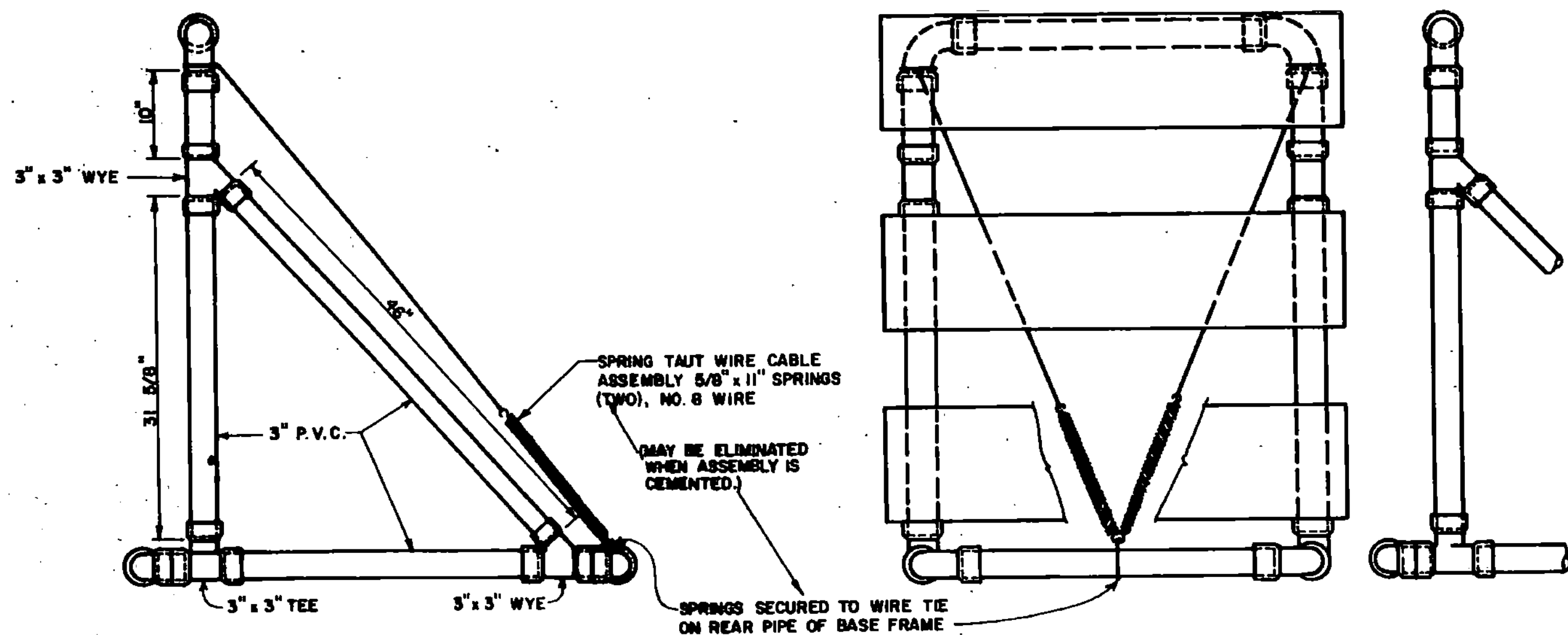
REVISIONS AND CORRECTIONS
 FEB. 12, 1982 MATERIALS NOTE CLARIFIED, SIGN ADDITIONS.
 FEB. 2, 1983 NOTE # 6 RE: UNPAVED DETOURS ADDED.
 FEB. 3, 1983 - UPDATED TO 1986 SPECIFICATIONS

APPROVED: SEPT. 22, 1981
 DATE
 DIRECTOR OF ENGINEERING AND CONSTRUCTION
 CHIEF OF DESIGN
 TRANSPORTATION DESIGN ENGINEER

DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS



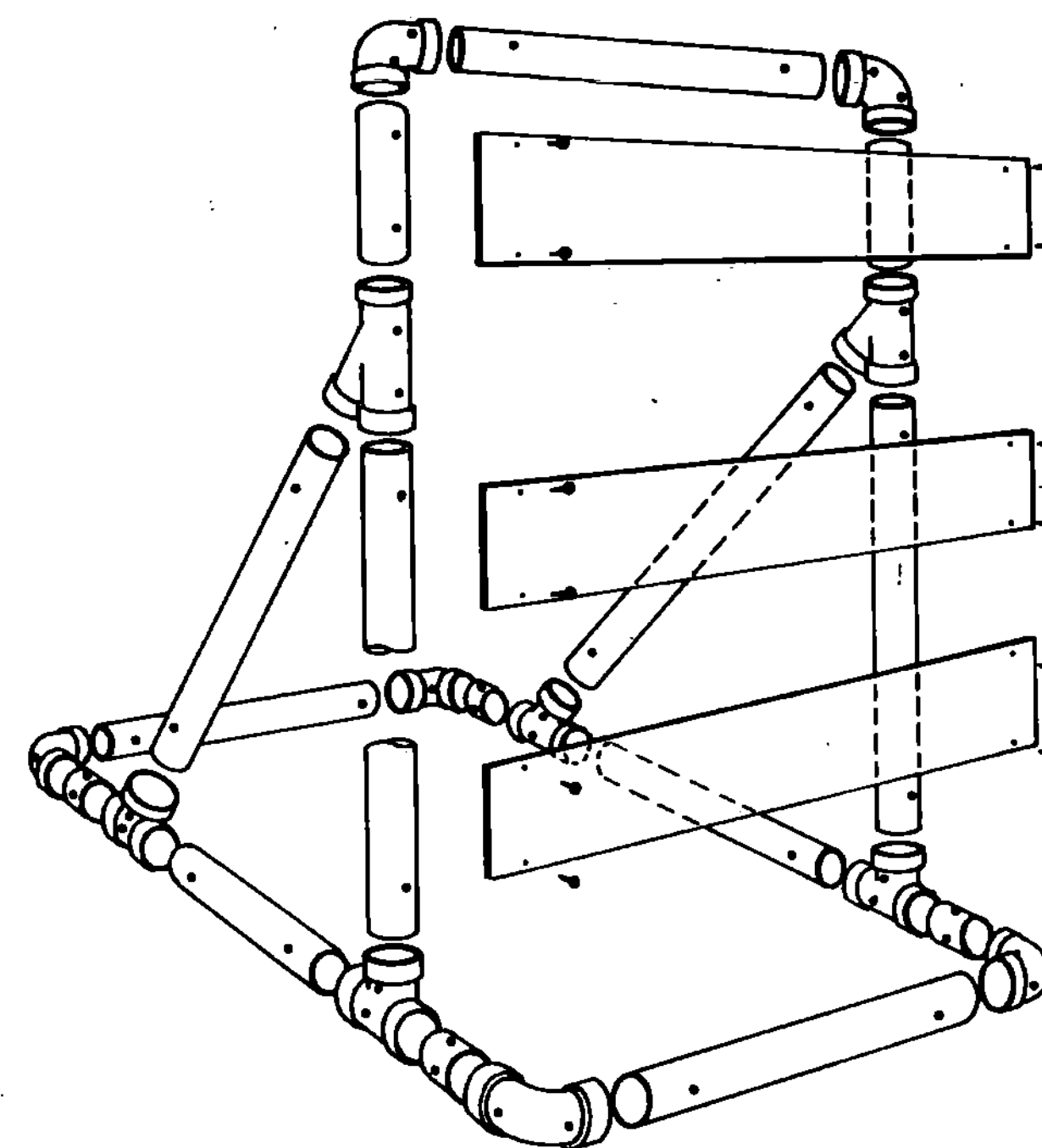
STANDARD E-7



SIDE VIEW

BARRICADES SHALL BE STABILIZED WITH SAND BAGS OF MINIMUM WEIGHT WHICH WILL NOT CONSTITUTE A HAZARD WHEN BARRICADE IS HIT. THEY SHALL BE PLACED ONLY ON THE BASE FRAME OF THE BARRICADE. STABILIZERS SHALL BE SO PLACED AS NOT TO BE A HAZARD TO VEHICLES PASSING ON EITHER SIDE.

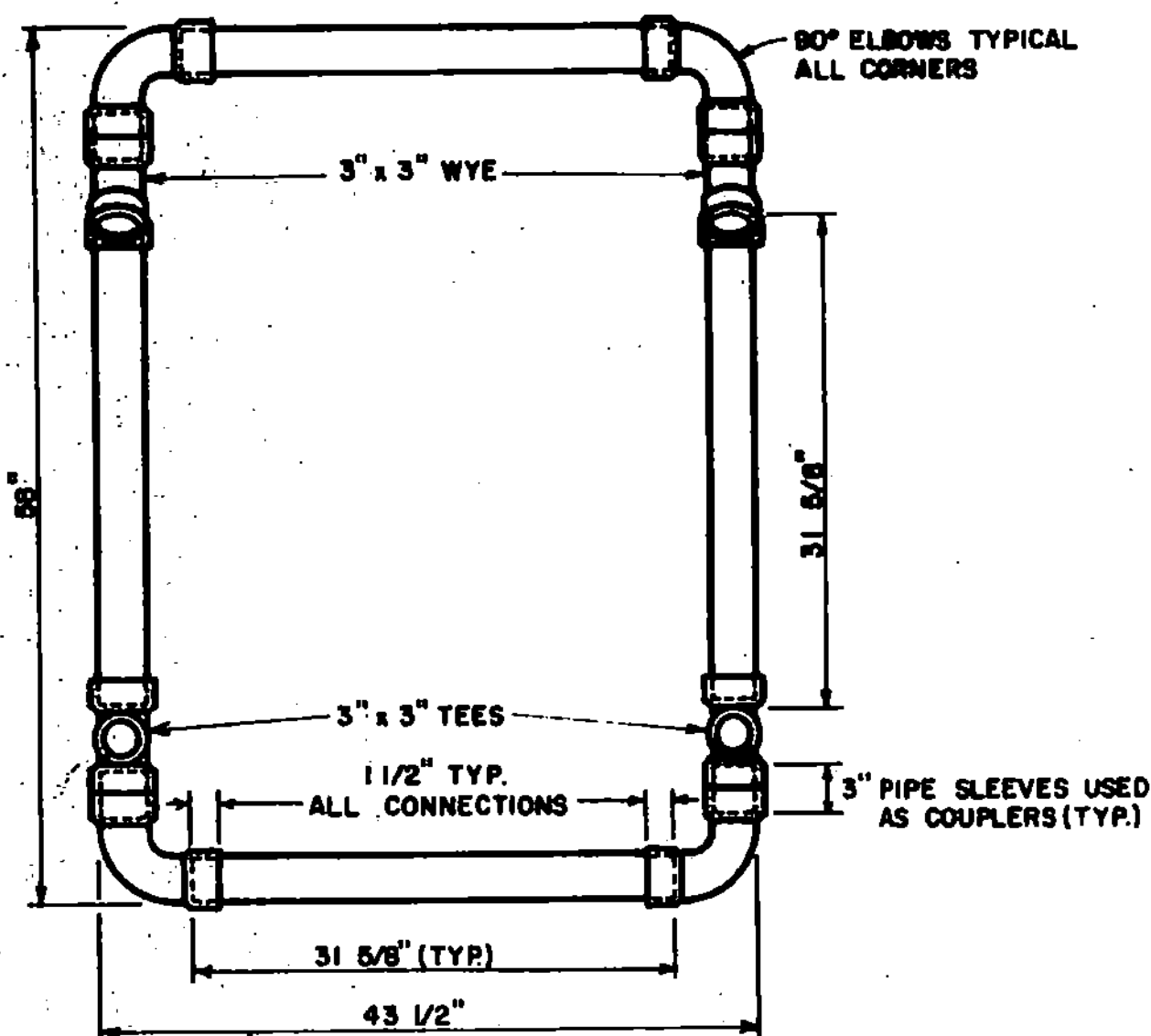
IF BARRICADE REPLACEMENT COSTS CAN BE CONSIDERED NEGLIGIBLE, GLED JOINTS MAY PROVIDE ADDITIONAL STABILITY TO THE INSTALLATION.



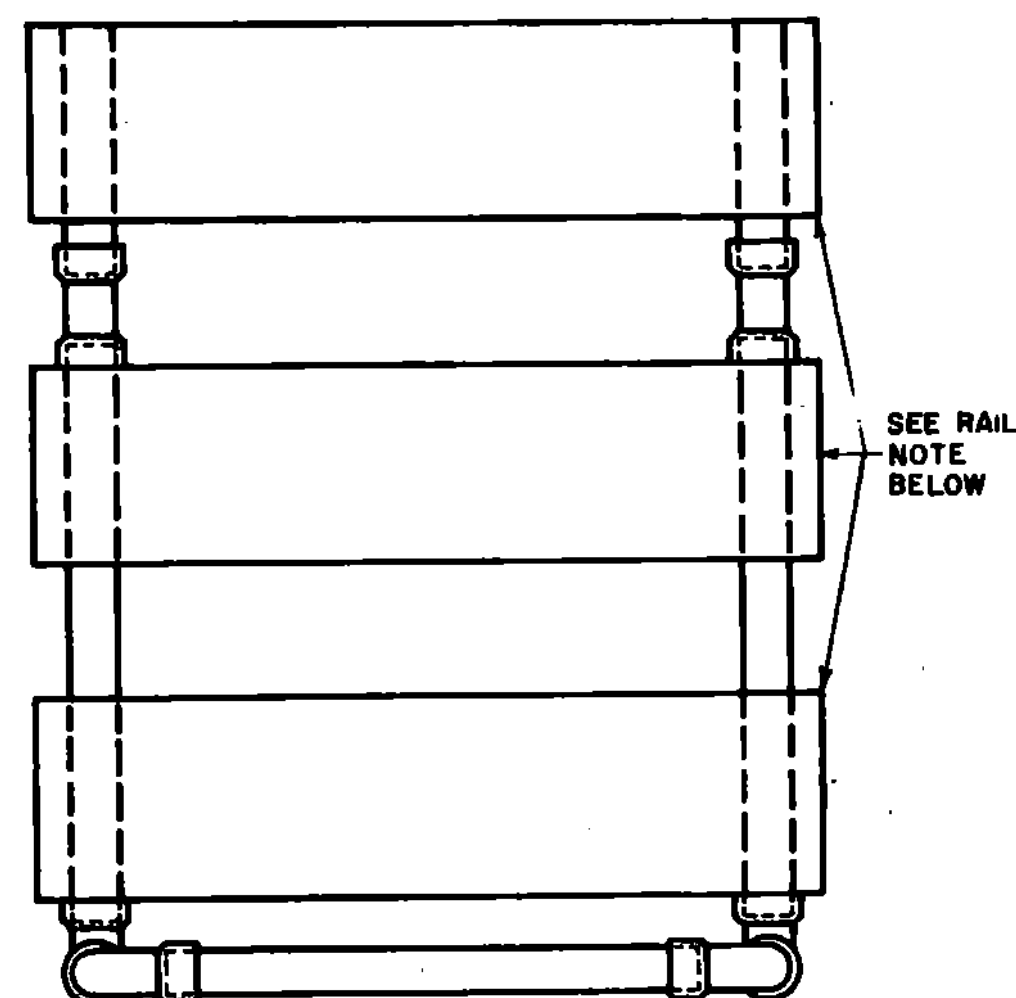
BARRICADE ASSEMBLY

MATERIALS LIST FOR ONE BARRICADE

3" Diameter Pipe	30 LF
3" 1/4 Bend Elbow	6 EA
3" Tees	2 EA
3" Wyes	4 EA
8" x 48" x .025 Barricade Panels	2 EA
5/8" x 11" No. 8 Spring	2 EA
1" No. 14 Pan Head Metal Screws	12 EA
No. 14 Black Annealed Tie Wire	15 LF



TOP VIEW OF BASE

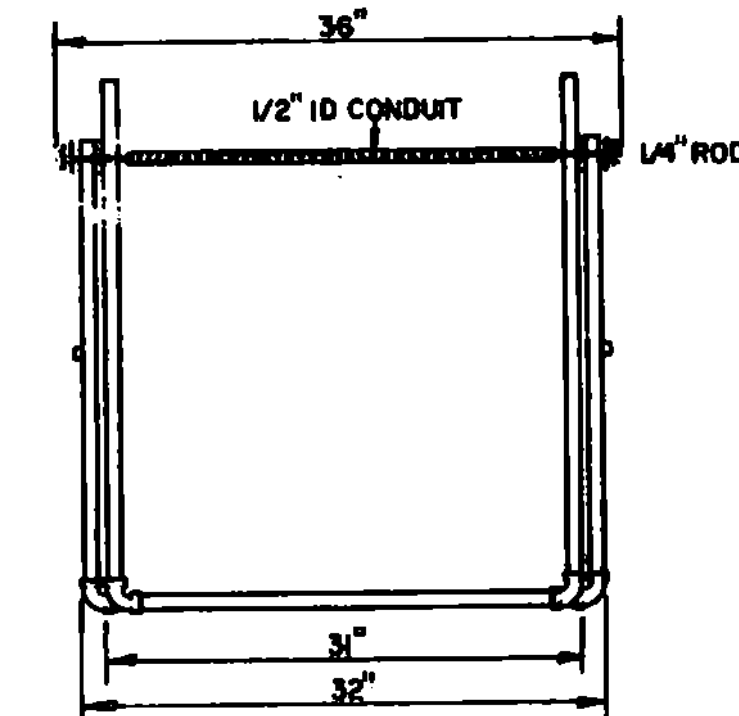


SEE STANDARD E-7 FOR RAIL DETAILS.
RAILS ATTACHED WITH 1" NO. 14 PAN HEAD METAL SCREW.

FRONT VIEW

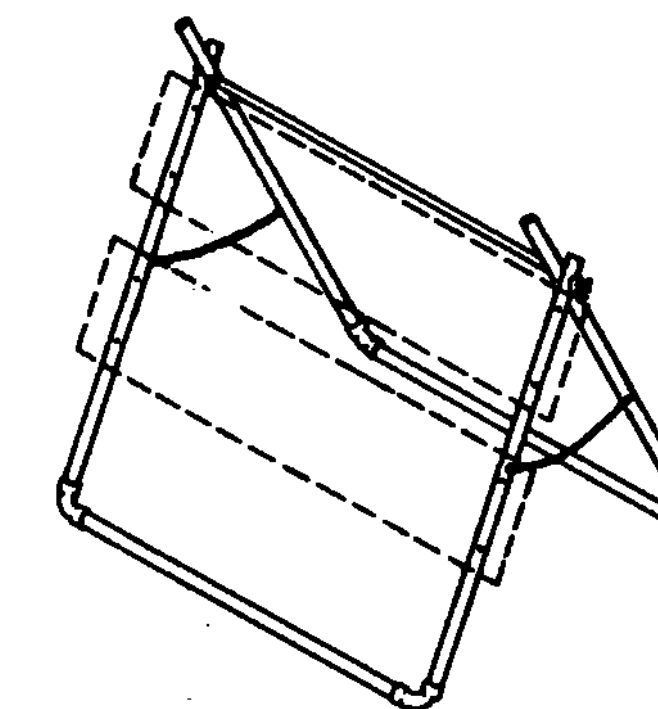
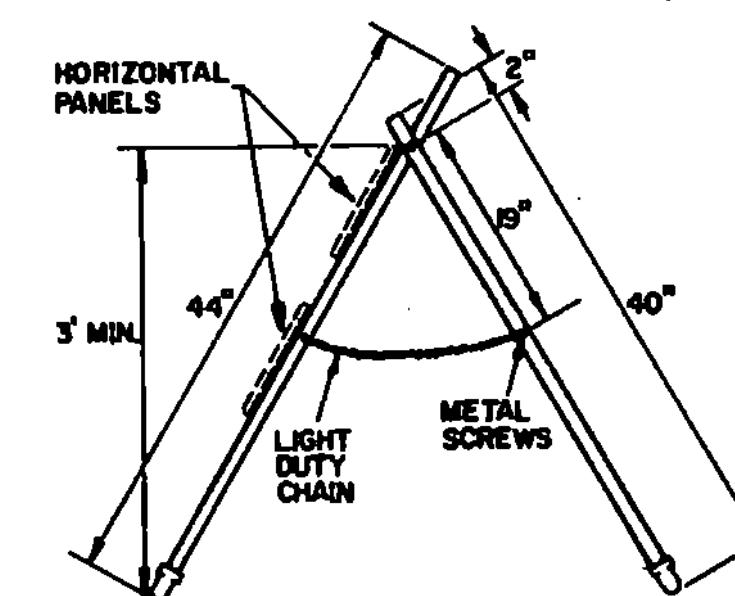
WARNING LIGHTS

WARNING LIGHTS, IF REQUIRED BY THE PLANS OR RESIDENT ENGINEER, SHALL BE AFFIXED TO THE TOP OF THESE BREAKAWAY BARRICADES WITH A MINIMUM MOUNTING HEIGHT OF 36 INCHES TO THE BOTTOM OF THE LENS. A FLASHING WARNING LIGHT SHOULD BE PLACED ON BARRICADES USED SINGLY AND STEADY BURN WARNING LIGHTS SHOULD BE PLACED ON BARRICADES USED IN A SERIES FOR TRAFFIC CHANNELIZATION. THE WARNING LIGHTS SHALL CONFORM TO THE REQUIREMENTS FOUND IN THE M.U.T.C.D. WHEN THE INTEGRAL WARNING LIGHT UNIT IS USED, THE BATTERY PACK SHALL CONTAIN A LIGHT WEIGHT DRY CELL BATTERY AND THE UNIT SHALL BE RESTRAINED WITH A TETHER CABLE OR WIRE (12' LENGTH) SECURELY FASTENED TO THE BARRICADES SO AS TO AVOID HAVING THE UNIT BECOME A DANGEROUS FLYING OBJECT IF THE BARRICADE IS HIT.



MATERIALS FOR TYPE I & II BARRICADES

- 20'-1" PVC
- 4'-1" PVC 90° ELBOWS
- 30'-1/2" ID THINWALL CONDUIT
- 4'-1" WASHERS
- 36'-1/4" STEEL ROD
- 24'-1" LIGHT DUTY CHAIN
- 4-METAL SCREWS
- 2-3/4" COTTER PINS



TYPE I & II BARRICADE DETAILS

TYPE I BARRICADES SHALL CONSIST OF ONE HORIZONTAL PANEL.
TYPE II BARRICADES SHALL CONSIST OF AN ADDITIONAL HORIZONTAL PANEL MOUNTED BELOW THE OTHER.
SEE STD E-7 FOR USE REQUIREMENTS.

REVISIONS & CORRECTIONS

- JAN. 11, 1977 - REVISED ACCORDING TO FHWA REQUIREMENTS.
- JUNE 8, 1977 - MATERIALS LIST ADDED.
- APR. 8, 1982 - CEMENTING NOTE AND BARRICADES TYPE 1 & 2 ADDED.
- JUNE 13, 1984 - RAILS CHANGED FROM 9" TO 8".
- JUNE 3, 1985 - SAND AND WARNING LIGHT NOTE ADDED.
- FEB. 3, 1986 - UPDATED TO 1986 SPECIFICATIONS

APPROVED

Dec 30, 1976
DATE

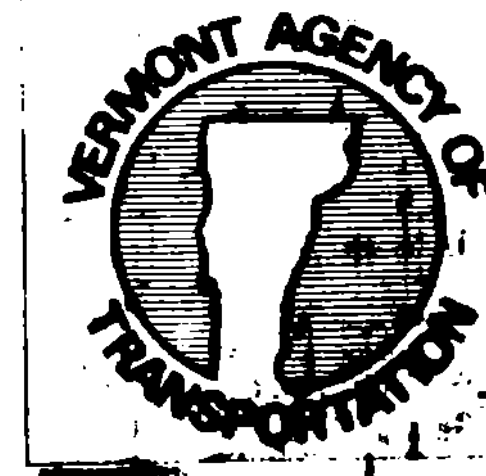
E. H. McKinney
CHIEF ENGINEER

R. O. Munn
ASST. CHIEF ENGINEER

Lois E. Jones
HIGHWAY ENGINEER

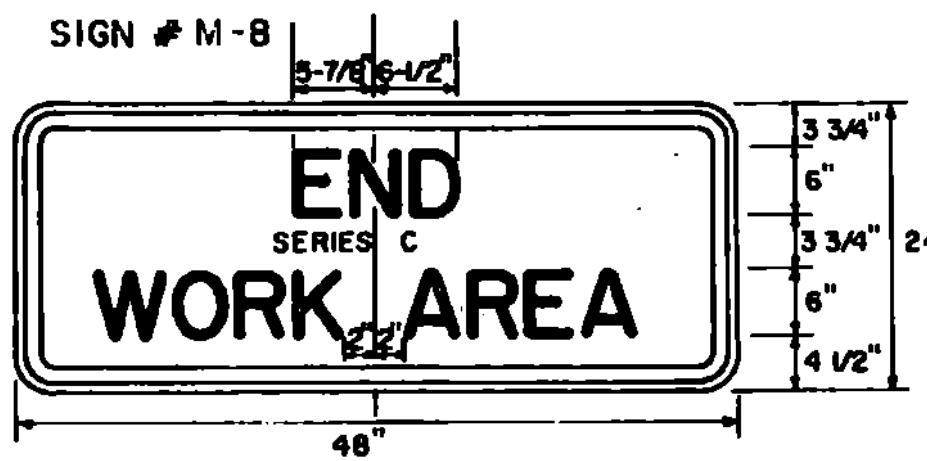
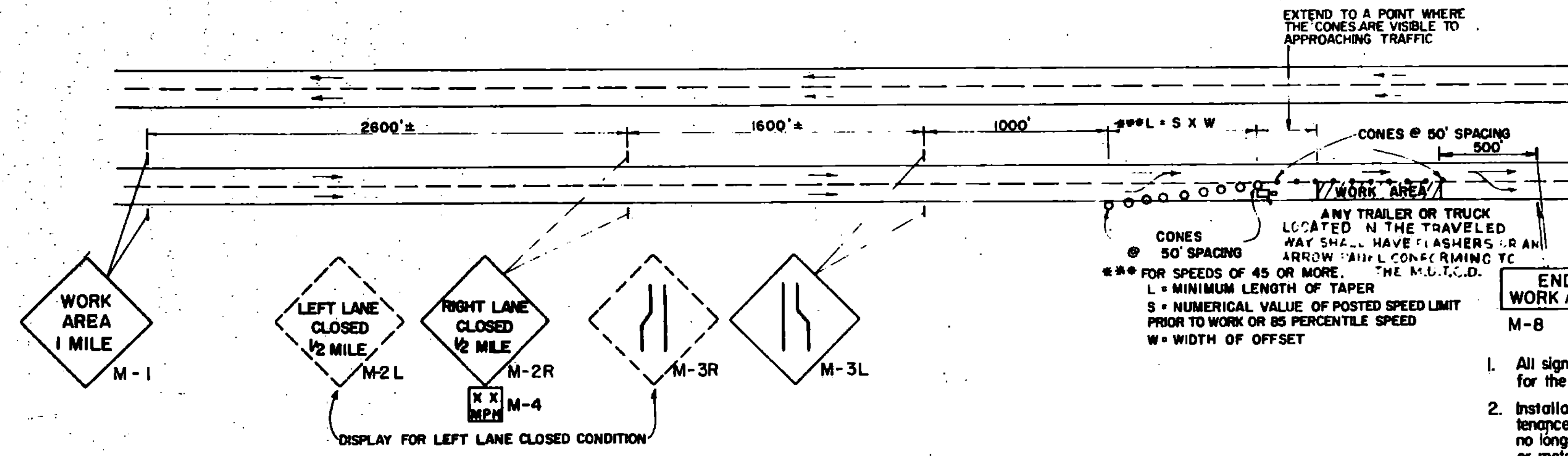
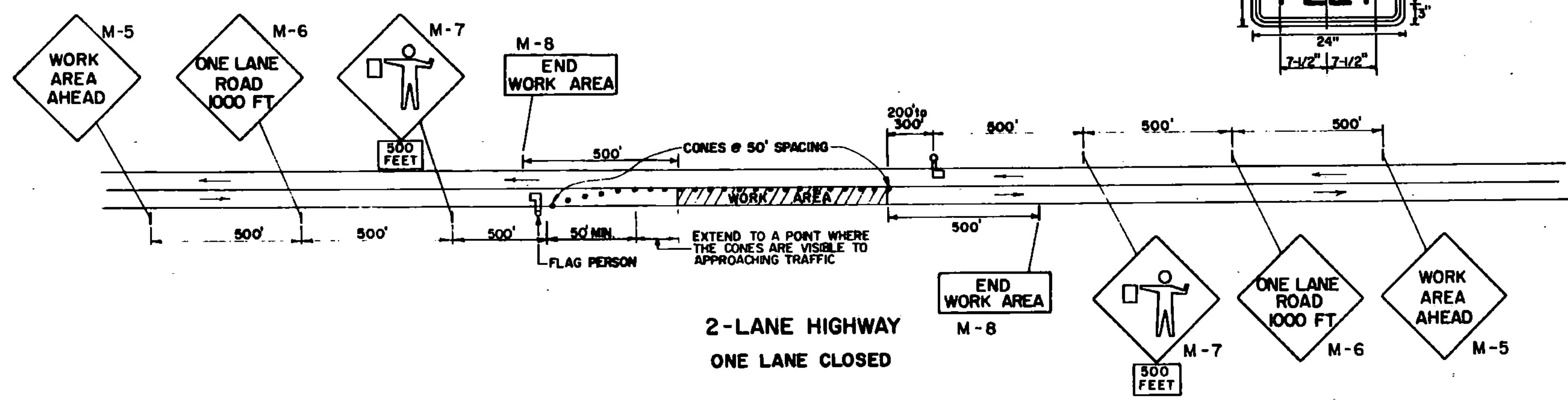
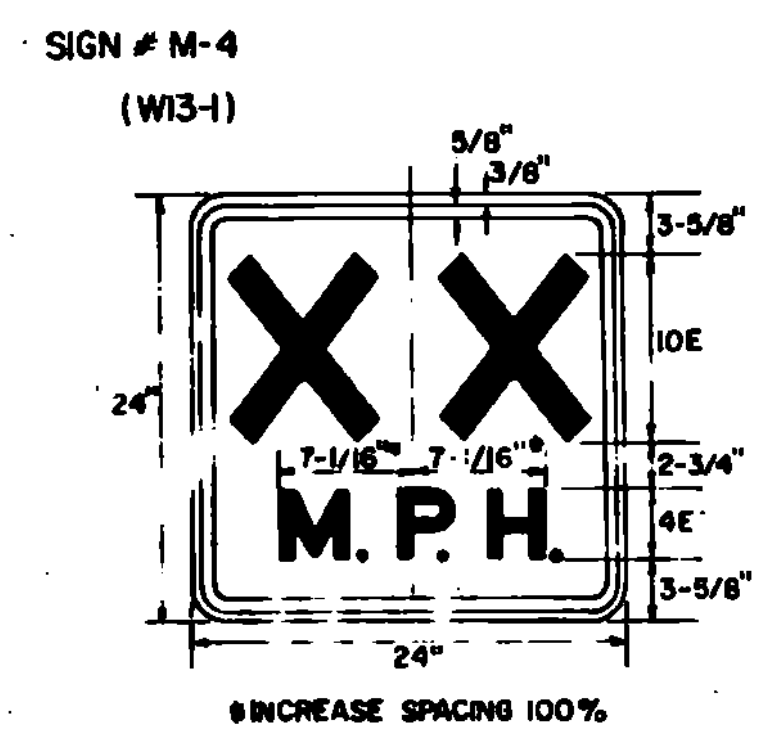
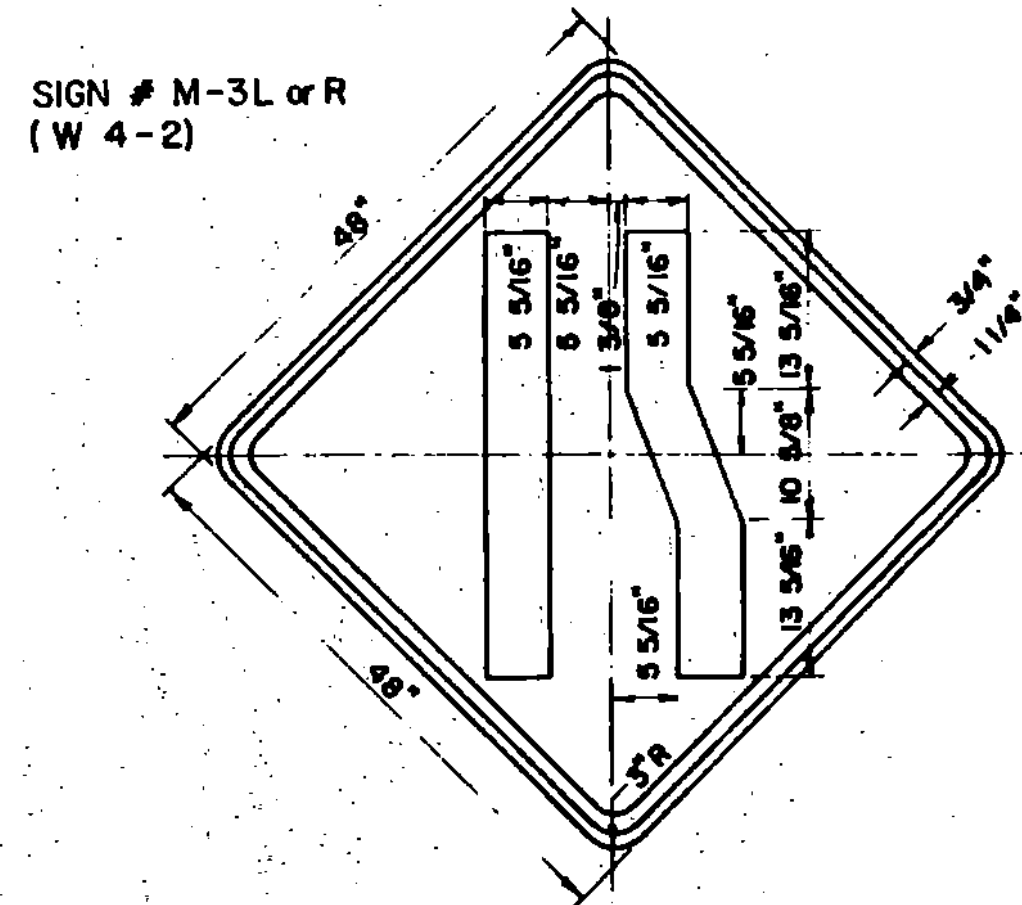
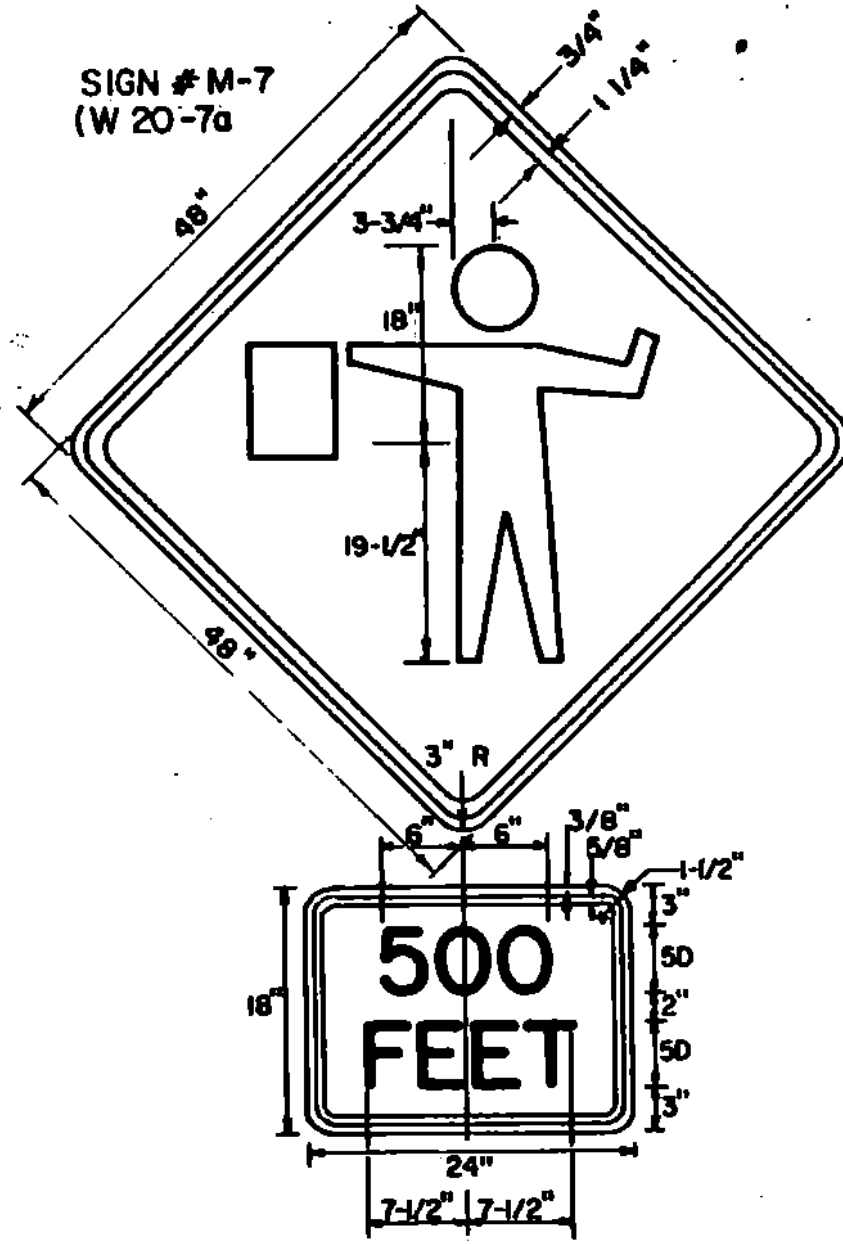
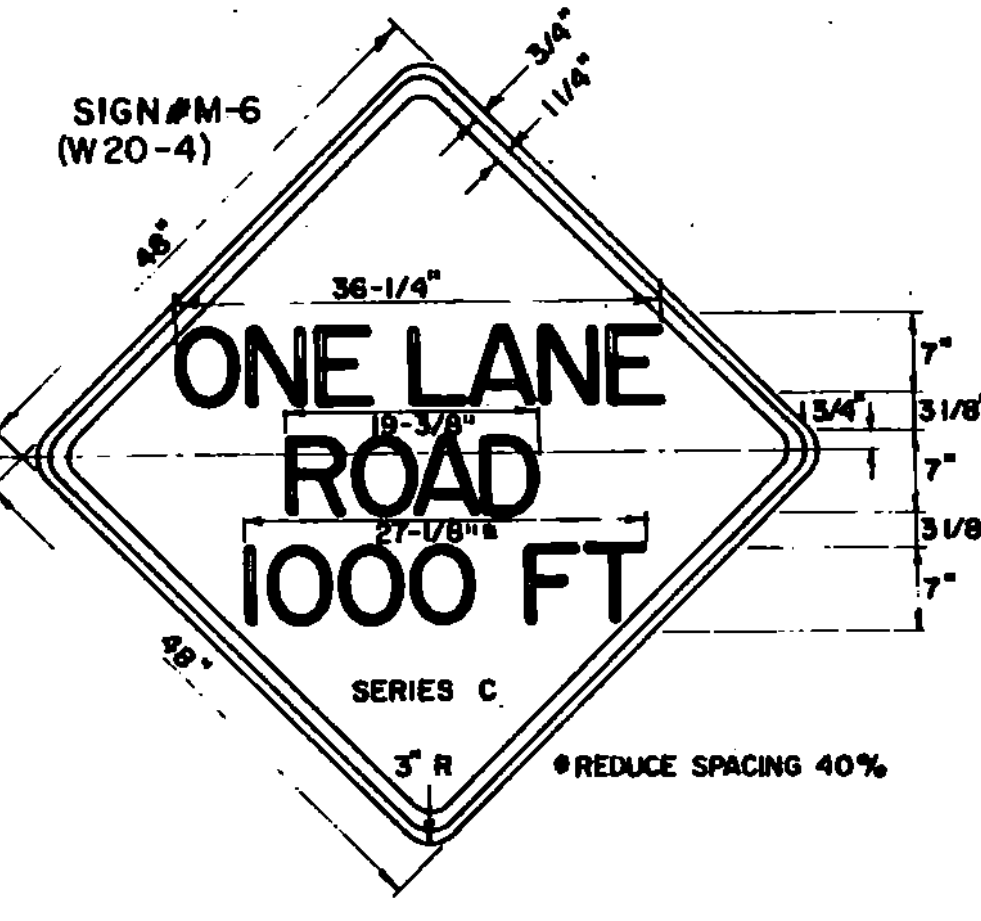
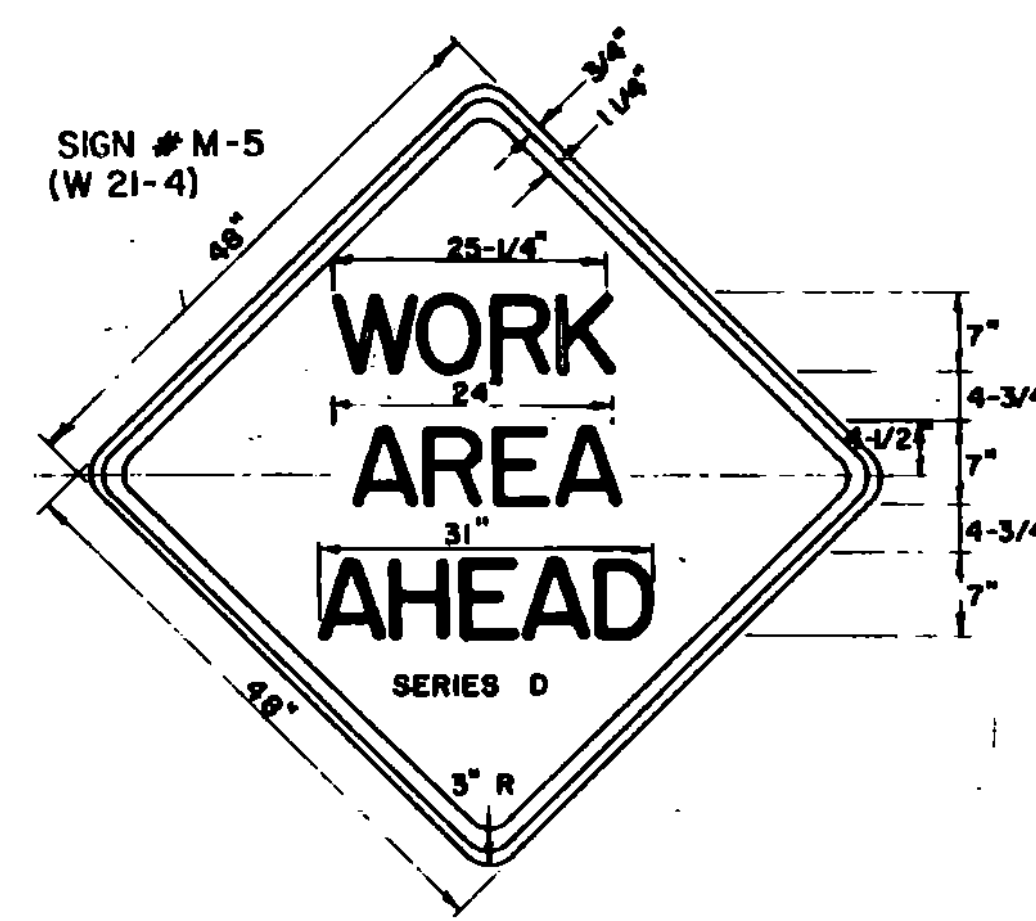
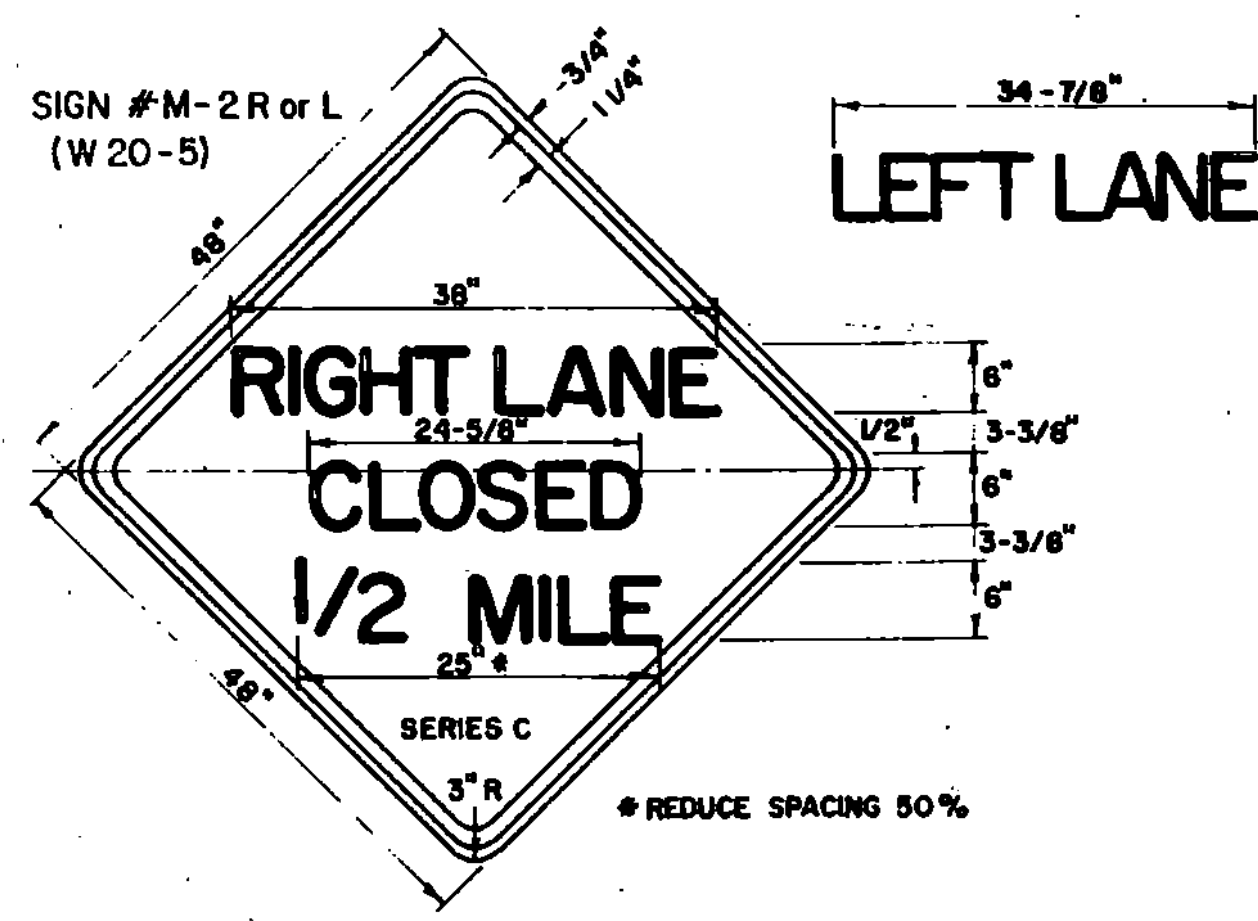
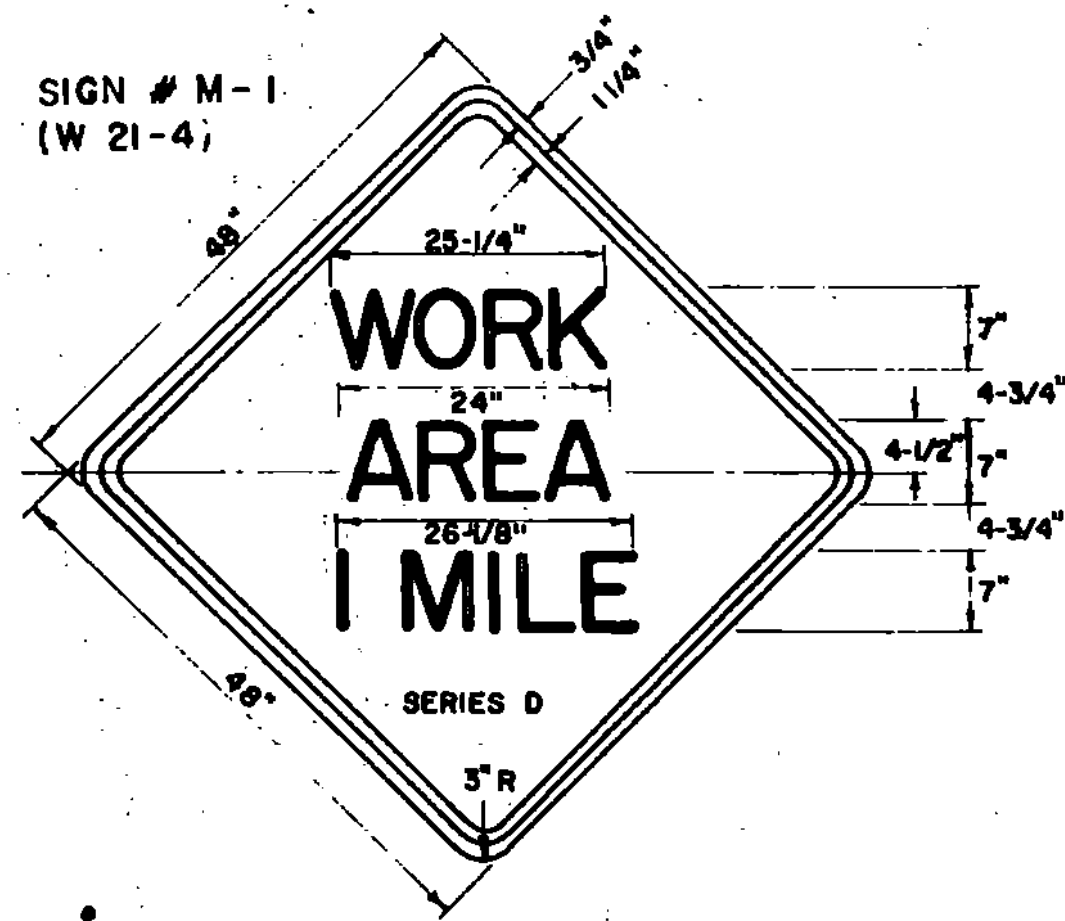
TRAFFIC SIGNS

BREAKAWAY BARRICADE
DETAILS



STANDARD

E-7a



- NOTES**
- All signs shall be covered or removed at the end of the working day unless required for the protection and safety of the traveling public.
 - Installation: Signs and barricades shall be in place prior to the start of the maintenance operation to which they apply and shall be removed promptly when the need no longer exists. Each sign shall be erected in a neat and workmanlike manner on wood or metal posts set securely in the ground, or on portable supports for temporary use, or on barricades when appropriate. As a general rule, roadside signs shall be 5 feet above road level with the nearest edge at least 6 feet outside the shoulder point. The installation of all signs and barricades shall be subject to the approval of the Engineer.
 - Numbers in parenthesis indicate M.U.T.C.D. sign designations.
 - "ROAD WORK" or "BRIDGE WORK" may be substituted as the appropriate legend for signs # M-1 or M-5.

Reflectorization
All reflectorized material shall consist of encapsulated lens reflective sheeting. The text and borders may be screened, lettering film, or hand painted. Cones used for traffic control at night shall have a minimum 6" wide reflectorized material.

Colors
The warning signs shown on this sheet shall have black text, border, and symbols on a reflectorized orange background. The orange shall conform with the standard colors adopted by the American Association of State Highway and Transportation Officials and approved by the U.S. Department of Transportation, Federal Highway Administration.

Text Design
Letters, digits, spacing, and text dimensions shall conform with the standard alphabets and design prescribed in the manual on Uniform Traffic Control Devices.

Specifications
Warning signs shall meet the standard state specifications for traffic signs.

Sign Base Material
The sign base material used for the warning signs on this sheet may be of any of the following, with minimum thickness as noted:

Flat sheet aluminum	0.125 Inches
High density overlaid plywood	3/4 Inches
Galvanized sheet steel	12 Gage

5. ON TOWN, CITY AND INCORPORATED VILLAGE HIGHWAY SYSTEMS THE MINIMUM NUMBER OF SIGNS IS AS FOLLOWS:
MINIMUM NUMBER OF SIGNS REQUIRED ARE M-6 AND M-7.
MINIMUM SIZE OF THE SIGNS SHALL BE 36" x 36".
THIS SIGN SIZE REDUCTION IS FOR DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION.

REVISIONS & CORRECTIONS

FEB. 29, 1972: SIGN ADDED UNDER DIRECTION OF FEDERAL HIGHWAY ADMINISTRATION

MAY 14, 1974: REFLECTIVE MATERIAL CHANGE.

JUNE 8, 1977: REFLECTIVE MATERIAL NOTE CHANGED. SIGNS REFERENCED TO NUMBERS IN M.U.T.C.D. SIGNS NUMBERED.

AUG. 4, 1977: FLAGPERSON SIGN CHANGED TO SYMBOL.

SEPT. 12, 1977: NOTE ADDED FOR REDUCED NUMBER AND SIZE OF SIGNS.

JUNE 8, 1978: REVISED REDUCED SPEED SIGN PER FHWA.

NOV. 23, 1981: "WORK AREA" LEGEND AND NOTES ADDED, GENERAL SIGN REVISIONS.

JUNE 15, 1983: TRUCK/TRAILER W/ FLASHER NOTE CLARIFIED

FEB. 1, 1986 - UPDATED TO 1985 SPECIFICATIONS

APPROVED: _____ DATE: Jan. 26, 1972

R. H. Arnold
CHIEF ENGINEER

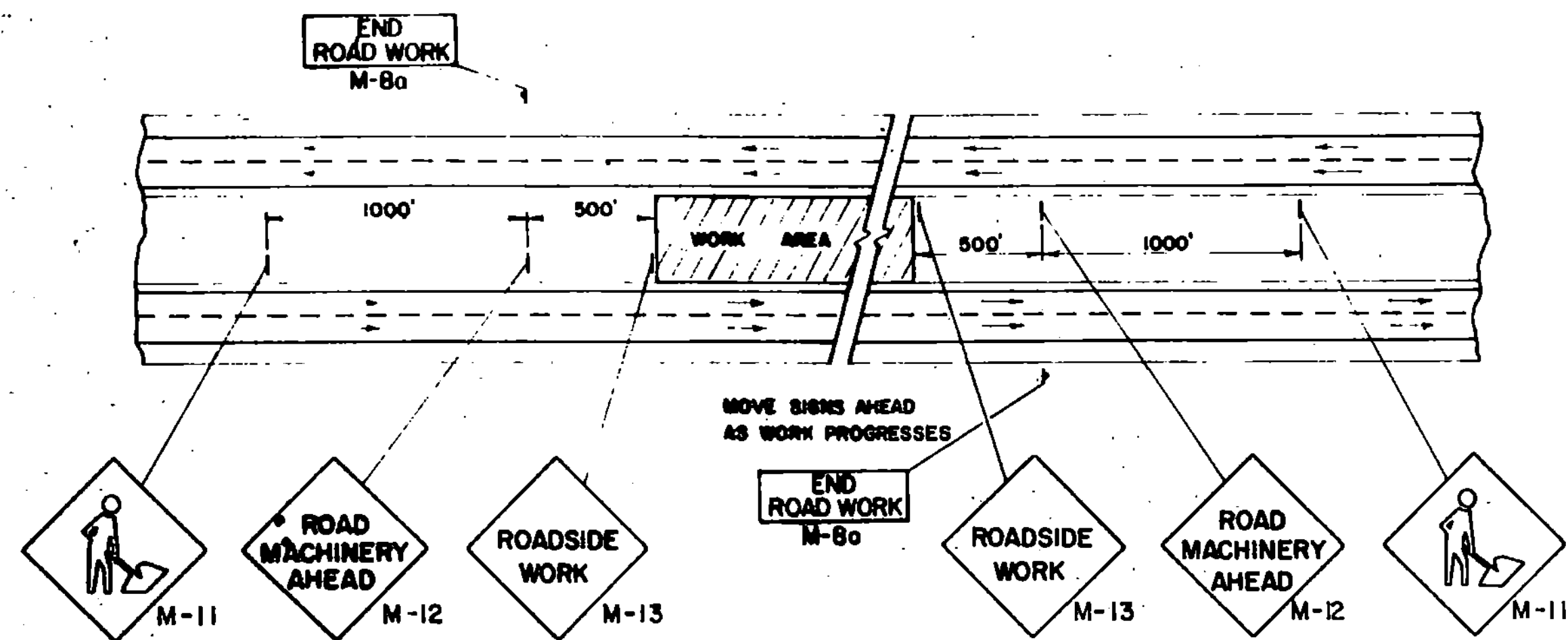
C. H. O'Rourke
ASST. CHIEF ENGINEER

L. M. Lane
HIGHWAY ENGINEER

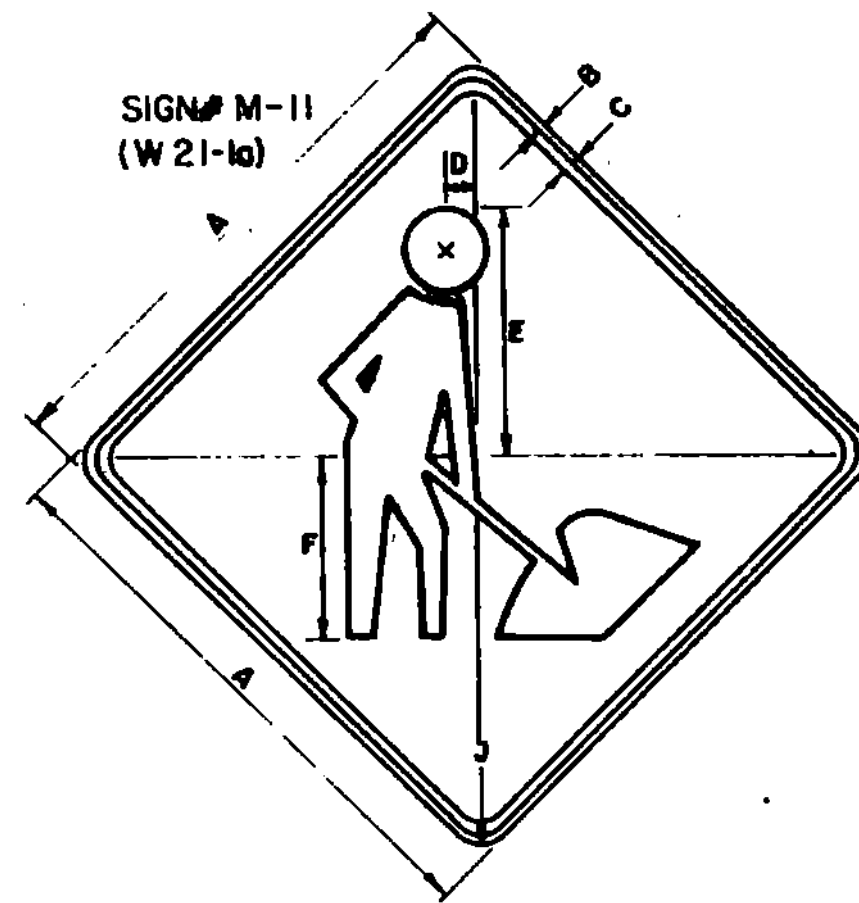
**TYPICAL MAJOR MAINTENANCE OPERATION
(BRIDGE AND ROADWAY)
APPROACH SIGNS**



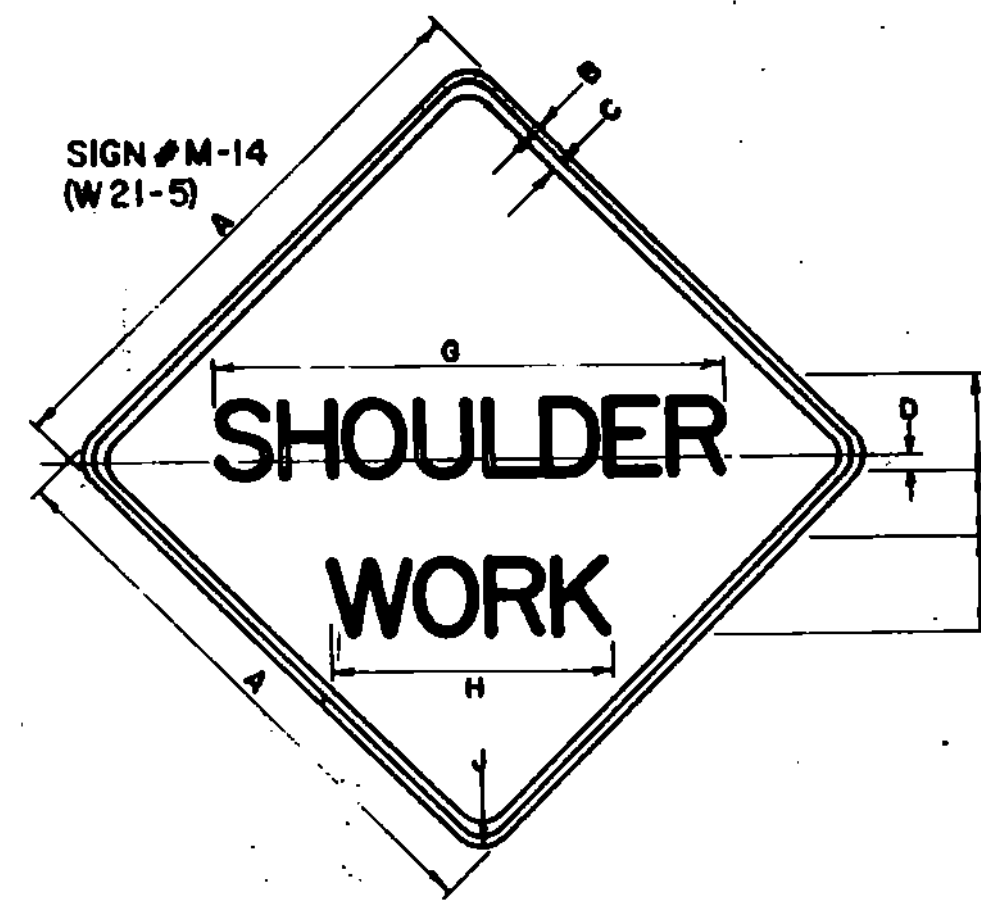
**STANDARD
E-8**



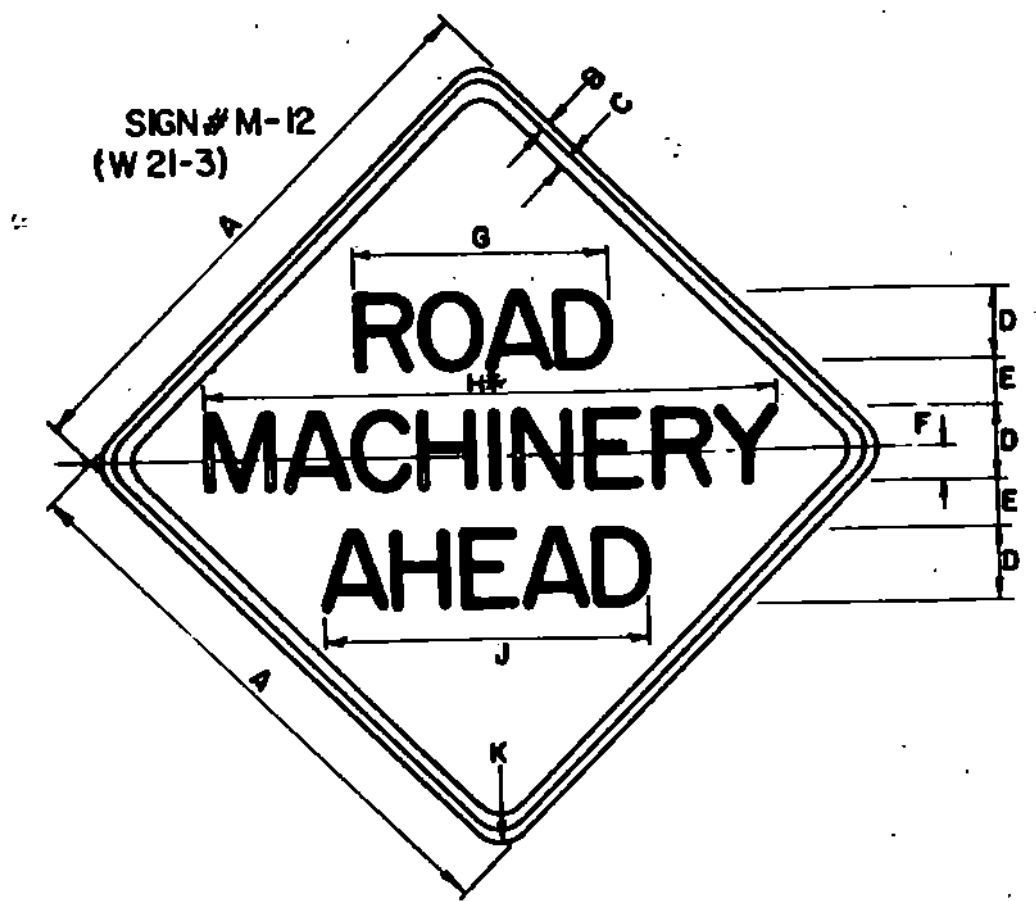
4-LANE DIVIDED HIGHWAY
MEDIAN MAINTENANCE



SIGN	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	J
2 LANE	36	5/8	7/8	2-1/4	15-7/8	12		2 1/4
4 LANE	48	3/4	1 1/4	3	22 3/8	16		3

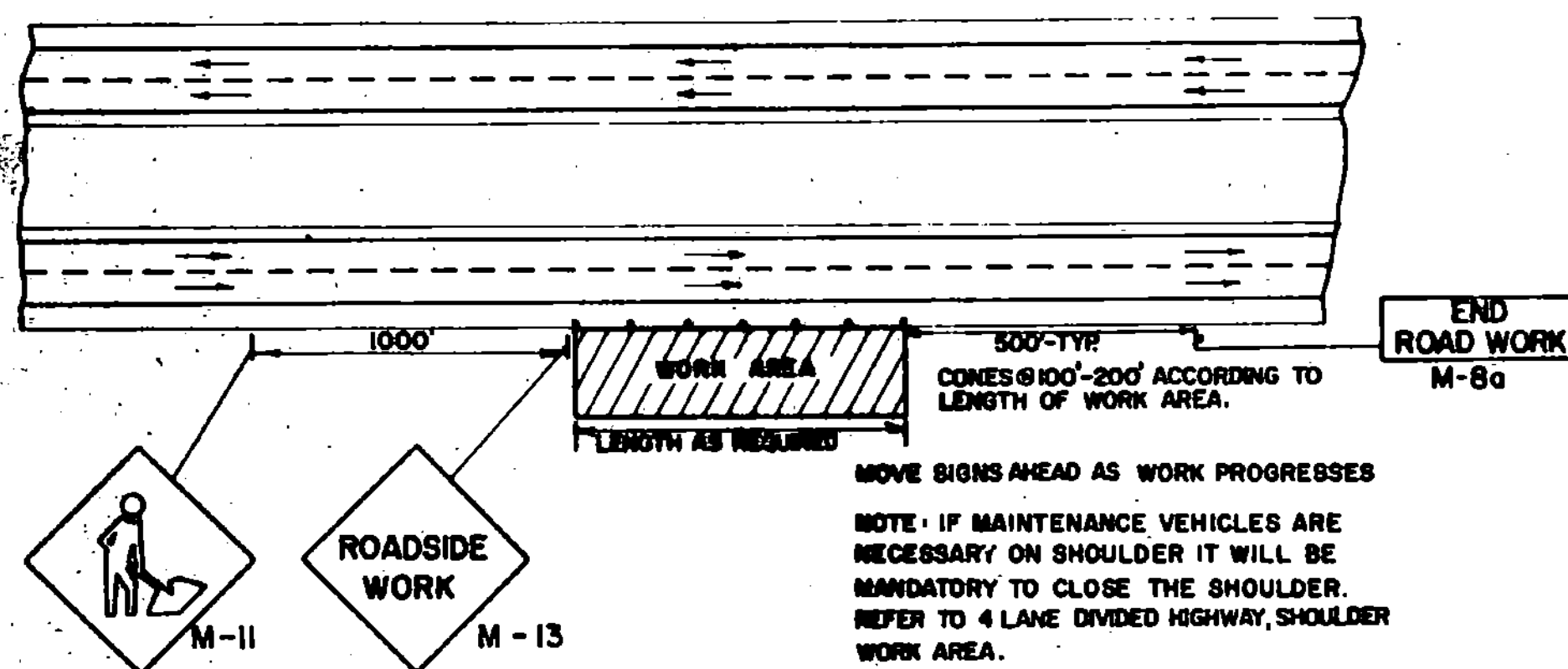


SIGN	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	J
2 LANE	36	5/8	7/8	1	5-D	3 1/2	34 1/2	17 3/8
4 LANE	48	3/4	1 1/4	1	7-C	4	38 1/2	20 1/8

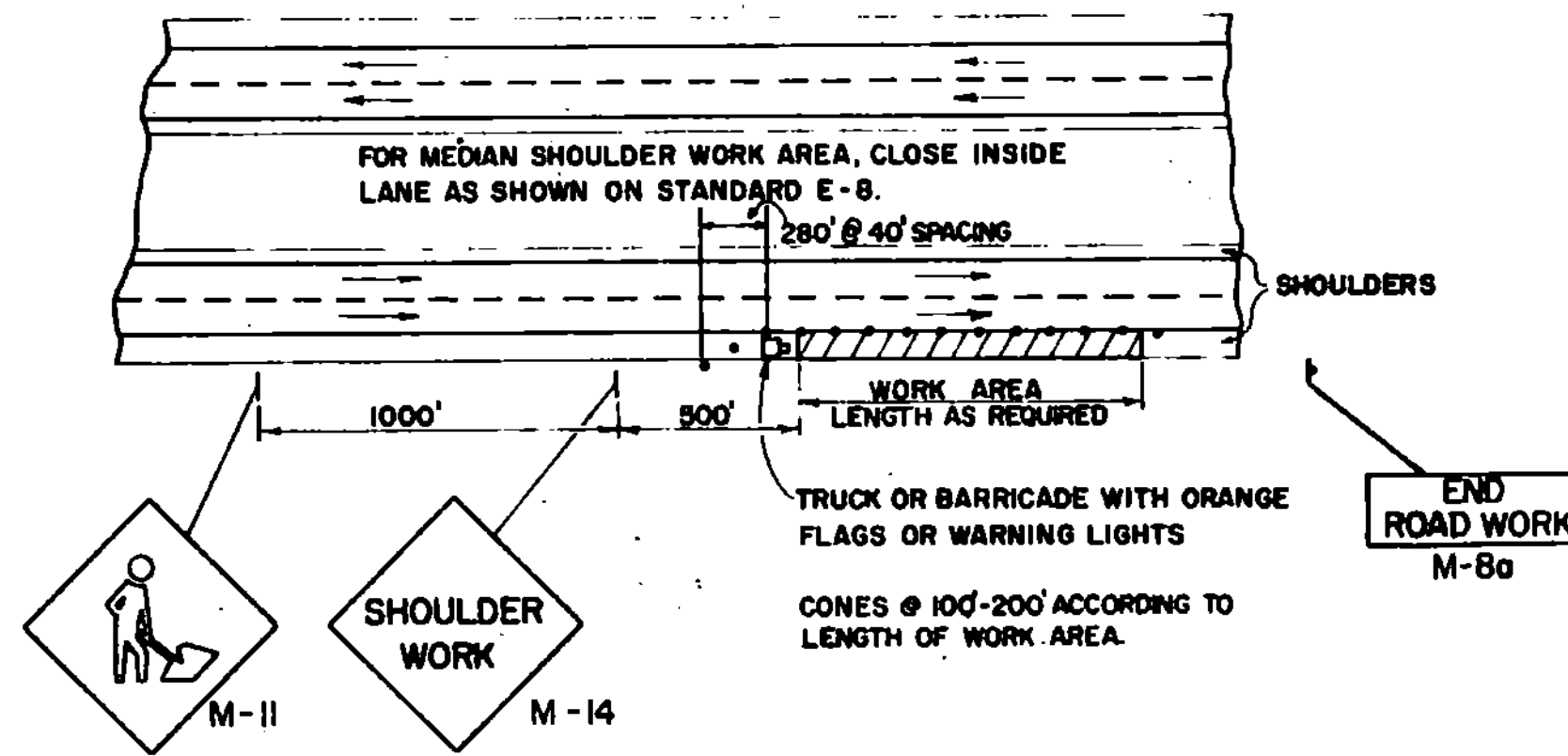


*REDUCE SPACING BY 40%

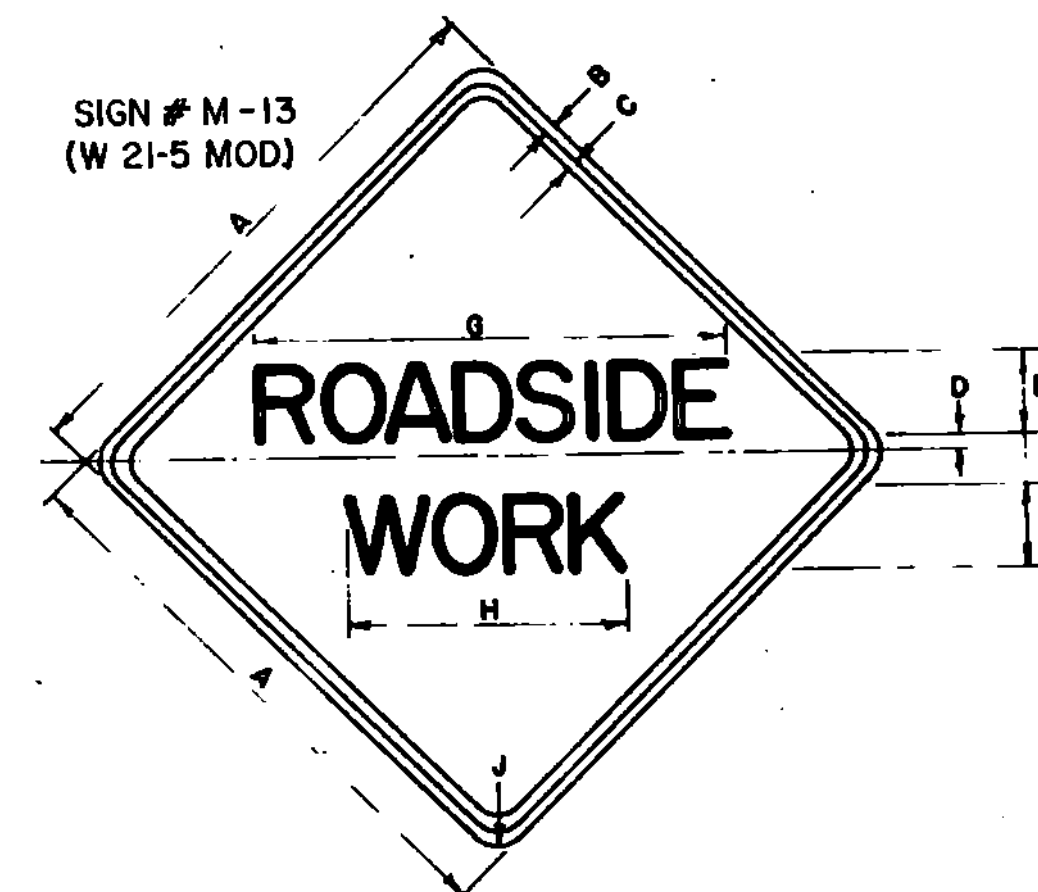
SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	K
2 LANE	36	5/8	7/8	5-D	4	2 1/2	17 1/4	34 1/2	21 1/4	2 1/4
4 LANE	48	3/4	1 1/4	7-D	5	3 1/2	24 1/8	48 1/2	31	3



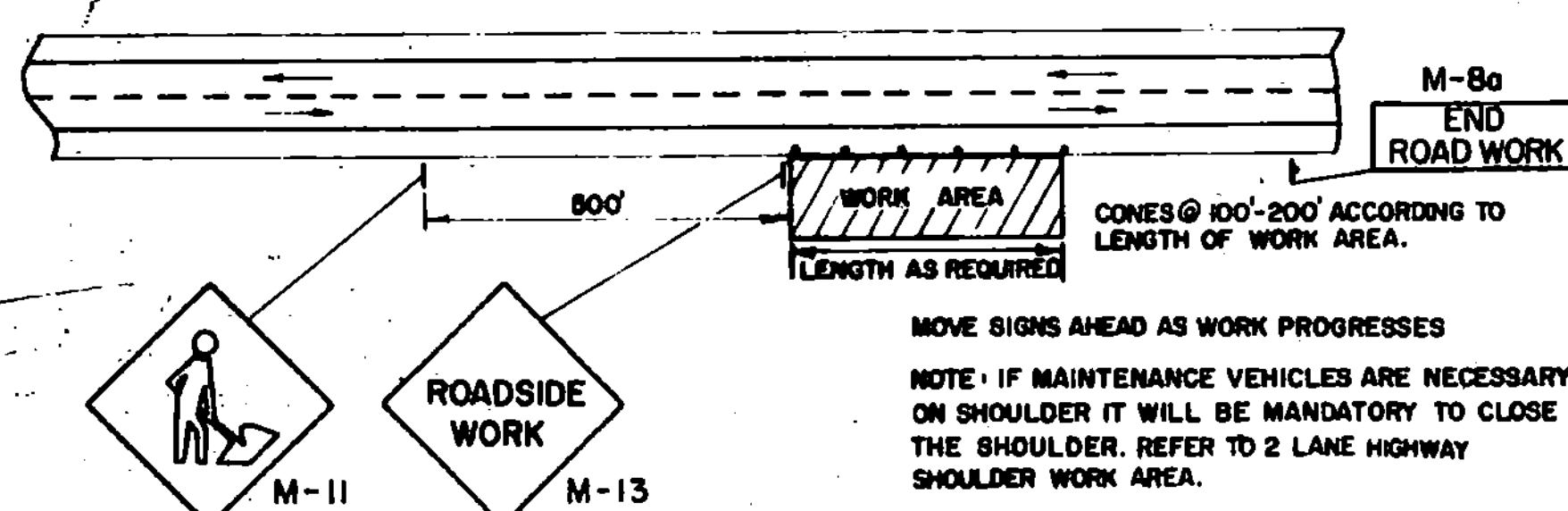
4-LANE DIVIDED HIGHWAY
MAINTENANCE OUTSIDE RIGHT SHOULDER



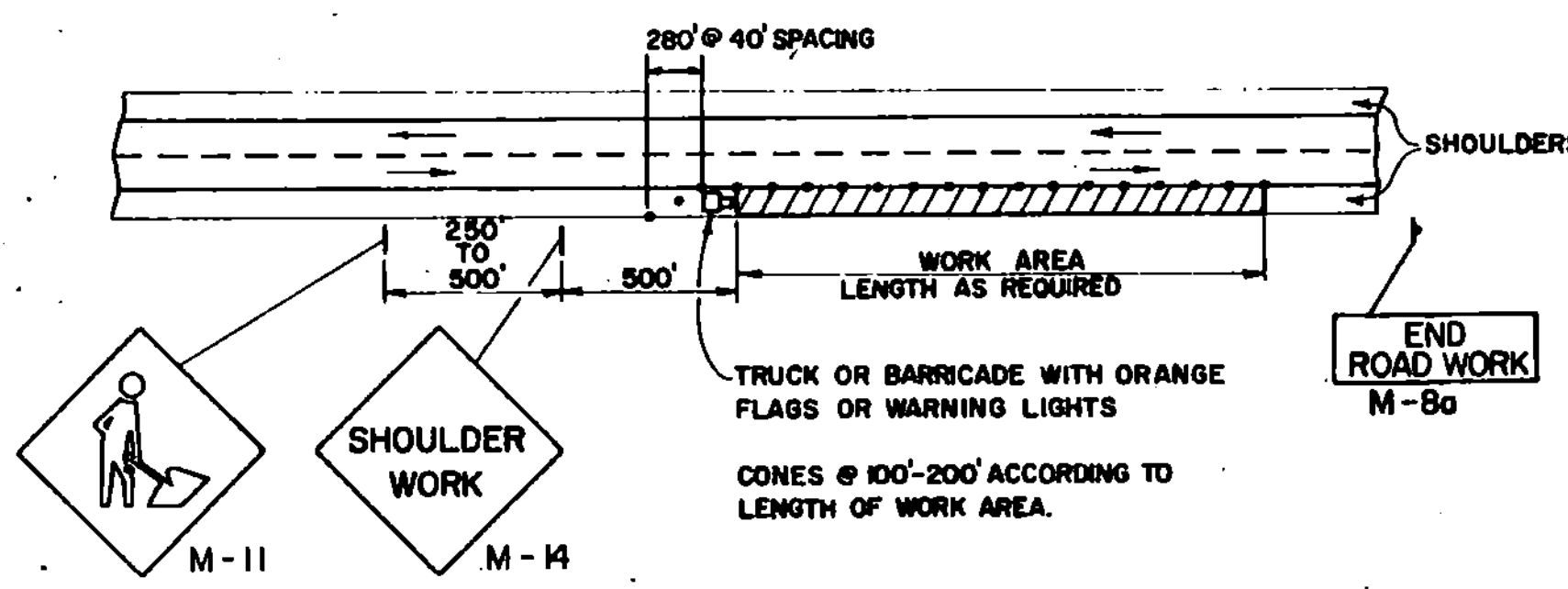
4-LANE DIVIDED HIGHWAY
SHOULDER WORK AREA



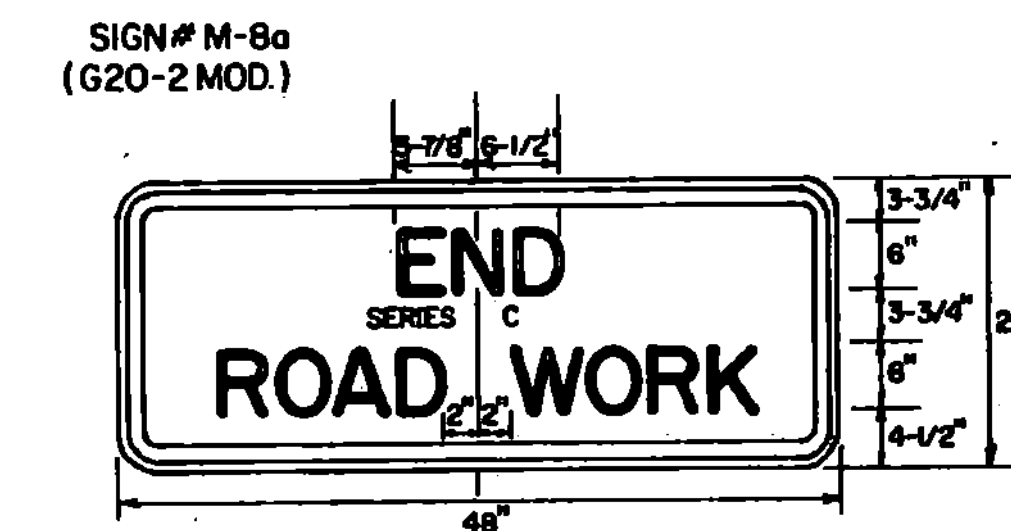
SIGN	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	J
2 LANE	36	5/8	7/8	1/2	5-D	3 1/2	31 1/2	17 3/8
4 LANE	48	3/4	1 1/4	1	7-C	4	35 1/2	20 1/8



2-LANE HIGHWAY
MAINTENANCE OUTSIDE SHOULDER



2-LANE HIGHWAY
SHOULDER WORK AREA



Reflectization
All reflective material shall consist of encapsulated lens reflective sheeting. The text and borders may be screened, lettering film, or hand painted.

Colors
The warning signs shown on this sheet shall have a black text and border on a reflectorized orange background. The orange shall conform with the standard colors adopted by the American Association of State Highway and Transportation Officials and approved by the U.S. Dept. of Transportation, Federal Highway Administration.

Text Design
Letters, spacing, and text dimensions shall conform with the standard alphabets and design prescribed in the Manual on Uniform Traffic Control Devices.

Specifications
Warning signs shall meet the standard state specifications for traffic signs.

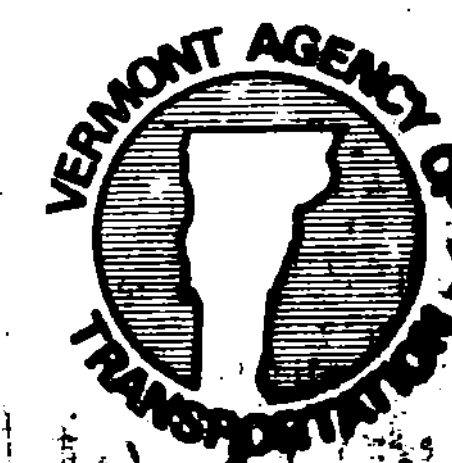
Sign Base Material
The sign base material used for the warning signs shown on this sheet may be any of the following, with minimum thickness as noted:

(1) Flat Sheet Aluminum	36x36	48x48	inches
(2) High Density Overlayed Plywood	0.100	0.125	inches
(3) Galvanized Sheet Steel	5/8	3/4	inches
	14	12	gauge

REVISIONS & CORRECTIONS
FEB. 29, 1972 - REVISED PER DIRECTION OF THE FEDERAL HIGHWAY ADMINISTRATION.
MAY 14, 1974 - REFLECTIVE MATERIAL CHANGE.
JUNE 8, 1977 - REFLECTIVE MATERIAL NOTE CHANGED.
AUG. 10, 1977 - PERSON WORKING SIGN CHANGED TO SYMBOL.
DEC. 9, 1981 - MINOR SIGN DIMENSION CHANGES.
FEB. 6, 1988 - UPDATED TO 1988 SPECIFICATIONS

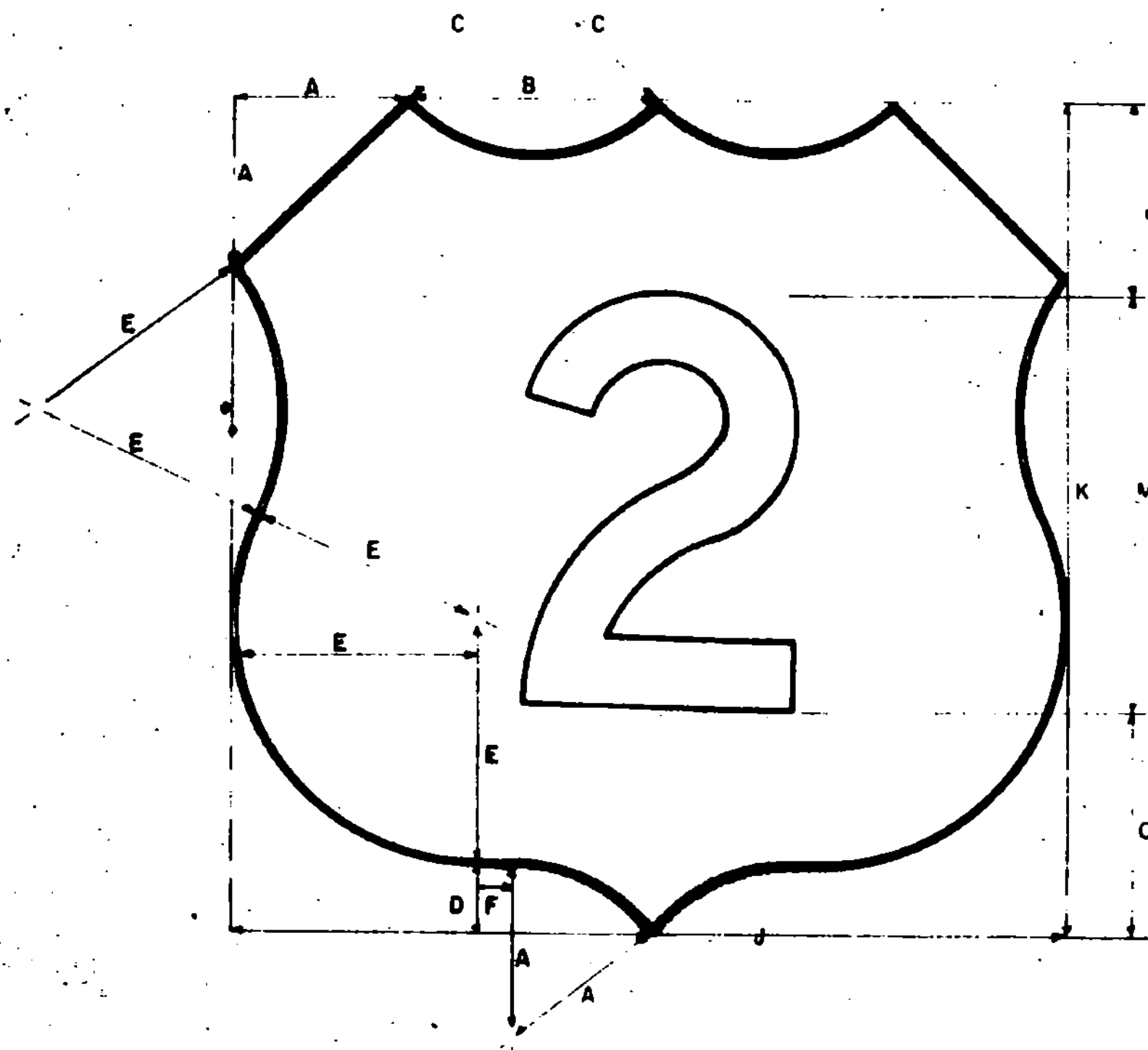
APPROVED
DATE: Jan. 26, 1972
R. W. Arnold
CHIEF ENGINEER
E. H. Stehney
ASST. CHIEF ENGINEER
G. M. Lane
HIGHWAY ENGINEER

TRAFFIC SIGNS
TYPICAL MINOR MAINTENANCE OPERATION
APPROACH SIGNS

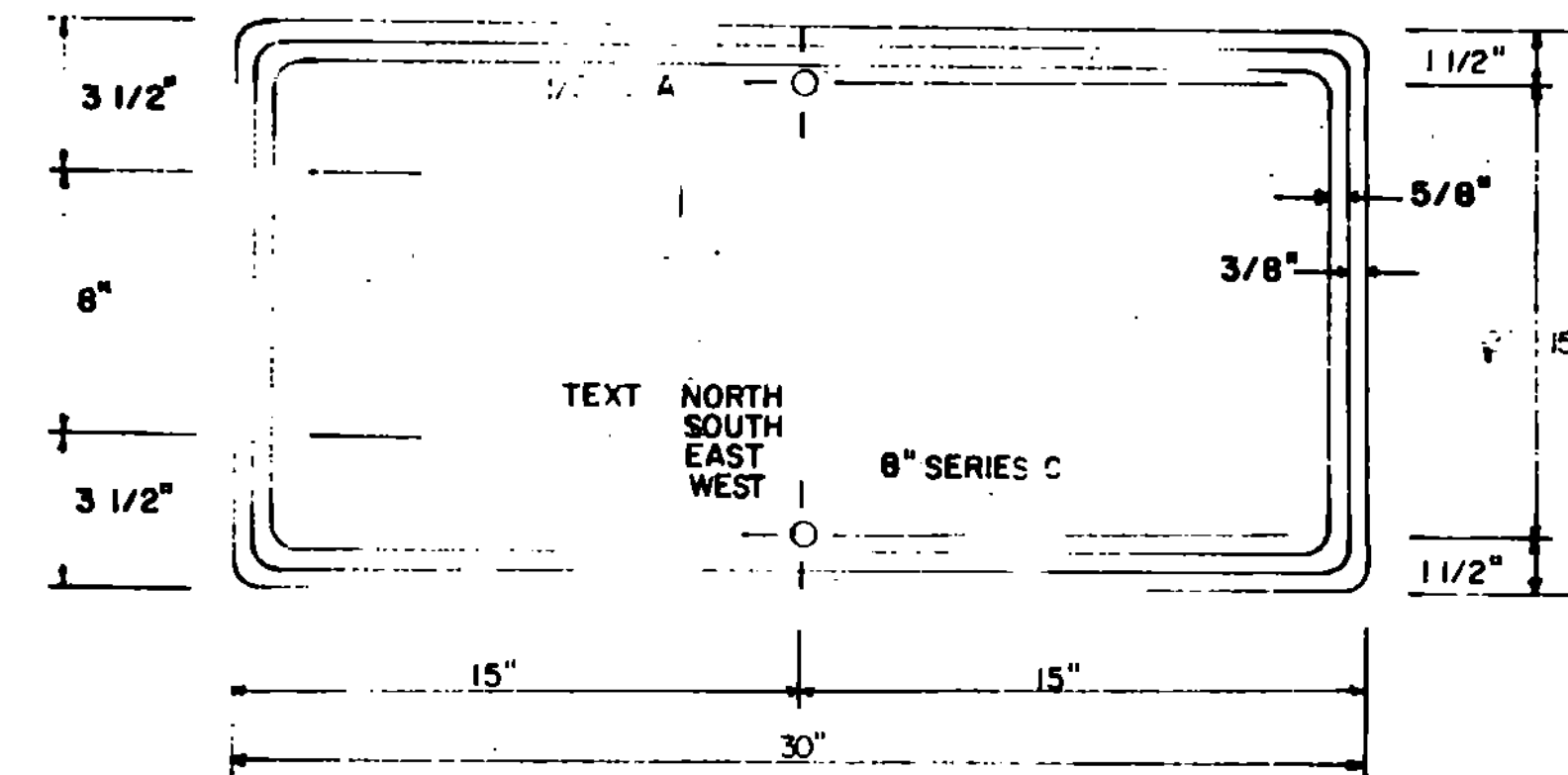
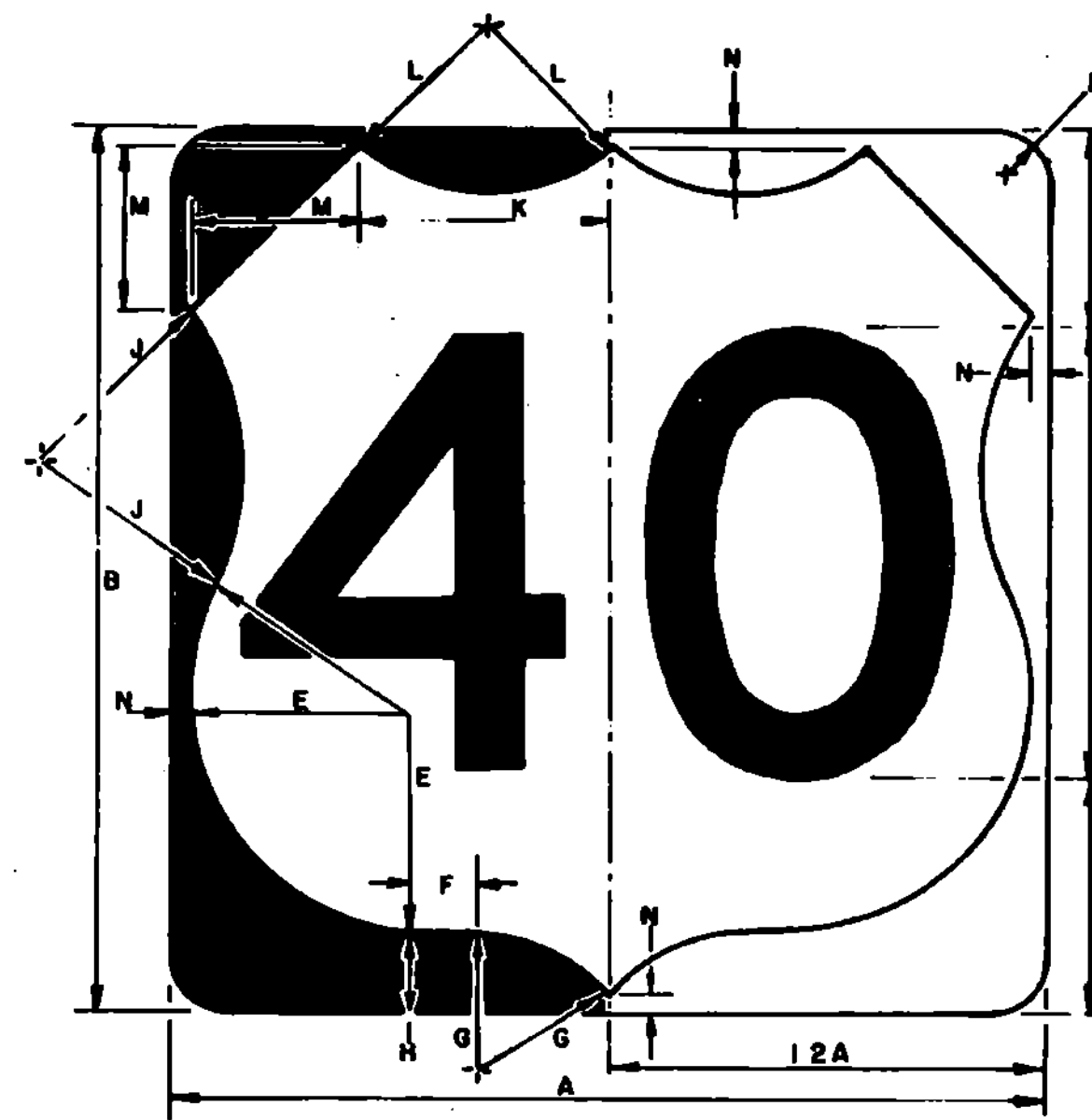


STANDARD
E-10

U.S. ROUTE MARKER
FOR USE ON INTERSTATE GUIDE SIGNS



U.S. ROUTE MARKER
FOR INDEPENDENT USE WITH MARKER ASSEMBLIES



MATERIALS

The sign base material may be any of the following, of the minimum thickness noted:

- FLAT SHEET ALUMINUM
 - Less than 24" x 24" - 0.060"
 - 24" x 24", 30" x 24" - 0.080"
- HIGH DENSITY OVERLAID PLYWOOD
 - Less than 24" x 24" - 3/8"
 - 24" x 24", 30" x 24" - 1/2"
- GALVANIZED FLAT SHEET STEEL
 - Less than 24" x 24" - 18 gage
 - 24" x 24", 30" x 24" - 16 gage

Route markers to be mounted on large guide signs, shall be of a thickness as for signs less than 24" x 24"

The reflective material shall be white or silver reflective sheeting, applied to the entire background. The texts may be lettering film, silk screened, or hand painted.

COLORS

State route markers and auxiliary markers shall have black texts on reflectorized white or silver backgrounds.

LETTERING

Letters and digits shall conform with the standard alphabets for highway signs approved by the National Advisory Committee on Uniform Traffic Control Devices.

SPECIFICATIONS

State route markers and auxiliary route markers shall meet the standard state specifications for "Traffic Signs".

DESIGNS.

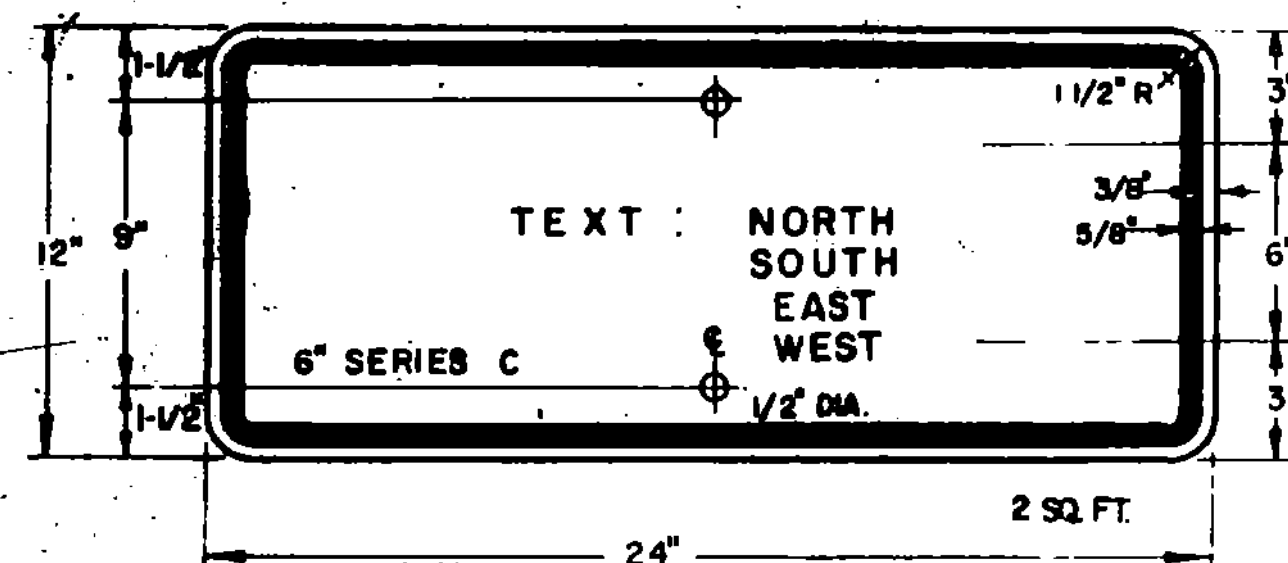
The designs of U.S. Route Markers and auxiliary markers conform with the requirements set forth in the Manual on Uniform Traffic Control Devices prepared by the National Advisory Committee on Uniform Traffic Control Devices.

SHIELD SIZE NO. DIGITS	A	B	C	D	E	F	J	K	M	N	O
24 x 24 1, 2	5	7	5	2	7	1	24	24	12D	5 1/2	11 1/2
30 x 24 3	5	10	9	2	7	4	30	24	12D	5 1/2	11 1/2
36 x 36 1, 2	7 1/2	10 1/2	7 1/2	3	10 1/2	1 1/2	36	36	18D	8 1/4	9 3/4
48 x 36 3	7 1/2	15	13 1/2	3	10 1/2	5 1/2	45	36	18D	8 1/4	9 3/4
48 x 48 1, 2	10	14	10	4	14	2	48	48	24D	11	13
60 x 48 3	10	20	18	4	14	8	60	48	24D	11	13

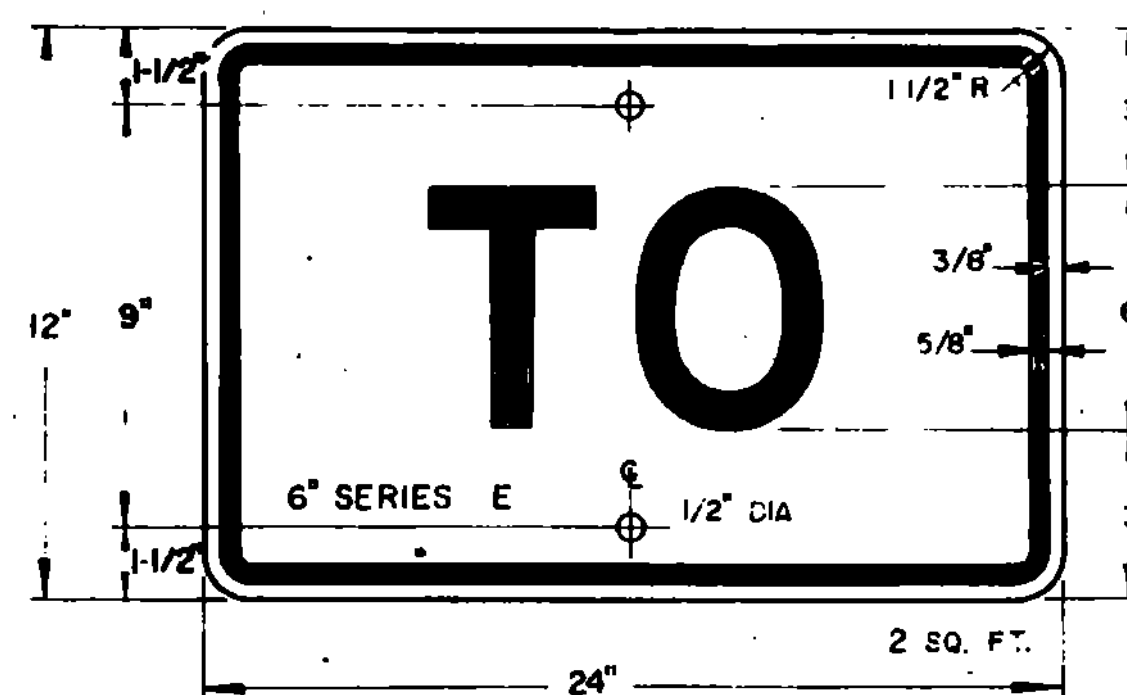
DIGITS	SHIELD SZ.		C	D	E	F	G	H	J	K	L	M	N	P
	A	B												
1, 2	24	24	6-1/2	12D	6-1/2	1	5-1/2	2-1/2	7-1/2	7	5-1/2	4-1/2	1/2	1-1/2
3	30	24	6-1/2	12D	6-1/2	4	5-1/2	2-1/2	7-1/2	10	9-1/2	4-1/2	1/2	1-1/2

NOTE: DIMENSIONS IN INCHES

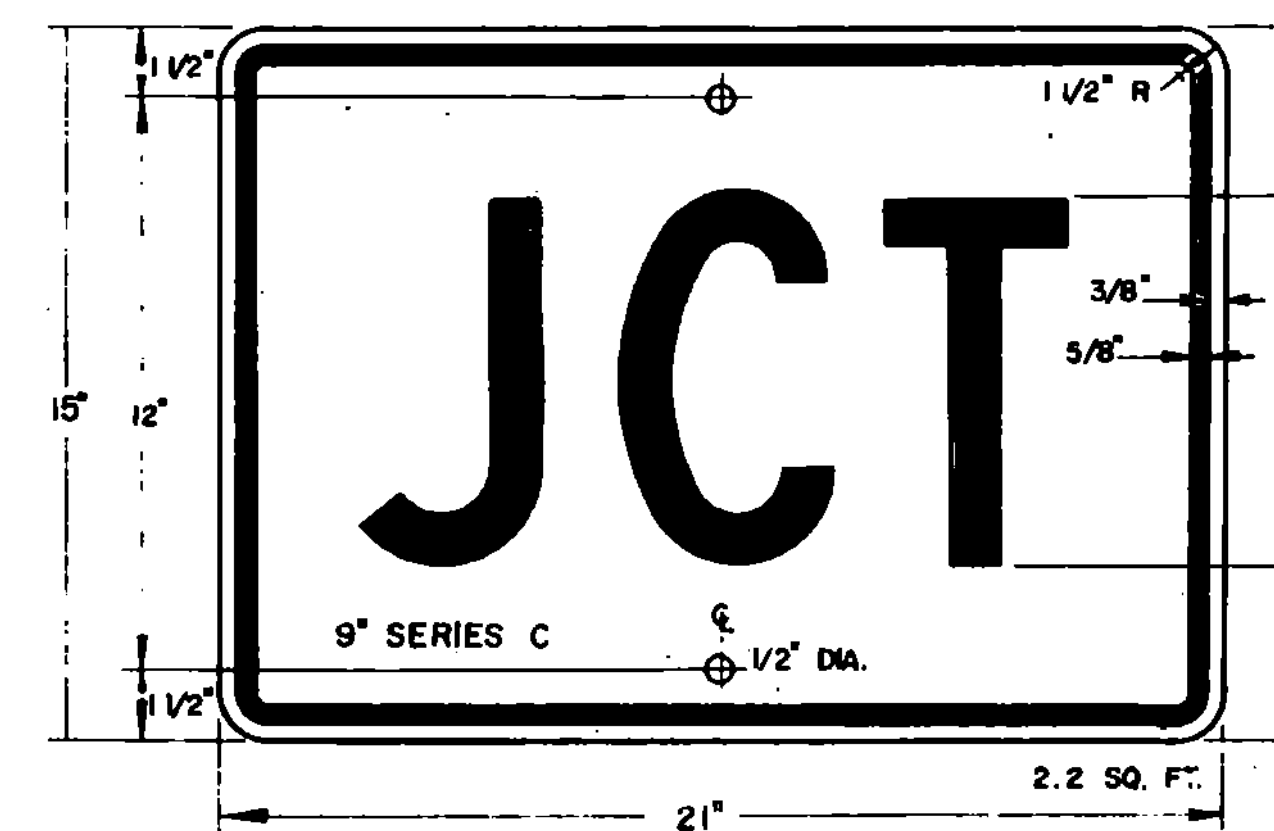
CARDINAL DIRECTION MARKER



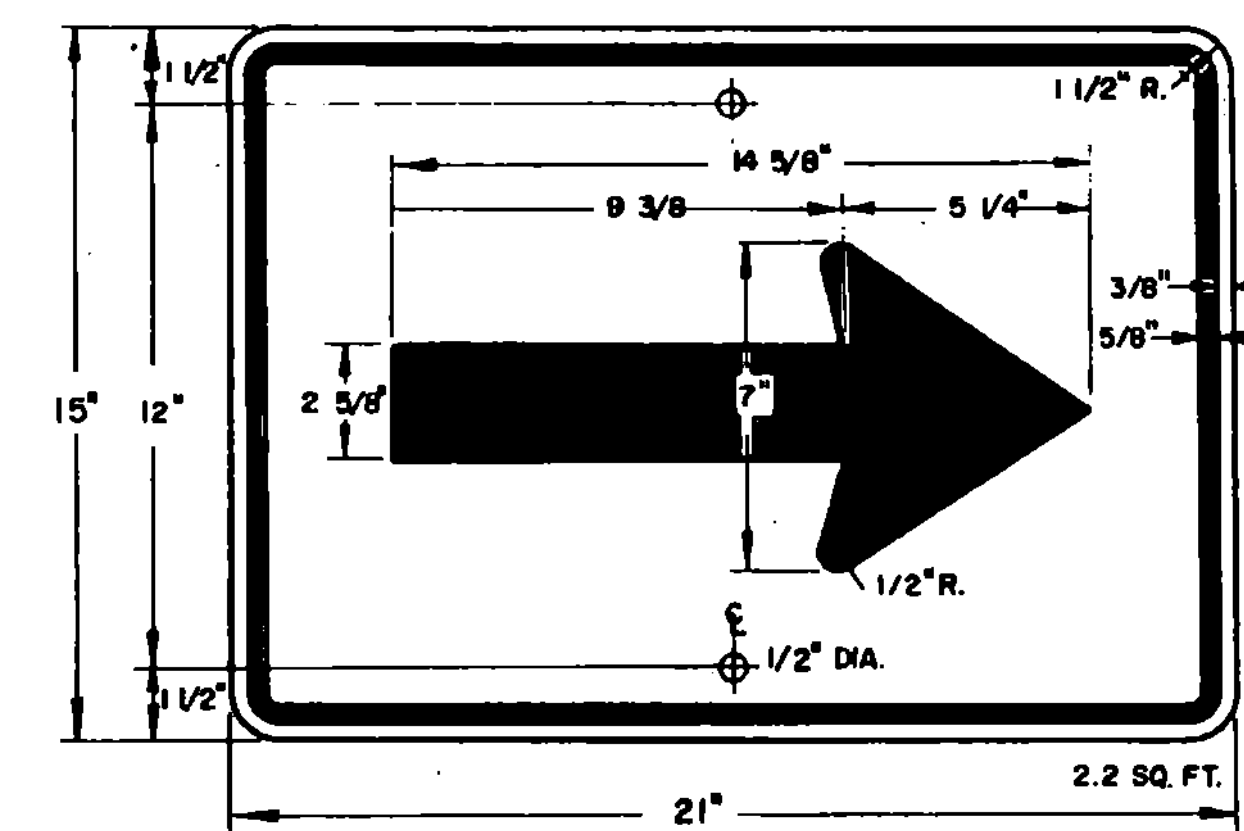
TRAILBLAZER



JUNCTION MARKER



DIRECTION ARROW OR
ADVANCE TURN ARROW
(SEE STANDARD E-11 FOR ARROW DESIGN DETAILS)



NOTE:
FOR ADDITIONAL ADVANCE TURN
ARROWS SEE STANDARD SHEET E-13

REVISIONS AND CORRECTIONS

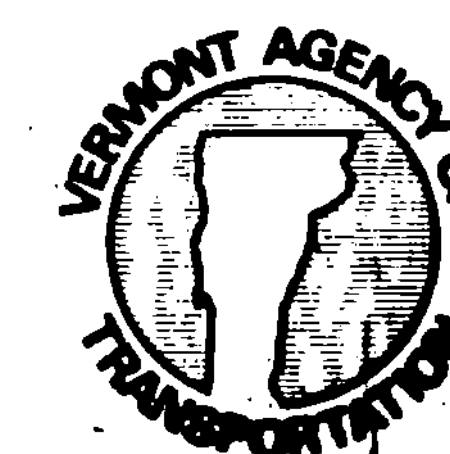
MAY 3, 1982 - ADDED NOTE, CHANGED BORDER DIMENSION ON GUIDE SIGNS.
DEC. 3, 1982 - REVISED DIMENSIONING BOTH U.S. RTE. MARKERS
DEC. 3, 1982 - REVISED TO 1976

APPROVED:
Dec. 17, 1971

R.H. Arnold
CHIEF ENGINEER
E.H. Hickney
ASST. CHIEF ENGINEER
J.M. Lane
HIGHWAY ENGINEER

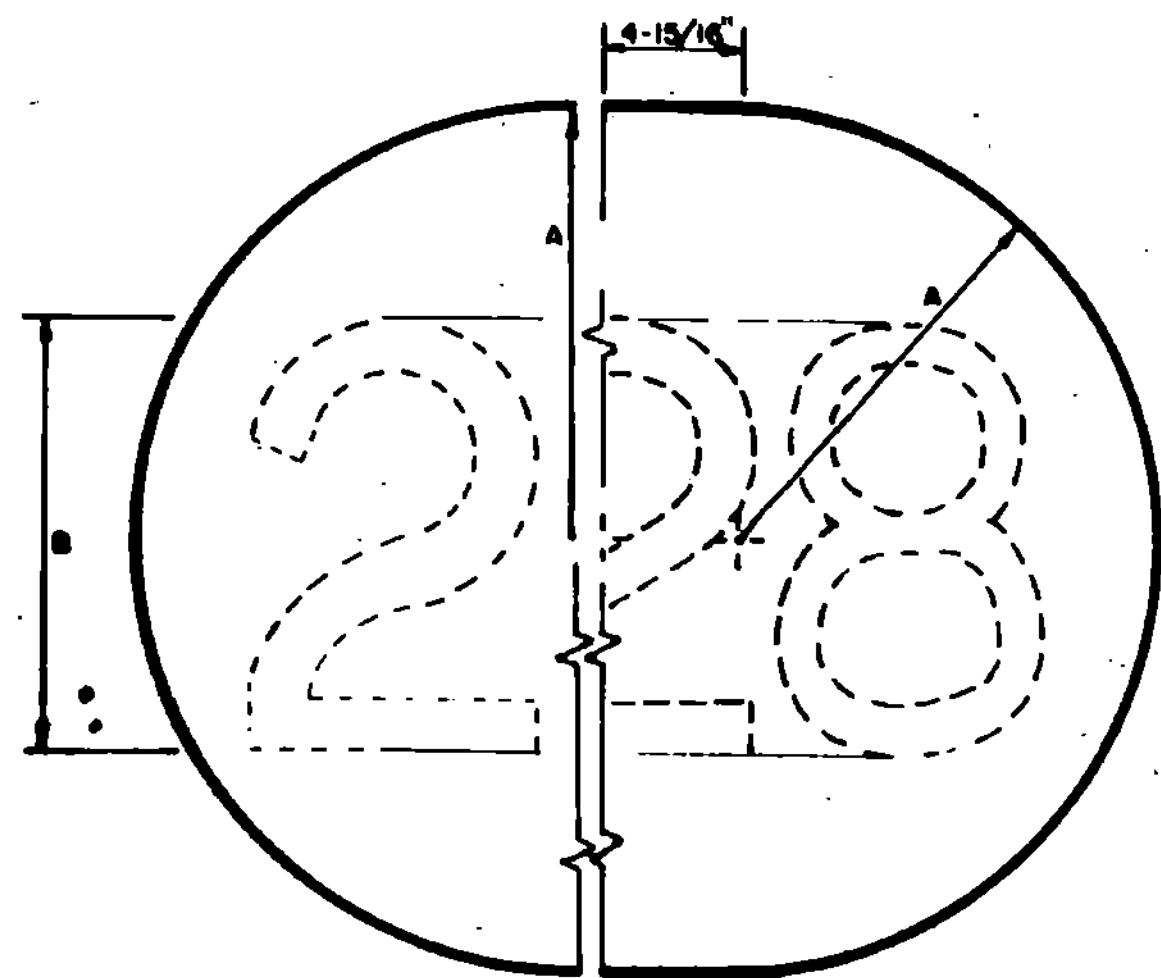
DRAWN A.M.C.
TRACED A.J.A.

TRAFFIC SIGNS (GUIDE SIGNS)
U.S. ROUTE MARKERS
AND AUXILIARY MARKERS



STANDARD
E-12

STATE ROUTE MARKER
FOR USE ON INTERSTATE GUIDE SIGNS

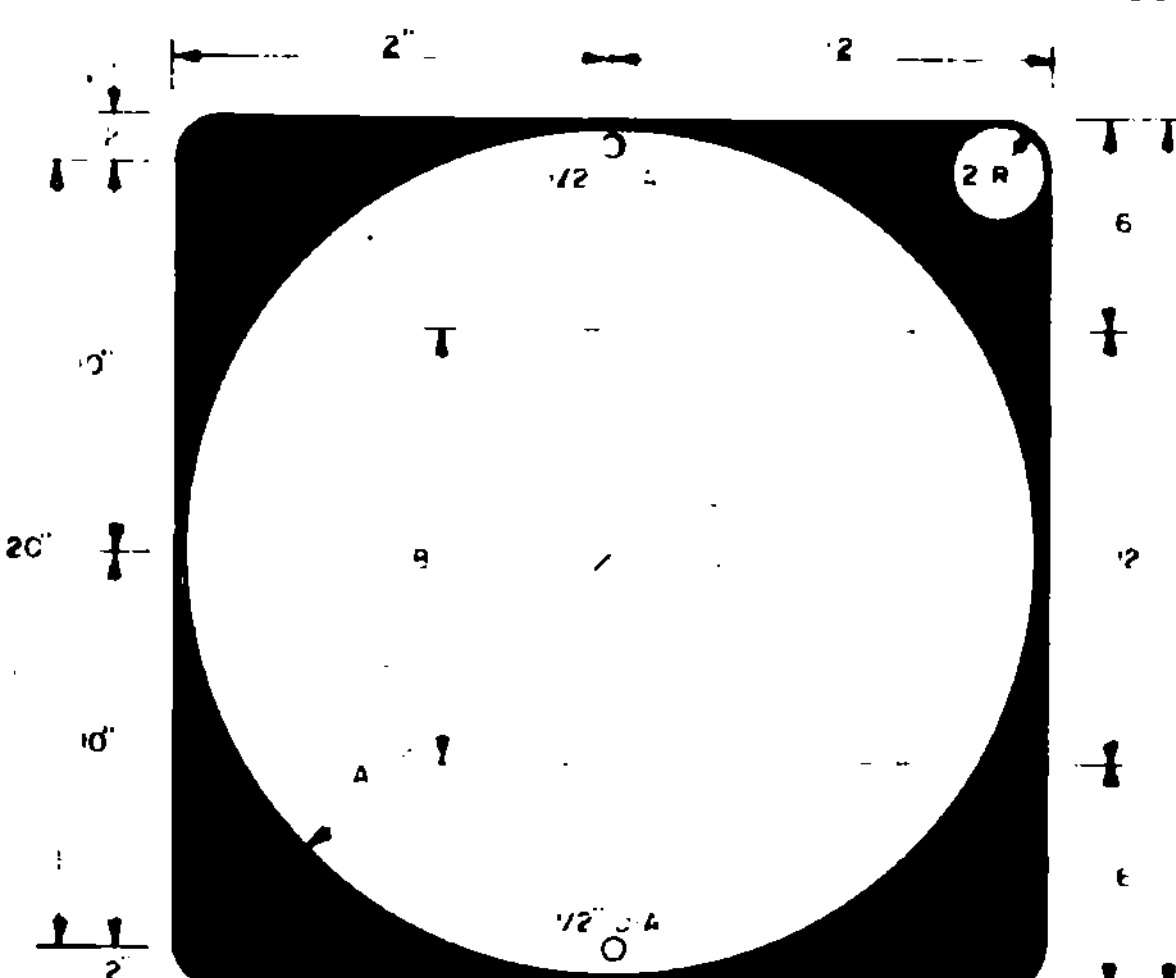


1 OR 2 DIGIT
(HALF SIGN)

3 DIGIT
(HALF SIGN)

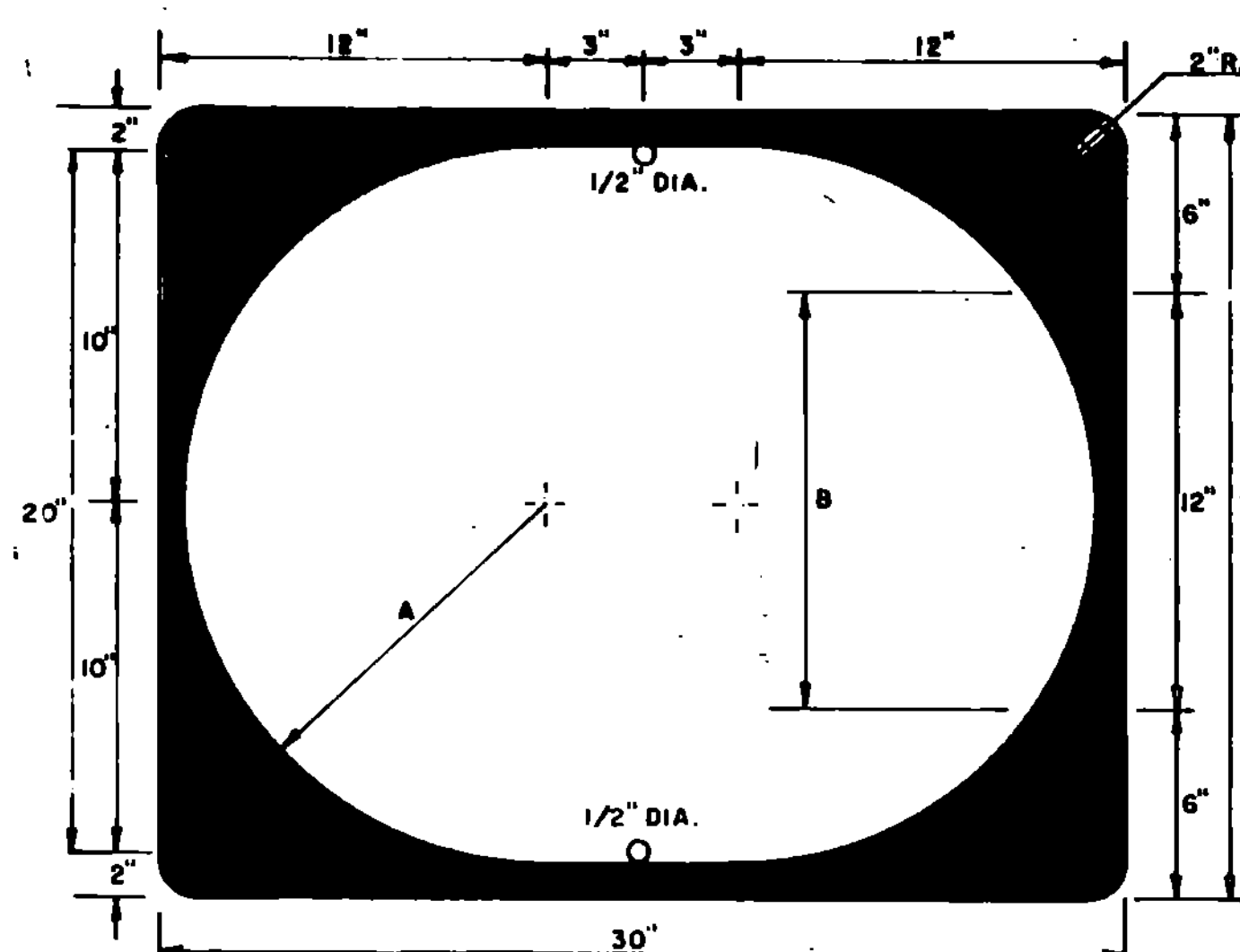
ROUTE NUMBER	A	B	SERIES
1 DIGIT	18"	18"	D
2 DIGITS	18"	18"	D
3 DIGITS	18"	18"	B

STATE ROUTE MARKER
FOR INDEPENDANT USE WITH MARKER ASSEMBLIES



1 OR 2 DIGIT

ROUTE NUMBER	A	B	SERIES
DIGIT	11"	2"	D
2 DIGITS	11"	2"	D
3 DIGITS	11"	12"	D



3 DIGIT
SEE CHART AT LEFT

MATERIALS

The sign base material may be any of the following, of the minimum thickness noted:

MATERIAL	THICKNESS
FLAT SHEET ALUMINUM	
Less than 24" x 24"	0.060"
24" x 24", 24" x 30"	0.080"
HIGH DENSITY OVERLAID PLYWOOD	
Less than 24" x 24"	3/8"
24" x 24", 24" x 30"	1/2"
GALVANIZED FLAT SHEET STEEL	
Less than 24" x 24"	18 gage
24" x 24", 24" x 30"	16 gage

Route markers to be mounted on interstate guide signs, shall be of a thickness as for signs less than 24" x 24"

The reflective material shall be white or silver reflective sheeting, applied to the entire background. The texts may be lettering film, silk screened, or hand painted.

COLORS

State route markers and auxiliary markers shall have black texts on reflectorized white or silver backgrounds.

LETTERING

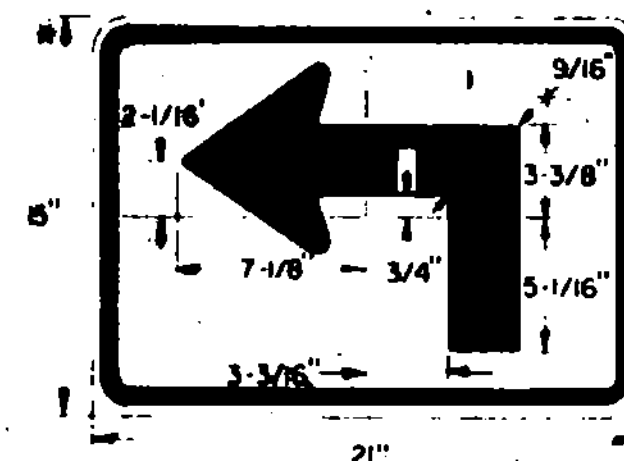
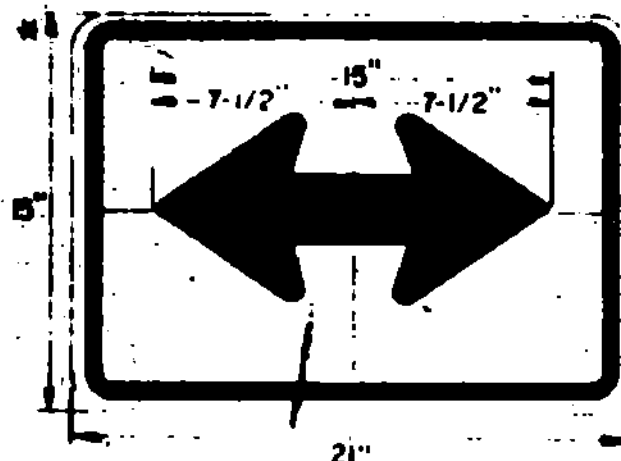
Letters and digits shall conform with the standard alphabets for highway signs approved by the National Joint Committee on Uniform Traffic Control Devices.

SPECIFICATIONS

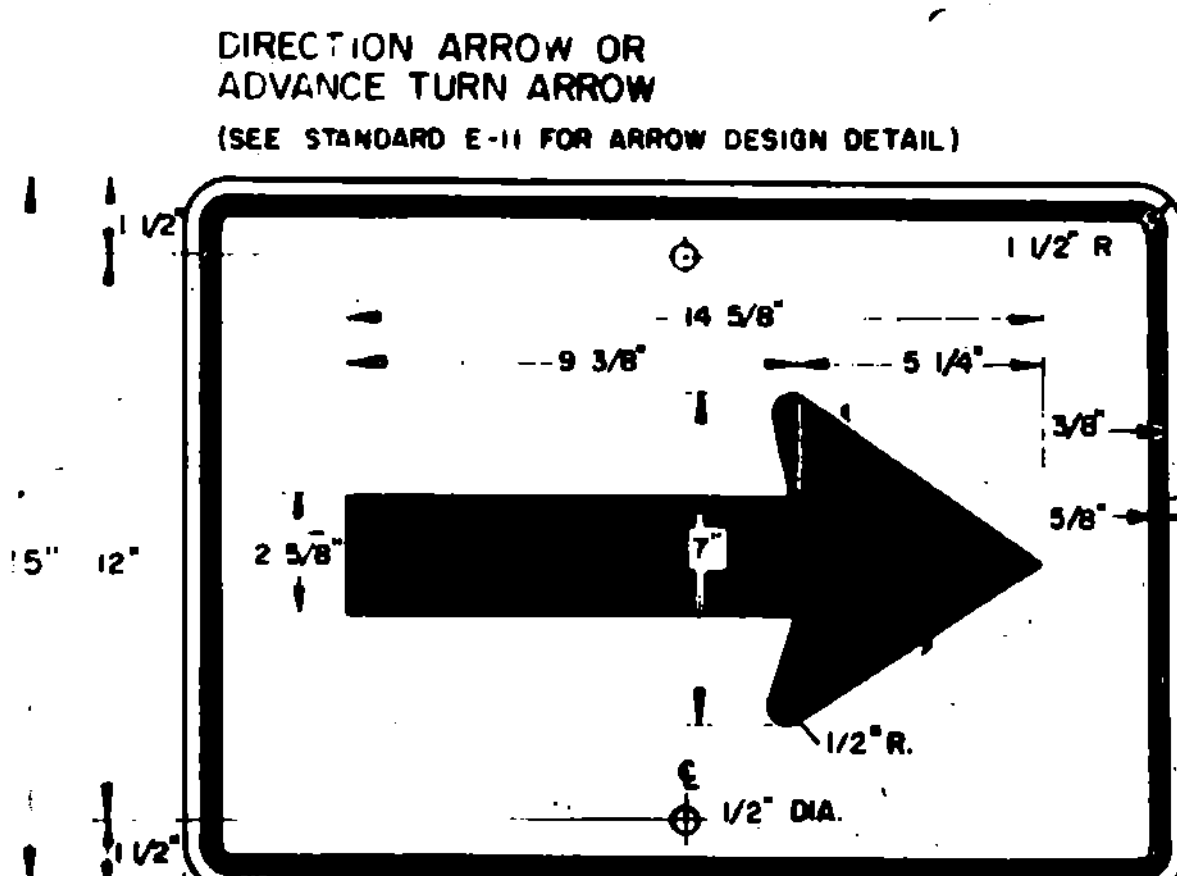
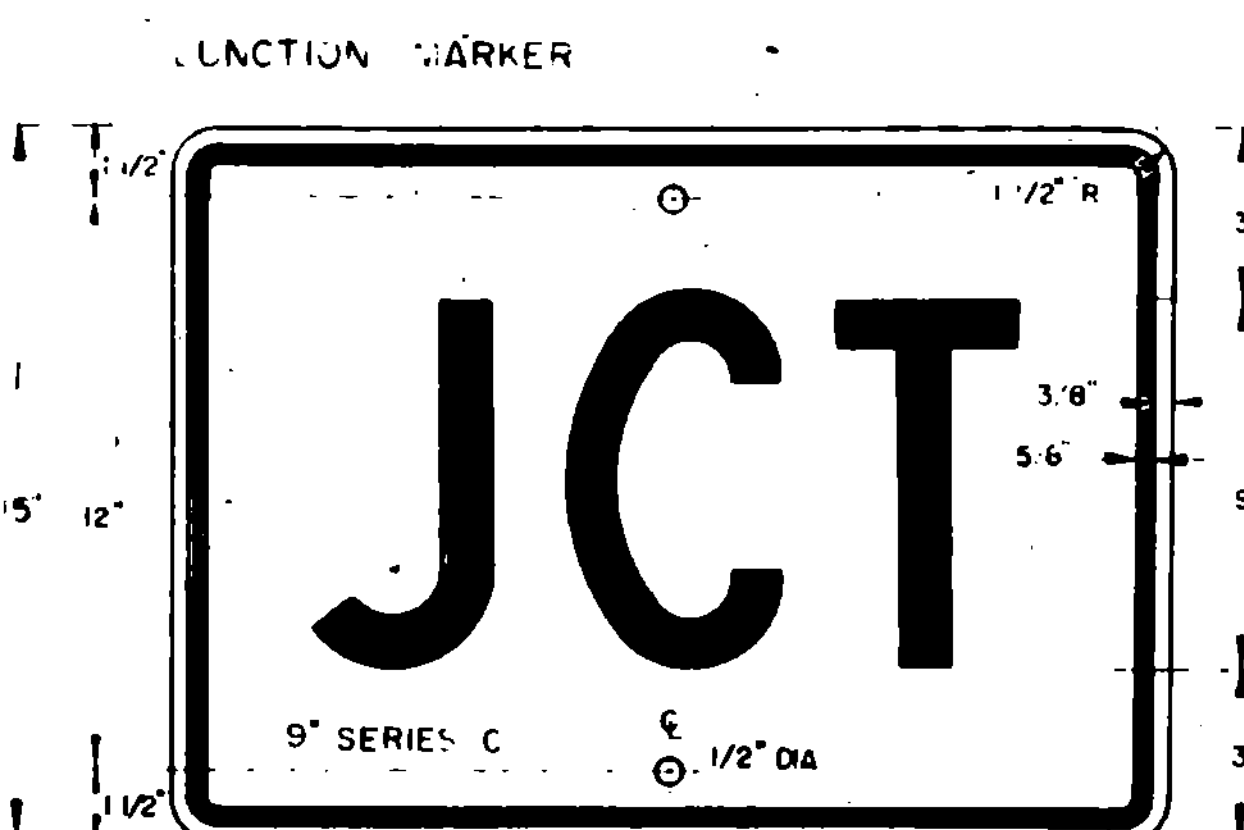
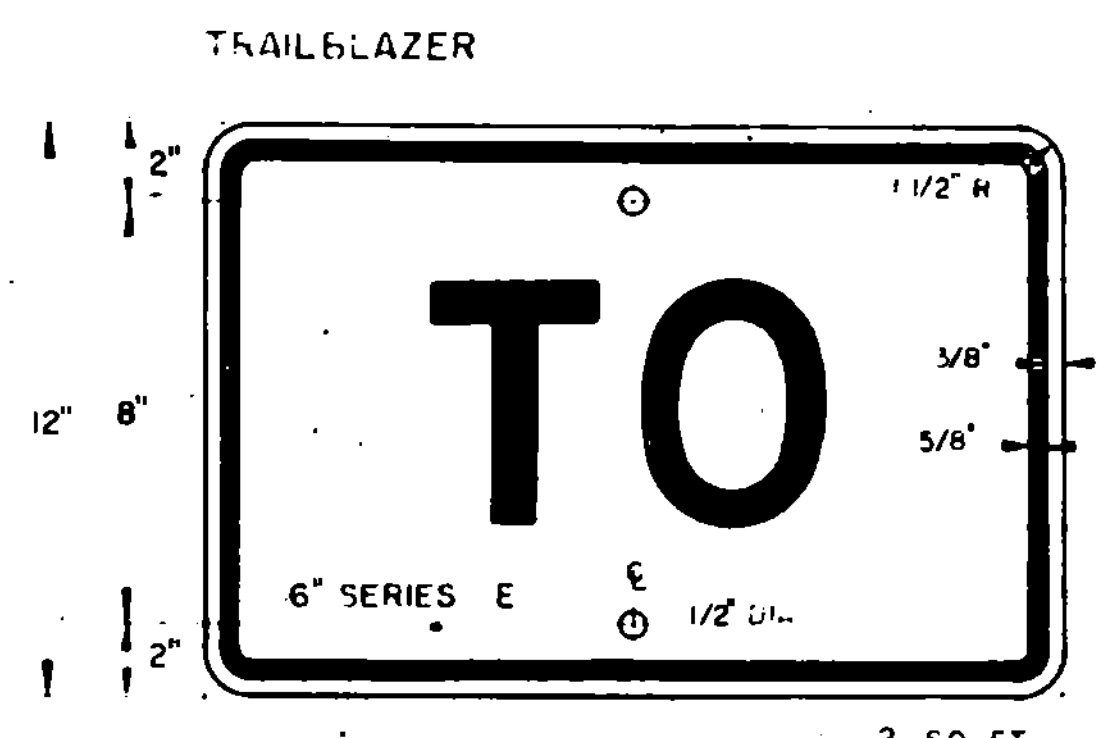
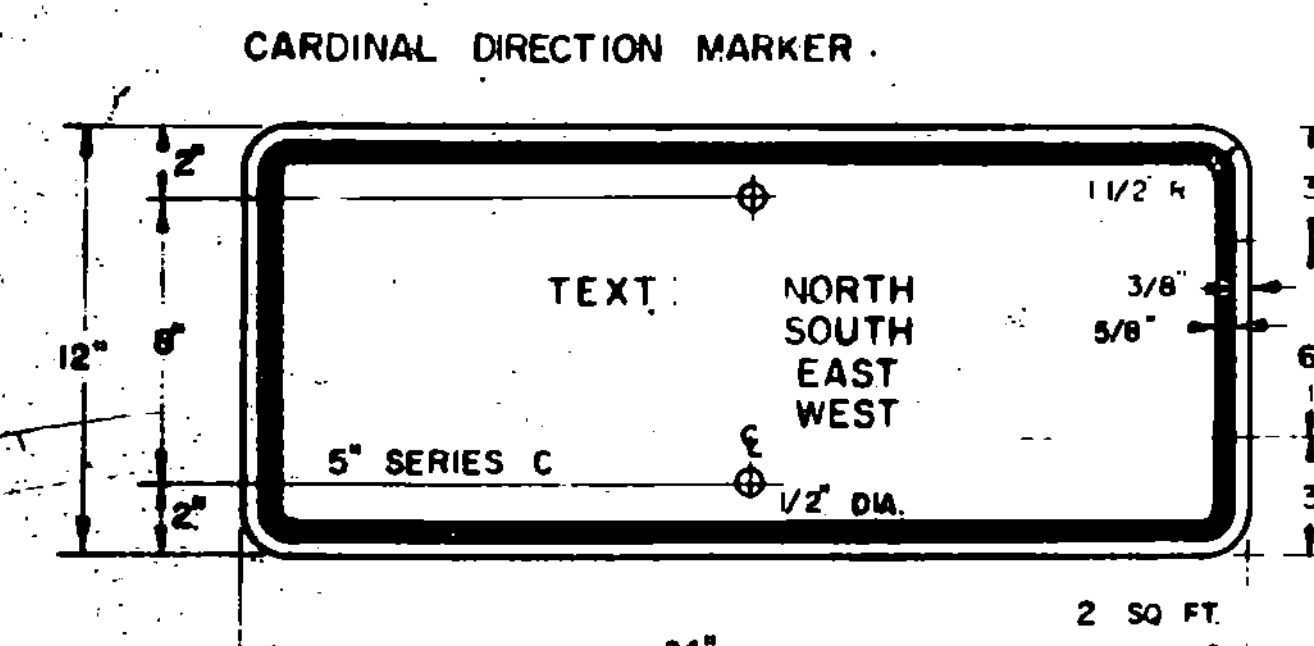
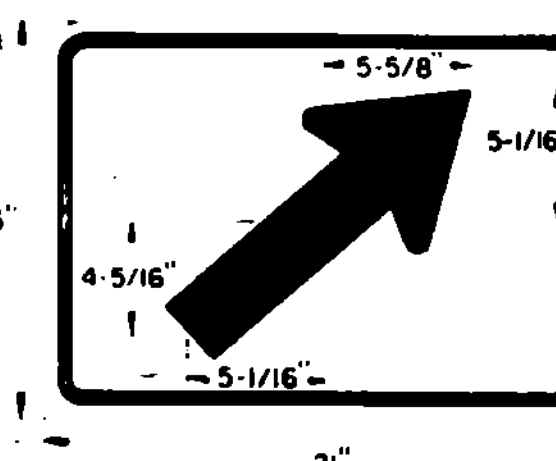
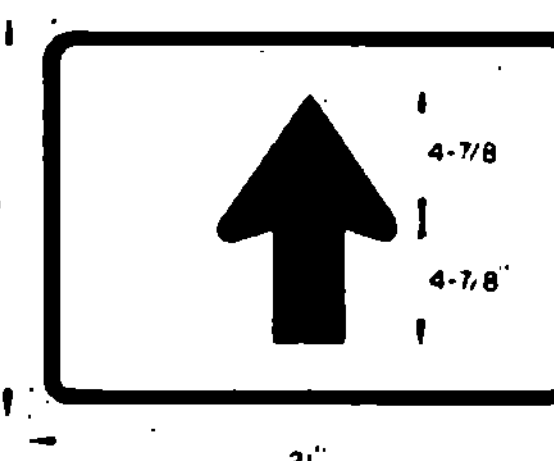
State route markers and auxiliary route markers shall meet the standard state specifications for "Traffic Signs".

DESIGNS

The designs of state route markers and auxiliary markers shall conform with the requirements set forth in the Manual on Uniform Traffic Control Devices prepared by the National Joint Committee on Traffic Control Devices



OTHER DIMENSIONS
SEE ADVANCE TURN
ARROW.

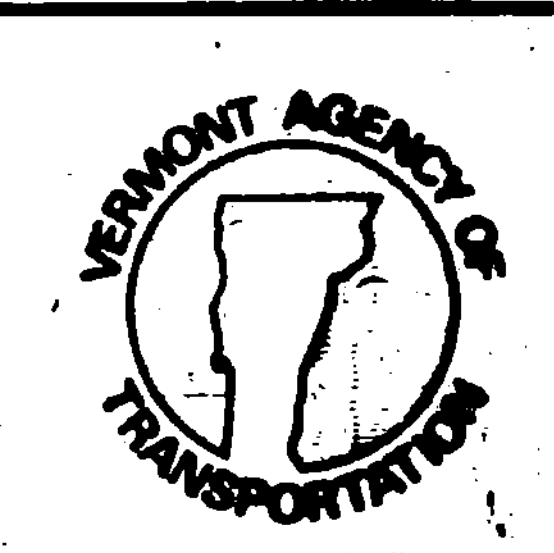


DIRECTION ARROW OR
ADVANCE TURN ARROW
(SEE STANDARD E-11 FOR ARROW DESIGN DETAIL)

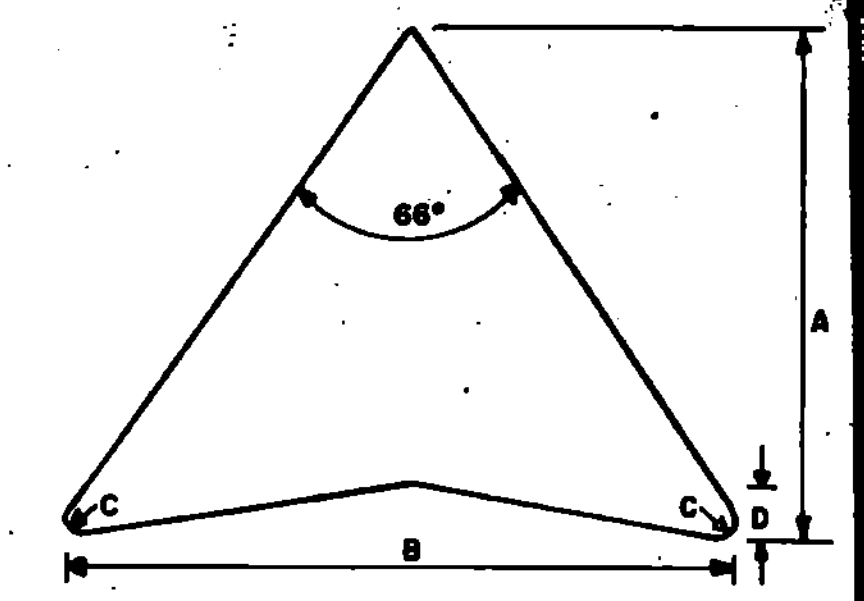
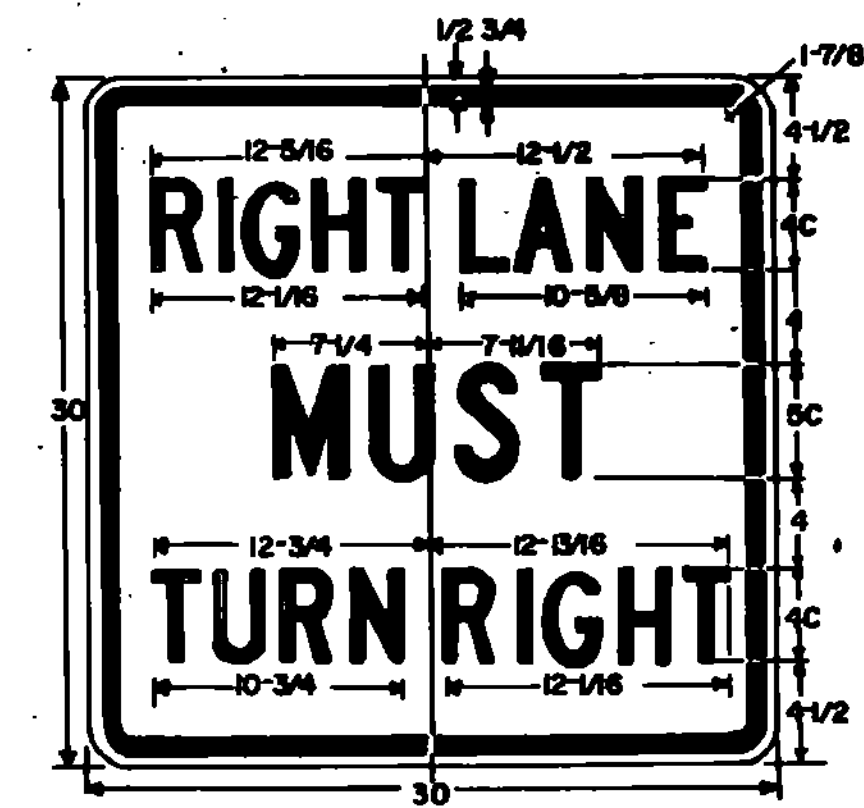
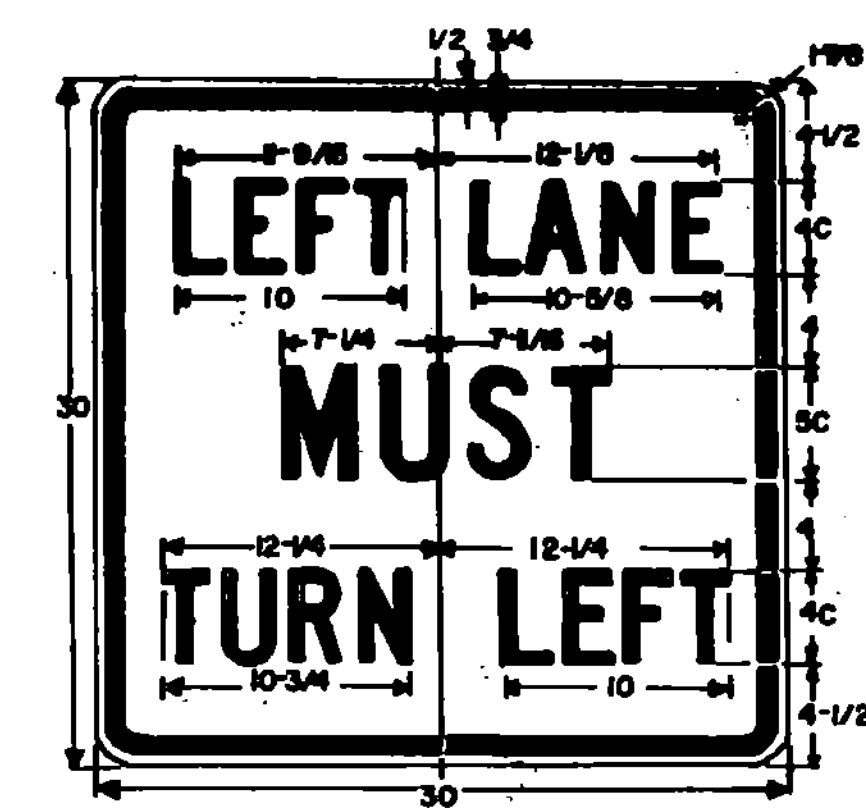
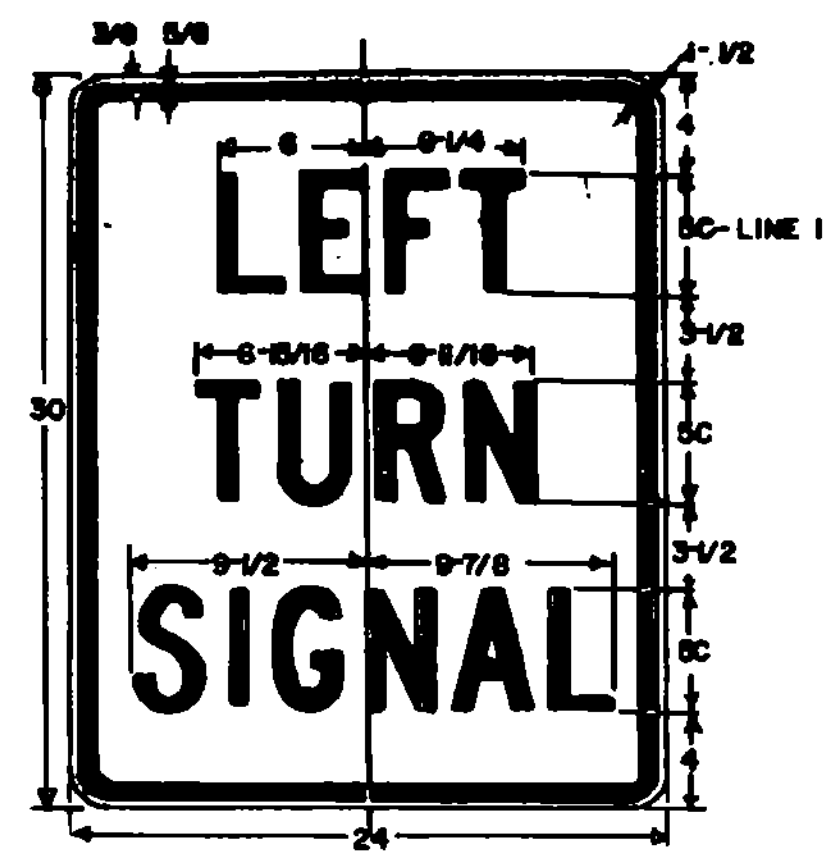
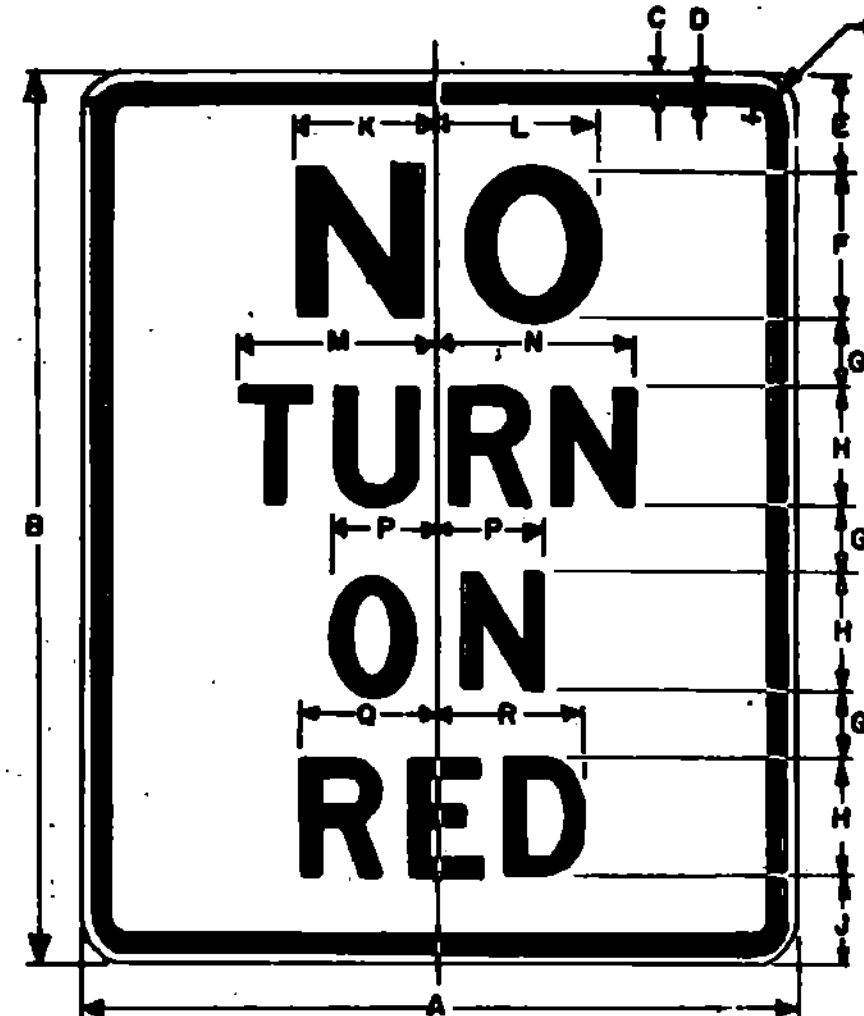
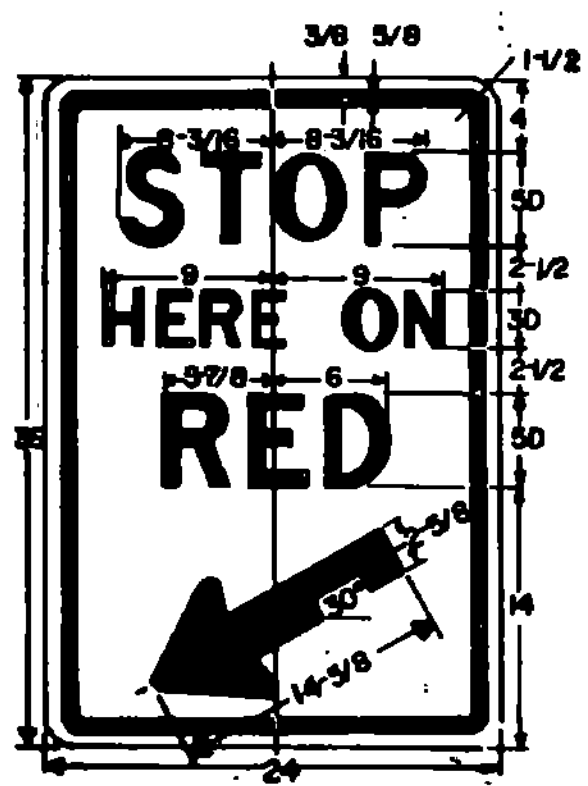
REVISIONS AND CORRECTIONS
MAY 3, 1982 - ADDITIONAL ADVANCE TURN ARROWS ADDED, BORDER DIMENSION CHANGED ON GUIDE SIGNS.
12/2/82 - ADDED THREE DIGIT DETAILS
FEB 5, 1988 - UPDATED TO 1988 SPECIFICATIONS

APPROVED. DATE Dec. 29, 1971
R. L. Crawford
CHIEF ENGINEER
E. W. Stickney
ASST. CHIEF ENGINEER
G. M. Lane
HIGHWAY ENGINEER

TRAFFIC SIGNS (GUIDE SIGNS)
STATE ROUTE MARKERS
AND AUXILIARY MARKERS

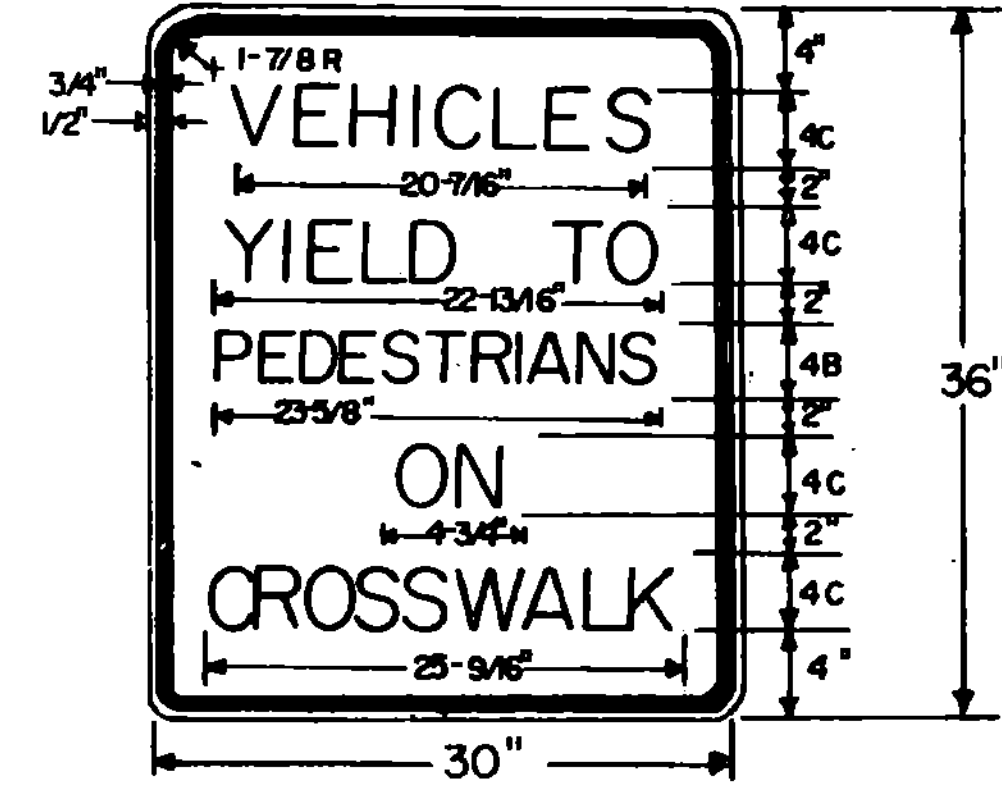
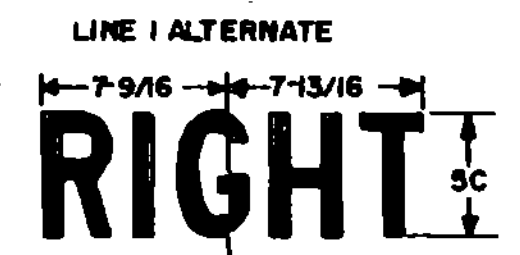


STANDARD
E-13



ARROW HEAD	DIMENSIONS (INCHES)				
	SIZE	A	B	C	D
MINIMUM & STD.	24 X 36	4-3/4	5-5/8	1/2	3/4
SPECIAL	36 X 48	7-1/8	8-1/2	5/8	1-1/8

SIGN	DIMENSIONS (INCHES)																		
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S		
MIN.	18	24	3/8	5/8	3	4E	1-3/4	3D	2-3/4	3-7/8	4-1/8	5	4-7/8	2-5/8	3-7/8	3-11/8	1-1/2		
STD.	24	30	3/8	5/8	3-1/4	5E	2-1/4	4D	3	4-3/16	5-3/16	6-3/8	6-1/2	3-1/2	4-5/8	4-7/8	1-1/2		
SPECIAL	36	48	5/8	7/8	6	6E	3-1/2	6D	6-1/2	7-3/4	8-1/4	10	9-3/4	6-1/4	6-7/8	7-3/8	2-1/4		



COLORS:
 THE REGULATORY SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT ON REFLECTORIZED WHITE BACKGROUND. THE COLORS SHALL CONFORM WITH THE COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND APPROVED BY THE DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

MATERIALS:
 THE SIGN BASE MATERIALS USED FOR THE REGULATORY SIGNS SHOWN ON THIS SHEET MAY BE ANY OF THE FOLLOWING, OF THE MINIMUM THICKNESS NOTED.

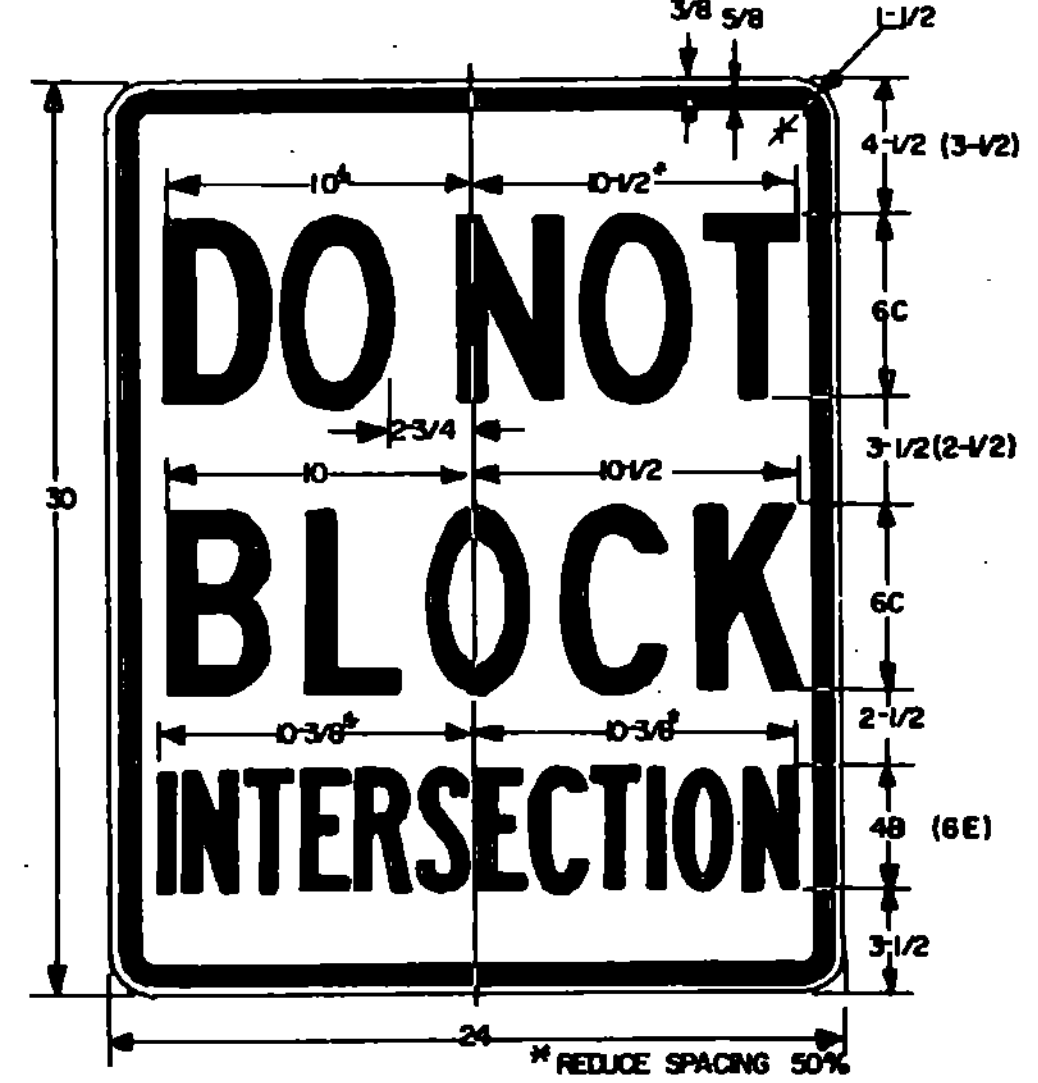
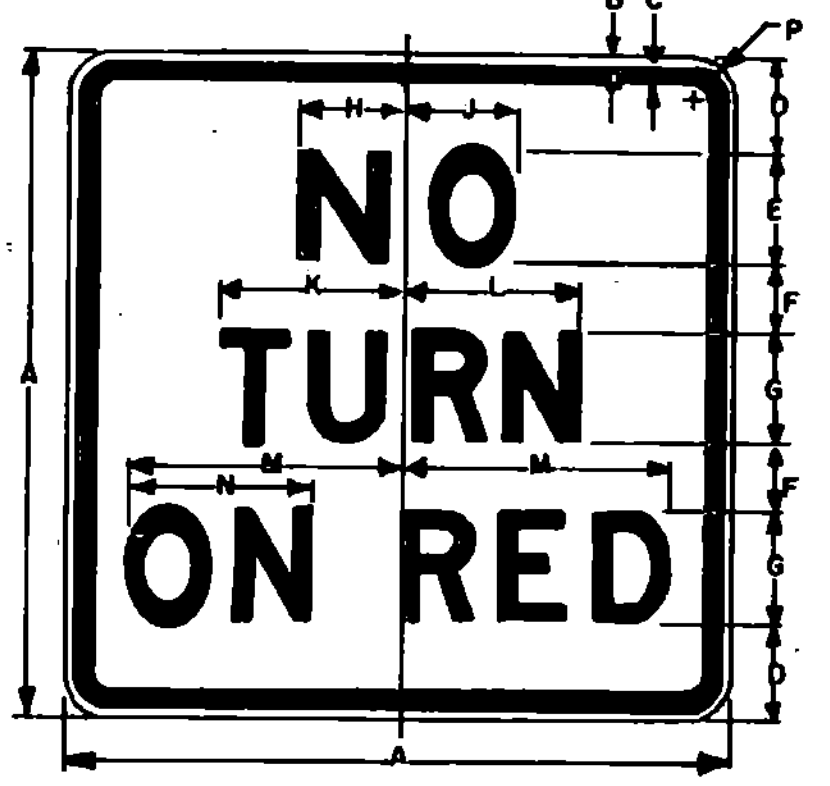
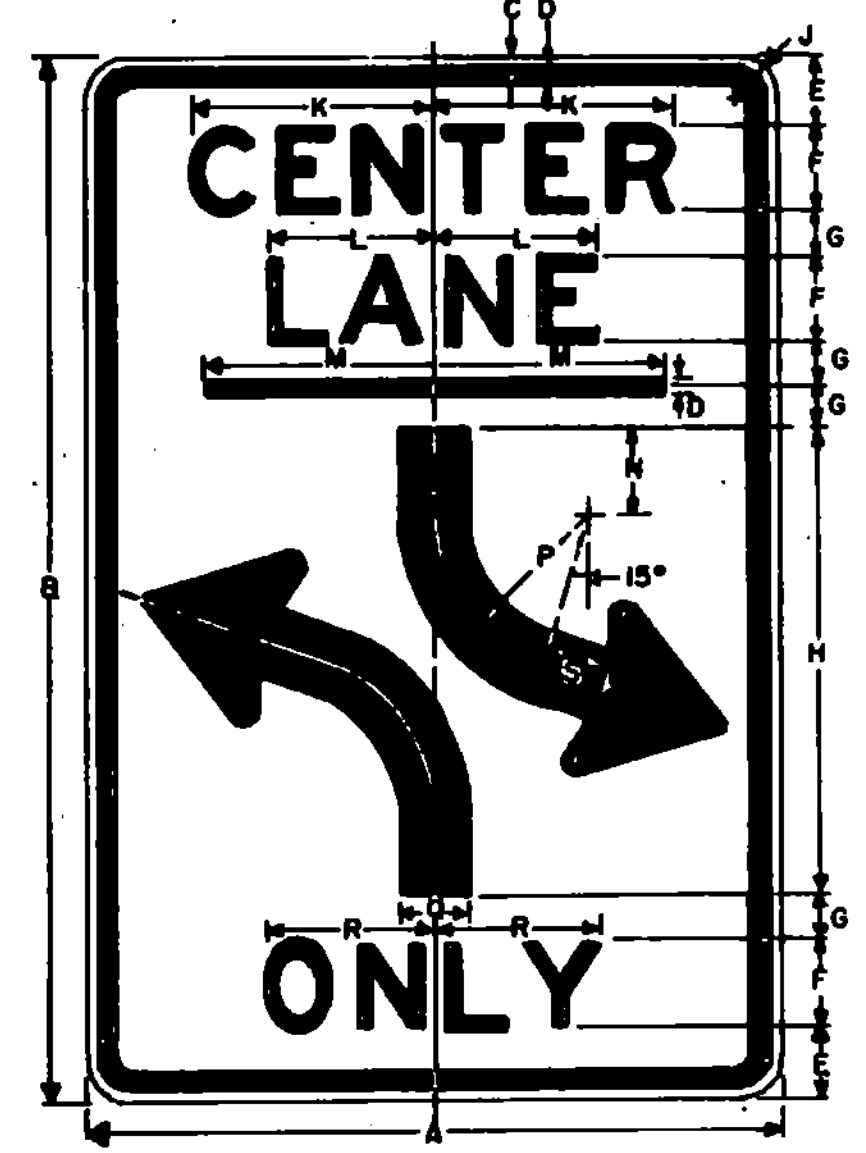
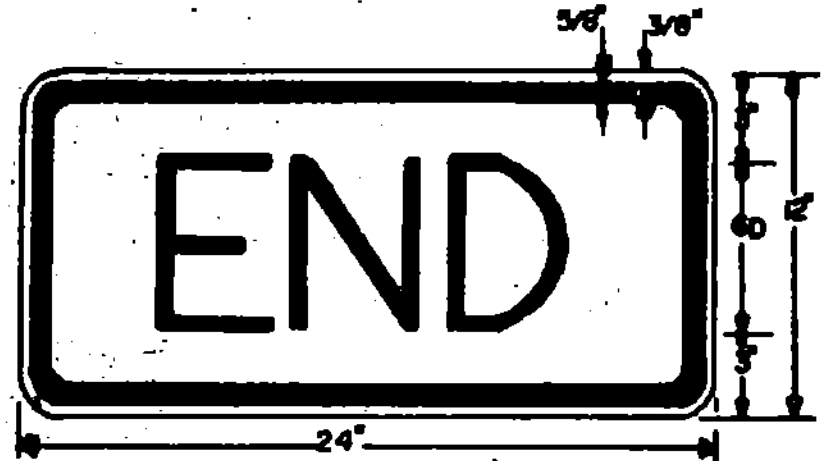
	9" X 12"	18" X 18"	24" X 12"	24" X 30"	24" X 36"	36" X 36"	36" X 48"
FLAT SHEET ALUMINUM	0.060"	0.080"	0.080"	0.100"	0.100"	0.100"	0.100"
HIGH DENSITY OVERLAD PLYWOOD	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"
GALVANIZED FLAT SHEET STEEL	18 GAGE	16 GAGE	16 GAGE	14 GAGE	14 GAGE	14 GAGE	14 GAGE

THE REFLECTIVE MATERIAL FOR GROUND MOUNTED SIGNS SHALL BE FLAT TOP WHITE REFLECTIVE SHEETING APPLIED TO THE ENTIRE BACKGROUND OF THE SIGN. WHEN MOUNTED OVERHEAD, ALL SIGNS SHALL HAVE HIGH INTENSITY ENCAPSULATED LENS REFLECTIVE SHEETING APPLIED TO THE ENTIRE BACKGROUND OF THE SIGN.

THE TEXT OF THE SIGNS MAY BE LETTERING FILM, SILK SCREENED OR HAND PAINTED. WHEN HAND PAINTED, POOR WORKMANSHIP SHALL BE CAUSE FOR REJECTION.

TEXT DESIGN:
 LETTERS, DIGITS, ARROWS, SPACINGS, AND TEXT DIMENSIONS SHALL CONFORM WITH THE STANDARD ALPHABETS AND DESIGNS PRESCRIBED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES PREPARED BY THE NATIONAL JOINT COMMITTEE ON UNIFORM TRAFFIC CONTROL DEVICES.

SPECIFICATIONS
 REGULATORY SIGNS SHALL MEET THE STANDARD STATE SPECIFICATIONS FOR TRAFFIC SIGNS.



SIGN	DIMENSIONS (INCHES)															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P		
MIN.	18	3/8	5/8	2-3/4	3E	1-3/4	3D	2-5/16	3-1/16	5	4-7/8	7-1/8	5-1/4	1-1/2		
STD.	24	3/8	5/8	3-1/2	4E	2-1/2	4D	3-7/8	4-1/8	6-3/8	6-1/2	9-1/2	6-1/2	1-1/2		
SPECIAL	30	1/2	3/4	4-1/2	5E	3D	5D	4-5/16	5-1/16	6-1/4	8-1/8	11-7/8	7-3/4	1-7/8		

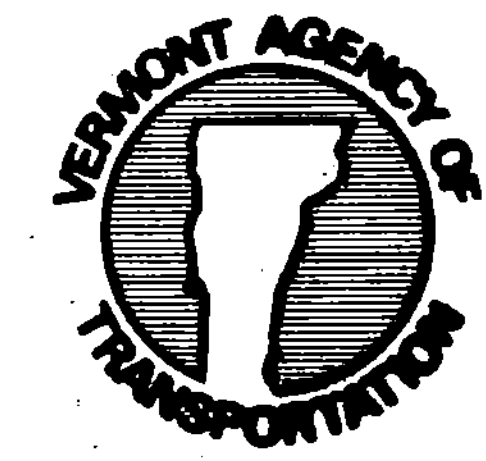
SIGN	DIMENSION (INCHES)																		
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S		
STD. & MIN.	24	36	3/8	5/8	2-1/2	3E	1-1/2	1E	1-1/2	0-7/16	5-3/4	8	2-7/2	6	2	5-5/16	1-1/2		
SPECIAL	36	48	5/8	7/8	3-1/2	5E	1-1/2	2D	2-1/4	1-1/16	9-1/2	12	3	8	3	9-7/8	2		

() INDICATES DIMENSIONS FOR 'DO NOT BLOCK DRIVE' SIGN

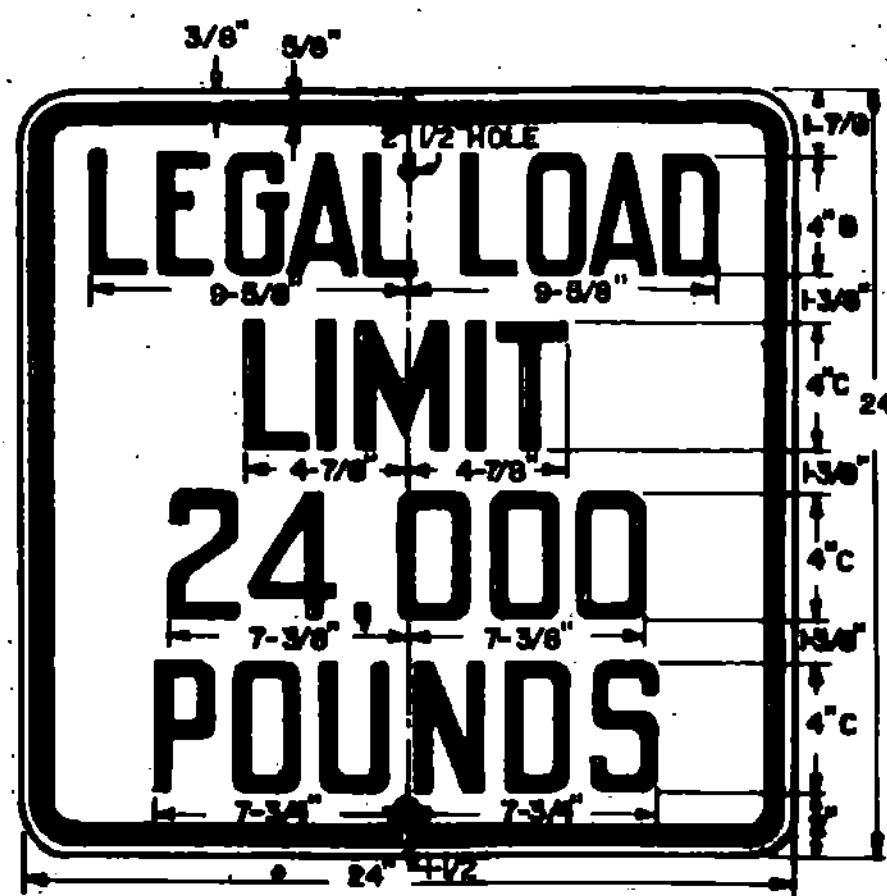
REVISIONS AND CORRECTIONS
 JULY 2, 1984 - ADDITIONAL SIGNS ADDED
 FEB. 5, 1985 - REVISED TO ENCS SPECIFICATIONS

APPROVED: JULY 29, 1981
 DATE
 S. J. Gage, P.E.
 DIRECTOR OF ENGINEERING AND CONSTRUCTION
 Chief of Design
 TRANSPORTATION DESIGN ENGINEER

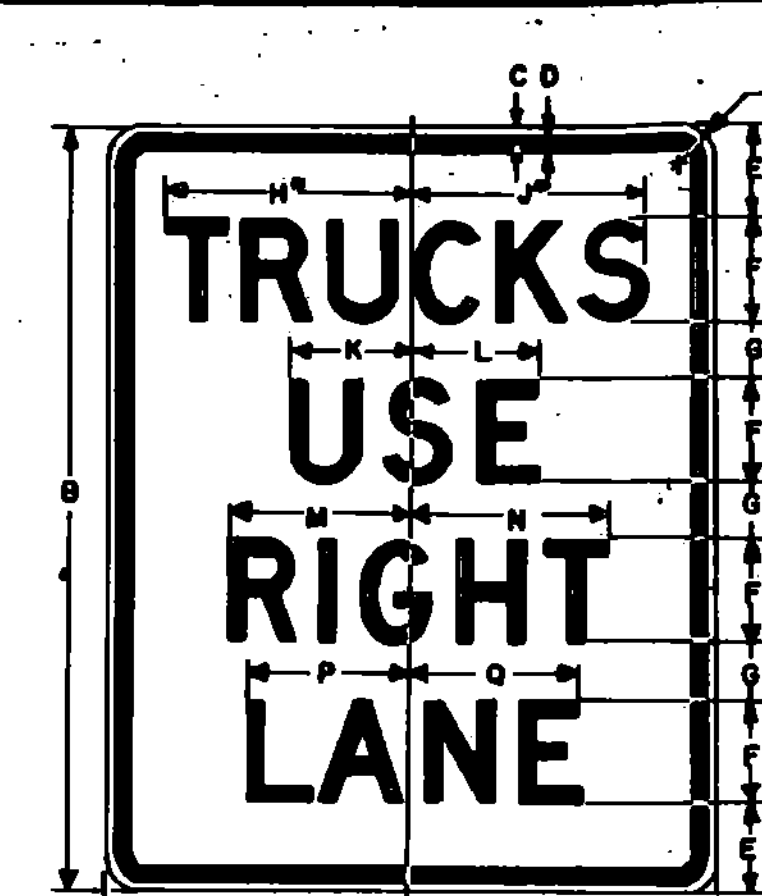
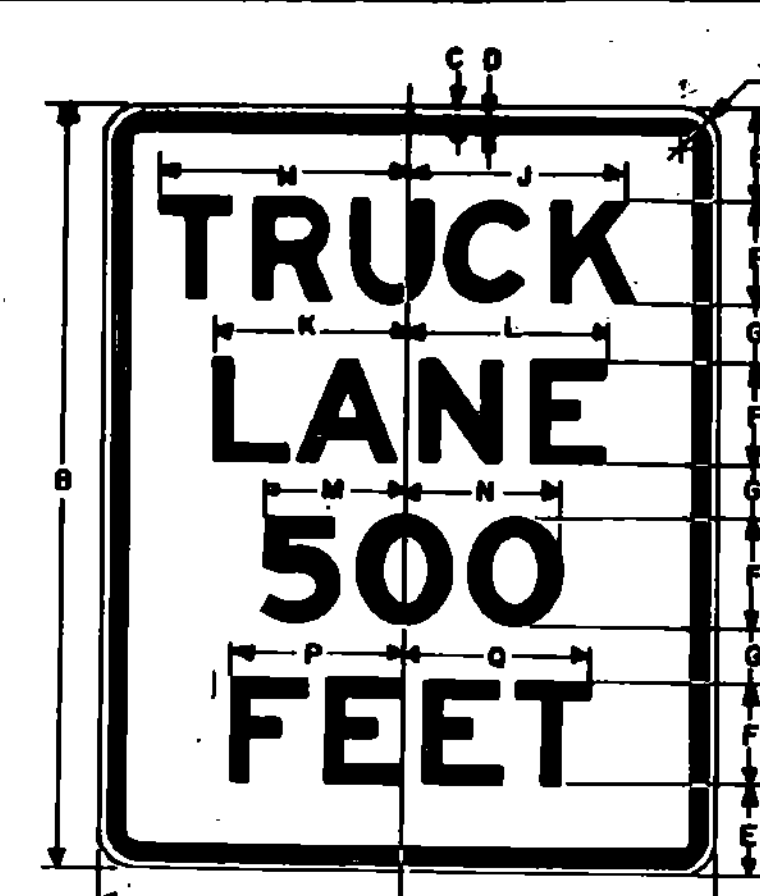
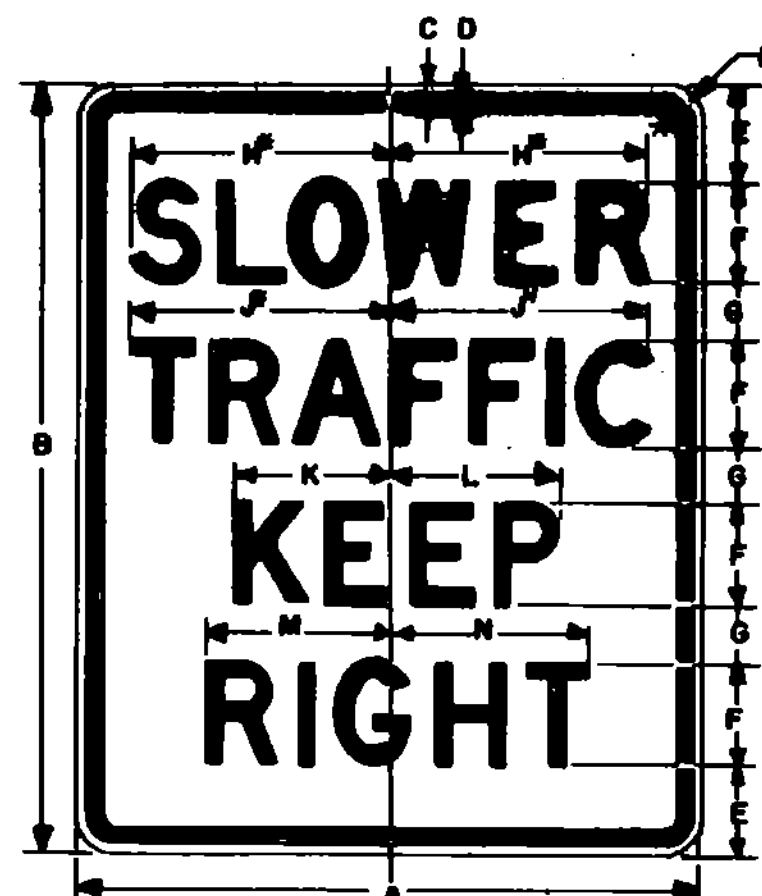
REGULATORY SIGNS



STANDARD
 E-15



LINE 3 ALTERNATE - 16,000



SIGN	DIMENSIONS (INCHES)												
	A	B	C	D	E	F	G	H	J	K	L	M	N
STD. MIN.	24	30	3/8	5/8	3-3/8	4D	2-1/4	9-1/4	9-3/8	9-3/8	21/2	10	1-1/2
SPECIAL	36	48	5/8	7/8	6	6D	4	14	14-7/8	9-3/4	9-1/4	15	2-1/4
SPECIAL	48	60	3/4	1-1/4	7-1/4	8D	4-1/2	18-1/2	18-1/4	13-1/8	7	20	3

*REDUCE SPACING 25%

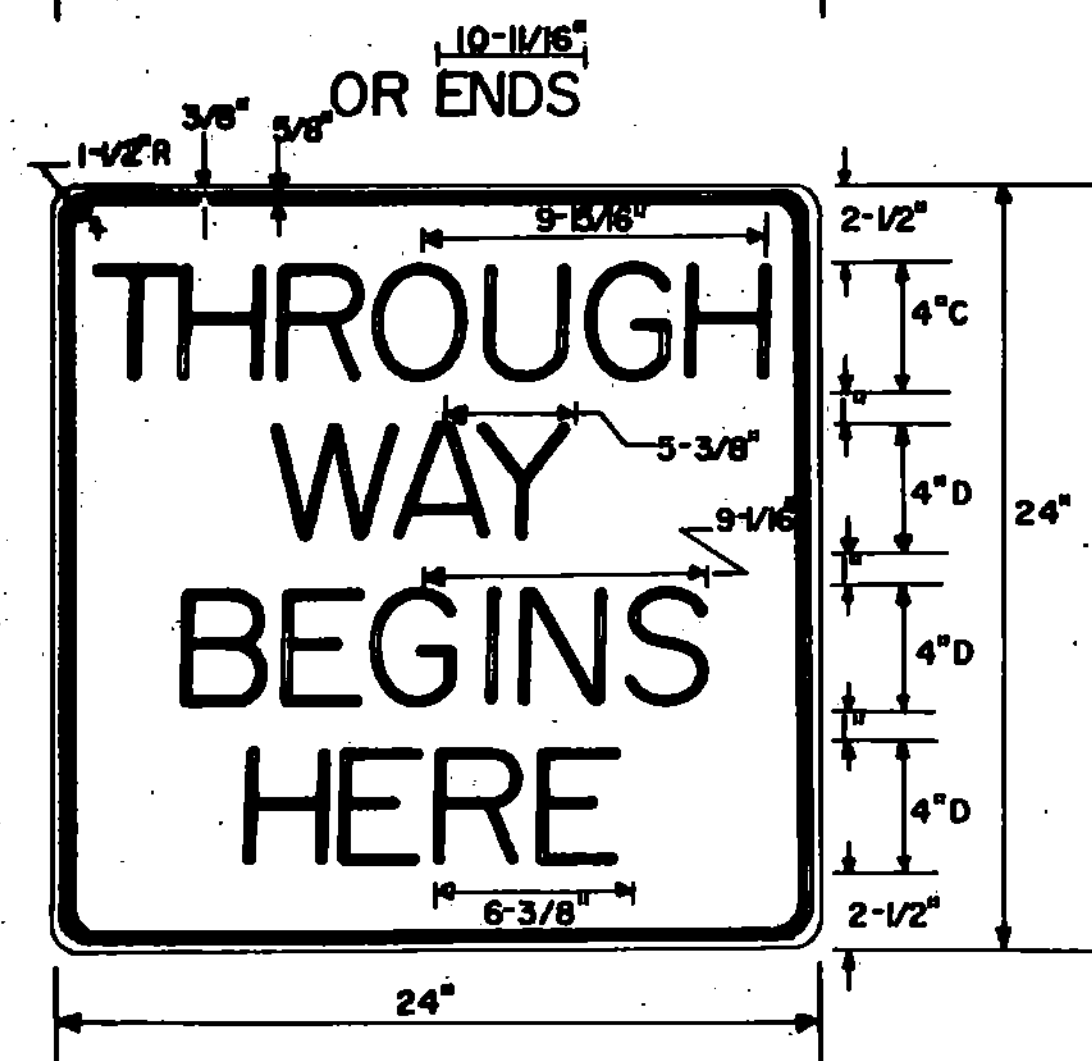
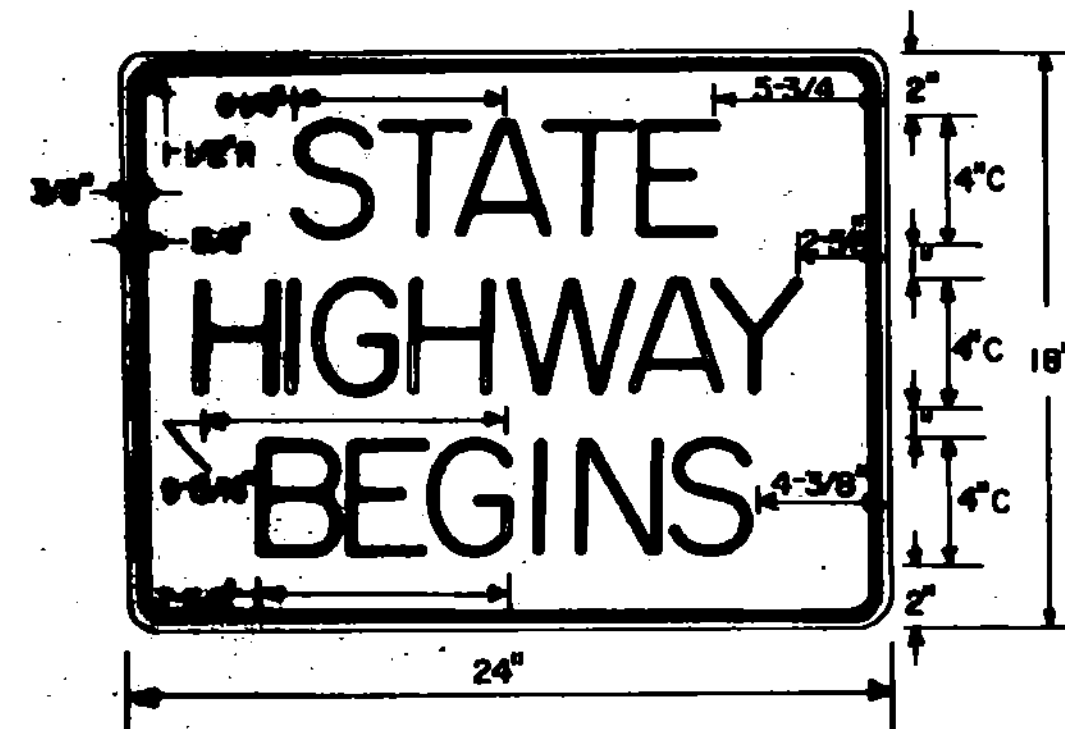
SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
MIN. & STD.	24	30	3/8	5/8	3-3/8	4D	2-1/4	9-3/4	10	6	6-3/16	7-1/8	7-3/8	1-1/2
EXPWY.	36	48	5/8	7/8	6	6D	4	14-3/8	15	9	9-3/16	10-1/16	9-3/8	2-1/4
FWY.	48	60	3/4	1-1/4	7-1/4	8D	4-1/2	18-1/2	20	12	13-1/8	14-1/4	15-1/4	3

*REDUCE SPACING 25%

SIGN	DIMENSIONS (INCHES)															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
MIN. & STD.	24	30	3/8	5/8	3-3/8	4E	2-1/4	9-3/4	9-1/16	7-9/16	7-1/16	5-1/16	9-3/16	6-7/8	7-1/16	1-1/2
EXPWY.	36	48	5/8	7/8	6	6E	4	14-3/4	14-1/2	13-1/16	11-1/2	8-1/2	9-3/4	10-3/8	9-3/8	2-1/4
FWY.	48	60	3/4	1-1/4	7-1/4	8E	4-1/2	18-1/2	20	12	13-1/8	14-1/4	15-1/4	16-1/8	17-1/8	3

*REDUCE SPACING 32%

SIGN	DIMENSIONS (INCHES)															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
MIN. & STD.	24	30	3/8	5/8	3-3/8	4D	2-1/4	9-3/4	9-3/16	9-3/16	4-3/4	5	7-1/8	7-5/8	9-1/4	1-1/2
EXPWY.	36	48	5/8	7/8	6	6D	4	14-3/8	15-3/8	13-1/8	11-1/8	10-1/16	11-3/8	12-1/8	13-1/8	2-1/4
FWY.	48	60	3/4	1-1/4	7-1/4	8D	4-1/2	18-1/2	20	12	13-1/8	14-1/4	15-1/4	16-1/8	17-1/8	3



COLORS:

THE REGULATORY SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT ON REFLECTORIZED WHITE BACKGROUND. THE COLORS SHALL CONFORM WITH THE COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND APPROVED BY THE DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

MATERIALS:

THE SIGN BASE MATERIALS USED FOR THE REGULATORY SIGNS SHOWN ON THIS SHEET MAY BE ANY OF THE FOLLOWING OF THE MINIMUM THICKNESS NOTED.

	18" X 24"	24" X 18"	36" X 48"
FLAT SHEET ALUMINUM	0.060"	24" X 24"	48" X 60"
HIGH DENSITY OVERLAID PLYWOOD	1/2"	24" X 30"	48" X 60"
GALVANIZED FLAT SHEET STEEL	18 GAGE	0.080"	5/8"
		1/2"	5/8"
		16 GAGE	14 GAGE

THE REFLECTIVE MATERIAL FOR GROUND MOUNTED SIGNS SHALL BE FLAT TOP WHITE REFLECTIVE SHEETING APPLIED TO THE ENTIRE BACKGROUND OF THE SIGN.

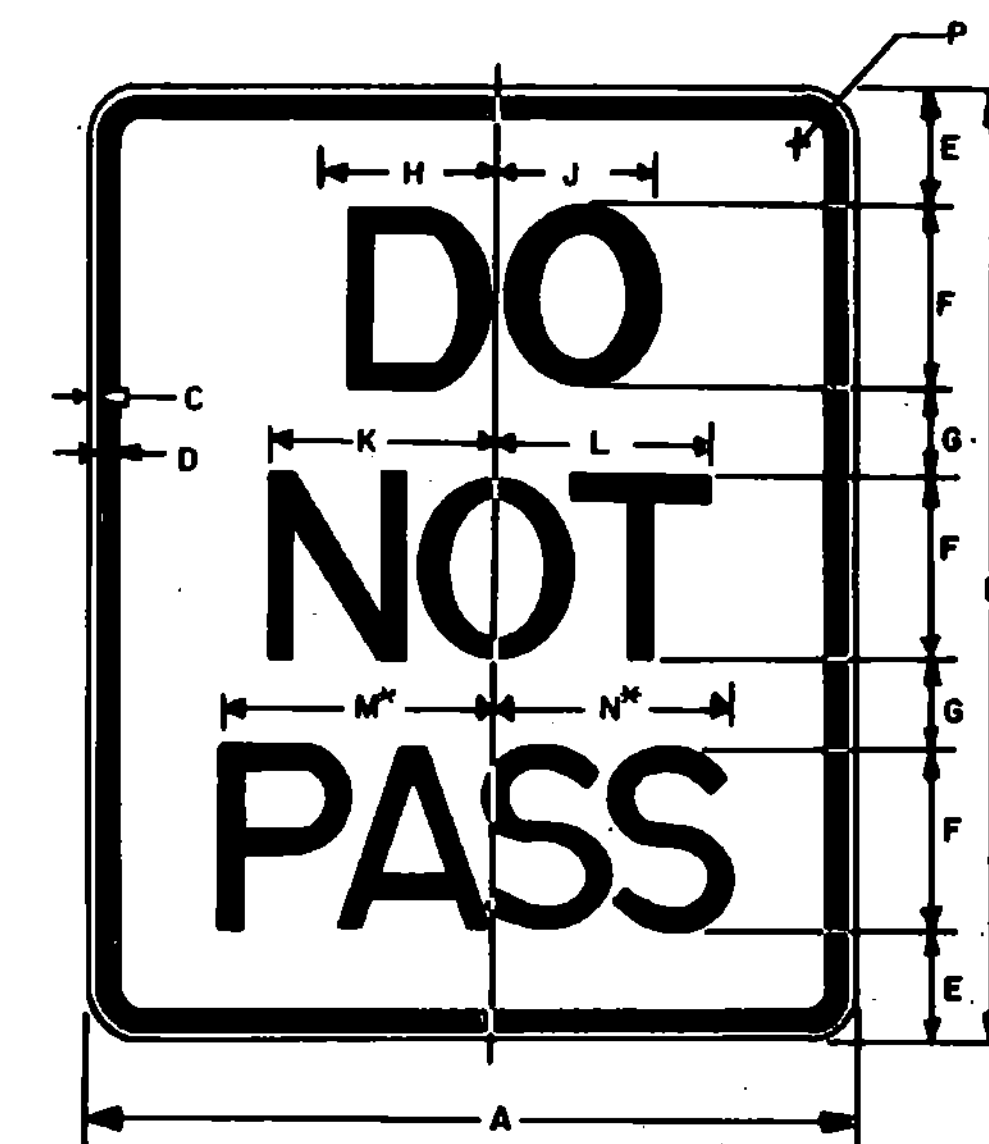
THE TEXT OF THE SIGNS MAY BE LETTERING FILM, SILK SCREENED OR HAND PAINTED. WHEN HAND PAINTED, POOR WORKMANSHIP SHALL BE CAUSE FOR REJECTION.

SPECIFICATIONS:

REGULATORY SIGNS SHALL MEET THE STANDARD STATE SPECIFICATIONS FOR TRAFFIC SIGNS.

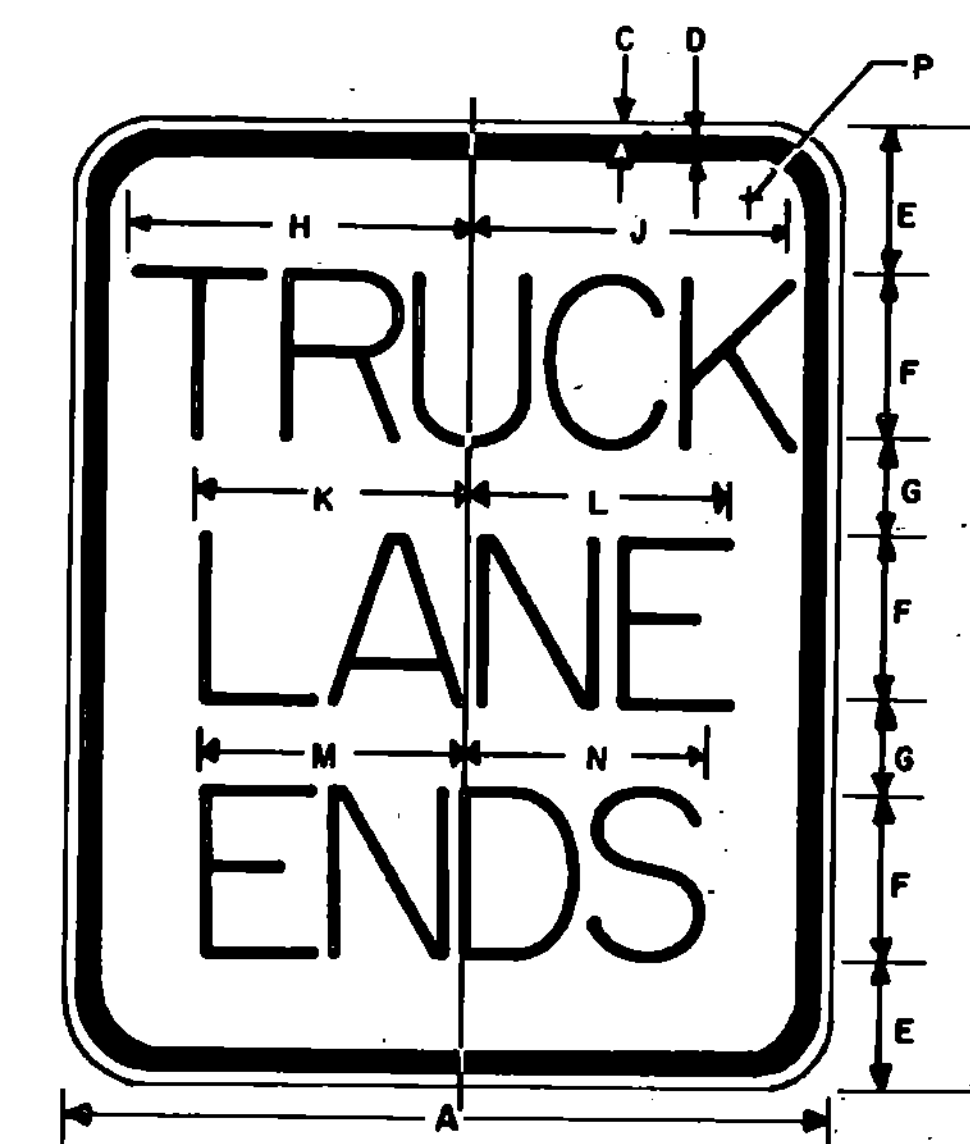
TEXT DESIGN:

LETTERS, DIGITS, ARROWS, SPACINGS, AND TEXT DIMENSIONS SHALL CONFORM WITH THE STANDARD ALPHABETS AND DESIGNS PRESCRIBED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES PREPARED BY THE NATIONAL JOINT COMMITTEE ON UNIFORM TRAFFIC CONTROL DEVICES.



*REDUCE SPACING 40%

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
MIN.	18	24	3/8	5/8	3-1/2	4D	2-1/2	3-1/8	3-3/8	4-3/4	4-7/8	6-1/4	6-1/2	1-1/2
STD.	24	30	3/8	5/8	3-1/2	6D	2-1/2	4-1/8	5	7-1/8	7-3/8	9-3/8	9-3/4	1-1/2
EXPWY.	36	48	5/8	7/8	7	8D	5	6-1/4	6-5/8	9-1/2	9-5/8	12-1/2	12-1/4	2-1/4
FWY.	48	60	3/4	1-1/4	8	10D	7	7-3/4	8-3/8	11-7/8	12-1/4	15-5/8	16-1/4	3



SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
MIN. & STD.	24	30	3/8	5/8	3-1/2	6C	2-1/2	10-1/4	10-3/8	7-3/4	7-3/4	7-5/16	8	1-1/2
EXPWY.	36	48	5/8	7/8	7	8C	5	13-1/16	13-5/8	10-3/8	10-5/8	10-1/8	10-1/8	2-1/4
FWY.	48	60	3/4	1-1/4	8	10D	7	20-5/8	20-5/8	15-7/8	15-3/8	16-1/8	16-1/8	3

REVISIONS AND CORRECTIONS

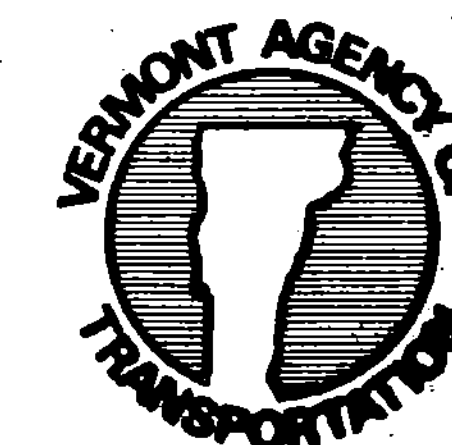
NO. & DATE REVISION TO 1984

APPROVED

DATE JULY 18, 1984

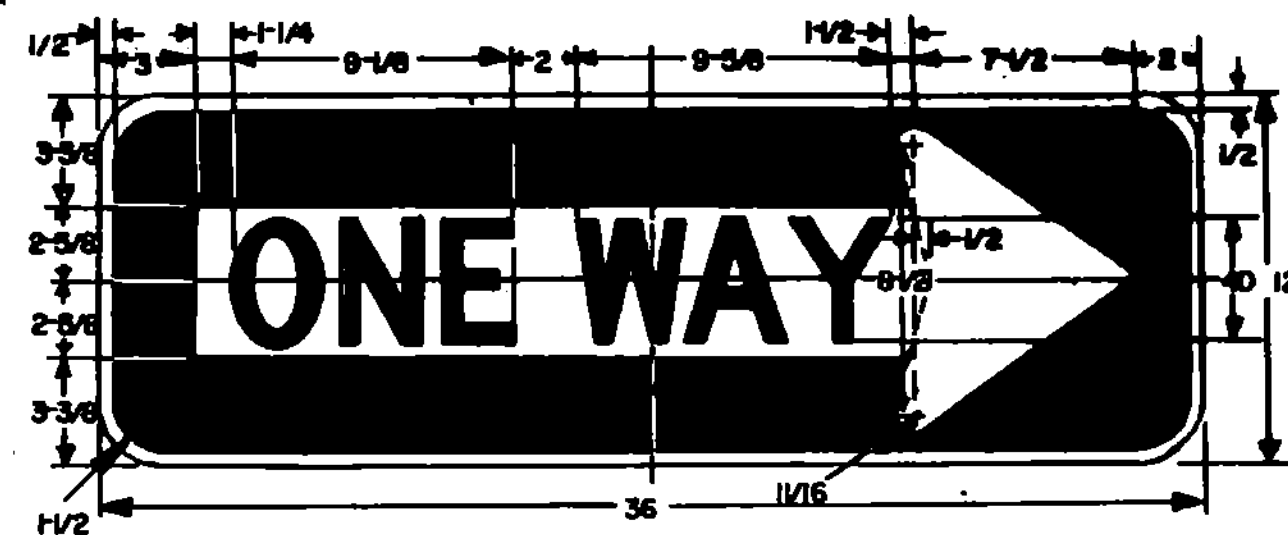
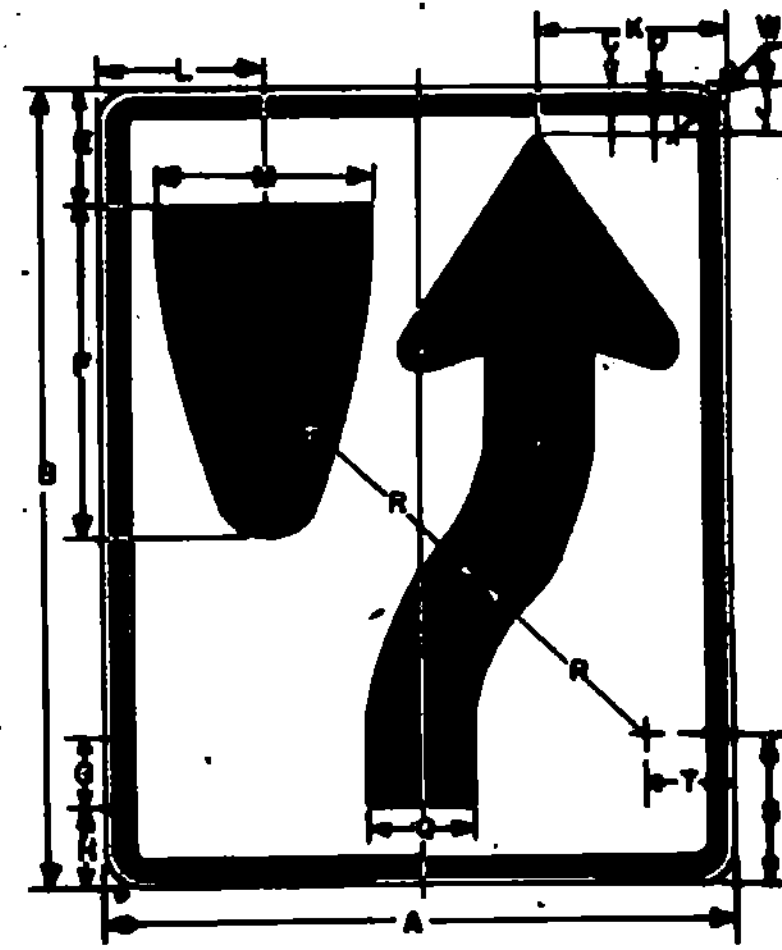
S. J. G...
DIRECTOR OF ENGINEERING AND CONSTRUCTION
Arthur J. Ross
CHIEF OF DESIGN
John C. Evans
SURVEY AND PLANS ENGINEER

REGULATORY SIGNS



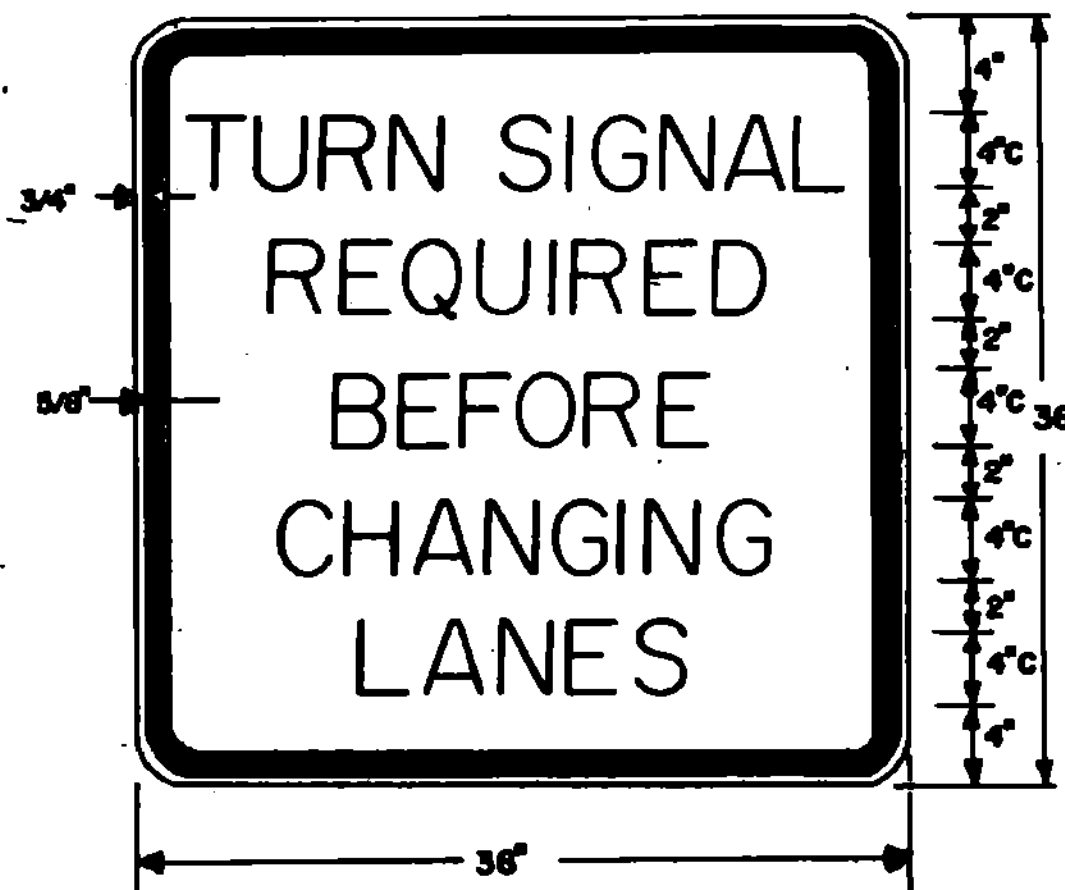
STANDARD

E-15 A



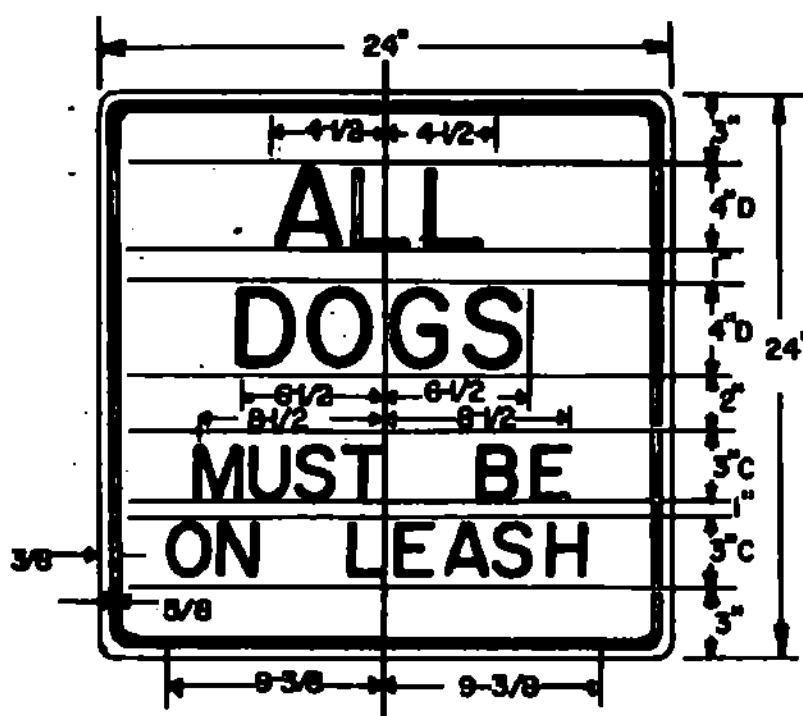
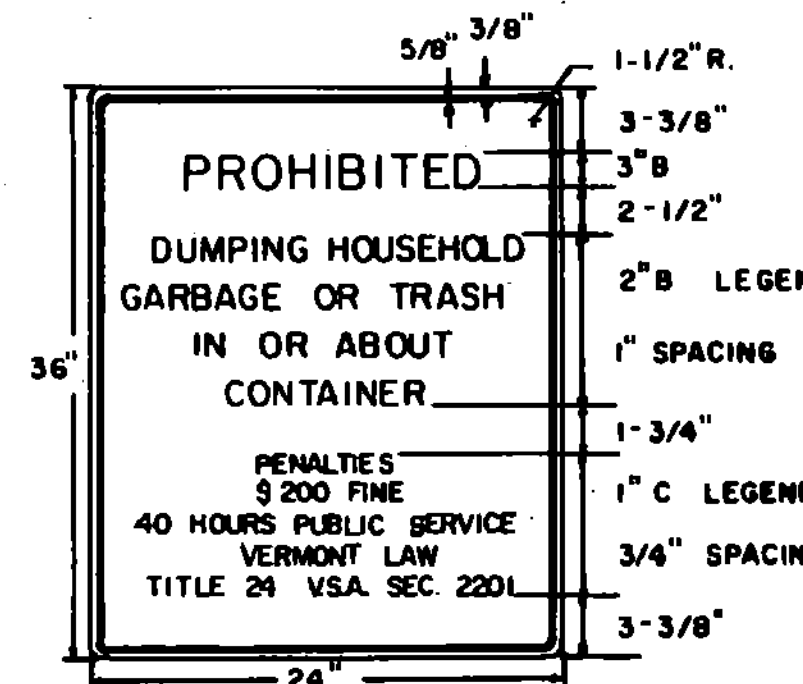
SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
MIN.	18	24	3/8	5/8	3-3/8	9-3/8	1-7/8	2-1/4	1-3/8	5-1/8	
STD.	24	30	3/8	5/8	4-1/2	12-1/2	2-1/2	3	1-7/8	7-3/8	
EXPWY.	36	48	5/8	7/8	6-3/4	18-3/4	3-3/4	4-1/2	2-3/16	11-1/8	
FWY.	48	60	3/4	1-1/4	9	25	5	6	3-3/4	14-13/16	

SIGN	DIMENSIONS (INCHES)										
	L	M	N	P	Q	R	S	T	U	V	W
MIN.	4-11/16	6	22-1/2	1-1/2	3	6-3/4	4-1/8	2-1/4	1-1/16	7/8	1-1/8
STD.	6-1/4	8	30	2	4	9	5-1/2	3	1-3/8	2-1/8	1-1/4
EXPWY.	9-3/8	12	45	3	6	13-1/2	6-1/4	4-1/2	2	3-3/8	2-1/4
FWY.	12-1/2	16	60	4	8	18	11	6	2-1/8	3	3

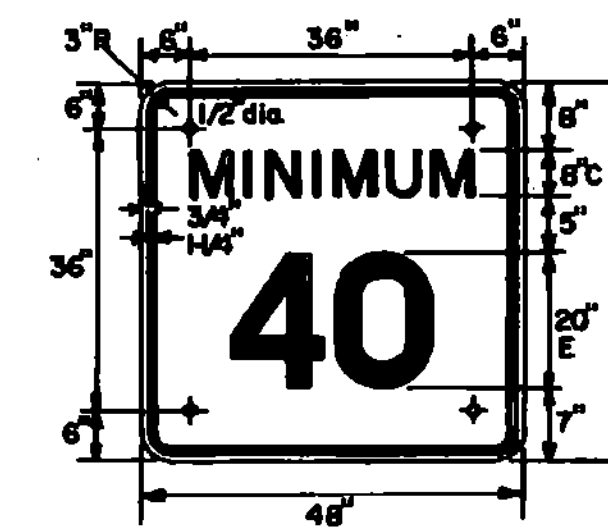


SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
MIN.	18	24	3/8	5/8	3	3E	2	8E	1-1/2	7-3/16	5-1/2
STD.	24	30	3/8	5/8	4	4E	2	10E	1-1/2	9-9/16	7-5/16
EXPWY.	36	48	5/8	7/8	6	6E	3	14E	2-1/4	14-3/8	11
FWY.	48	60	3/4	1-1/4	8	8E	4	20E	3	19-1/8	14-3/8

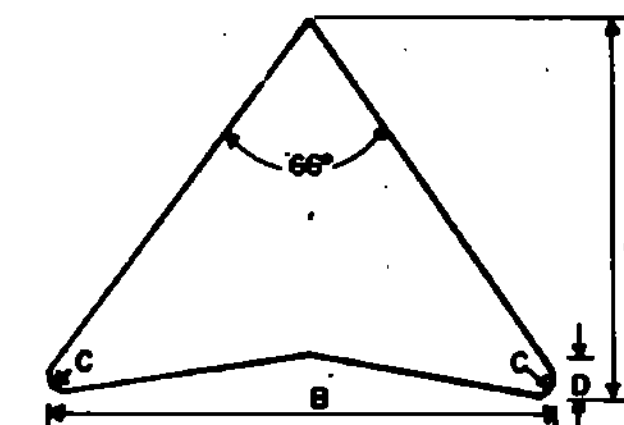
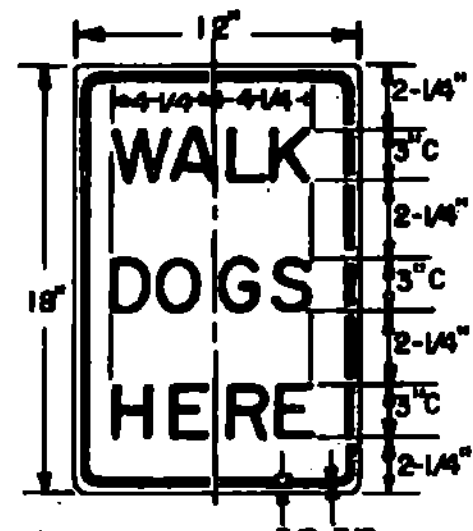
SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
STD. 8 MIN.	24	30	3/8	5/8	4	4C	2	10D	1-1/2	9-5/16	6-13/16
EXPWY.	36	48	5/8	7/8	6	6C	3	14D	2-1/4	13-3/4	10-3/16
FWY.	48	60	3/4	1-1/4	8	8C	4	18D	3	16-3/8	13-5/8



SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
EXPWY.	30	24	3/8	5/8	3-1/2	4C	2-1/2	9-3/16	9-1/2	7	1-1/2
FWY.	48	36	5/8	7/8	5	6D	4	20-7/16	2-1/8	19-1/8	10-1/16



SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
MIN.	18	24	3/8	5/8	3-1/2	4C	2-1/2	9-3/16	9-1/2	7	1-1/2
STD.	24	30	3/8	5/8	3-1/2	6C	2-1/2	9-3/16	7-9/16	9-3/4	1-1/2
EXPWY.	36	48	5/8	7/8	7	8C	5	13-5/8	11-1/16	14	2-1/4
FWY.	48	60	3/4	1-1/4	9	10C	6	17	13-1/16	17-1/2	3



ARROW HEAD	DIMENSIONS (INCHES)			
	SIZE	A	B	C
MINIMUM	18x24	7-1/8	8-1/2	5/8
STANDARD	24x30	9-1/2	11-3/8	1
EXPRESSWAY	36x48	14-1/4	17	1-3/8
FREWAY	48x60	19	22-5/8	1-7/8

COLORS:
THE REGULATORY SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT ON REFLECTORIZED WHITE BACKGROUND. THE COLORS SHALL CONFORM WITH THE COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND APPROVED BY THE DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

MATERIALS:
THE SIGN BASE MATERIALS USED FOR THE REGULATORY SIGNS SHOWN ON THIS SHEET MAY BE ANY OF THE FOLLOWING OF THE MINIMUM THICKNESS NOTED.

	12" X 18"	18" X 24"	24" X 24"	24" X 30"	30" X 24"	30" X 30"	36" X 12"	36" X 36"	36" X 48"	48" X 36"	48" X 60"
FLAT SHEET ALUMINUM	0.060	0.080	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
HIGH DENSITY OVERLAD PLYWOOD	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
GALVANIZED FLAT SHEET STEEL	18 GAGE	16 GAGE	14 GAGE	14 GAGE	14 GAGE	14 GAGE	14 GAGE	14 GAGE	14 GAGE	14 GAGE	14 GAGE

THE REFLECTIVE MATERIAL FOR GROUND MOUNTED SIGNS SHALL BE FLAT TOP WHITE REFLECTIVE SHEETING APPLIED TO THE ENTIRE BACKGROUND OF THE SIGN.

THE TEXT OF THE SIGNS MAY BE LETTERING FILM, SILK SCREENED OR HAND PAINTED. WHEN HAND PAINTED, POOR WORKMANSHIP SHALL BE CAUSE FOR REJECTION.

SPECIFICATIONS:
REGULATORY SIGNS SHALL MEET THE STANDARD STATE SPECIFICATIONS FOR TRAFFIC SIGNS.

TEXT DESIGN:
LETTERS, DIGITS, ARROWS, SPACINGS, AND TEXT DIMENSIONS SHALL CONFORM WITH THE STANDARD ALPHABETS AND DESIGNS PRESCRIBED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES PREPARED BY THE NATIONAL JOINT COMMITTEE ON UNIFORM TRAFFIC CONTROL DEVICES.

REVISIONS AND CORRECTIONS
SEPT. 26, 1984 - ADDED "MINIMUM 40" SIGN - CHANGED "SPEED LIMIT 50" (FWY. - 6 6H)
- CHANGED "PROHIBITED DUMPING HOUSEHOLD GARBAGE" SIGN
DEC. 27, 1984 - CLARIFIED KEEP RIGHT SYMBOL
FEB. 3, 1986 - UPDATED TO 1986 SPECIFICATIONS

APPROVED _____ DATE JULY 18, 1984

DIRECTOR OF ENGINEERING AND CONSTRUCTION

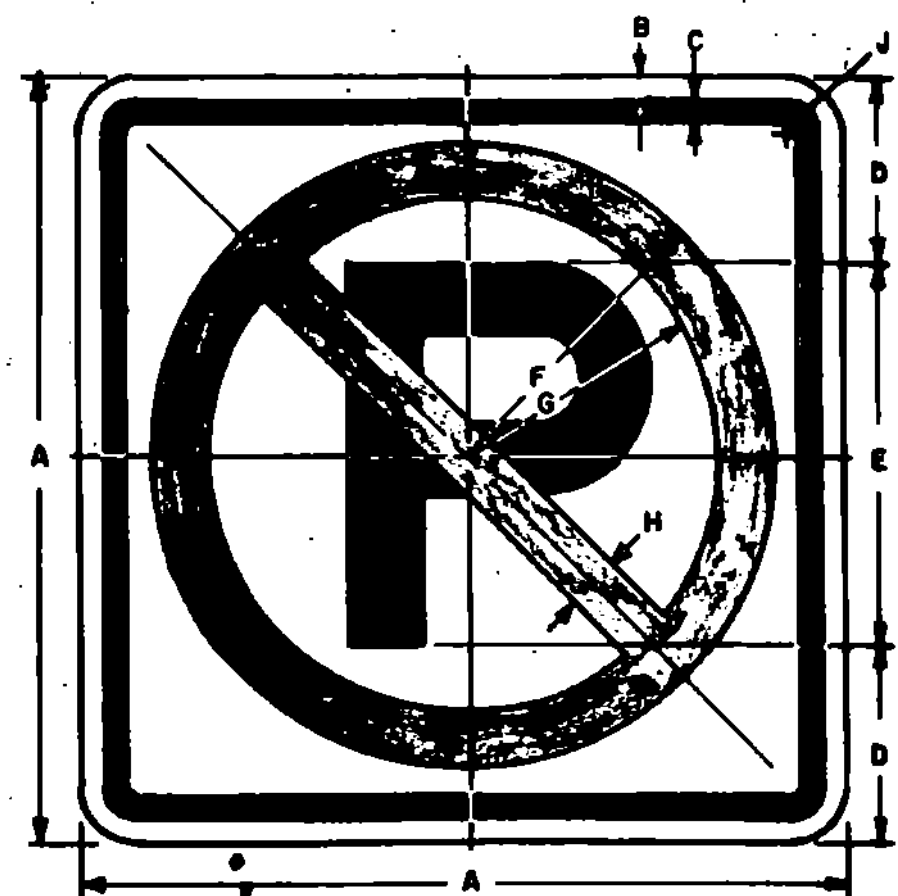
CHIEF OF DESIGN

SURVEY AND PLANS ENGINEER

REGULATORY SIGNS

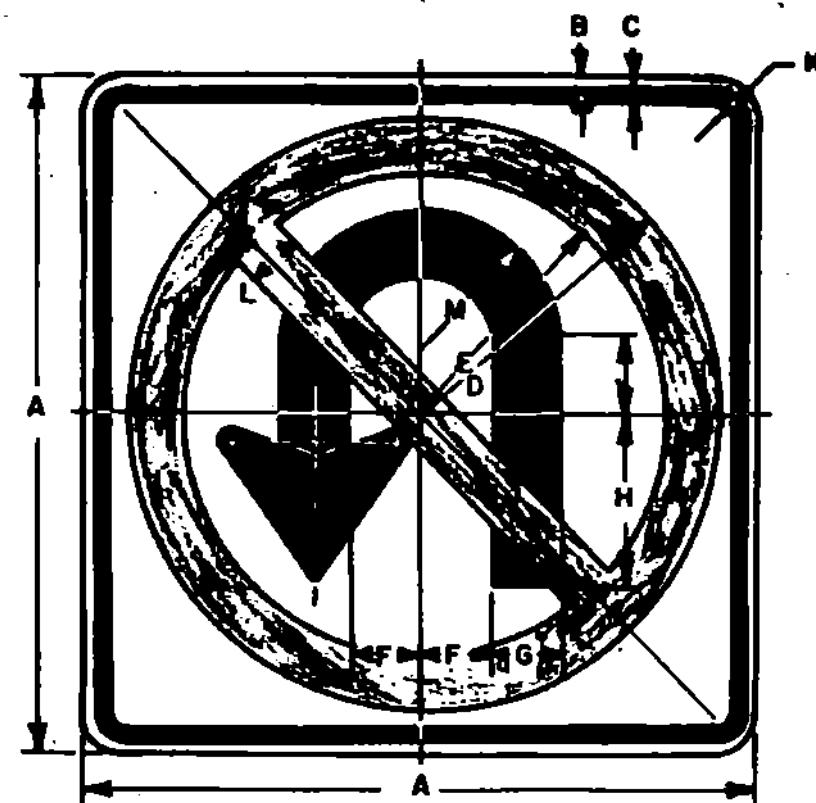


STANDARD
E-15B



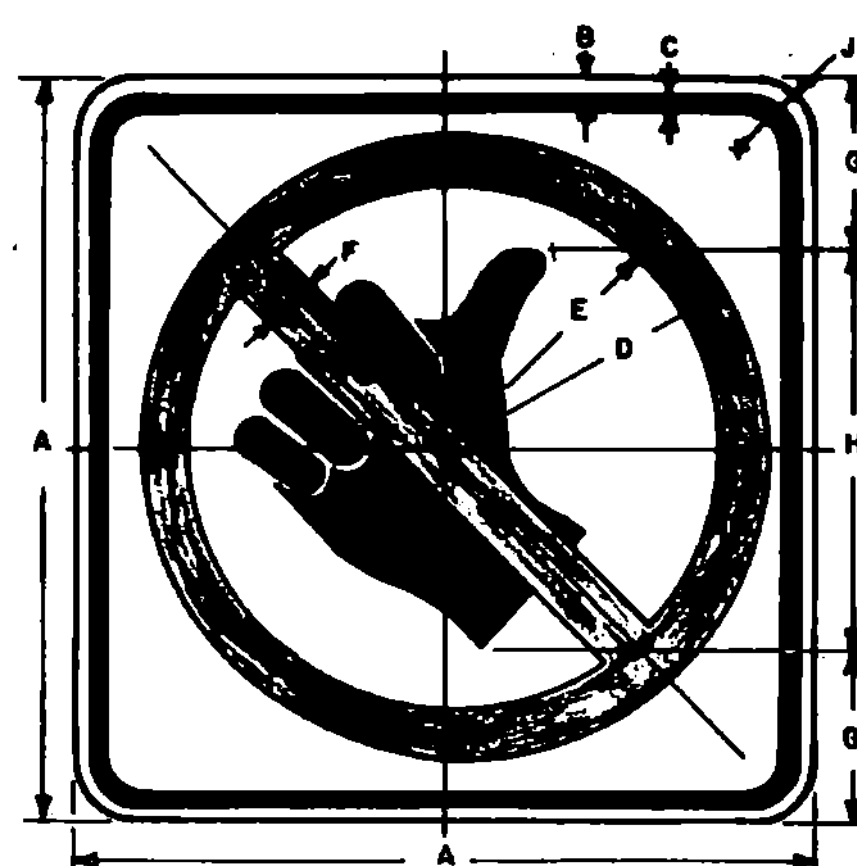
COLORS
CIRCLE AND DIAGONAL - RED (REFL-RURAL)
SYMBOL AND BORDER - BLACK (NON-REFL)
BACKGROUND - WHITE (REFL-RURAL)

SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	K
URBAN MIN.&STD.	12	3/8	3/8	3	6E(M)	4-7/8	3-7/8	1	1-1/2	
RURAL MIN.&STD.	24	3/8	5/8	6	12E(M)	10-1/2	8-1/2	2	1-1/2	
EXPWY.	36	5/8	7/8	9	18E(M)	15-3/4	12-3/4	3	2-1/4	
FWY.	48	3/4	1-1/4	12	24E(M)	21	17	4	3	



COLORS
CIRCLE AND DIAGONAL - RED (REFL)
ARROW AND BORDER - BLACK (NON-REFL)
BACKGROUND - WHITE (REFL)

SIGN	DIMENSIONS (INCHES)												
	A	B	C	D	E	F	G	H	J	K	L	M	
STD. & MIN.	24	3/8	5/8	10-1/2	8-1/2	2-1/2	2-1/2	6	2-1/4	1-1/2	2	5	
SPECIAL	30	1/2	3/4	13-1/8	10-5/8	3-1/8	3-1/8	7-1/2	2-13/16	1-7/8	2-1/2	6-1/4	
EXPWY.	36	5/8	7/8	15-3/4	12-3/4	3-3/4	3-3/4	9	3-3/8	2-1/4	3	7-1/2	
SPECIAL	48	3/4	1-1/4	21	17	5	5	12	4-1/2	3	4	10	



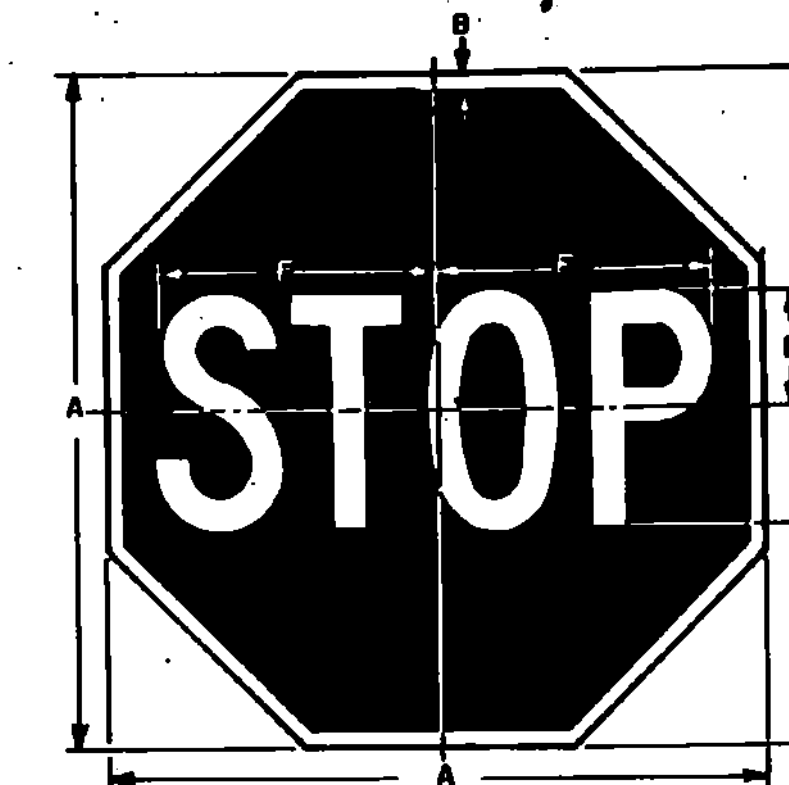
COLORS
CIRCLE AND DIAGONAL - RED (REFL)
SYMBOL AND BORDER - BLACK (NON-REFL)
BACKGROUND - WHITE (REFL)

SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	K
MIN.	18	3/8	5/8	7-7/8	6-3/8	1-1/2	3-3/4	10-1/2	1-1/2	
STD.	24	3/8	5/8	10-1/2	8-1/2	2	5	14	1-1/2	



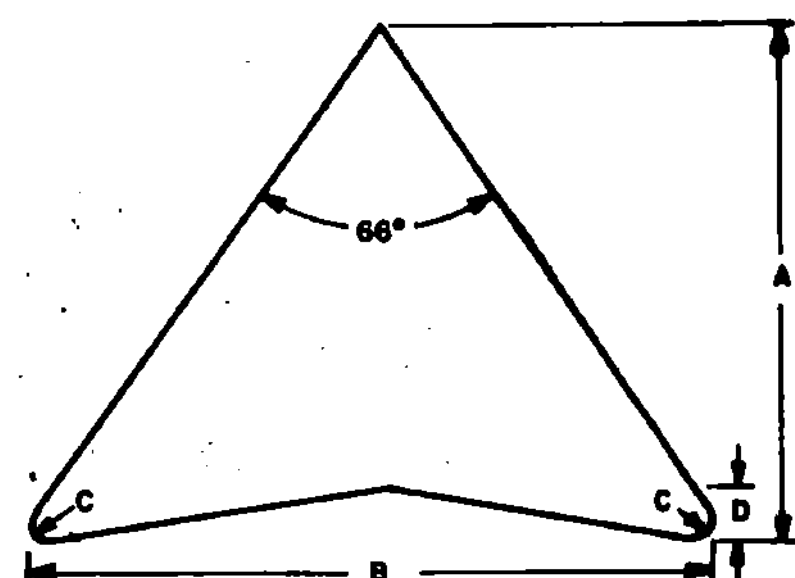
COLORS
LEGEND - WHITE (REFL)
BACKGROUND - RED (REFL)

SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	K
MIN.	30	18	5/8	3	50	2	11-1/16	9-11/16	1-1/2	
STD.	36	24	3/4	4-1/2	60	3	13-5/16	9-1/8	1-1/2	
SPECIAL	42	30	7/8	5	80	4	17-3/4	10-3/4	1-7/8	

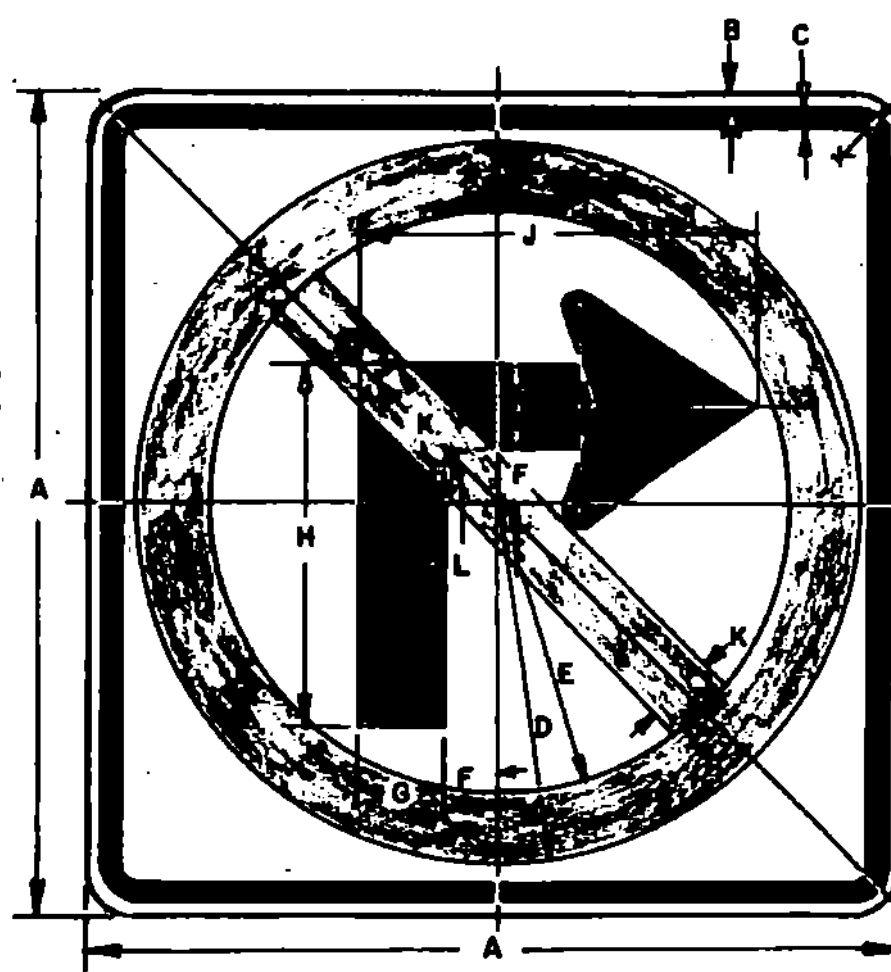


COLORS
LEGEND - WHITE (REFL)
BACKGROUND - RED (REFL)

SIGN	DIMENSIONS (INCHES)					
	A	B	C	D	E	F
BIKE	18	3/8	6	6C	3	7-3/4
MIN.	24	5/8	8	8C	4	10
STD.	30	3/4	10	10C	5	12-1/2
EXPWY.	36	7/8	12	12C	6	15
SPECIAL	48	1-1/4	16	16C	8	20

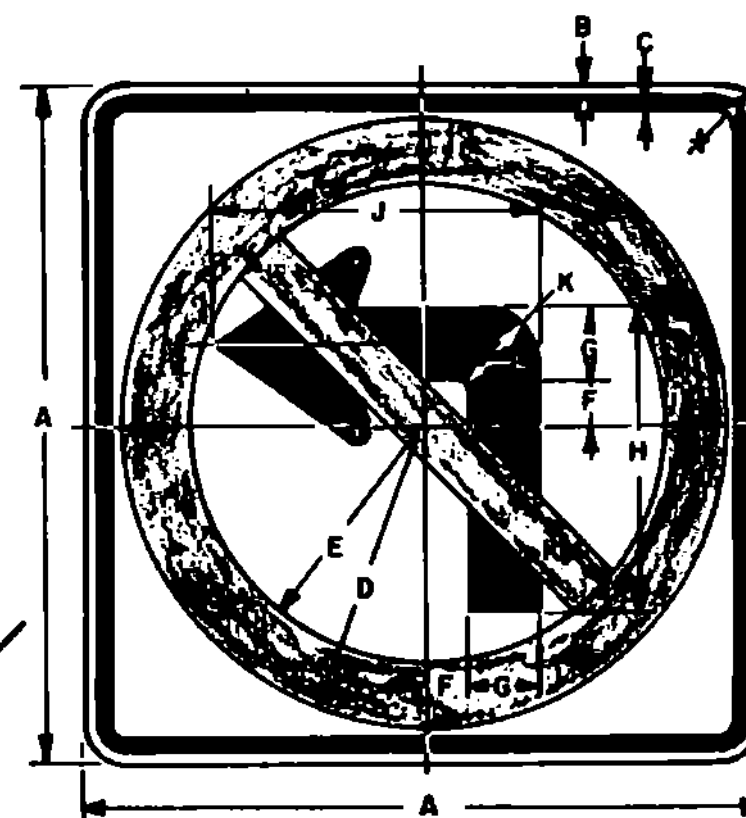


ARROW HEAD	SIZE	DIMENSIONS (INCHES)			
		A	B	C	D
MIN.&STD.	24" X 24"	6	7-1/8	5/8	1
SPECIAL	30" X 30"	7-1/2	8-7/8	3/4	1-1/8
EXPWY.	36" X 36"	8-7/8	10-5/8	7/8	1-3/8
SPECIAL	48" X 48"	11-7/8	14-1/8	1-1/8	1-7/8

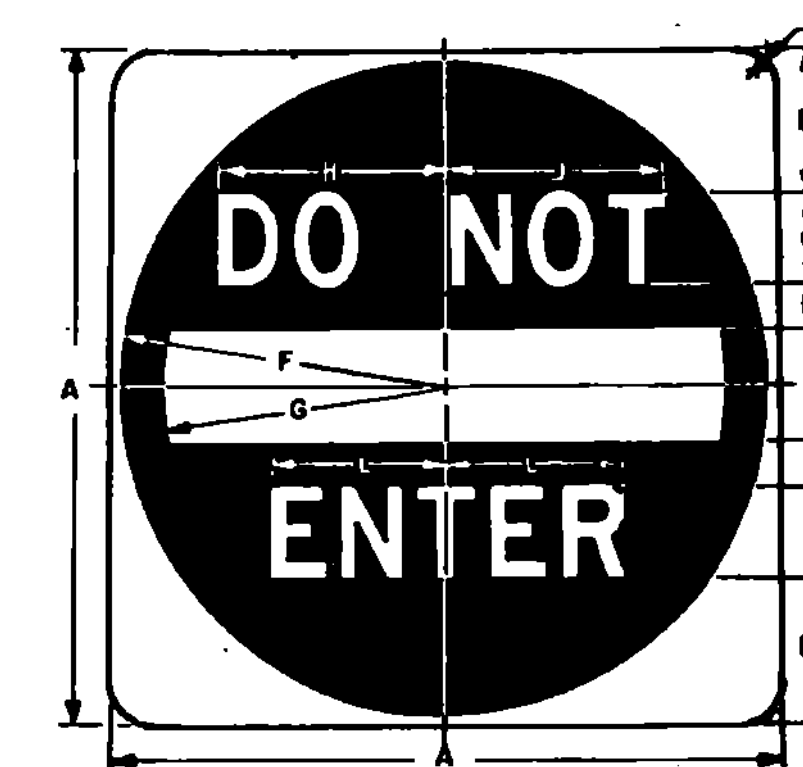


COLORS & DIMENSIONS APPLY TO BOTH SIGNS

COLORS
CIRCLE & DIAGONAL - RED (REFL)
ARROW & BORDER - BLACK (NON-REFL)
BACKGROUND - WHITE (REFL)

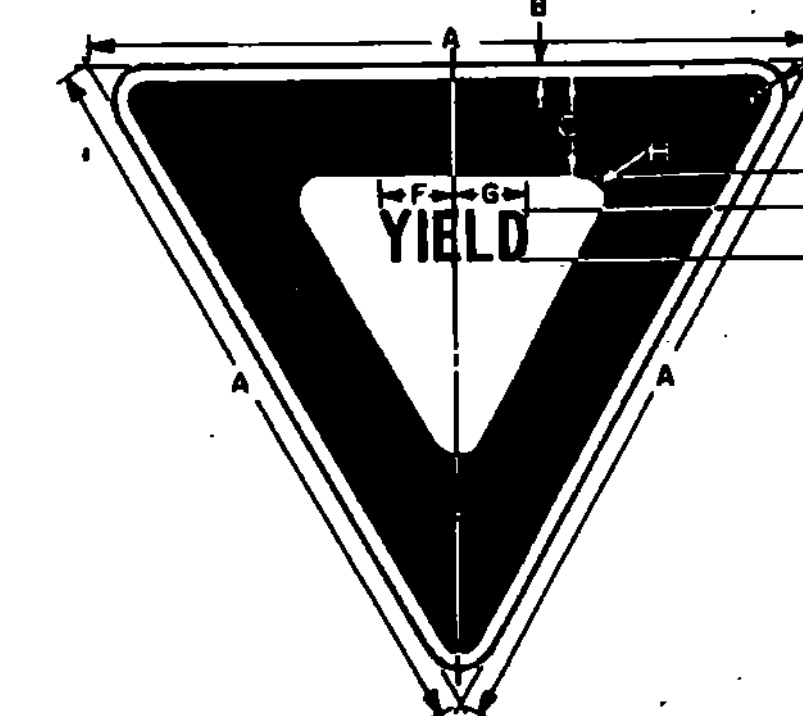


SIGN	DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	J	K	L	
STD. & MIN.	24	3/8	5/8	10-1/2	8-1/2	1-1/2	2-1/2	10-1/2	11-1/2	2	1/2	
SPECIAL	30	1/2	3/4	13-1/8	10-5/8	1-7/8	3-1/8	13-1/8	14-1/2	2-1/2	5/8	
EXPWY.	36	5/8	7/8	15-3/4	12-3/4	2-1/4	3-3/4	15-3/4	17-1/4	3	3/4	
SPECIAL	48	3/4	1-1/4	21	17	3	5	21	23	4	1	



COLORS
SYMBOL - RED (REFL)
LEGEND & BACKGROUND - WHITE (REFL)

SIGN	DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	J	K	L	
STD. & MIN.	30	6-1/2	40	2	5	14-1/2	12-1/2	9-3/4	10	1-7/8	7-7/8	
EXPWY.	36	7-1/2	50	2-1/2	6	17-1/2	15	12	12 3/8	2-1/4	9-13/16	
SPECIAL	48	11	60	3	8	23-1/2	20	14-1/2	15	3	11-3/4	



COLORS
LEGEND & BORDER - RED (REFL)
BACKGROUND - WHITE (REFL)

SIGN	DIMENSIONS (INCHES)						
	A	B	C	D	E	F	J
BIKE	24	3/8	3	1-3/8	2C	3-1/4	7/8
MIN.	30	5/8	4	1-3/4	2-1/2C	3-5/16	7/8
STD.	36	3/4	5	2	3C	4-11/16	1-1/4
EXPWY.	48	1	6	2-3/4	4C	6-1/4	2
FWY.	60	1-1/2	8	3-1/2	5C	7-7/8	2-1/2

MATERIALS:

THE SIGN BASE MATERIALS USED FOR THE REGULATORY SIGNS SHOWN ON THIS SHEET MAY BE ANY OF THE FOLLOWING OF THE MINIMUM THICKNESS NOTED.

FLAT SHEET ALUMINUM	0.060"	0.080"	0.100"	0.125"
HIGH DENSITY OVERLAID PLYWOOD	1/2"	1/2"	5/8"	5/8"
GALVANIZED FLAT SHEET STEEL	18 GAGE	16 GAGE	14 GAGE	12 GAGE

THE REFLECTIVE MATERIAL SHALL BE ENCAPSULATED LENS WHITE OR SILVER REFLECTIVE SHEETING APPLIED TO THE ENTIRE BACKGROUND OF THE SIGN.

THE BLACK PORTIONS OF THE SIGNS MAY BE LETTERING FILM, SILK SCREENED OR HAND PAINTED. WHEN HAND PAINTED, POOR WORKMANSHIP SHALL BE CAUSE FOR REJECTION.

COLORS:

THE REGULATORY SIGNS SHOWN ON THIS SHEET SHALL BE AS DETAILED FOR EACH SIGN. THE COLORS SHALL CONFORM WITH THE COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND APPROVED BY THE DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

SPECIFICATIONS:

REGULATORY SIGNS SHALL MEET THE STANDARD STATE SPECIFICATIONS FOR TRAFFIC SIGNS.

TEXT DESIGN:

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REVISIONS AND CORRECTIONS

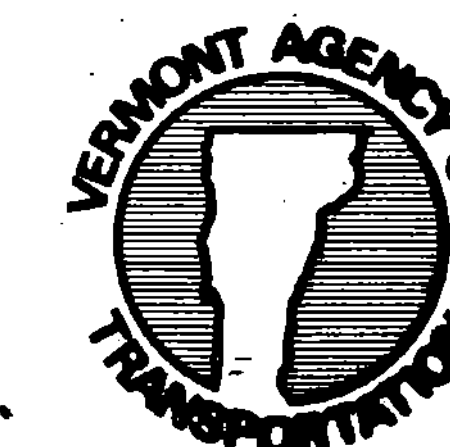
FEB. 3, 1986 - UPDATED TO 1985 SPECIFICATIONS

APPROVED

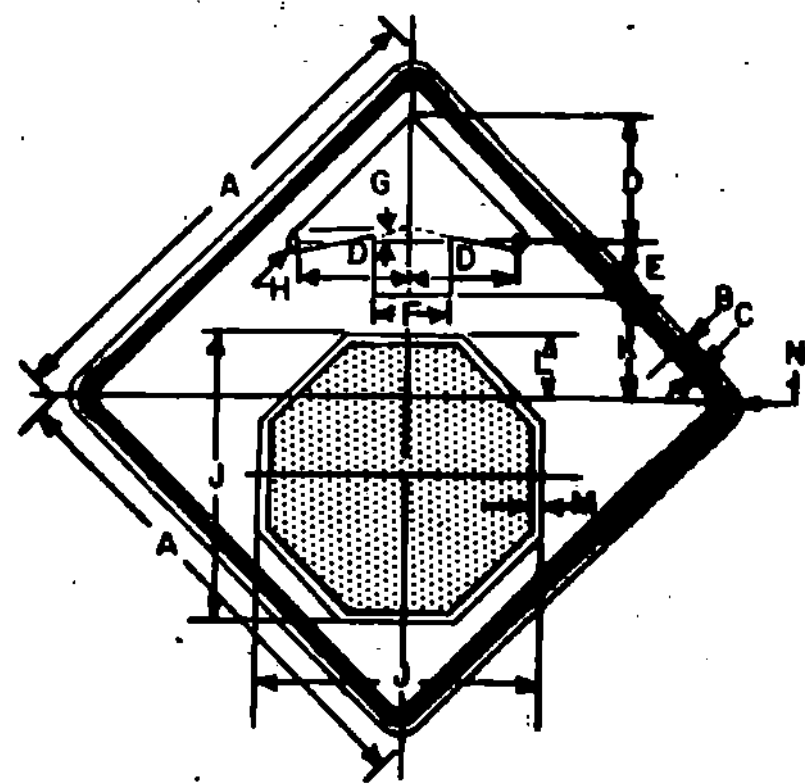
DATE JULY 18, 1984

S. J. Goy
DIRECTOR OF ENGINEERING AND CONSTRUCTION
Arthur J. Goss
CHIEF OF DESIGN
John E. Quinn
SURVEY AND PLANS ENGINEER

REGULATORY SIGNS

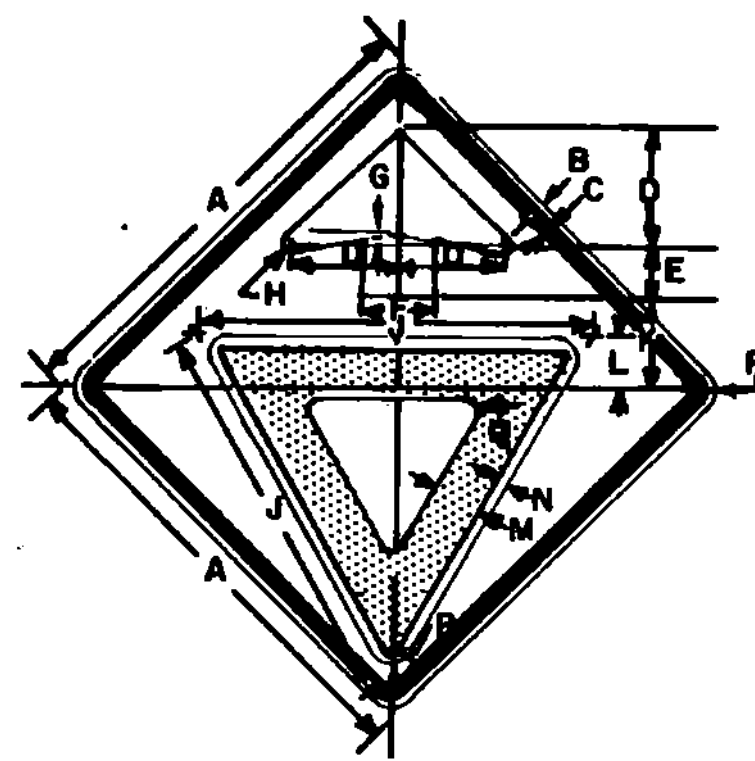


**STANDARD
E-15C**



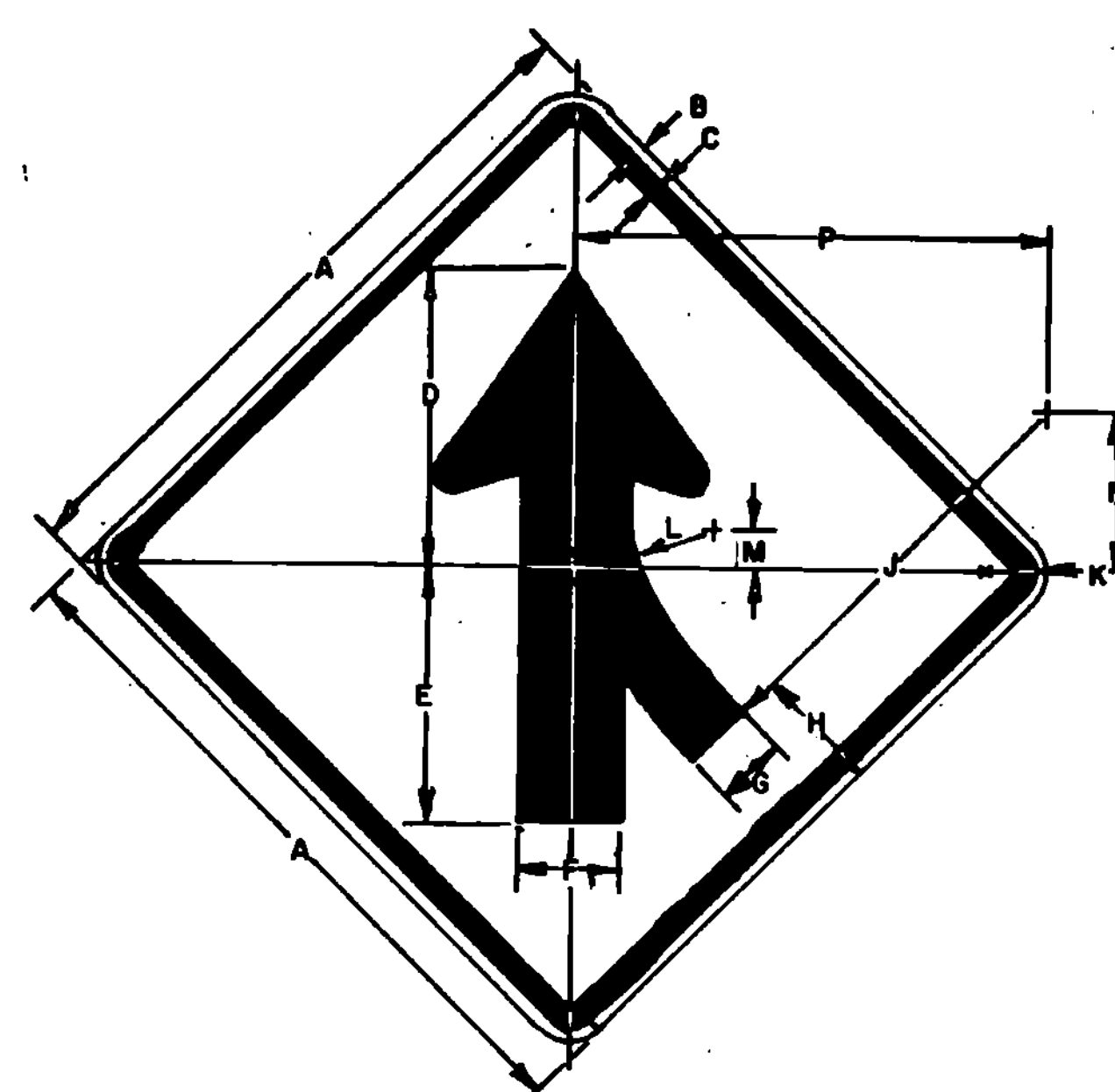
COLORS
 BORDER AND ARROW - BLACK (NON-REFL)
 SYMBOL - WHITE BORDER ON RED BACKGROUND (REFL)
 BACKGROUND - YELLOW (REFL)

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	
MIN.	30	1/2	3/4	7-1/2	3-3/4	5	5/8	5/8	9-3/4	9-1/4	2-7/8	1/2	1-7/8	
STD.	36	5/8	7/8	9	4-1/2	6	3/4	3/8	19	7-1/8	3-1/2	5/8	2-1/4	
SPECIAL	48	3/4	1-1/4	12	6	8	1	1/2	25-1/2	10	4-1/2	3/4	3	



COLORS
 BORDER AND ARROW - BLACK (NON-REFL)
 SYMBOL - RED BORDER ON WHITE BACKGROUND (REFL)
 BACKGROUND - YELLOW (REFL)

SIGN	DIMENSIONS (INCHES)															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
MIN.	30	1/2	3/4	7-1/2	3-3/4	5	5/8	5/8	25	6-1/4	3	3-3/8	1/2	1-1/4	5/8	1-7/8
STD.	36	5/8	7/8	9	4-1/2	6	3/4	3/8	28	7-1/2	3-3/8	3-3/4	5/8	1-3/8	3/4	2-1/4
SPECIAL	48	3/4	1-1/4	12	6	8	1	1/2	38	10	4-1/2	5	3/4	1-7/8	1	3



COLORS
 LEGEND - BLACK (NON-REFL)
 BACKGROUND - YELLOW (REFL)

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
MIN.	24	3/8	5/8	10-1/4	8-3/4	5-1/2	23/8	4-3/16	22-1/4	1-1/2	6-3/8	3-5/8	10-3/8	23-3/8
STD.	30	1/2	3/4	13	11	4-3/8	3	5-1/4	28	1-7/8	8	3	13	27-3/4
EXPWY.	36	5/8	7/8	15-3/4	13-1/4	5-1/4	3-5/8	5-1/8	33-3/8	2-1/4	9-3/8	4	15-3/8	33-5/16
FWY.	48	3/4	1-1/4	20-1/2	17-1/2	7	4-3/8	6-3/8	45	3	2-13/16	5-1/4	20-3/4	44-3/8

COLORS

THE WARNING SIGNS SHOWN ON THIS SHEET SHALL BE AS DETAILED FOR EACH SIGN. THE COLORS SHALL CONFORM WITH THE COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS APPROVED BY THE DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

MATERIALS

THE SIGN BASE MATERIALS USED FOR THE WARNING SIGNS SHOWN ON THIS SHEET MAY BE ANY OF THE FOLLOWING OF THE MINIMUM THICKNESS NOTED.

	12" x 18"	18" x 24"	24" x 24"	24" x 30"	30" x 30"	30" x 36"	36" x 36"	36" x 48"	48" x 48"	48" x 60"
FLAT SHEET ALUMINUM	0.060"	0.060"	0.080"	0.100"	0.100"	0.125"	0.125"	0.125"	0.125"	0.125"
HIGH DENSITY OVERLAID PLYWOOD	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
GALVANIZED FLAT SHEET STEEL	18 GAGE	18 GAGE	16 GAGE	14 GAGE	14 GAGE	12 GAGE	12 GAGE	12 GAGE	12 GAGE	12 GAGE

THE REFLECTIVE MATERIAL SHALL BE REFLECTIVE SHEETING APPLIED TO THE ENTIRE BACKGROUND OF THE SIGN.

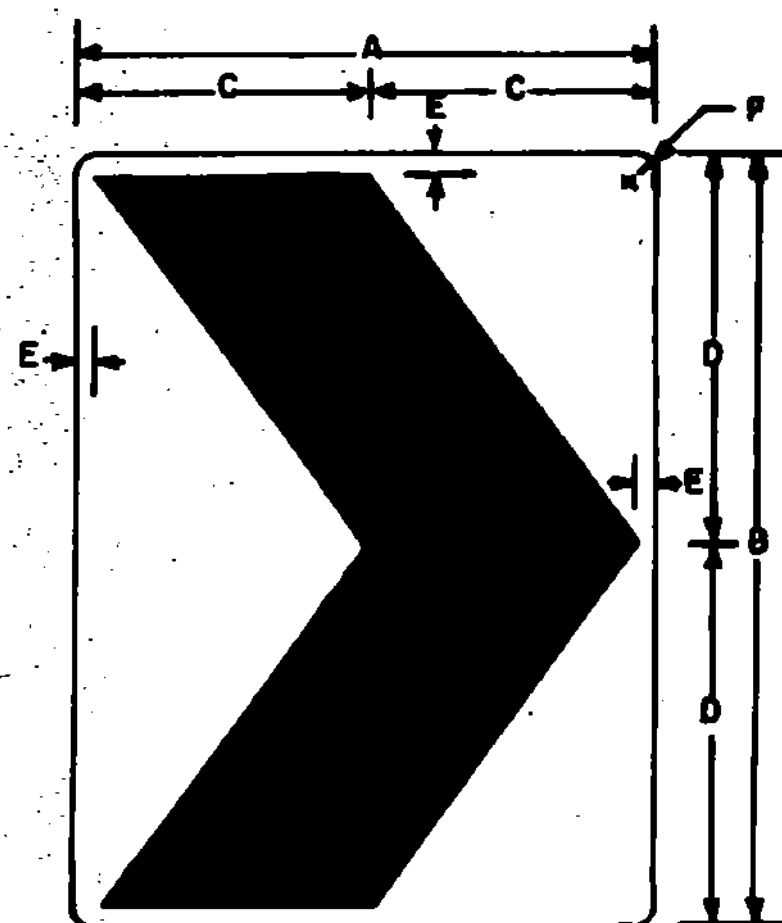
THE BLACK PORTIONS OF THE SIGNS MAY BE LETTERING FILM, SILK SCREENED OR HAND PAINTED. WHEN HAND PAINTED, POOR WORKMANSHIP SHALL BE CAUSE FOR REJECTION.

SPECIFICATIONS

WARNING SIGNS SHALL MEET THE STANDARD STATE SPECIFICATIONS FOR TRAFFIC SIGNS.

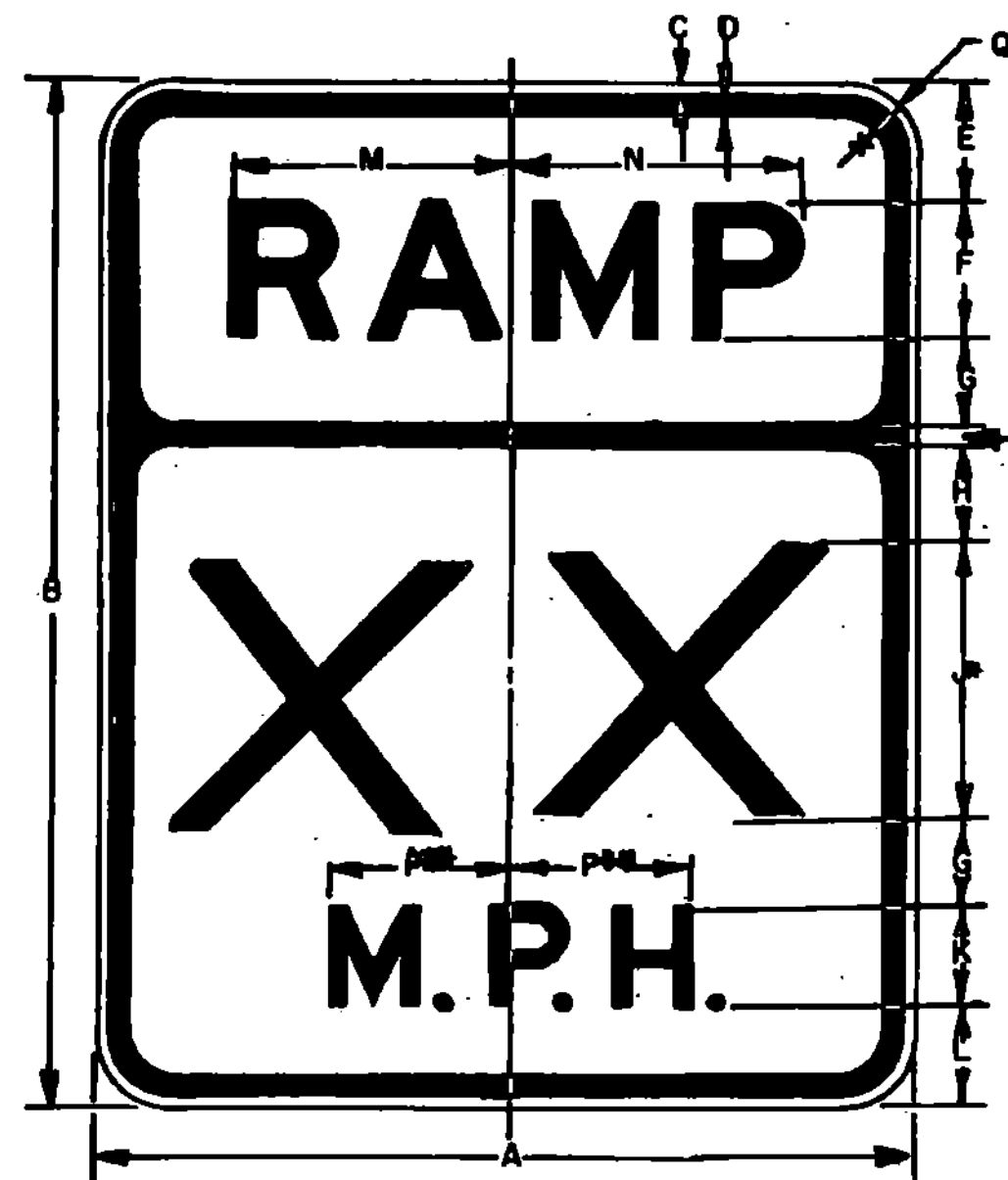
TEXT DESIGN

LETTERS, DIGITS, ARROW, SPACINGS AND TEXT DIMENSIONS SHALL CONFORM WITH THE STANDARD ALPHABETS AND DESIGNS PRESCRIBED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES PREPARED BY THE NATIONAL JOINT COMMITTEE ON UNIFORM TRAFFIC CONTROL DEVICES.



COLORS
 CHEVRON - BLACK (NON-REFL)
 BACKGROUND - YELLOW (REFL)

SIGN	DIMENSIONS (INCHES)					
	A	B	C	D	E	F
MIN.	12	18	6	9	1/2	1-1/2
STD.	18	24	9	12	3/4	1-1/2
SPECIAL	24	30	12	15	7/8	1-1/2
EXPWY.	30	36	15	18	1	1-7/8
FRWY.	36	48	18	24	1-1/8	2-1/4

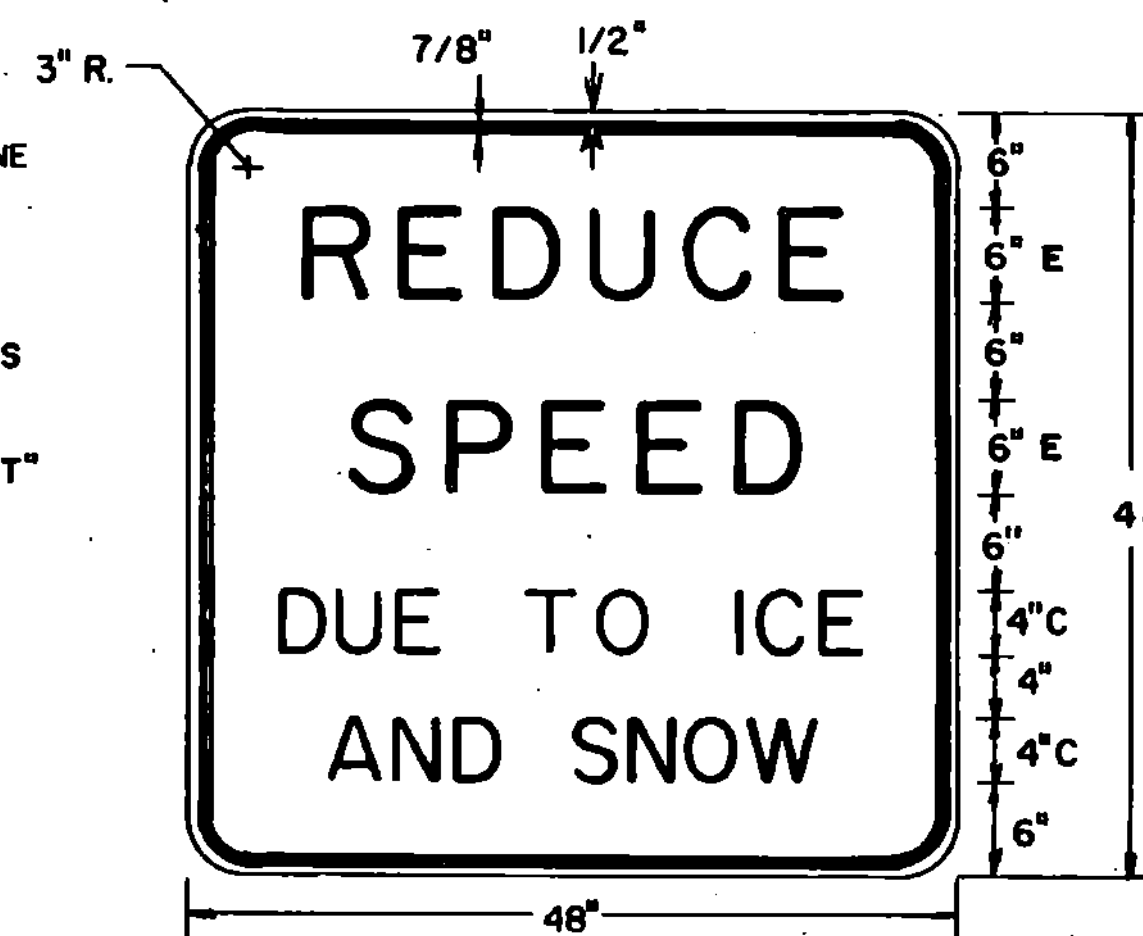


COLORS
 LEGEND - BLACK (NON-REFL)
 BACKGROUND - YELLOW (REFL)

SIGN	DIMENSIONS (INCHES)														
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
MIN. & STD.	24	30	3/8	5/8	3-1/2	4E	2-1/2	2-7/8	8E	3E	3	8-1/4	8-1/2	5-5/16	1-1/2
EXPWY.	36	48	5/8	7/8	6	6E	4	3-1/8	12E	4E	6	12-3/8	12-3/4	7-1/16	3-1/4
FWY.	48	60	3/4	1-1/4	7	8E	5	3-3/4	16E	6E	8	16-1/2	17	10-5/8	3

* OPTICALLY SPACE NUMBERS ABOUT VERTICAL CENTERLINE
 ** INCREASE SPACING 100%

THE "RAMP" SPEED SIGN IS USED ON RAMPS LEADING FROM ONE FREEWAY TO ANOTHER AND THE "EXIT" SPEED SIGN IS USED ON NORMAL EXITS.



COLORS
 LEGEND - BLACK (NON-REFL.)
 BACKGROUND - YELLOW (REFL.)

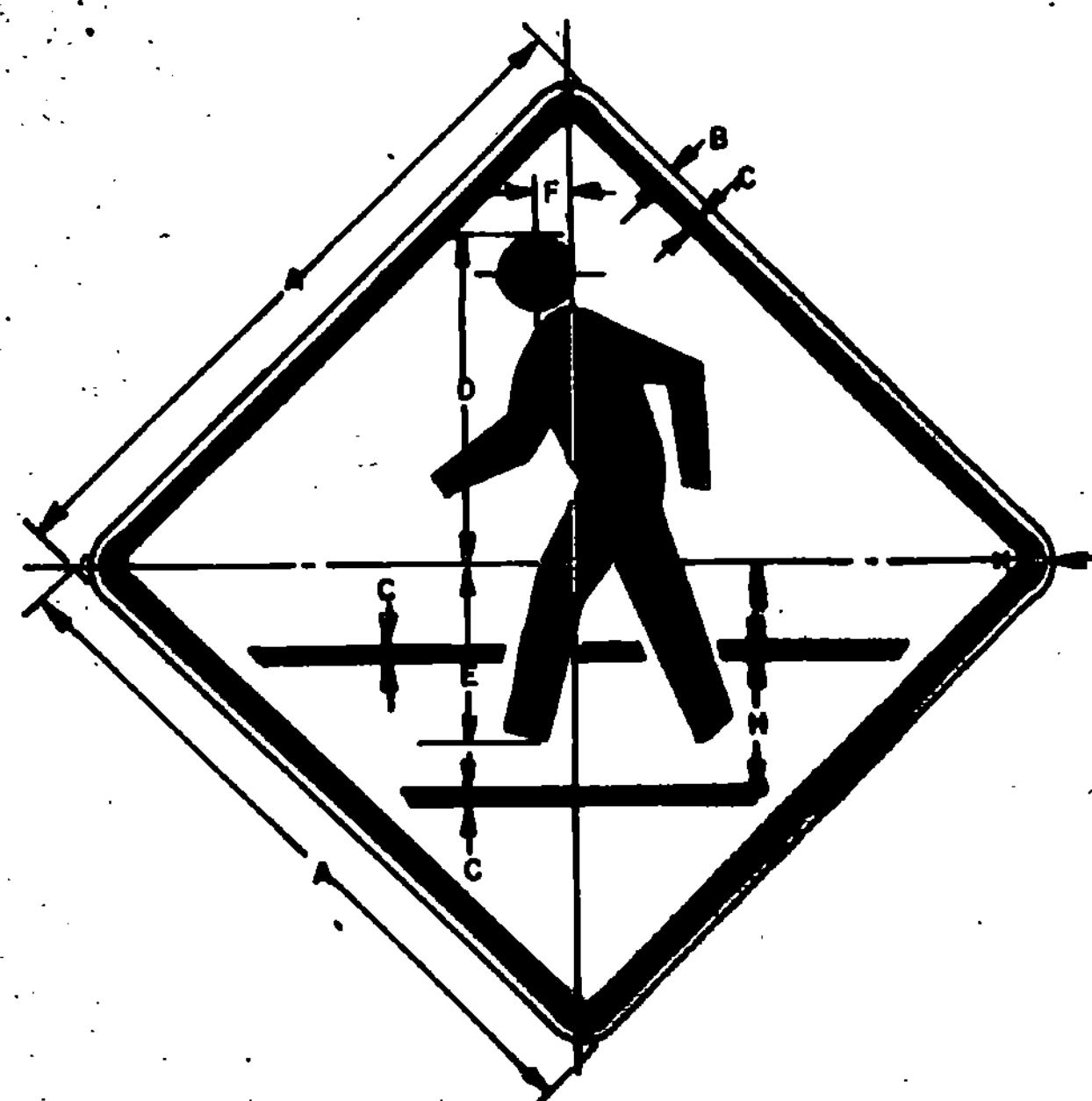
REVISIONS AND CORRECTIONS
 APRIL 18, 1985 - RAMP AND EXIT SIGN USE NOTE ADDED.
 "REDUCE SPEED DUE TO ICE AND SNOW" SIGN ADDED.
 FEB. 3, 1986 - UPDATED TO 1986 SPECIFICATIONS

APPROVED
 DATE OCT. 3, 1984
 DIRECTOR OF ENGINEERING AND CONSTRUCTION
 CHIEF OF DESIGN
 SURVEY AND PLANS ENGINEER

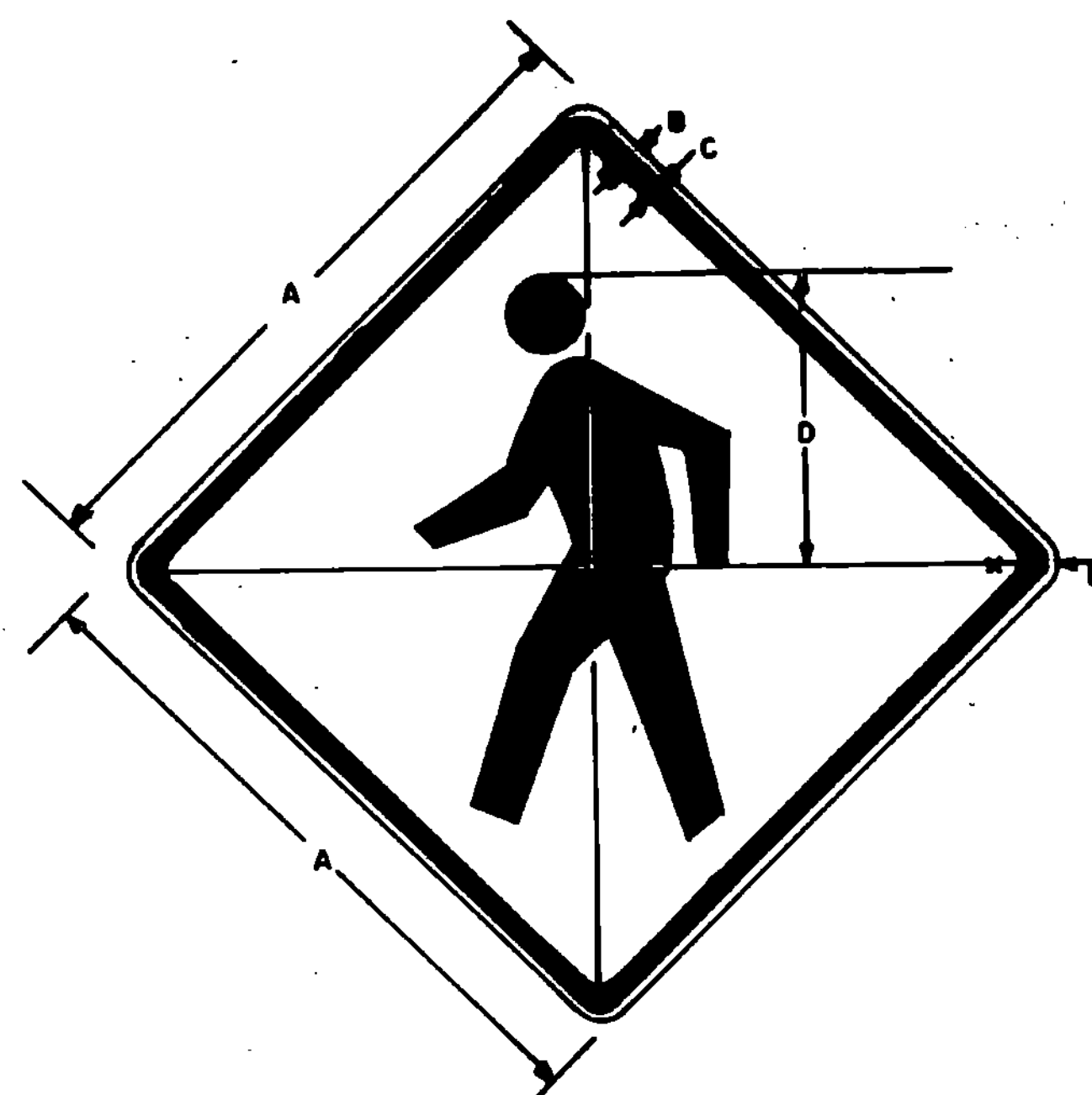
WARNING SIGNS



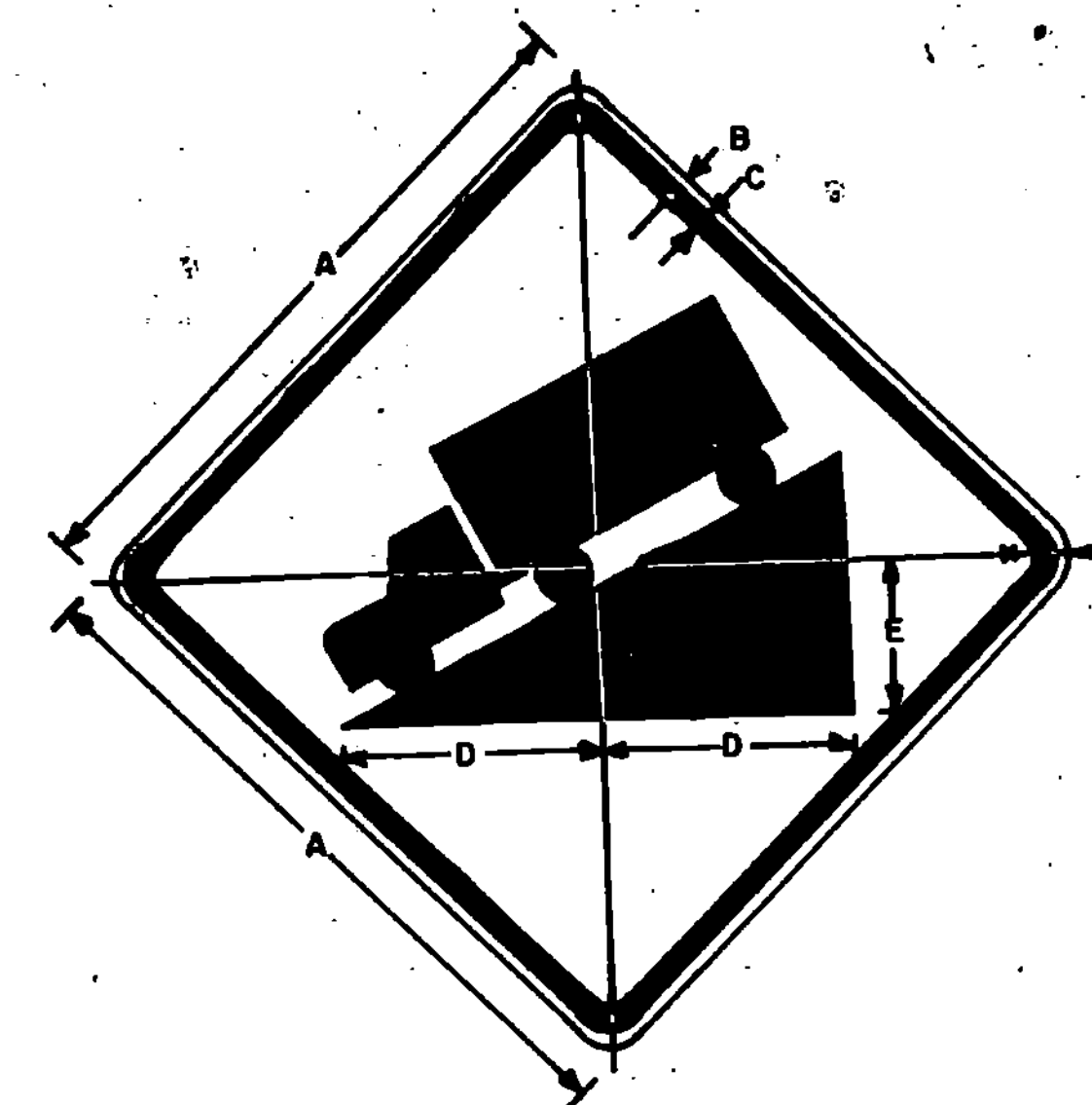
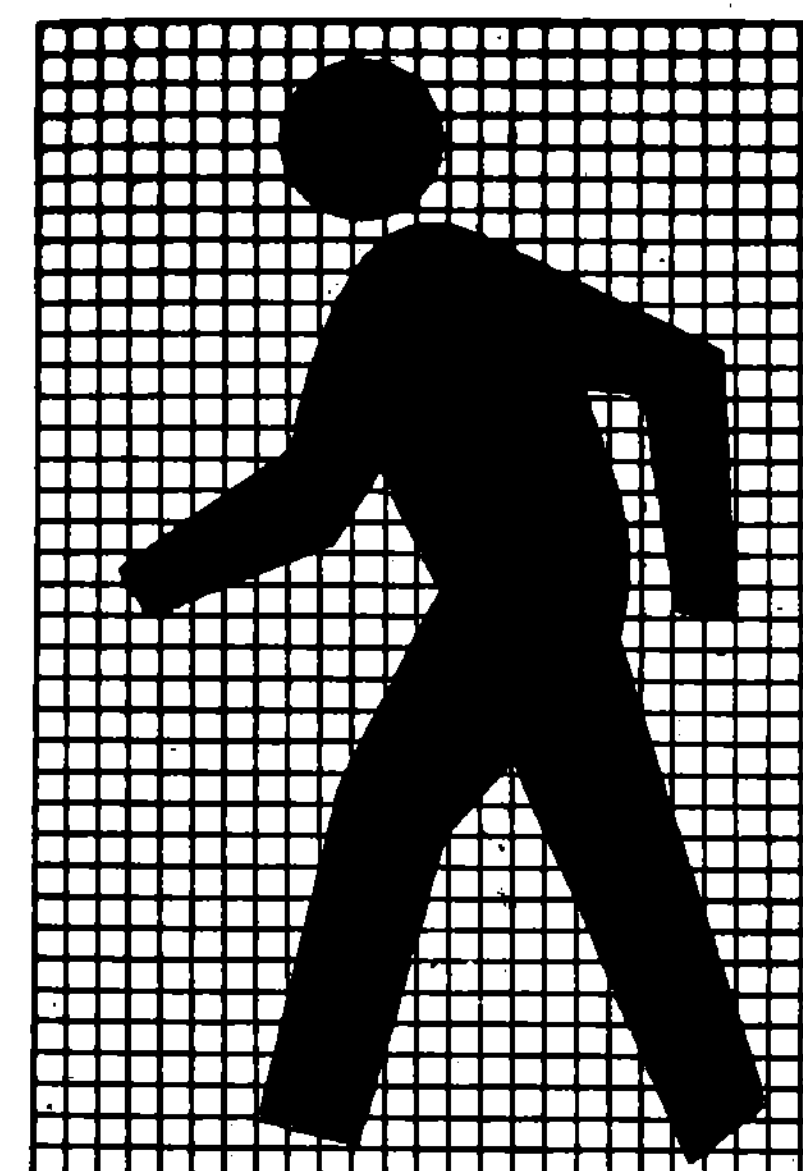
STANDARD
E-19



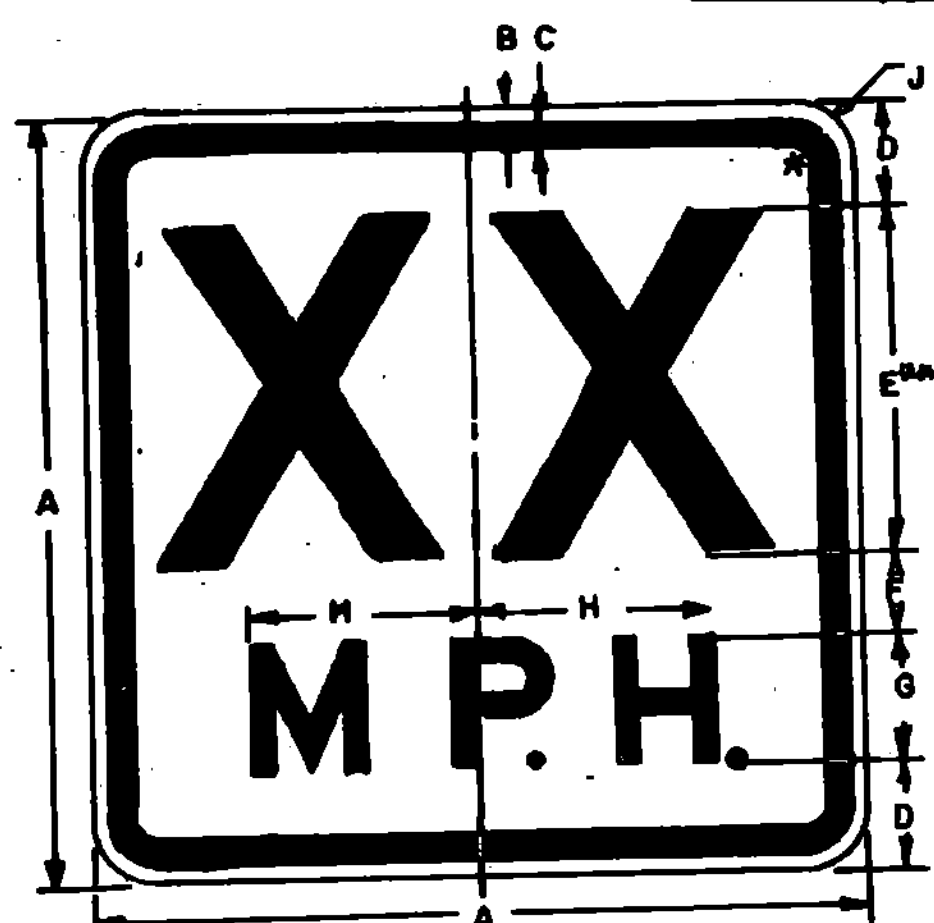
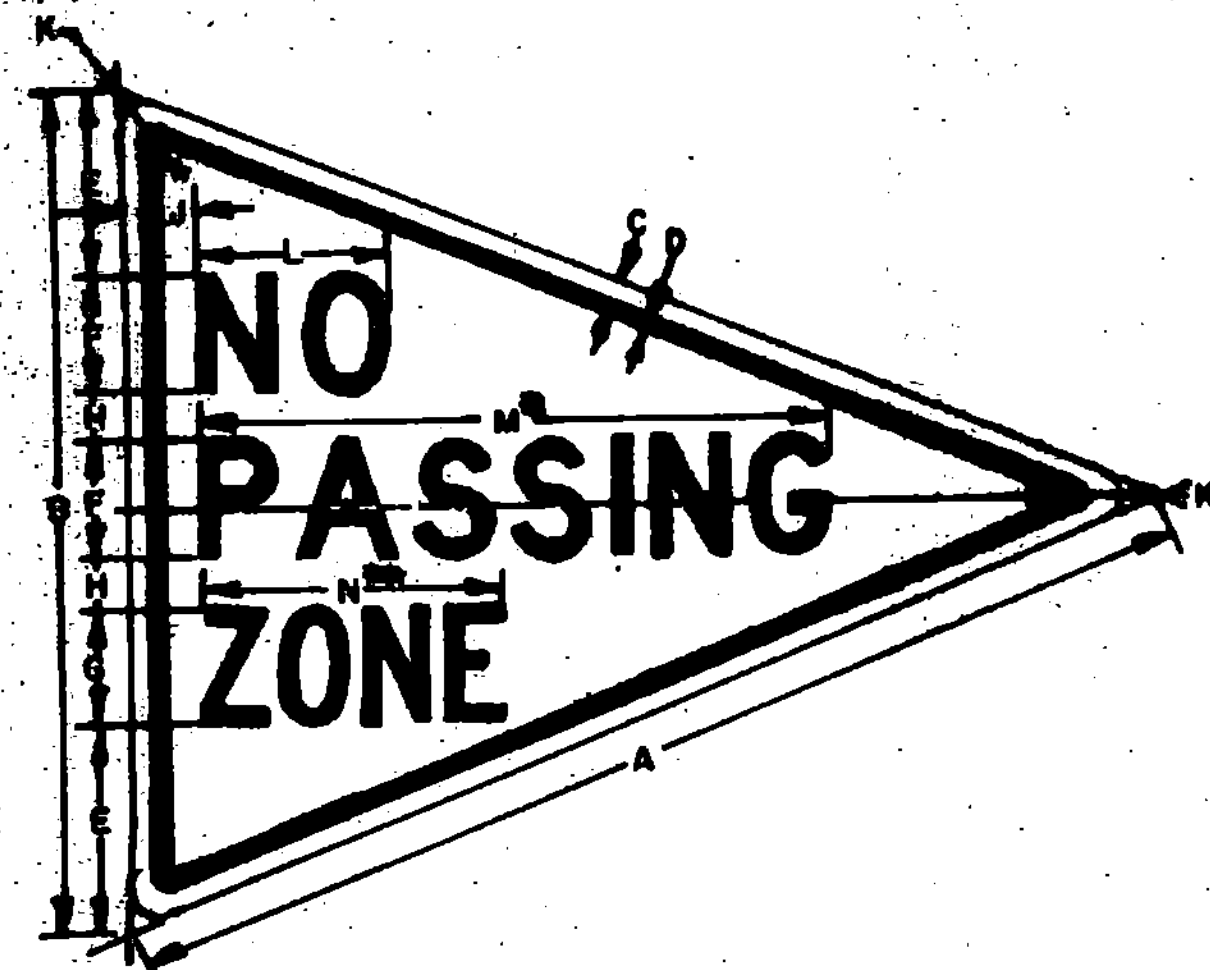
SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	I	J	K
BIKE	18	3/8	5/8	8-3/8	3-3/4	1/4	3-3/8	3-3/8	1-1/2		
MIN.	24	3/8	5/8	11	4-3/8	1/2	4-3/8	4-3/8	1-1/2		
STD.	30	1/2	3/4	14	6	1/2	6	6	2-3/8		
EXPWY.	36	5/8	7/8	18-3/4	9-3/4	3/4	9-3/4	9-3/4	3-1/4		
SPECIAL	48	3/4	1-1/4	22	12-3/4	1-1/4	12-3/4	12-3/4	4-1/2		



SIGN	DIMENSIONS (INCHES)				
	A	B	C	D	E
MIN.	24	3/8	5/8	11	1-1/2
STD.	30	1/2	3/4	13-1/2	2-7/8
EXPWY.	36	5/8	7/8	16	2-1/4
SPECIAL	48	3/4	1-1/4	22	3

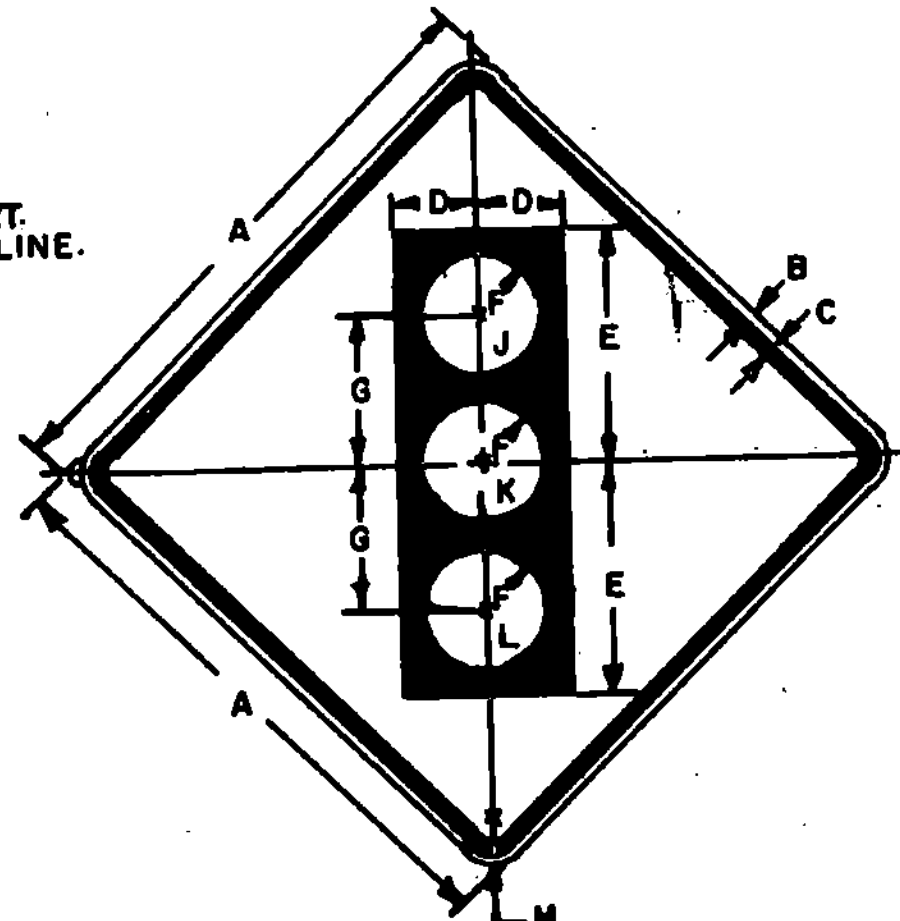


SIGN	DIMENSIONS (INCHES)				
	A	B	C	D	F
MIN.	24	3/8	5/8	8-3/4	6
STD.	30	1/2	3/4	11	7-1/2
EXPWY.	36	5/8	7/8	13-1/4	9
FWY.	48	3/4	1-1/4	17-1/2	12



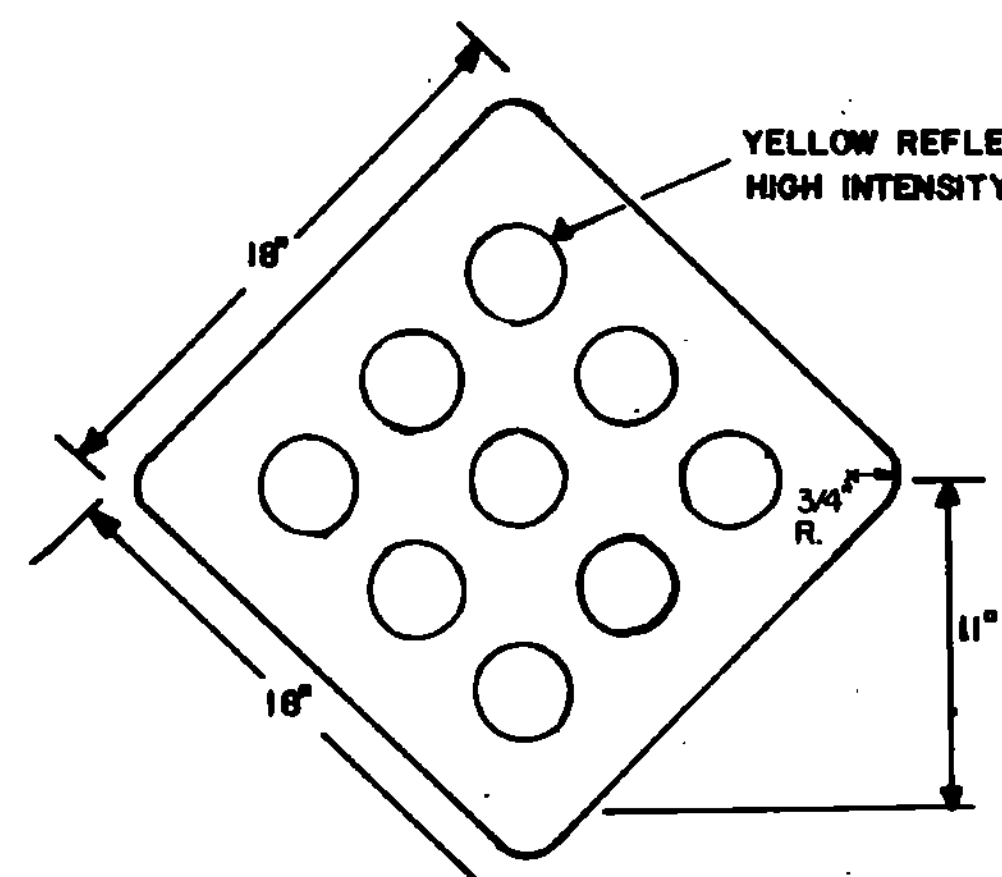
SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	I	J	K
MIN.	40	30	1/2	3/4	7-1/4	40	40	1-3/4	2-1/2	1-7/8	6-1/2
STD.	48	36	5/8	7/8	8-1/2	50	50	2	3	2-1/4	8
SPECIAL	64	48	3/4	1-1/4	12	60	60	3	4	3	10-3/4

SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	I	J
STD.	18	3/8	5/8	2-1/2	8	2	3E	5-5/16	1-1/2	
SPECIAL	24	3/8	5/8	3-5/8	10E	2-3/4	4E	7-1/16	1-1/2	



SIGN	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	H
BIKE	18	3/8	5/8	3	8	2-1/4	5	1-1/2
MIN.	30	1/2	3/4	5	13-3/4	3-3/4	8-3/4	7/8
STD. & MIN.	36	5/8	7/8	6-3/4	15-3/4	4-1/4	10	2-1/4
SPECIAL	48	3/4	1-1/4	7-1/2	20	5	12-1/2	3

ADDITIONAL COLORS: J - REFL. RED
K - REFL. YELLOW
L - REFL. GREEN



HAZARD MARKER: SHALL BE OF 0080 FLAT SHEET ALUMINUM OR 18 GAGE GALVANIZED FLAT SHEET STEEL, WITH A NON-REFLECTIVE YELLOW BACKGROUND AND NINE 3" DIA. CIRCLES EVENLY SPACED WITH MATERIALS AS NOTED ABOVE.

YELLOW REFLECTIVE CIRCLE, HIGH INTENSITY.

COLORS

THE WARNING SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT AND SYMBOLS ON REFLECTORIZED YELLOW BACKGROUND. THE COLORS SHALL CONFORM WITH THE COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND APPROVED BY THE DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

MATERIALS

THE SIGN BASE MATERIALS USED FOR THE WARNING SIGNS SHOWN ON THIS SHEET MAY BE ANY OF THE FOLLOWING, OF THE MINIMUM THICKNESS NOTED.

	18" X 18"	24" X 24" 30" X 30"	36" X 36"	48" X 48"
FLAT SHEET ALUMINUM	0.060"	0.080"	0.100"	0.125"
HIGH DENSITY OVERLAD PLYWOOD	1/2"	1/2"	5/8"	5/8"
GALVANIZED FLAT SHEET STEEL	18 GAGE	16 GAGE	14 GAGE	12 GAGE

THE REFLECTIVE MATERIAL SHALL BE REFLECTIVE SHEETING APPLIED TO THE ENTIRE BACKGROUND OF THE SIGN.

THE TEXT OF THE SIGNS MAY BE LETTERING FILM, SILK SCREENED OR HAND PAINTED. WHEN HAND PAINTED, POOR WORKMANSHIP SHALL BE CAUSE FOR REJECTION.

TEXT DESIGN

LETTERS, DIGITS, SYMBOLS, SPACINGS, AND TEXT DIMENSIONS SHALL CONFORM WITH THE STANDARD ALPHABETS AND DESIGNS PRESCRIBED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES PREPARED BY THE NATIONAL JOINT COMMITTEE ON UNIFORM TRAFFIC CONTROL DEVICES.

SPECIFICATIONS

WARNING SIGNS SHALL MEET THE STANDARD STATE SPECIFICATIONS FOR TRAFFIC SIGNS.

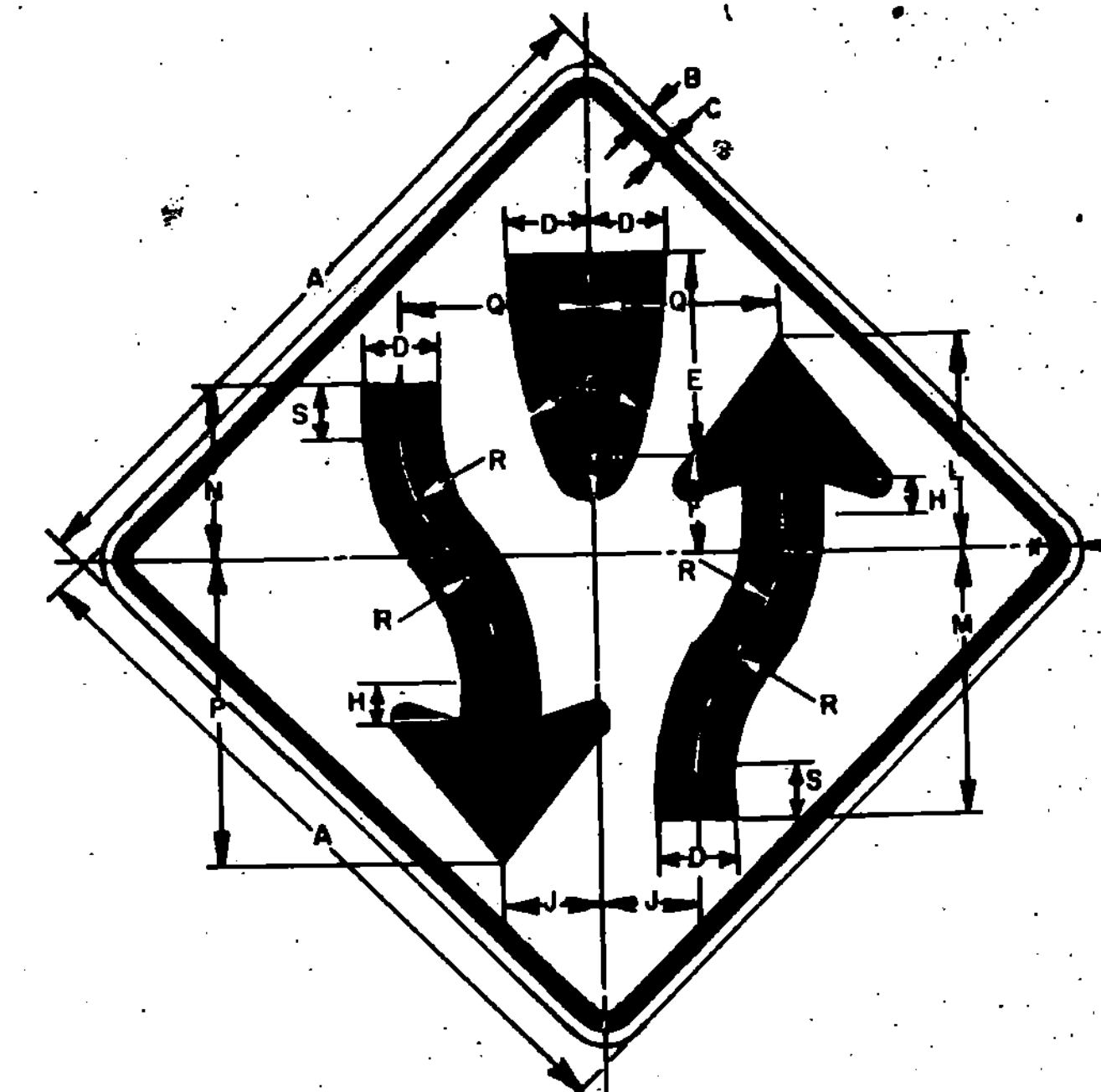
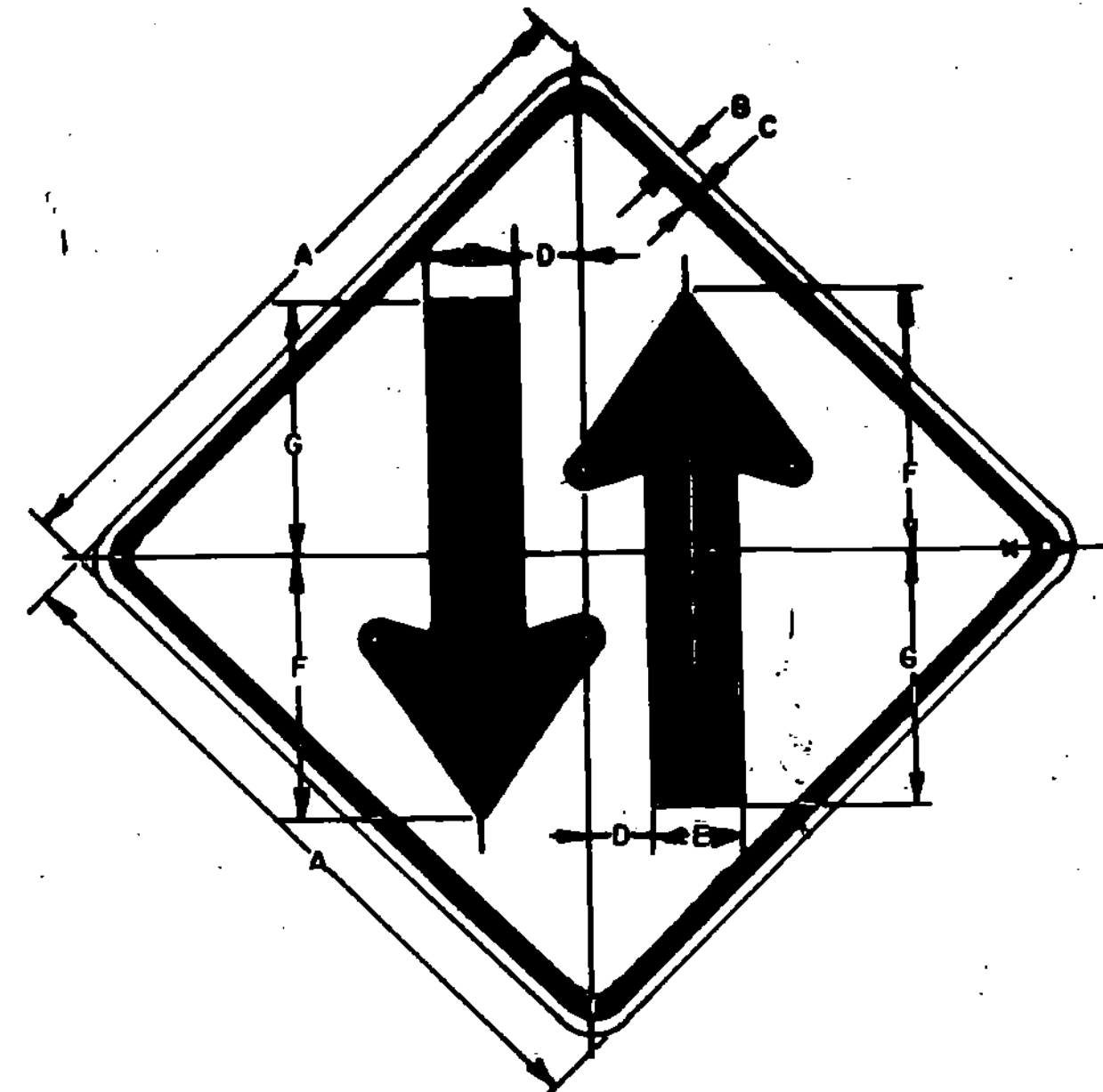
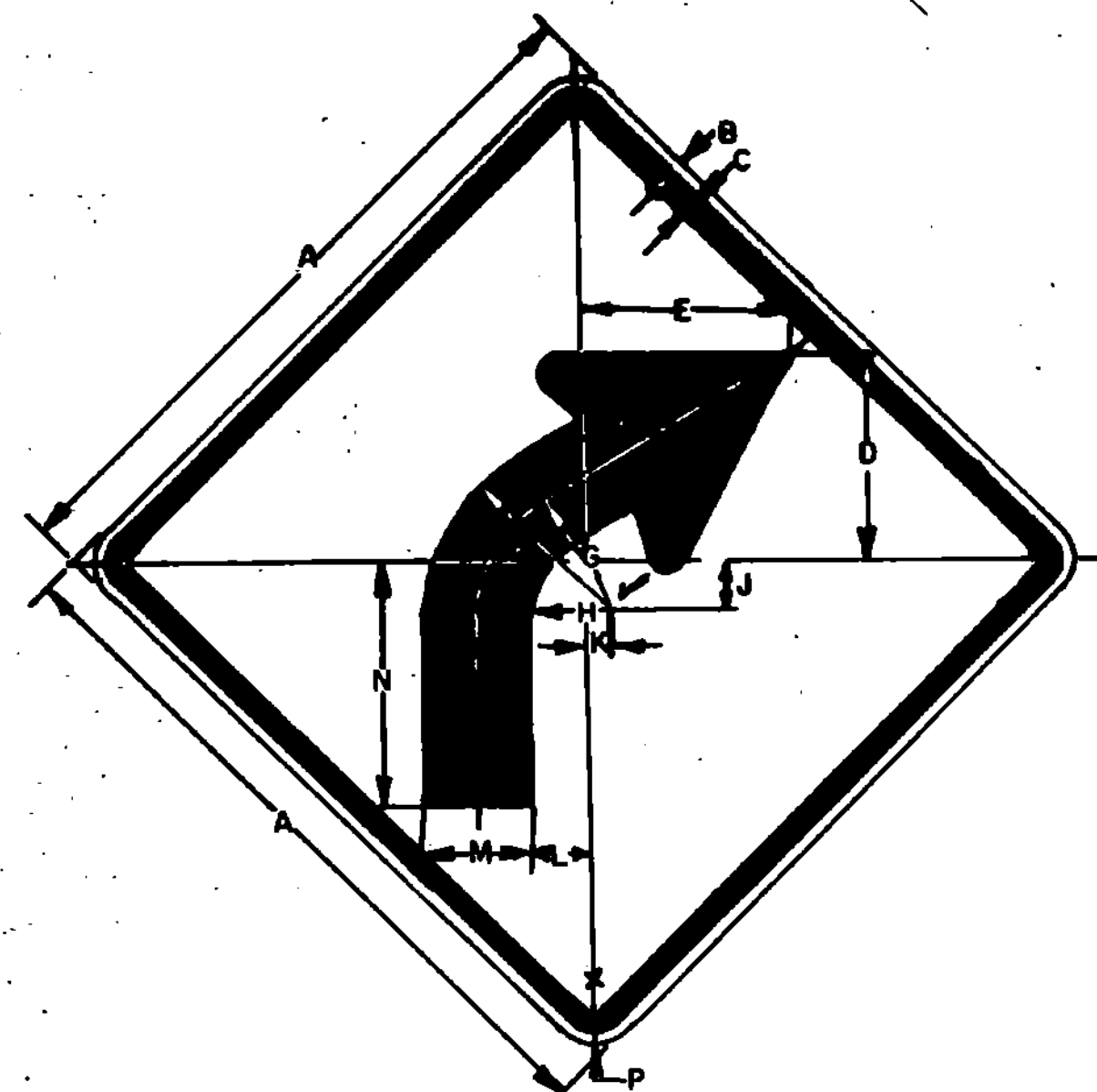
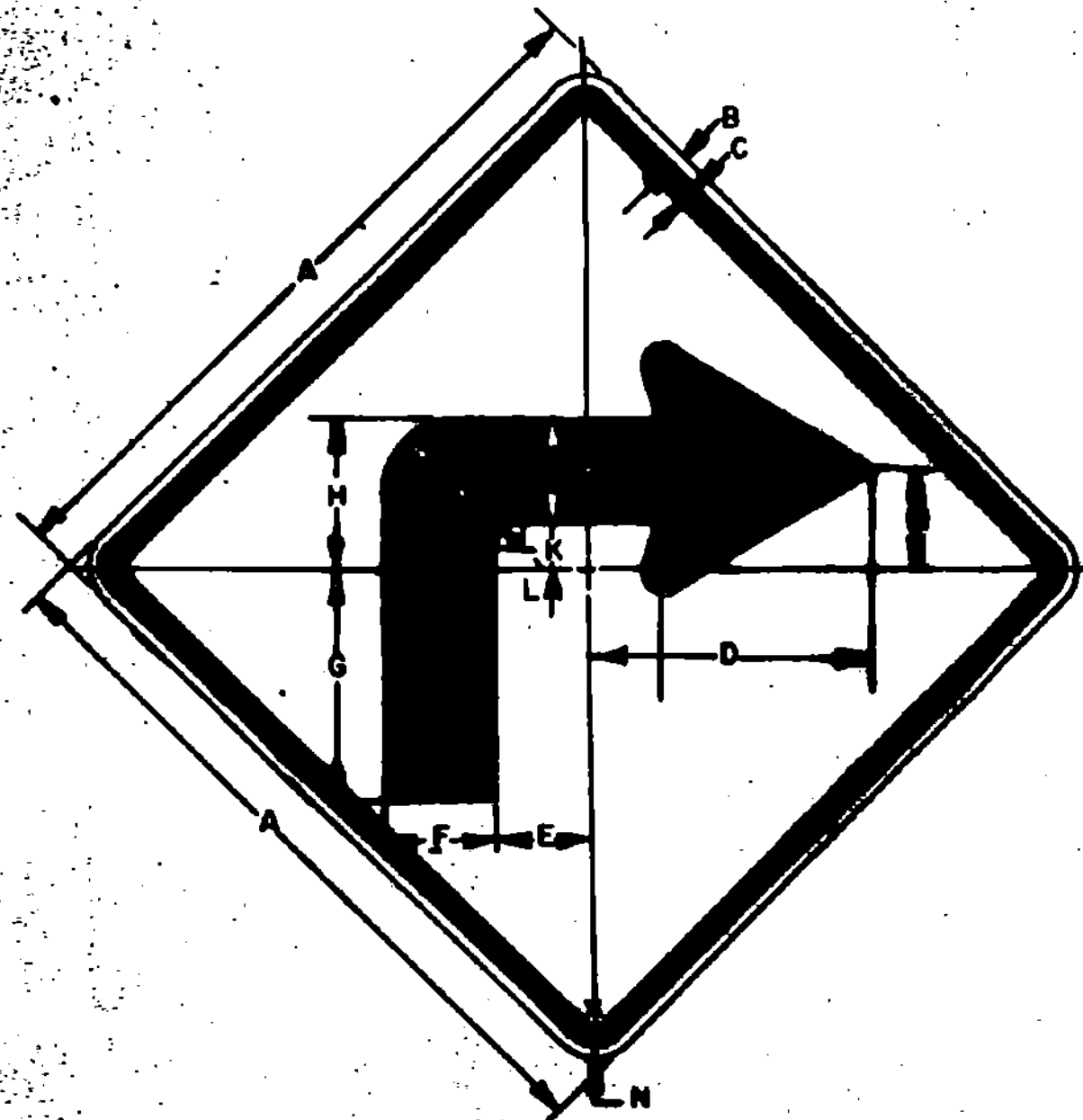
REVISIONS AND CORRECTIONS
FEB. 19, 1985 - COLORS ADDED TO "SIGNAL AHEAD" SYMBOL - OTHER MINOR REVISIONS
FEB. 3, 1986 - UPDATED TO 1986 SPECIFICATIONS

APPROVED
DATE OCT. 3, 1984
DIRECTOR OF ENGINEERING AND CONSTRUCTION
CHIEF OF DESIGN
SURVEY AND PLANS ENGINEER

WARNING SIGNS



STANDARD E-19B

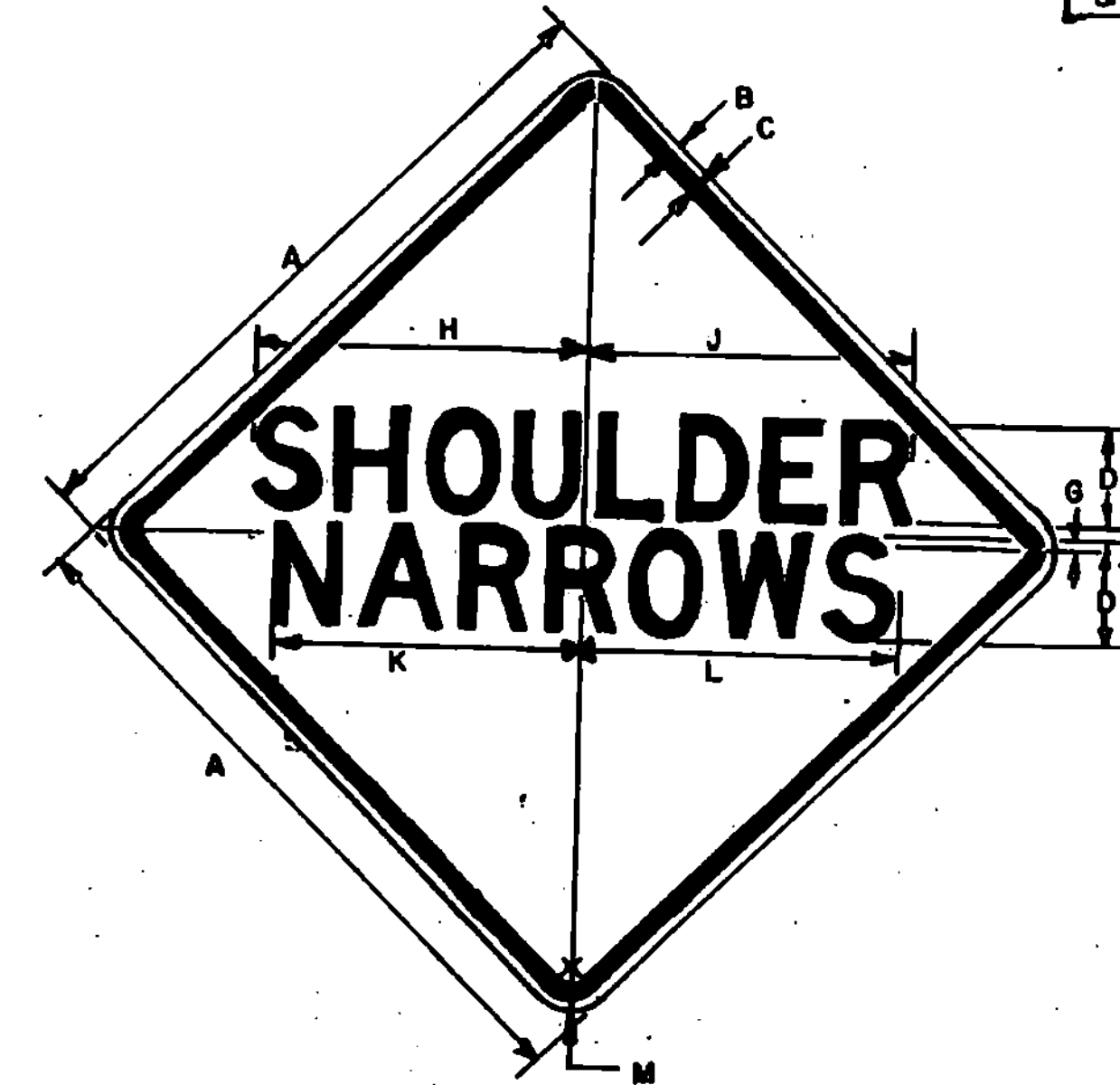
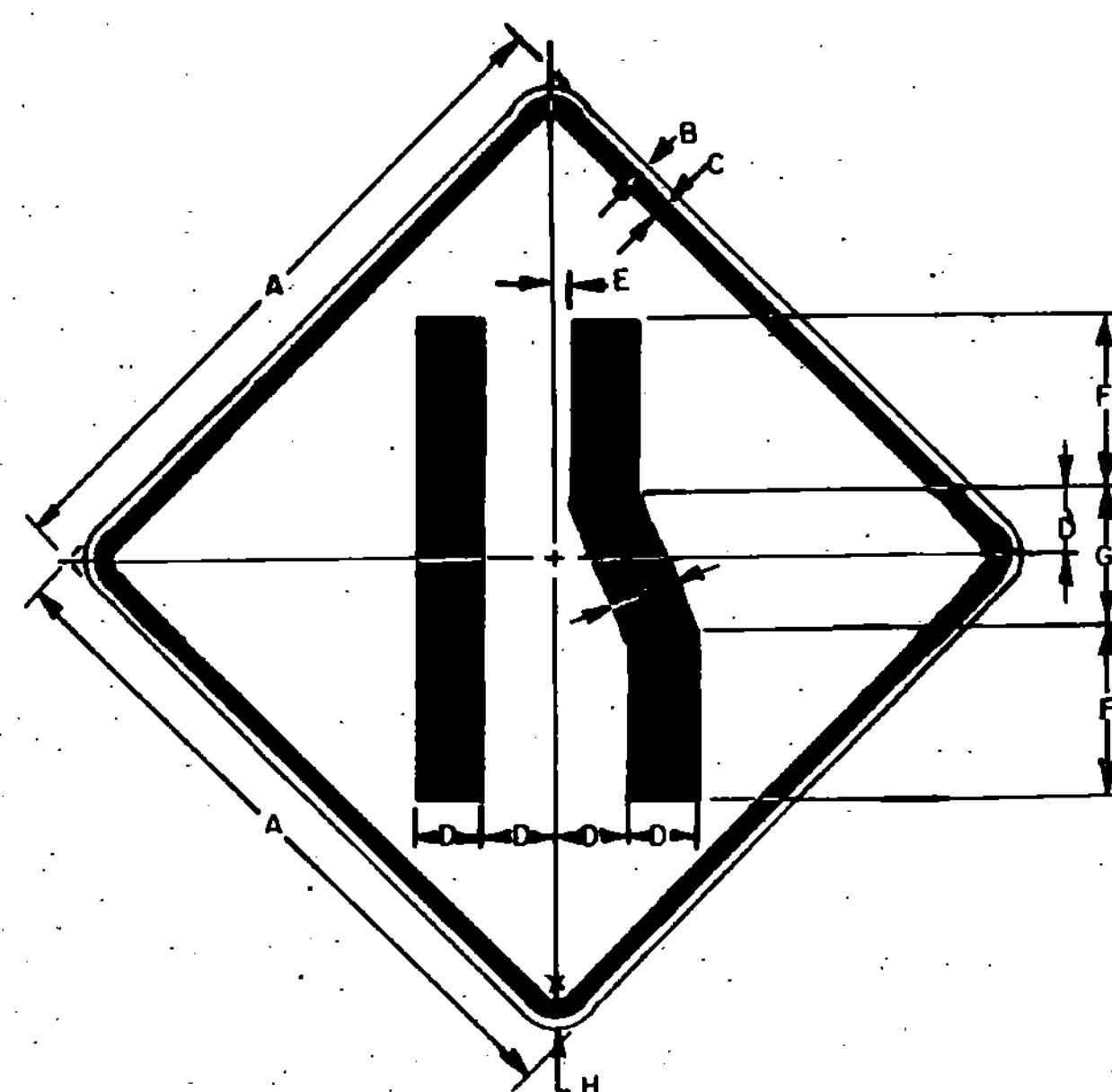
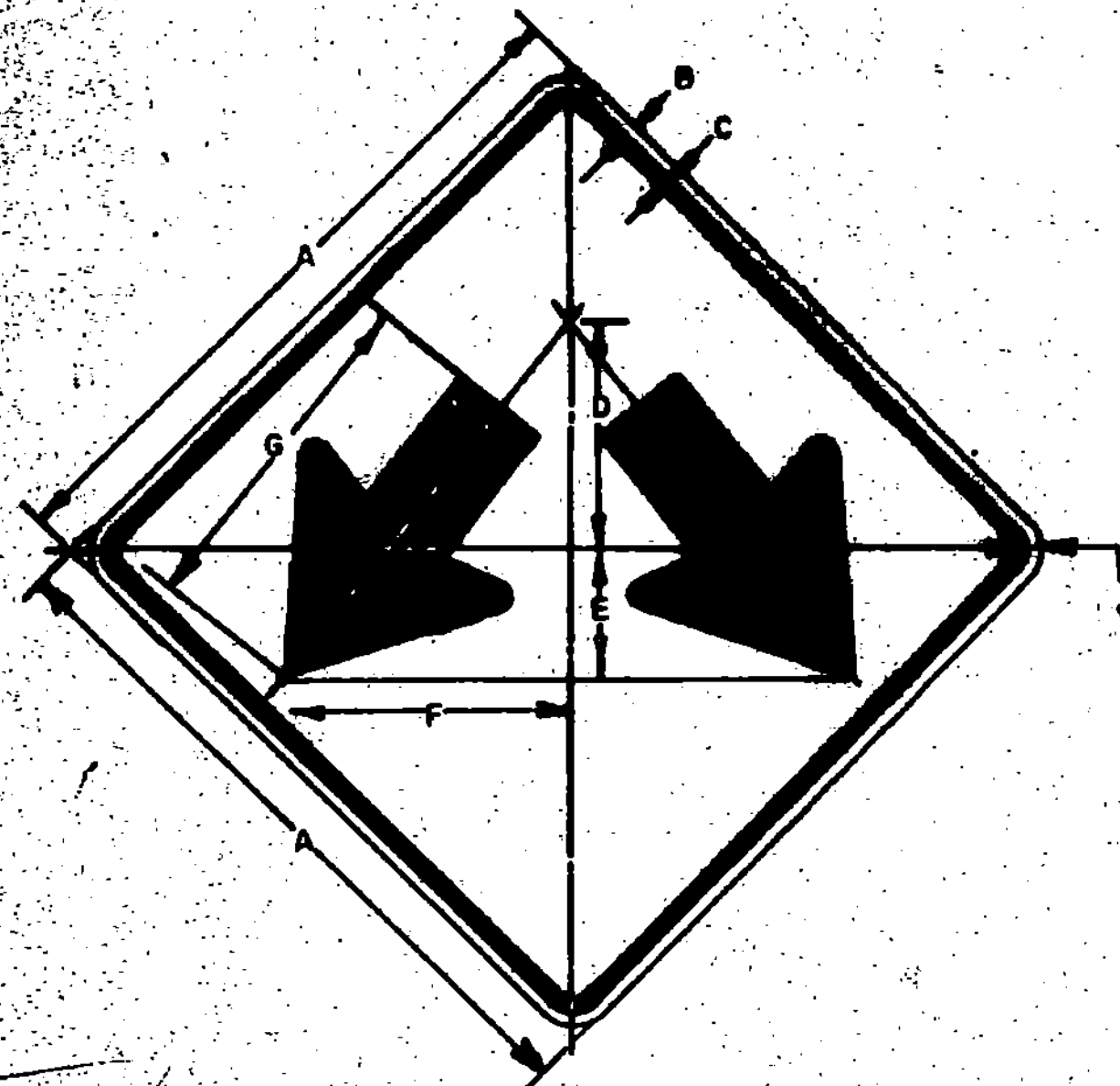


SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
BIKE	18	3/8	5/8	7-1/4	2-1/4	2-5/8	5-7/8	3-3/4	1-5/8	5/8	2-1/2	1-1/2		
MIN.	24	3/8	5/8	9-5/8	3	3-1/2	7-3/4	5	2-1/8	1-3/8	3-1/4	1-1/2		
STD.	30	1/2	3/4	12	3-3/4	4-3/8	9-1/8	6-1/8	1-3/8	1	4-1/8	1-7/8		
EXPWY.	36	5/8	7/8	14-3/8	4-1/2	5-1/4	11-5/8	7-1/8	1-3/4	1-1/4	4-7/8	2-1/4		
SPECIAL	48	3/4	1-1/4	19-3/8	6	7	15-1/2	10	2-1/4	1-5/8	6-1/2	3		

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
BIKE	18	3/8	5/8	5-3/8	5-1/2	6	4-3/4	3-3/8	1-3/4	1-1/4	2	2-5/8	6-1/4	1-1/2
MIN.	24	3/8	5/8	7-1/8	7-1/4	8	6-1/4	4-1/2	2-11/32	1-3/4	2-3/4	3-1/2	8-1/4	1-1/2
STD.	30	1/2	3/4	8-7/8	9-1/8	10	7-13/16	5-5/8	2-5/16	2-3/16	3-7/16	4-3/8	10-5/16	1-7/8
EXPWY.	36	5/8	7/8	10-5/8	10-7/8	12	9-3/8	6-3/4	3-1/2	2-5/8	4-1/8	5-1/4	12-3/8	2-1/4
FWY.	48	3/4	1-1/4	14-3/8	14-1/2	16	12-1/2	9	4-11/16	3-1/2	5-1/2	7	16-1/2	3

SIGN	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	H
MIN.	24	3/8	5/8	2	3	9	8-1/2	1-1/2
STD.	30	1/2	3/4	2-7/16	3-3/4	11-1/4	10-5/8	1-7/8
EXPWY.	36	5/8	7/8	2-15/16	4-1/2	13-1/2	12-3/4	2-1/4
SPECIAL	48	3/4	1-1/4	3-7/8	6	18	17	3

SIGN	DIMENSIONS (INCHES)																
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S
MIN.	30	1/2	3/4	3-5/16	8-3/16	4-1/8	25	1-11/16	4-1/8	1-7/8	10	11-5/8	7-15/16	13-11/16	7-7/8	8-5/16	2-1/16
STD. & EXPWY.	36	5/8	7/8	4	10	5	30	2	5	2-1/4	12	14	9-1/2	16-1/2	9-1/2	10	2-1/2
SPECIAL	48	3/4	1-1/4	5-1/4	13-1/8	6-9/16	39-3/16	2-5/8	6-9/16	3	16	18-11/16	12-1/16	22	12-7/16	13-1/8	35/16



SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	
STD. & MIN.	24	3/8	5/8	8	4-1/8	9-3/4	11-5/8	3-1/8	1-1/2	
SPECIAL	30	1/2	3/4	10	5-1/4	12-3/8	14-11/16	4	1-7/8	
SPECIAL	36	5/8	7/8	12	6-1/8	14-5/8	17-1/2	4-3/4	2-1/4	

SIGN	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	H
MIN.	30	1/2	3/4	5-3/8	13/16	8-7/16	6-3/4	1-7/8
STD. & EXPWY.	36	5/8	7/8	4	1	10	8	2-1/4
FWY.	48	3/4	1-1/4	5-5/16	1-3/8	13-5/16	10-5/8	3

SIGN	DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	J	K	L	M
MIN. & STD.	36	5/8	7/8	5C	3	6D	1	15-11/16	13-1/16	17-3/8	18-1/4	2-1/4
EXPWY.	48	3/4	1-1/4	7D	3-1/2	7D	1	23-13/16	23-7/8	21-1/2	21-9/16	3

COLORS

THE WARNING SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT AND SYMBOLS ON REFLECTORIZED YELLOW BACKGROUND. THE COLORS SHALL CONFORM WITH THE COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND APPROVED BY THE DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

MATERIALS

THE SIGN BASE MATERIALS USED FOR THE WARNING SIGNS SHOWN ON THIS SHEET MAY BE ANY OF THE FOLLOWING, OF THE MINIMUM THICKNESS NOTED.

	18"X18"	24"X24"	36"X36"	48"X48"
FLAT SHEET ALUMINUM	0-060"	0-080"	0-100"	0-125"
HIGH DENSITY OVERLAID PLYWOOD	1/2"	1/2"	5/8"	5/8"
GALVANIZED FLAT SHEET STEEL	18 GAGE	16 GAGE	14 GAGE	12 GAGE

THE REFLECTIVE MATERIAL SHALL BE REFLECTIVE SHEETING APPLIED TO THE ENTIRE BACKGROUND OF THE SIGN.

THE TEXT OF THE SIGNS MAY BE LETTERING FILM, SILK SCREENED OR HAND PAINTED. WHEN HAND PAINTED, POOR WORKMANSHIP SHALL BE CAUSE FOR REJECTION.

TEXT DESIGN

LETTERS, ARROWS, SPACINGS, AND TEXT DIMENSIONS SHALL CONFORM WITH THE STANDARD ALPHABETS AND DESIGNS PRESCRIBED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES PREPARED BY THE NATIONAL JOINT COMMITTEE ON UNIFORM TRAFFIC CONTROL DEVICES.

SPECIFICATIONS

WARNING SIGNS SHALL MEET THE STANDARD STATE SPECIFICATIONS FOR TRAFFIC SIGNS.

REVISIONS AND CORRECTIONS

REVISED TO 1984 SPECIFICATIONS

APPROVED

DATE OCT. 3, 1984

DIRECTOR OF ENGINEERING AND CONSTRUCTION

CHIEF OF DESIGN

SURVEY AND PLANS ENGINEER

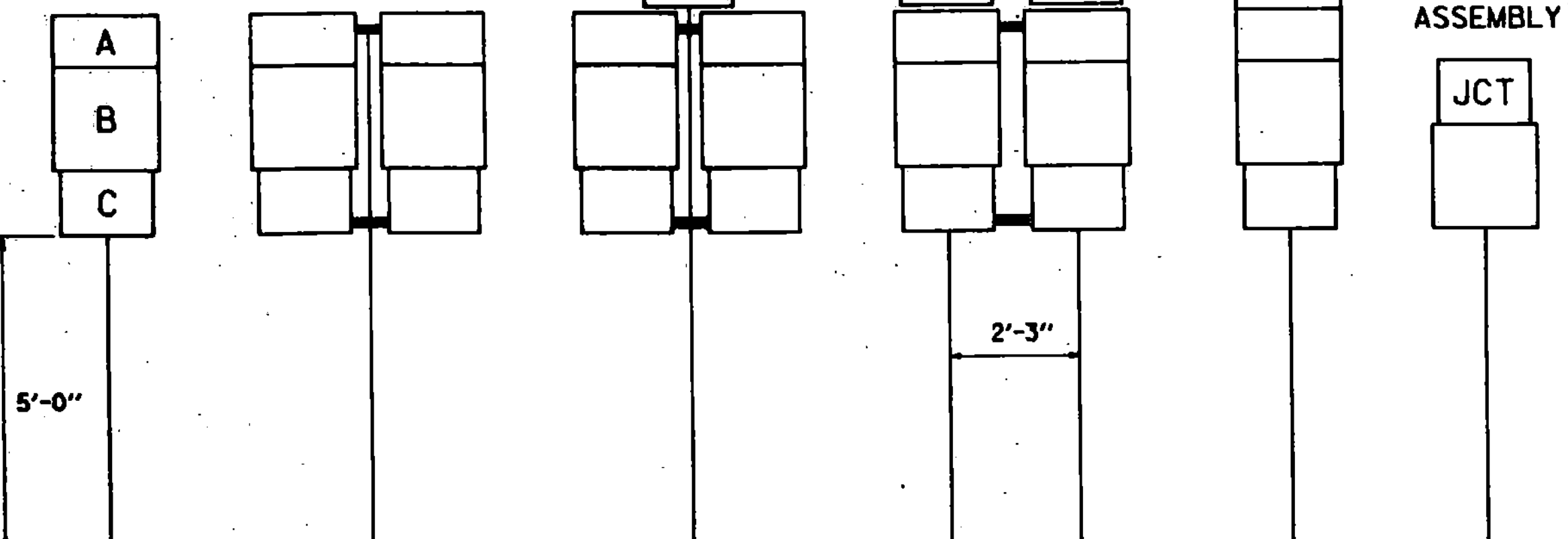
WARNING SIGNS



STANDARD E-19A

STANDARD MOUNTING OF ROUTE MARKER ASSEMBLIES, DESTINATION ASSEMBLIES AND TOWN LINE POSTS

- A - CARDINAL DIRECTION MARKER
- B - ROUTE NUMBER
- C - ADVANCE TURN ARROW OR DIRECTIONAL ARROW



STREET SIGNS: MATERIALS

THE SIGN BASE MATERIALS USED FOR THE STREET SIGNS MAY BE EITHER OF THE FOLLOWING:
 A - EXTRUDED ALUMINUM BLADES WITH REFLECTIVE SHEETING
 B - FLAT ALUMINUM BLADES WITH REFLECTIVE SHEETING

COLORS

THE SIGNS SHALL HAVE A REFLECTORIZED WHITE OR SILVER TEXT (STICK ON REFLECTIVE LETTERS) ON A REFLECTORIZED GREEN BACKGROUND. THE COLORS SHALL CONFORM WITH THOSE FOUND IN STANDARD COLOR TOLERANCE CHARTS AS APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

LETTERING

LETTERS AND DIGITS SHALL CONFORM WITH THE STANDARD ALPHABETS FOR HIGHWAY SIGNS PRINTED BY THE FEDERAL HIGHWAY ADMINISTRATION.

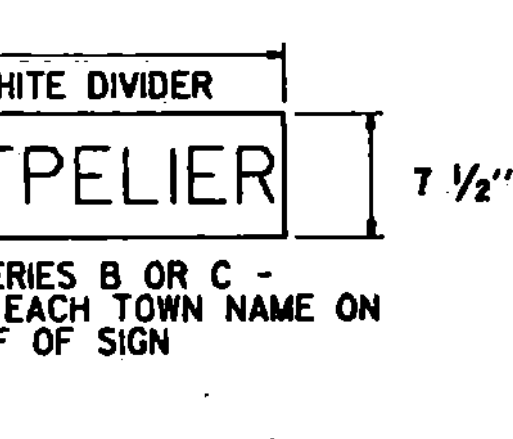
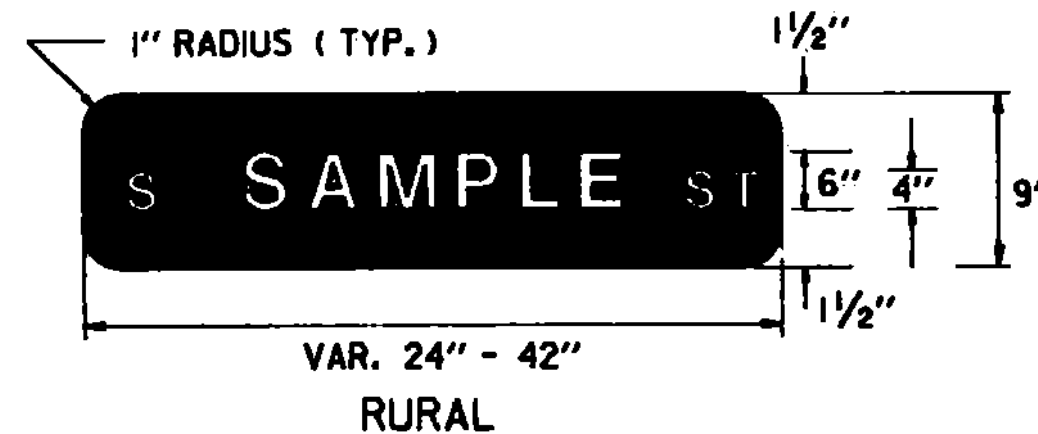
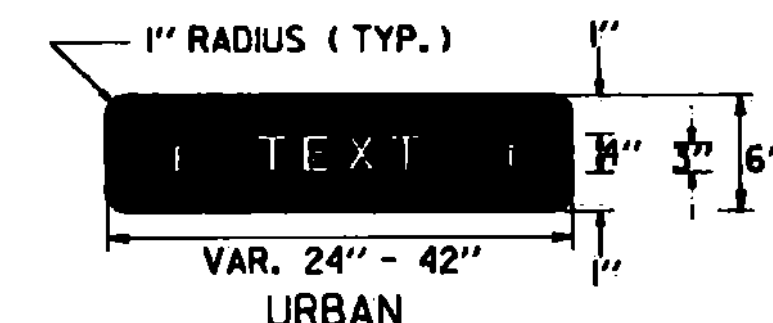
SPECIFICATIONS

THE SIGN SHALL MEET THE STANDARD STATE SPECIFICATIONS FOR "TRAFFIC SIGNS". THE MATERIAL FOR THE BLADES SHALL BE EITHER EXTRUDED ALUMINUM WITH A 0.25 INCH FLANGE THICKNESS AND A 0.090 INCH WEBB (MIN.) OR FLAT SHEET ALUMINUM WITH A MINIMUM THICKNESS OF 0.125 INCH. THE PREFERRED MOUNTING METHOD FOR STREET SIGNS IS THE POST TOP MOUNTING BRACKETS. HARDWARE FOR MOUNTING SIGNS TO POST SHALL BE SUBSIDIARY TO OTHER ITEMS. MOUNTING METHOD WILL BE AS SHOWN ON THE PLANS AND SHOULD HAVE A VERTICAL CLEARANCE OF 8 FEET TO THE BOTTOM OF THE SIGN. FOR POST TOP MOUNTINGS, SIGNS SHALL HAVE TEXT ON BOTH SIDES.

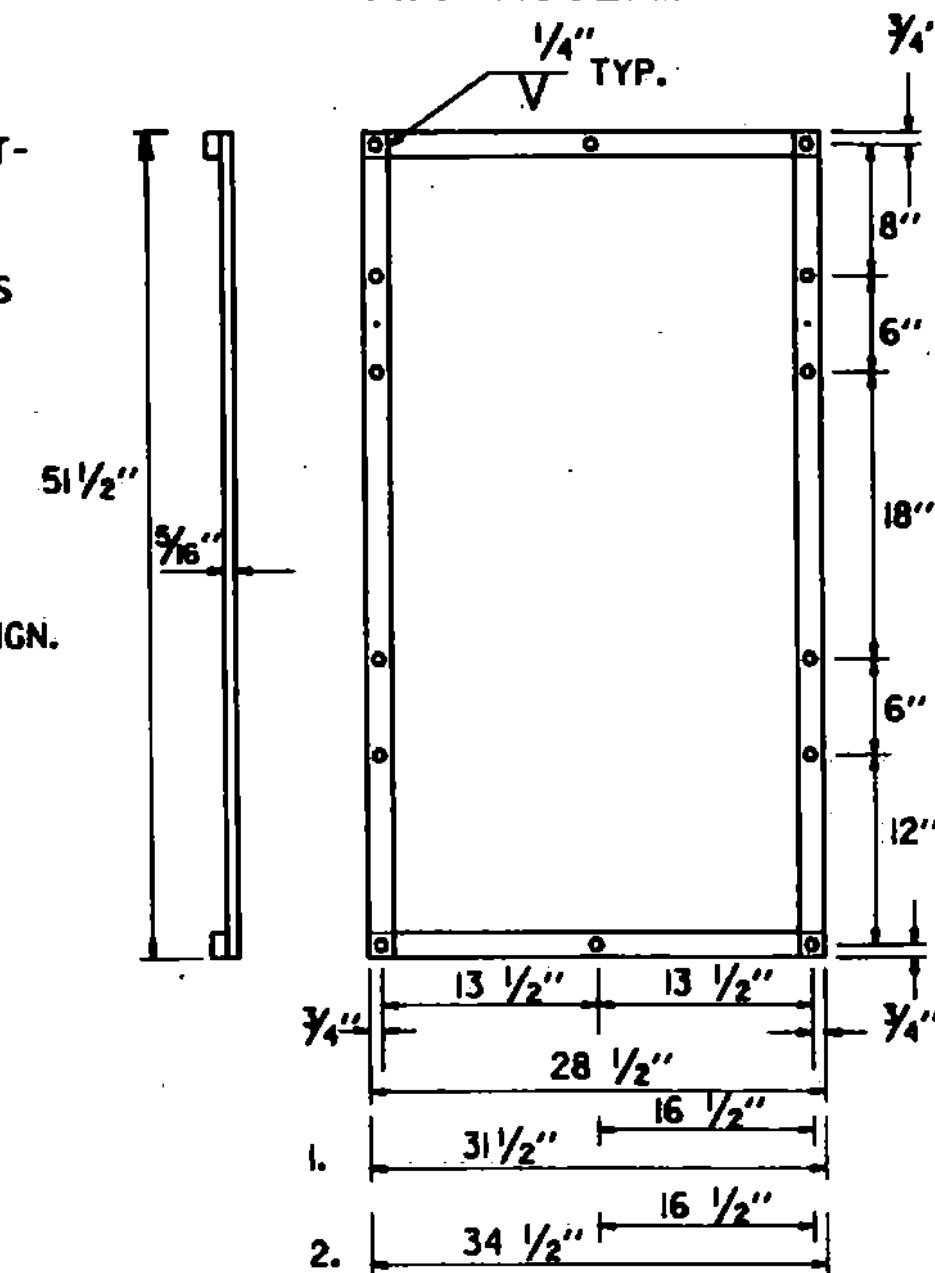
SIZES ARE AS FOLLOWS

RURAL AREAS - USE A 9 INCH HIGH BLADE IN LENGTHS OF 24", 30", 36" OR 42".
 USE SERIES "B" LETTERING (MINIMUM) WITH 6 INCH HIGH LETTERS FOR STREET NAME, 4 INCH OTHER.
 URBAN AREAS - USE A 6 INCH HIGH BLADE IN LENGTHS OF 24", 30", 36" OR 42".
 USE SERIES "B" LETTERING (MINIMUM) WITH 4 INCH HIGH LETTERS FOR STREET NAME, 3 INCH OTHER.

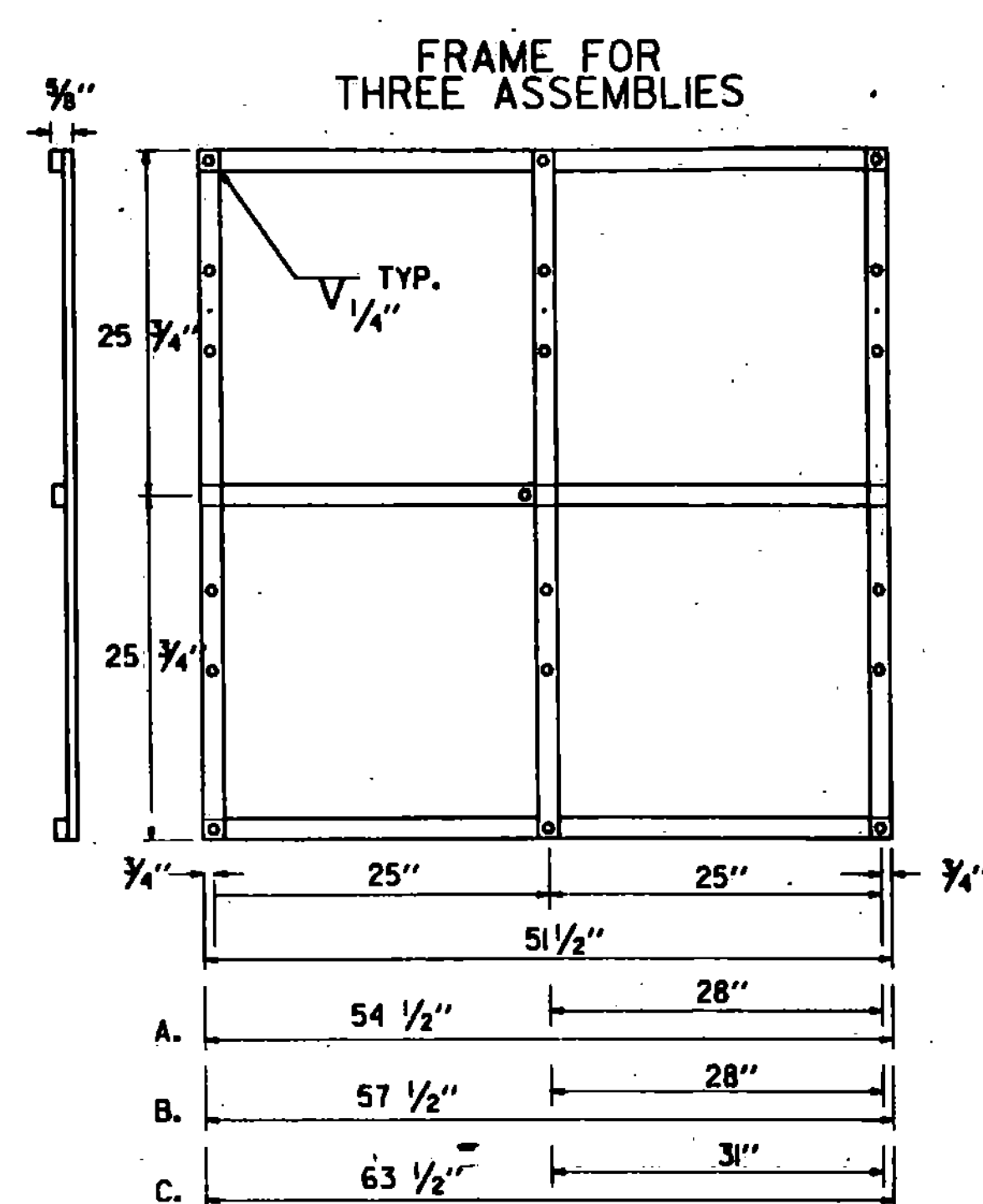
DESIGN SAMPLE



FRAME FOR TWO ASSEMBLIES



ROUTE MARKER ASSEMBLY FRAMES

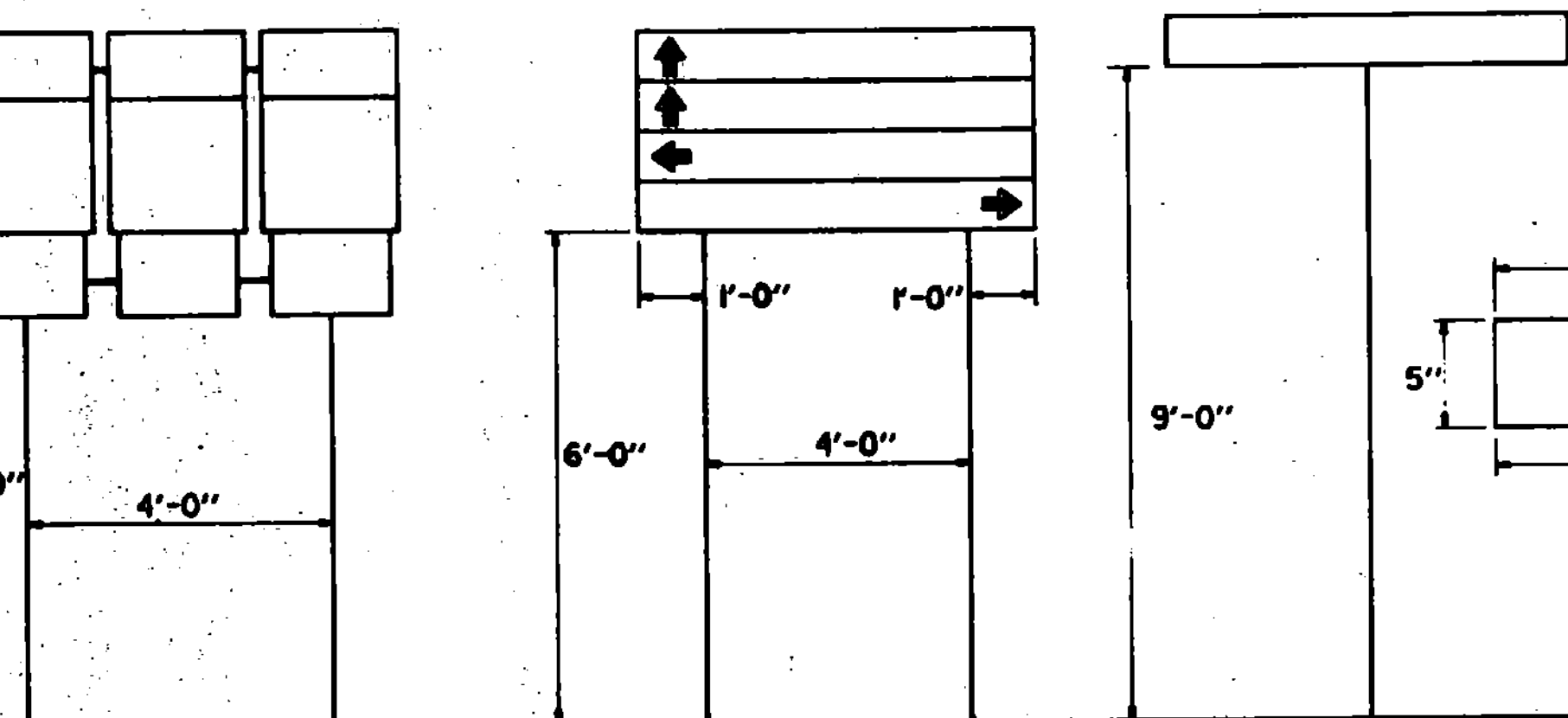


- NOTE:
 1. WITH ONE 30" THREE DIGIT SIGNS
 2. WITH TWO 30" THREE DIGIT SIGNS

- NOTE:
 A. WITH ONE 30" THREE DIGIT SIGN IN AN OUTSIDE POSITION
 B. WITH ONE 30" THREE DIGIT SIGN IN THE CENTER POSITION OR TWO SUCH SIGNS IN THE OUTSIDE POSITIONS
 C. WITH THREE 30" THREE DIGIT SIGNS

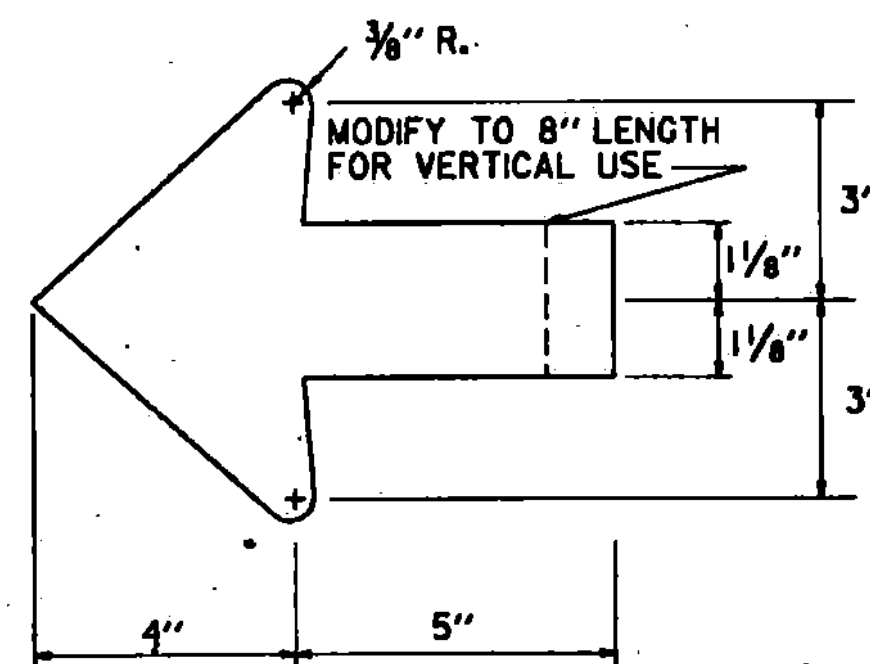
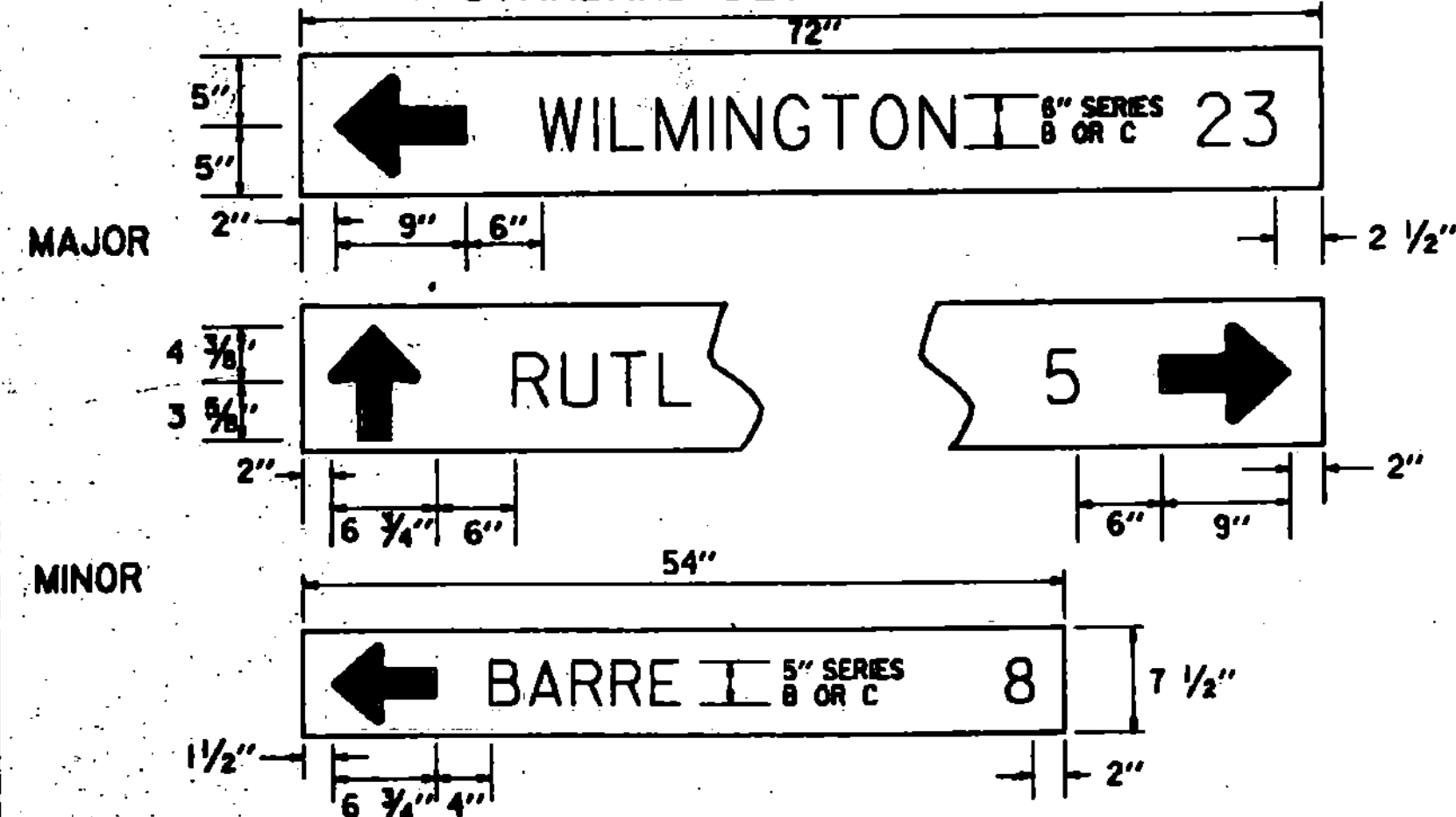
STANDARD FRAMES SHALL BE 5/16" x 1/2" WROUGHT IRON WELDED. ALL HOLES SHALL BE 7/16" DIAMETER. FOR OTHER SIGN COMBINATIONS THAN ABOVE, THE FRAME DIMENSIONS AND HOLE SPACING SHALL BE MODIFIED AS NECESSARY. THE FRAME SHALL BE PAINTED WITH ONE COAT OF PRIMER AND A SECOND COAT OF GOOD GRADE BLACK PAINT.

WHERE PARKING OR PEDESTRIAN TRAFFIC WILL OCCUR IN THE IMMEDIATE VICINITY OF THESE SIGNS MINIMUM VERTICAL CLEARANCE SHALL BE INCREASED TO 7'-0"



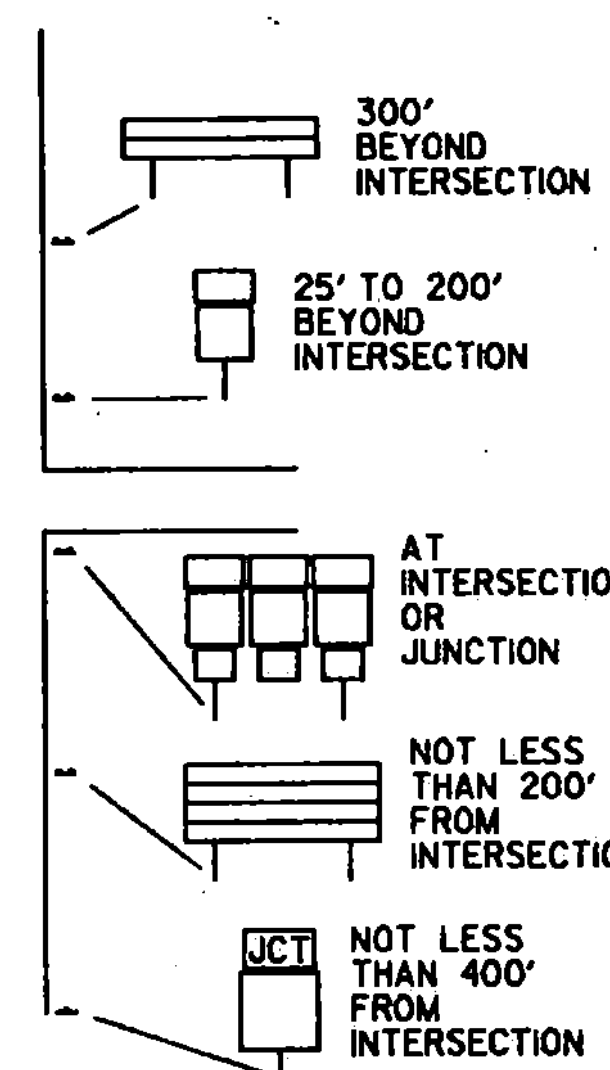
DESTINATION ASSEMBLY - NOTE SEQUENCE OF ARROWS - LIMIT TO TWO SIGNS IN EACH DIRECTION
 TOWN LINE POST - POSITION SIGN PARALLEL TO ROADWAY

STANDARD DESTINATION SIGNS



ARROW DETAIL - REDUCE PROPORTIONALLY TO 6 3/4" LENGTH FOR USE ON MINOR SIGN

TYPICAL LOCATION OF ASSEMBLIES



ROUTE AND DESTINATION SIGNS:

MATERIALS

THE SIGN BASE MATERIAL FOR STANDARD DESTINATION SIGNS SHALL BE HIGH DENSITY OVERLAID PLYWOOD 3/8 INCH THICK OR FLAT SHEET ALUMINUM 0.125 INCH THICK. THE REFLECTIVE MATERIAL SHALL BE GREEN REFLECTIVE SHEETING APPLIED TO THE ENTIRE BACKGROUND OF THE SIGN. THE TEXT SHALL BE CUT-OUT REFLECTORIZED WHITE OR SILVER LETTERS.

COLORS

DESTINATION SIGNS SHALL HAVE A REFLECTORIZED WHITE OR SILVER TEXT ON A REFLECTORIZED GREEN BACKGROUND.

LETTERING

LETTERS AND DIGITS SHALL CONFORM WITH THE STANDARD ALPHABETS FOR HIGHWAY SIGNS APPROVED BY THE NATIONAL JOINT COMMITTEE ON UNIFORM TRAFFIC CONTROL DEVICES.

SPECIFICATIONS

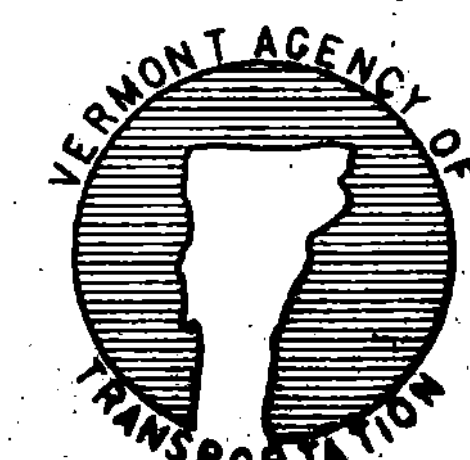
DESTINATION SIGNS SHALL MEET THE STATE SPECIFICATIONS FOR "TRAFFIC SIGNS". FOR DESIGNS, COLORS OR MATERIALS OF ROUTE MARKERS AND AUXILIARY MARKERS, SEE STANDARD SHEETS "E-11, E-12, AND E-13.

REVISIONS AND CORRECTIONS

- 12/1/82 - REVISIONS AND CORRECTIONS
- ADDED 2 FRAME ASSEMBLY TO 2 POST ASSEMBLY
- ADDED MINOR DESTINATION SIGN, MOUNTING HEIGHT
- REVISED
- 8/10/83 - SIGN HEIGHT CHANGED TO 7 FT.
- FEB. 3, 1986 - UPDATED TO 1986 SPECIFICATIONS
- MAY 2, 1988 - MAJOR REVISIONS

APPROVED: Doc 29, 1971
R.H. Crandall
 CHIEF ENGINEER
E.H. Stibney
 ASST. CHIEF ENGINEER
G.M. Lane
 HIGHWAY ENGINEER

GUIDE SIGNS

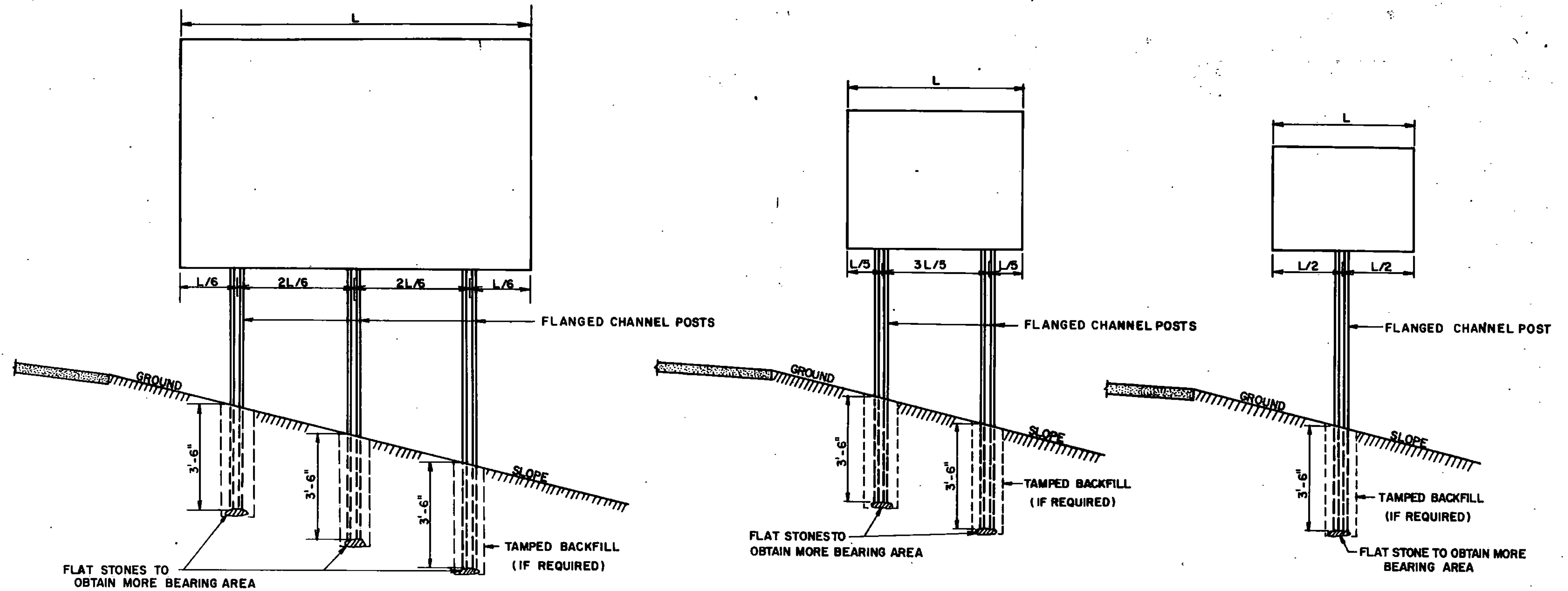


STANDARD E-23

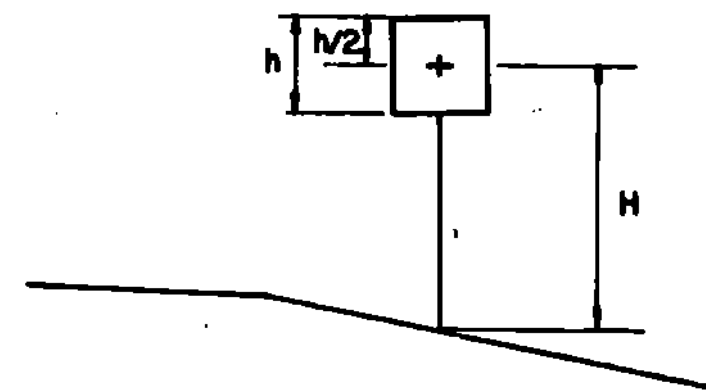
GENERAL NOTES

ALL MATERIAL SHALL BE AS SPECIFIED UNDER SECTION 675 - 675 - TRAFFIC SIGNS

CONSTRUCTION METHODS - POSTS MAY BE DRIVEN OR SET IN A DUG HOLE AND BACKFILLED. IF DRIVEN, A DRIVING CAP SHALL BE USED. IF SET IN A DUG HOLE, THE EXCAVATION AND BACKFILL WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS BEING INCLUDED IN UNIT PRICES FOR OTHER ITEMS IN THE CONTRACT. THE DUG HOLE INSTALLATION SHALL BE USED IN AREAS OF POOR SOIL CONDITIONS OR AS DIRECTED BY THE ENGINEER.



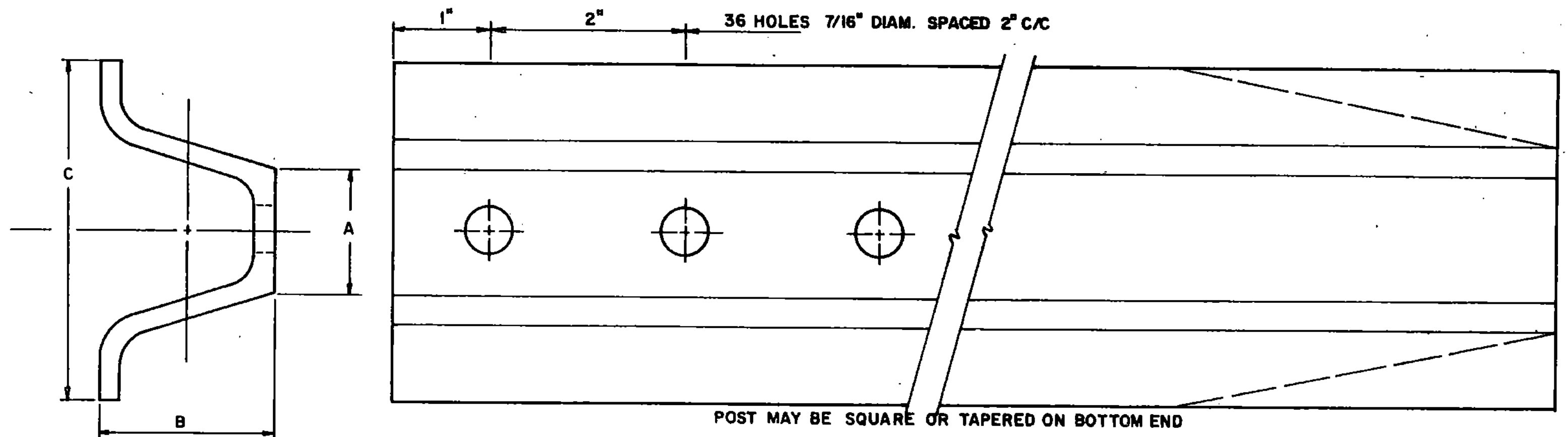
IN AREAS WHERE LEDGE ROCK IS ENCOUNTERED STEEL POSTS WILL BE SET AND GROUTED 12" DEEP IN THE LEDGE.



POST SELECTION CHART		
SIGN AREA (FT ²) x H (FT) ≤ Sv (SELECTION VALUE)		
POST SIZE	Sv	DESIGN CRITERIA
2 LB/FT.	62	WIND SPEED = 60 MPH (10-YEAR MEAN RECURRENCE INTERVAL) WIND PRESSURE = 12 PSF STEEL MIN YIELD Fy=50,000 PSI ALLOWABLE STRESS=(1/4)0.55Fy
2 1/2 LB/FT.	77	
3 LB/FT.	107	

POST SIZE POUNDS PER LINEAR FOOT	DIMENSIONS			PLASTIC SECTION MODULUS, Z
	A	B	C	
2	1 9/32"	1 31/64"	3 1/16"	0.26 IN. ³
2 1/2	1 9/32"	1 35/64"	3 1/16"	0.40 IN. ³
3	1 5/16"	1 7/8"	3 1/2"	0.53 IN. ³

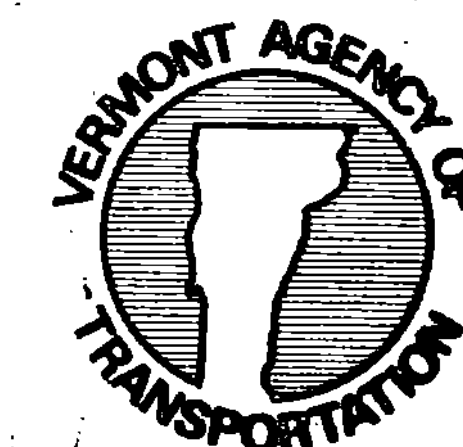
SIMILAR DIMENSIONS ARE ACCEPTABLE, HOWEVER PLASTIC SECTION MODULUS VALUES MUST NOT BE EXCEEDED.



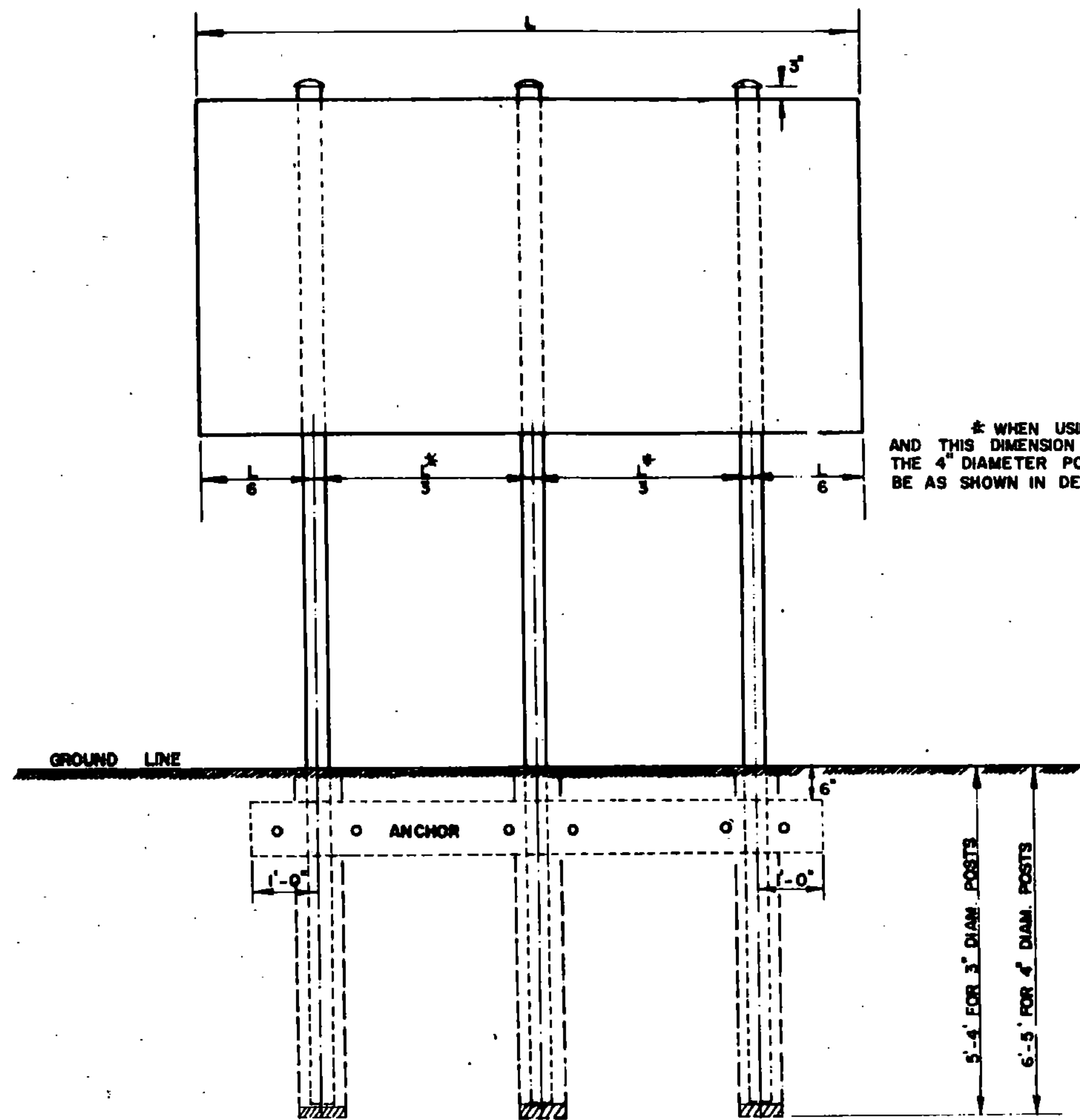
REVISIONS AND CORRECTIONS
 FEB. 8, 1978 - HEIGHT OF SIGNS ADDED.
 DEC. 15, 1978 - RAIL STEEL DELETED
 JAN. 8, 1981 - ADDED POST SIZE & SELECTION CHARTS;
 REVISED NOTES & DIMENSIONS
 FEB. 3, 1986 - UPDATED TO 1986 SPECIFICATIONS

APPROVED DATE Nov 24, 1976
C. H. Stickney
 CHIEF ENGINEER
R. O. Munn
 ASST. CHIEF ENGINEER
Loan C. Jones
 HIGHWAY ENGINEER

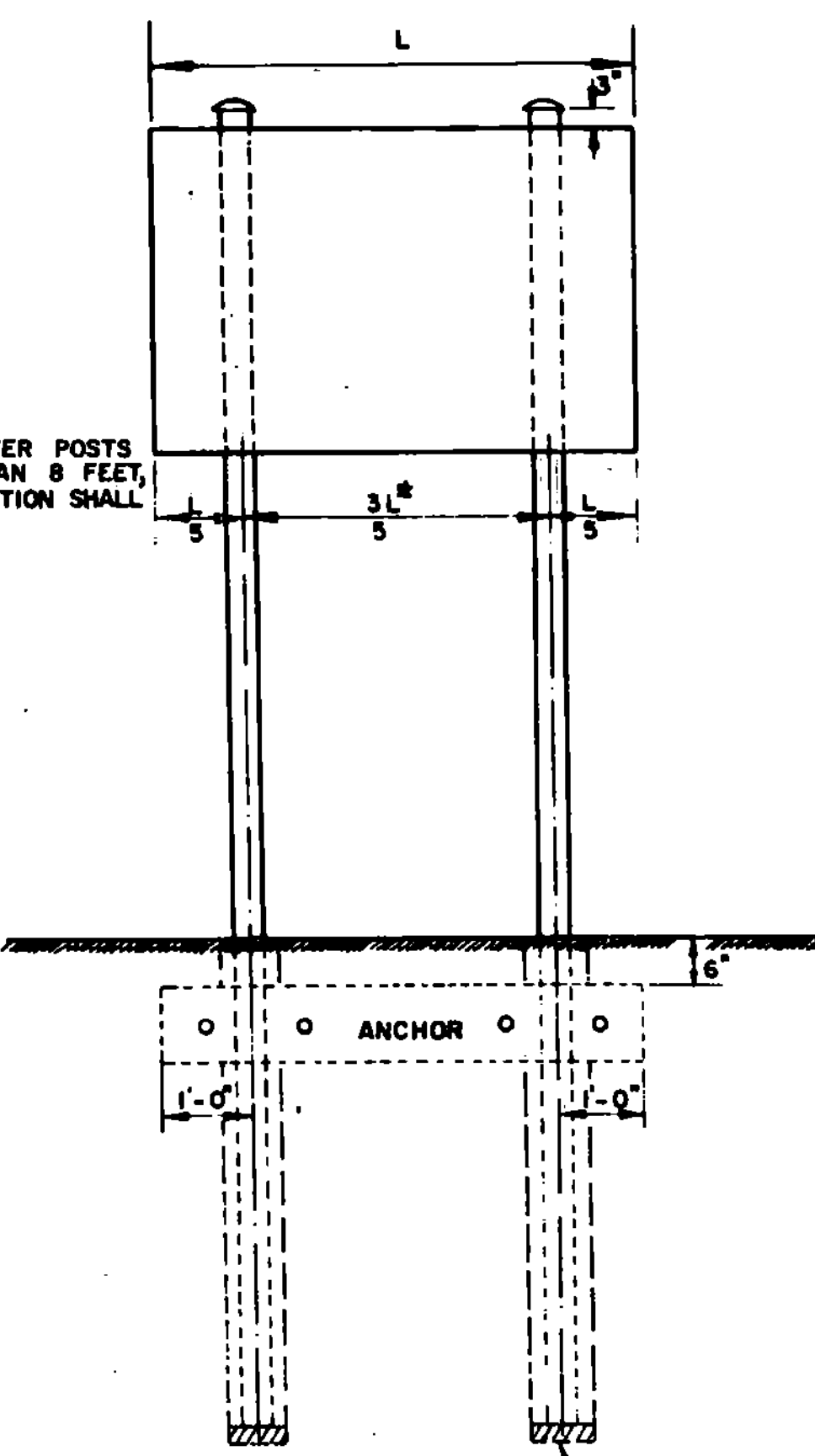
FLANGED CHANNEL STEEL SIGN SUPPORTS



STANDARD
E-24-A

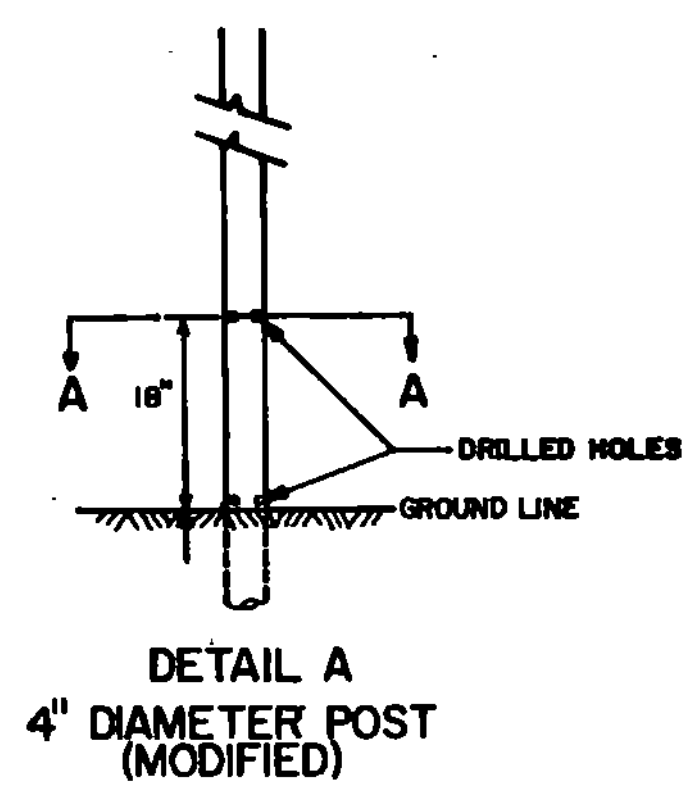
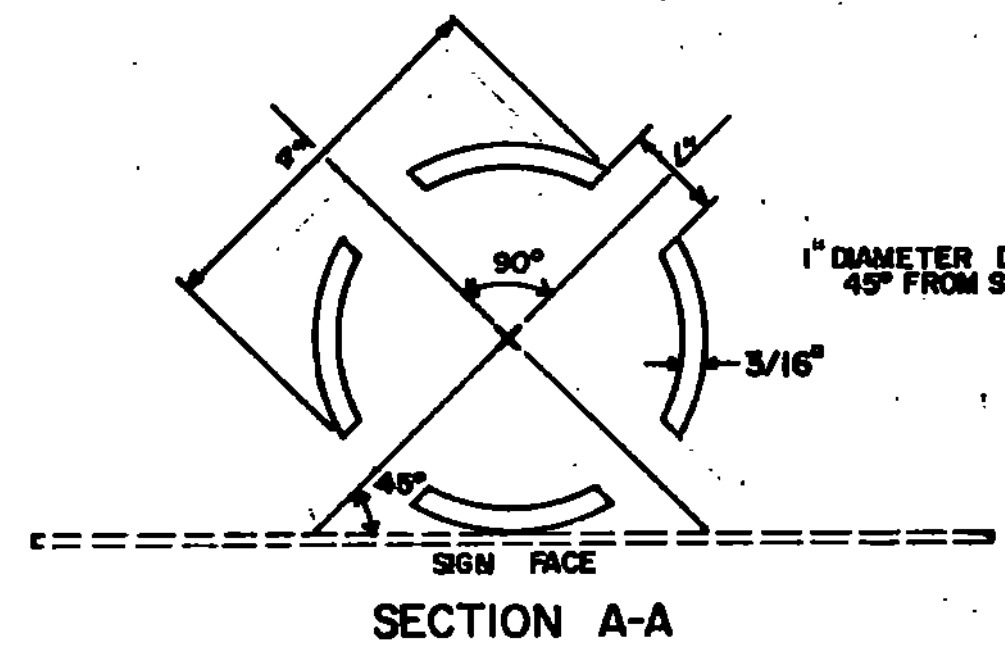
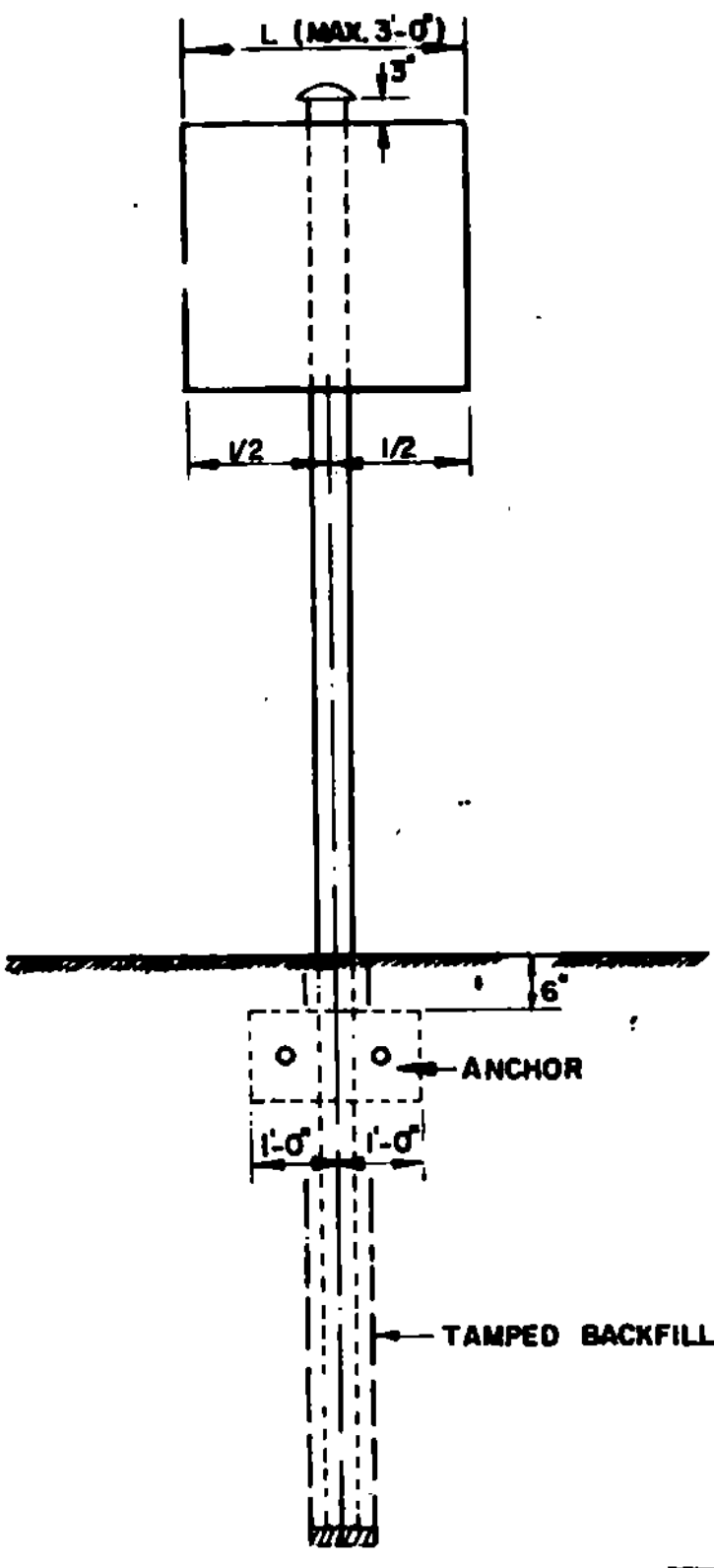


* WHEN USING 4" DIAMETER POSTS AND THIS DIMENSION IS LESS THAN 8 FEET, THE 4" DIAMETER POST INSTALLATION SHALL BE AS SHOWN IN DETAIL "A".

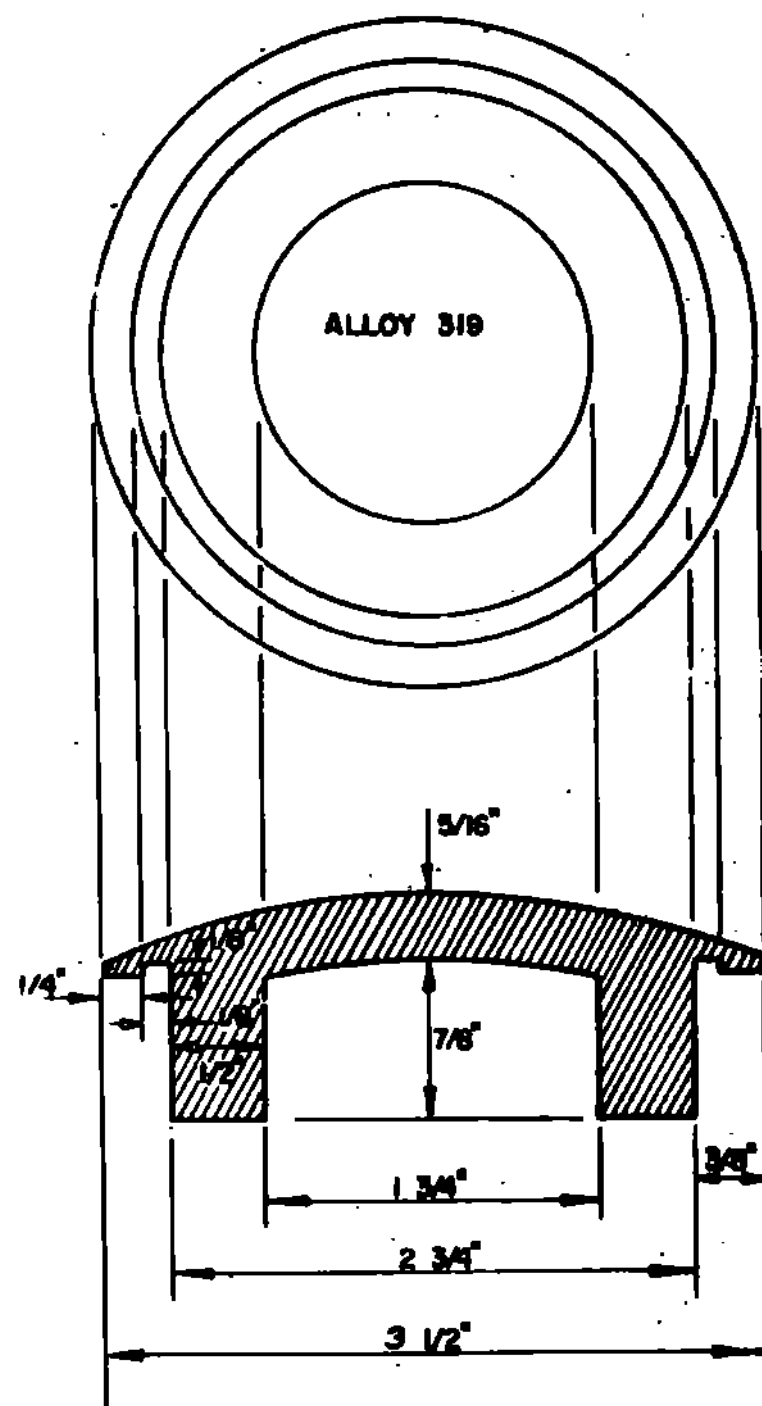


FLAT STONE TO OBTAIN MORE BEARING AREA DURING THE INSTALLATION PHASE

IN AREAS WHERE LEDGE ROCK IS ENCOUNTERED POSTS WILL BE SET AND GROUTED 24" DEEP IN THE LEDGE UNLESS THE POSTS PENETRATE THE GROUND 4".



CAST ALUMINUM CAP FOR SIGN POSTS



DIMENSIONS SHOWN ARE FOR 3" O.D., 2 3/4" I.D. COMMERCIAL TOLERANCES. CAPS DESIGNED FOR DRIVE FIT. DIMENSIONS ARE PROPORTIONAL FOR LARGER DIAMETER TUBING.

POSTS. THE POSTS FOR THESE INSTALLATIONS SHALL BE EXTRUDED TUBULAR POSTS OF ALUMINUM ALLOY 6061-T5

HARDWARE. THE ASSEMBLY HARDWARE USED TO FASTEN A SIGN TO THE POSTS SHALL BE ALUMINUM OR STAINLESS STEEL OF A STANDARD COMMERCIAL DESIGN APPROVED BY THE DEPARTMENT.

ANCHORS. USE TWO (2) PIECES OF 2" X 12" ROUGH PLANK WELL SEASONED, STRAIGHT AND SOUND SPRUCE OR OTHER APPROVED SPECIES, CUT FROM LIVE GROWING TIMBER, FREE FROM LOOSE KNOTS OR OTHER DEFECTS. PLANKS SHALL HAVE A PRESERVATIVE TREATMENT COVERED BY SECTION 728.01 OF THE SPECIFICATION FOR PLANK GUARD RAIL, SECTION 728. THESE PLANKS SHALL BE CLAMPED POST TO POST WITH A MINIMUM OF ONE (1) FOOT OVERHANG; TO BE PARALLEL TO THE SIGN FACE. THE TOP EDGE OF THE PLANKS SHALL BE APPROXIMATELY PARALLEL TO THE GROUND. BOLTS FOR THE ANCHORS SHALL BE 3/8" CARRIAGE BOLTS WITH NUTS AND WASHERS AND SHALL BE GALVANIZED BY THE HOT-DIPPED PROCESS IN CONFORMANCE WITH ASTM SPECIFICATION A-153 AFTER FABRICATION, AND SHALL DEVELOP THE REQUIRED JOINT STRENGTH.

ERECTION. ALL POSTS SHALL BE PLUMB AND LOCATED AS SPECIFIED BY DRAWINGS OR BY THE ENGINEER IN THE FIELD. LOCK NUTS ON 3/8"-16 ALUMINUM POST BOLT CLIPS SHALL BE TORQUED TO 225 INCH POUNDS USING DRY, CLEAN, UNLUBRICATED THREADS. WHERE ALUMINUM SURFACES ARE TO BE PLACED IN CONTACT WITH WOOD, THEY SHALL BE GIVEN A THICK COAT OF AN ALKALI-RESISTANT BITUMINOUS PAINT MEETING THE REQUIREMENTS OF MILITARY SPECIFICATION MIL-P-6683, WHICH SHALL BE DRY BEFORE INSTALLATION.

THE HOLE SHALL BE CAREFULLY DUG AND THE POST SET TO THE DEPTH SPECIFIED ABOVE. POSTS SHALL NOT BE DRIVEN. THE BACKFILL MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF GRANULAR BACKFILL FOR STRUCTURES OR SHALL BE MATERIAL APPROVED BY THE ENGINEER.

POST DIAMETER	WALL THICKNESS	WEIGHT PER FT
3" Round	3/16"	1.9 lbs
4" Round	3/16"	2.6 lbs
3" Square	3/16"	2.5 lbs

TUBULAR ALUMINUM POST

POST SELECTION CHART		
SIGN AREA (FT. ²) X H (FT.) ≤ Sv (SELECTION VALUE)		
POST SIZE	Sv (FT. ³)	DESIGN CRITERIA
3" DIA.	225	WIND VELOCITY=60 MPH (10 YEAR MEAN RECURRENCE INTERVAL) WIND PRESSURE=12 PSF, ALUMINUM Fy=21,000 PSI, ALLOWABLE STRESS =1.4 (21,000) PSI
4" DIA. (MODIFIED)	276	
3" SQUARE TUBE*	307	
4" DIA.	418	

*USE ON SINGLE POST INSTALLATIONS ONLY

REVISIONS AND CORRECTIONS

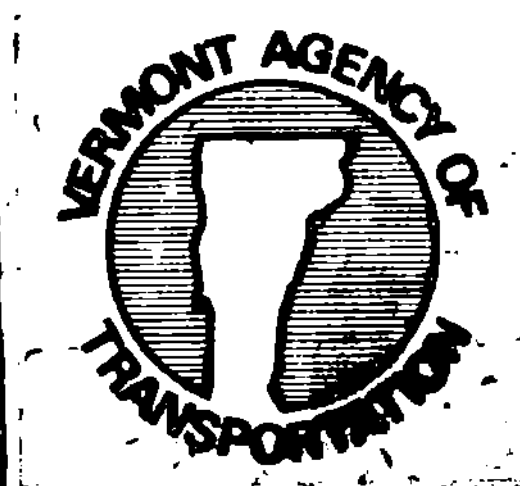
JAN 0, 1973 - REVISED TO INCLUDE CHART FOR WEIGHT OF POSTS;
 AUG 21, 1975 - REMOVE 5" ALUMINUM TUBES PER FHWA REQUEST.
 DEC. 16, 1978 - TAMPED BACKFILL NOTE ADDED.
 JUNE 17, 1981 - ADDED 4" PIPE MOD. AND SV CHART.
 FEB. 3, 1986 - UPDATED TO 1986 SPECIFICATIONS

APPROVED

DATE Dec. 29, 1971

R.N. Crowell
E.H. Stinchney
G.M. Lane

TUBULAR ALUMINUM SIGN SUPPORTS

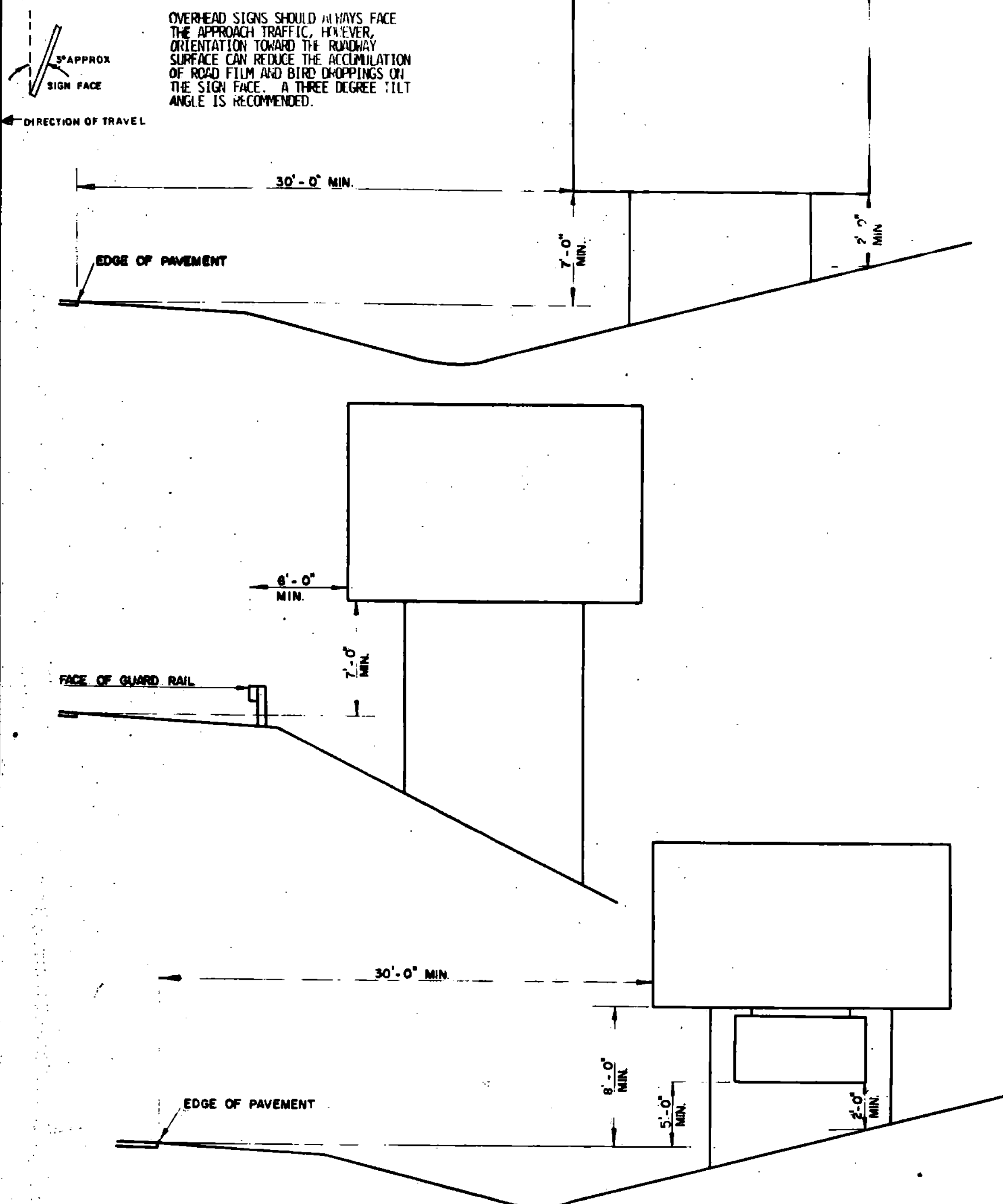


STANDARD

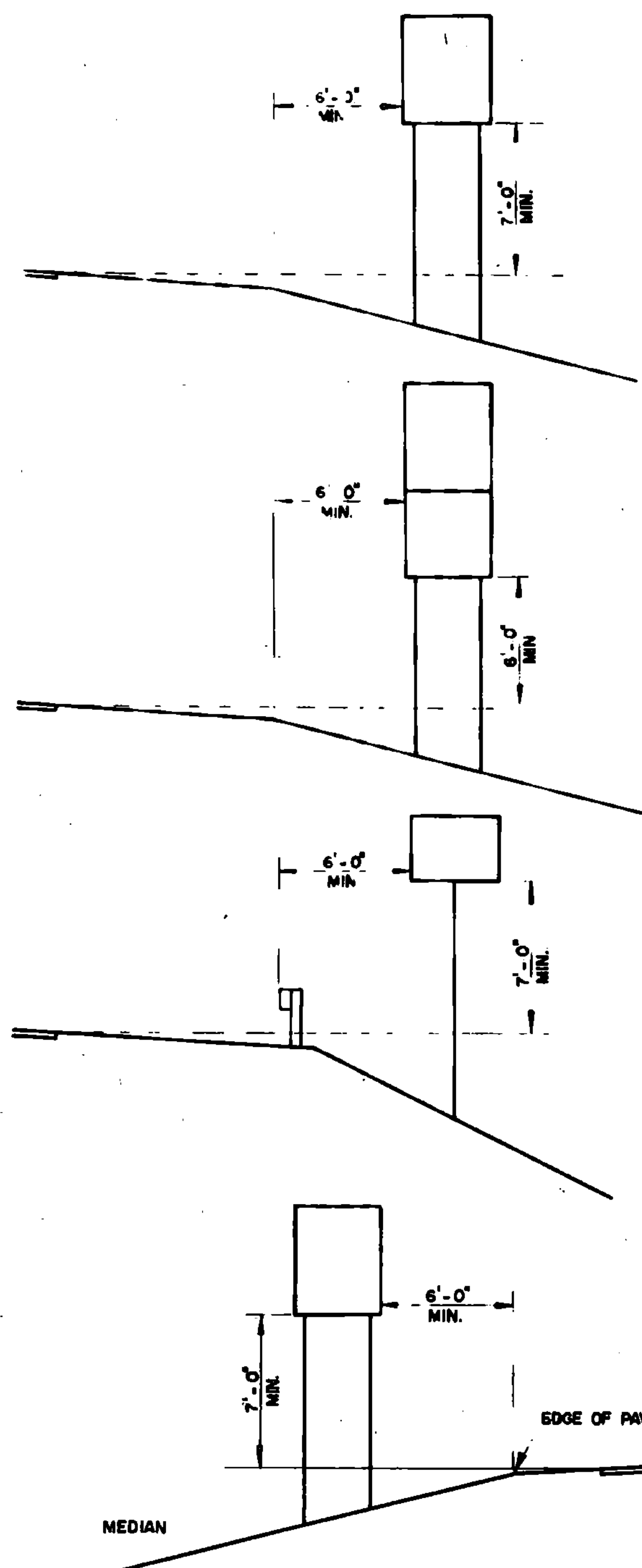
E-25

NORMALLY SIGNS SHOULD BE MOUNTED AT RIGHT ANGLES TO DIRECTION OF TRAFFIC. AT CURVED ALIGNMENTS THE ANGLE OF PLACEMENT SHOULD BE DETERMINED BY THE COURSE OF APPROACHING TRAFFIC RATHER THAN BY THE ROADSIDE EDGE AT THE POINT WHERE THE SIGN IS LOCATED.

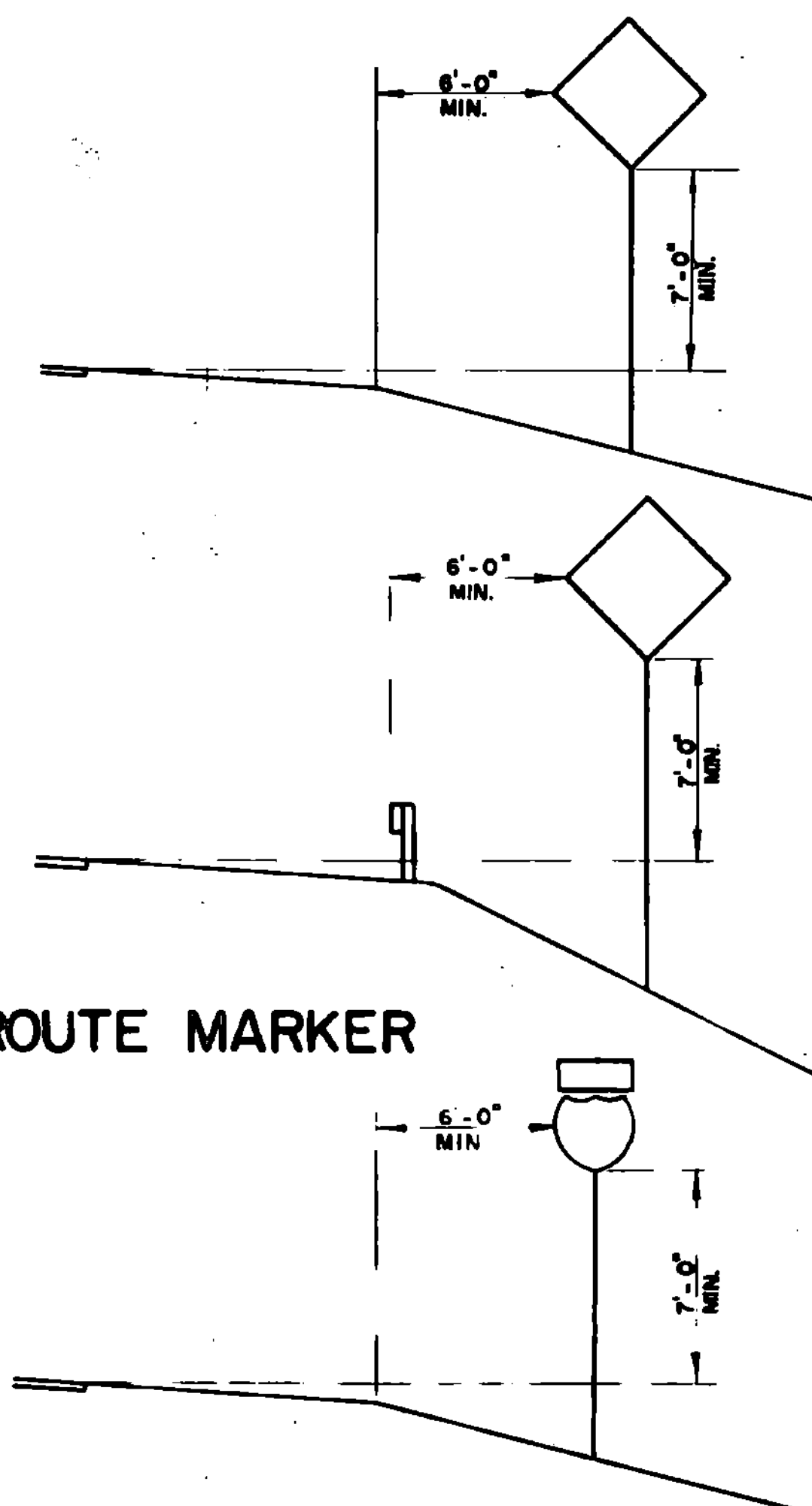
GUIDE SIGNS



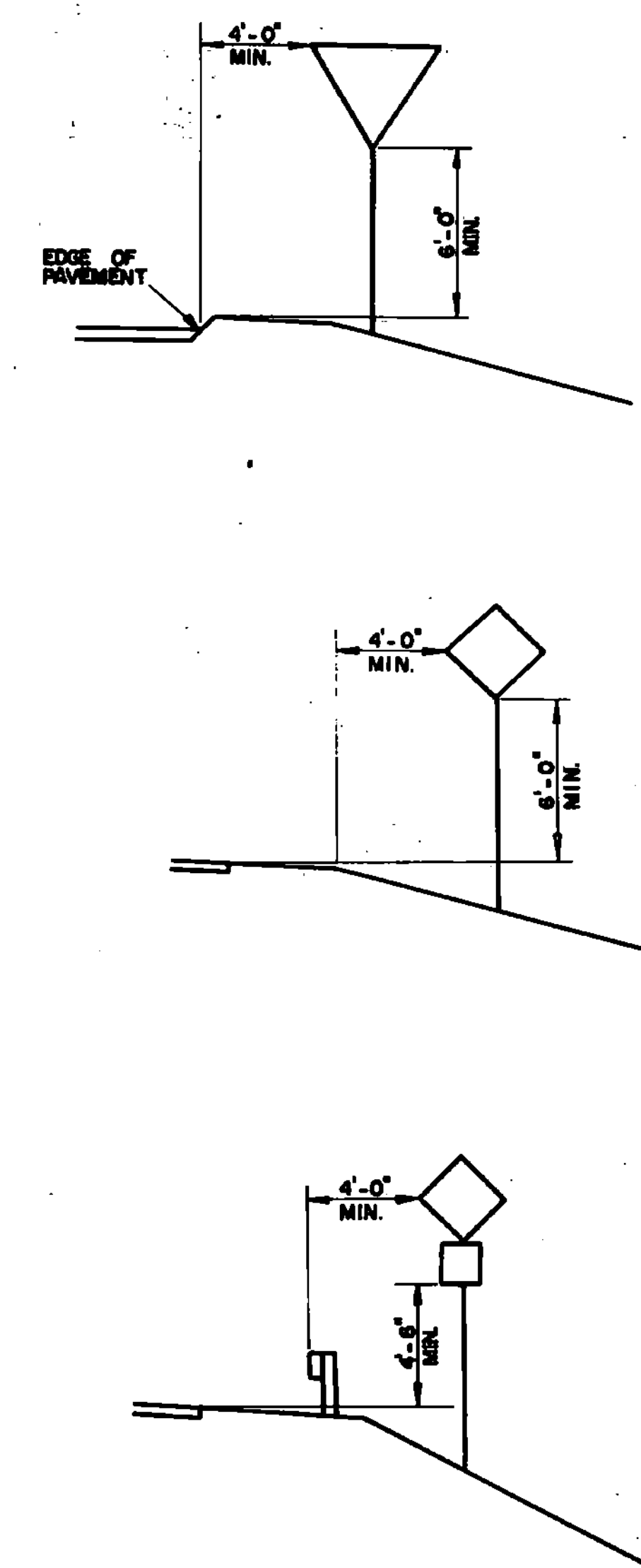
REGULATORY SIGNS



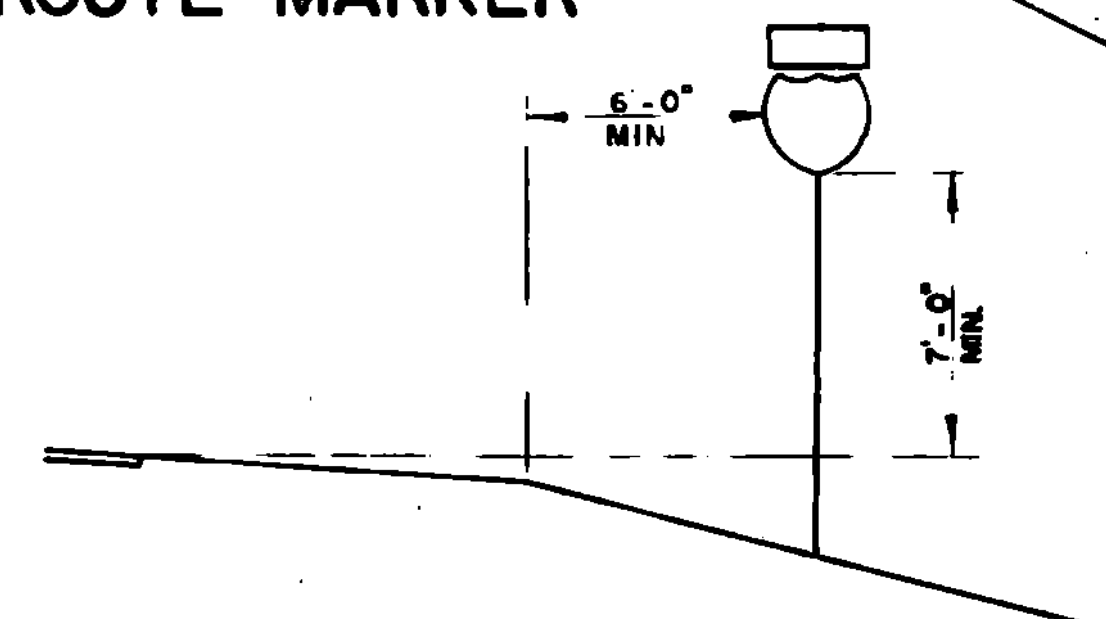
WARNING SIGNS



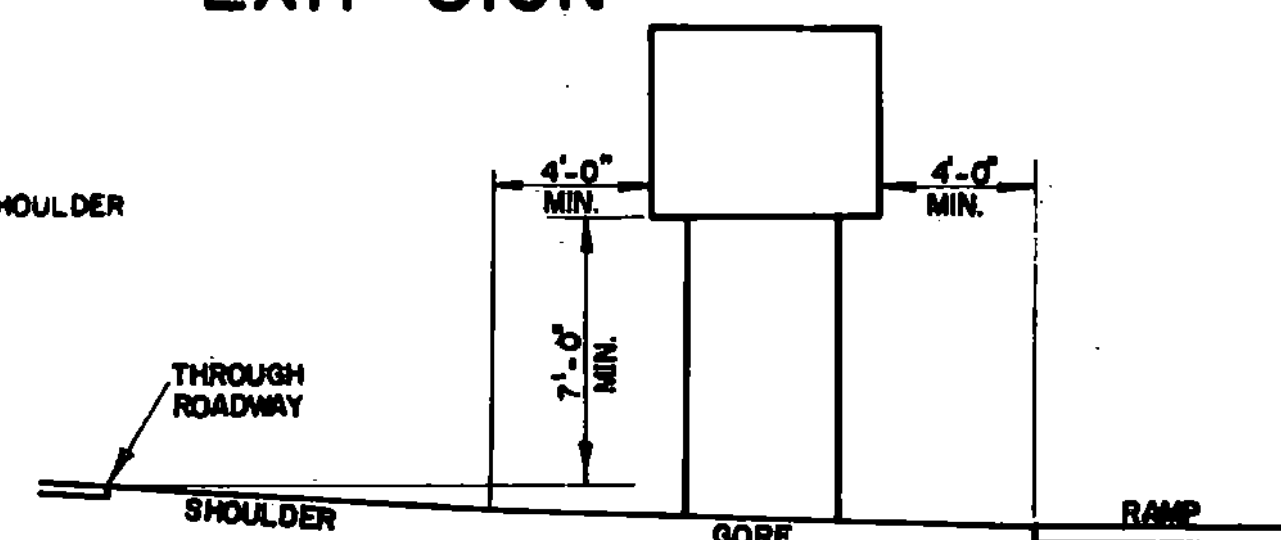
SIGNS ON RAMPS



ROUTE MARKER



EXIT SIGN



REVISIONS AND CORRECTIONS

DEC. 19, 1972 DIMENSION CHANGE
 JAN 24 1983 SIGN INSTALLATION DETAILS ADDED
 FEB. 3, 1988 - UPDATED TO 1986 SPECIFICATIONS

APPROVED:
 Dec. 29, 1971
 DATE

R. W. Coughlin
 CHIEF ENGINEER
E. H. Stickney
 ASST. CHIEF ENGINEER
L. M. Lane
 HIGHWAY ENGINEER

TRAFFIC SIGNS

STANDARD SIGN PLACEMENT

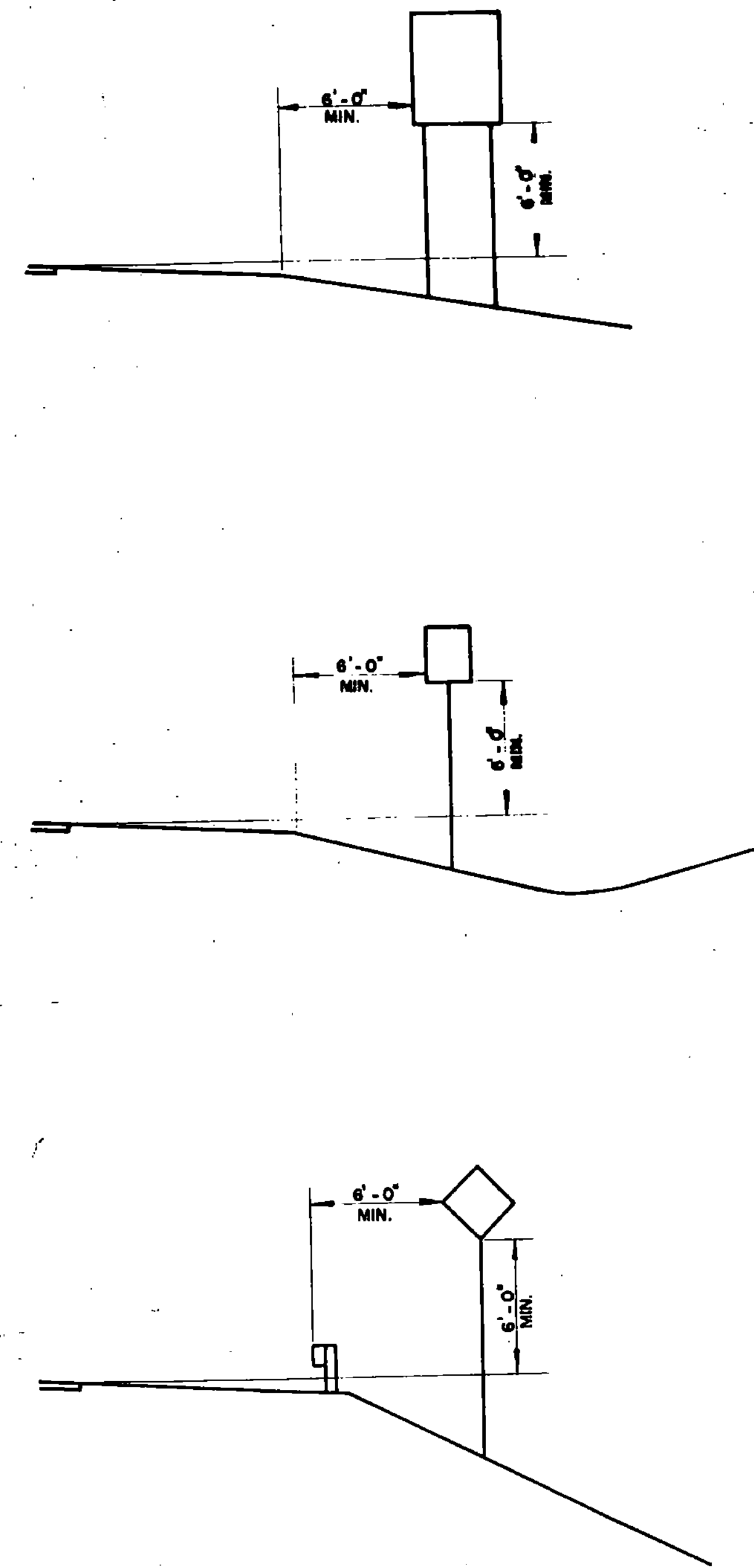
EXPRESSWAY TYPE



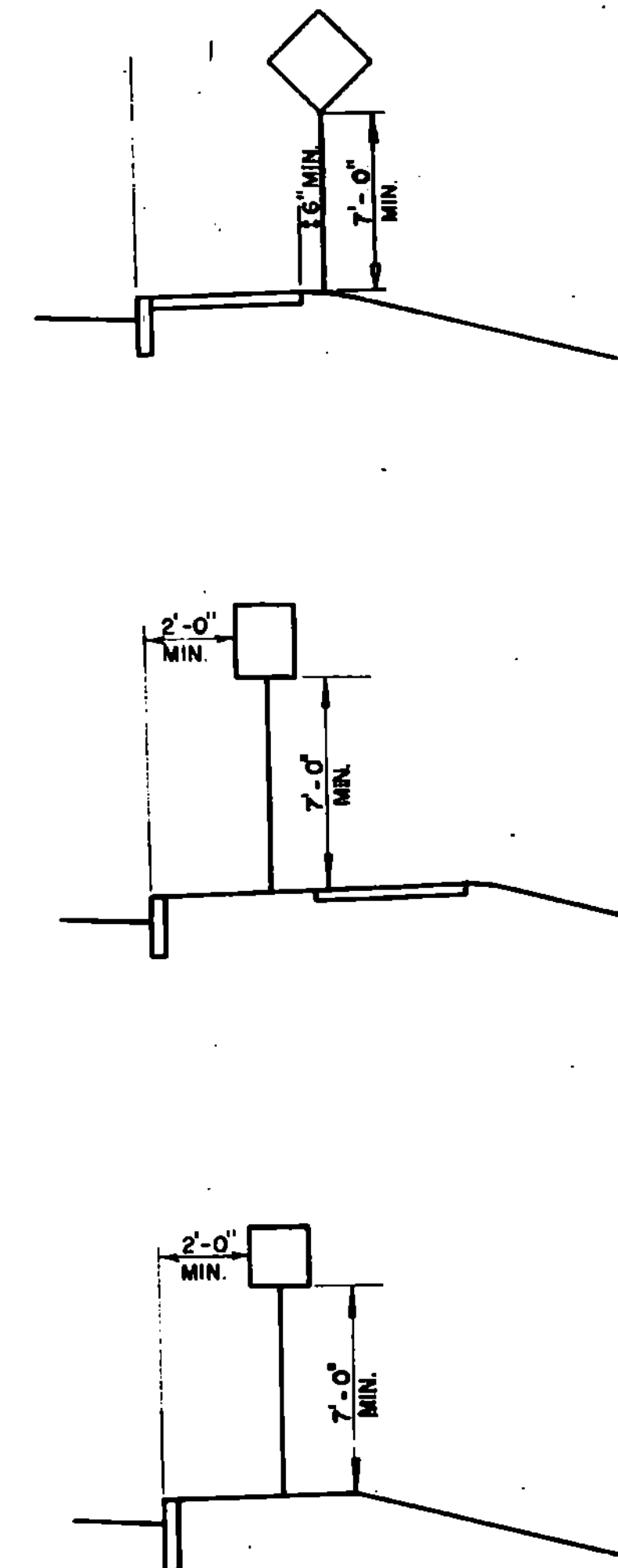
STANDARD

E-27

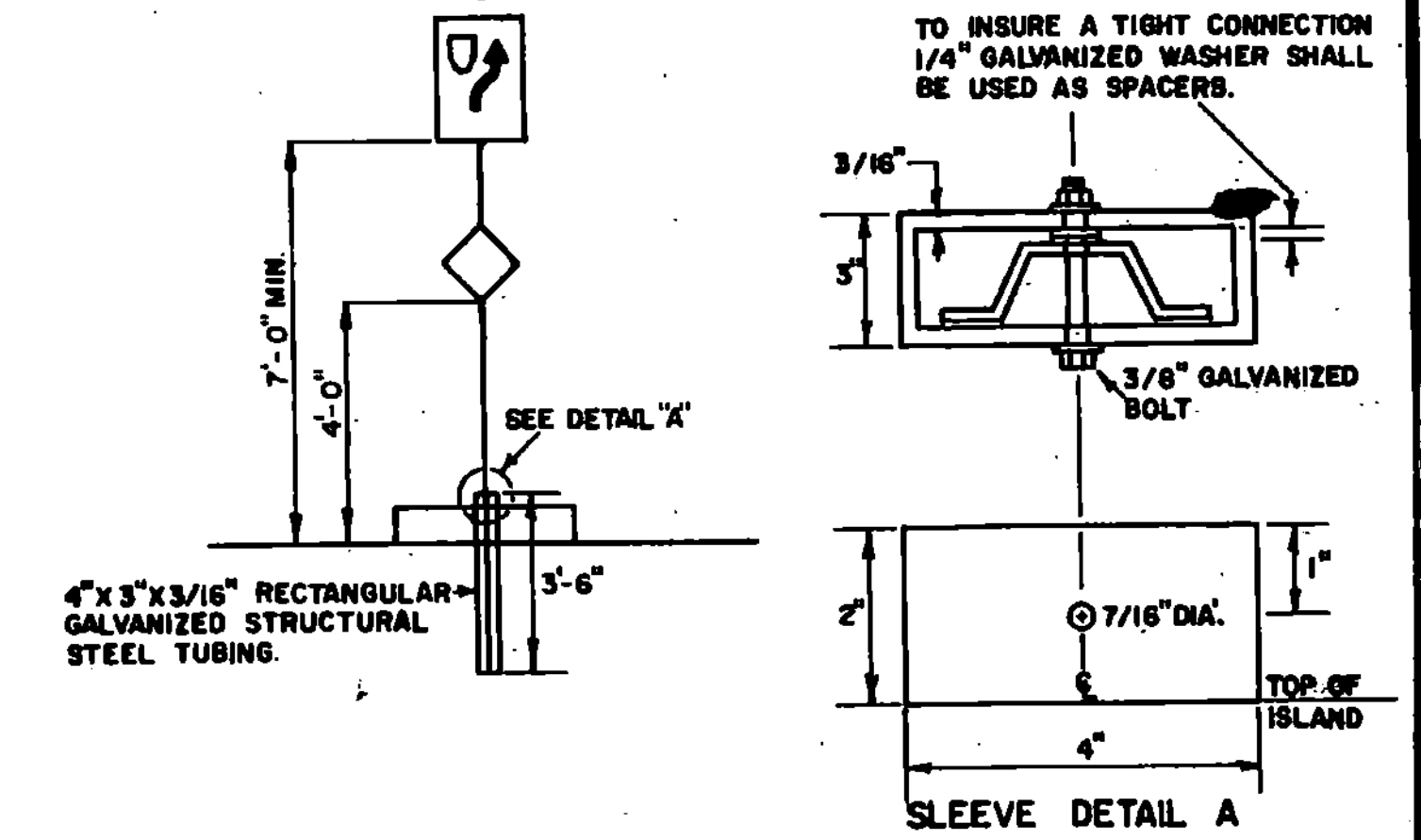
RURAL



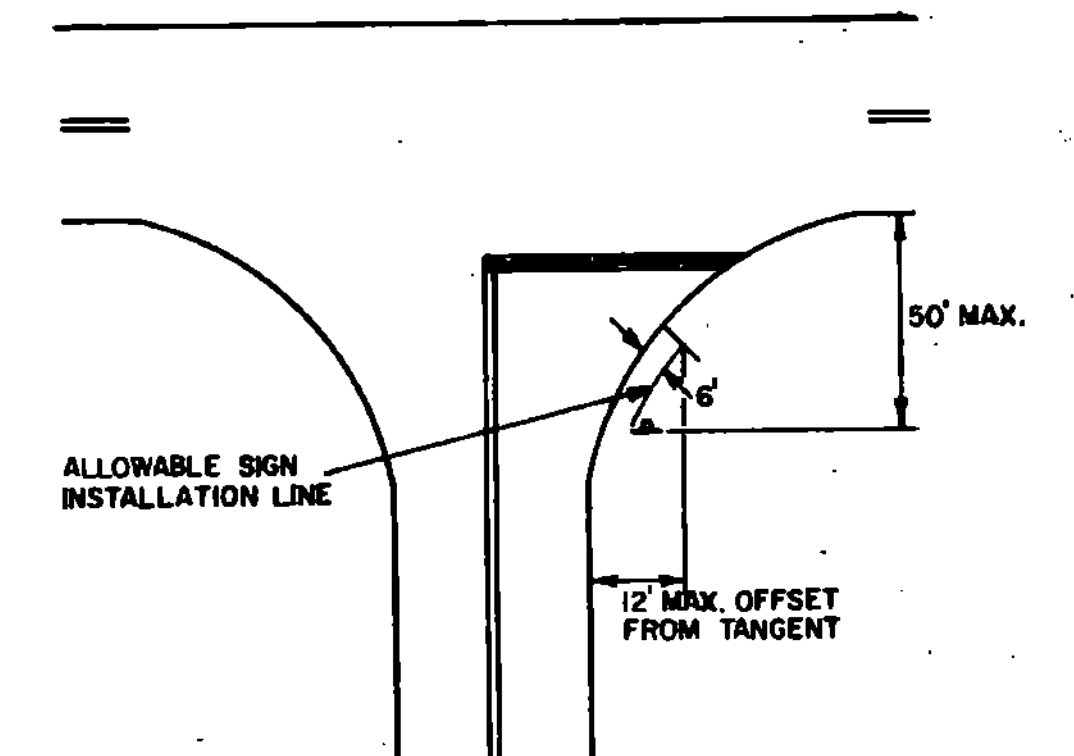
URBAN



WARNING SIGNS
ON ISLAND IN THE LINE OF TRAFFIC



STOP OR YIELD SIGNS
AT WIDE THROAT INTERSECTIONS



NOTES 1) IN BOTH RURAL AND URBAN LOCATIONS, IF A SECONDARY SIGN IS MOUNTED BELOW ANOTHER SIGN, THE MINIMUM CLEARANCE MAY BE REDUCED BY ONE FOOT.
2) IN RURAL AREAS WITH NO SHOULDER, THE MINIMUM LATERAL CLEARANCE SHOULD BE 12' FROM EDGE OF THE TRAVELED WAY.

REVISIONS AND CORRECTIONS
 JAN. 23, 1978 - DIMENSION FROM SHOULDER TO SIGN CHANGED PER FHWA.
 AUG. 25, 1981 - ADDED STOP AND ISLAND DETAILS, REVISED CURB OFFSET
 FEB. 3, 1988 - UPDATED TO 1986 SPECIFICATIONS

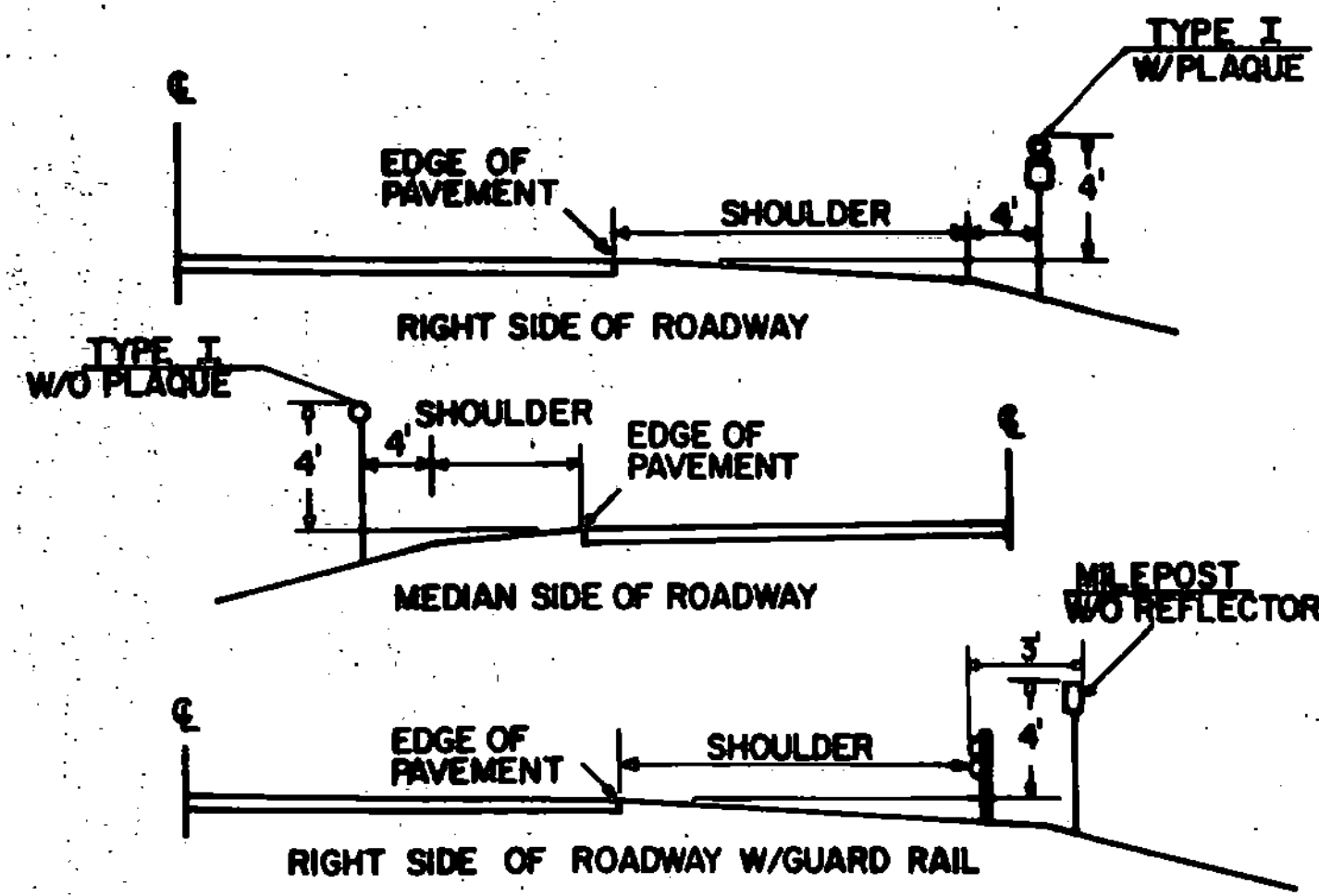
APPROVED
 Dec. 29, 1971

R. W. Arnold
 CHIEF ENGINEER
E. H. Stickney
 ASST. CHIEF ENGINEER
G. M. Lane
 HIGHWAY ENGINEER

STANDARD SIGN PLACEMENT
 CONVENTIONAL ROAD



STANDARD
 E-29



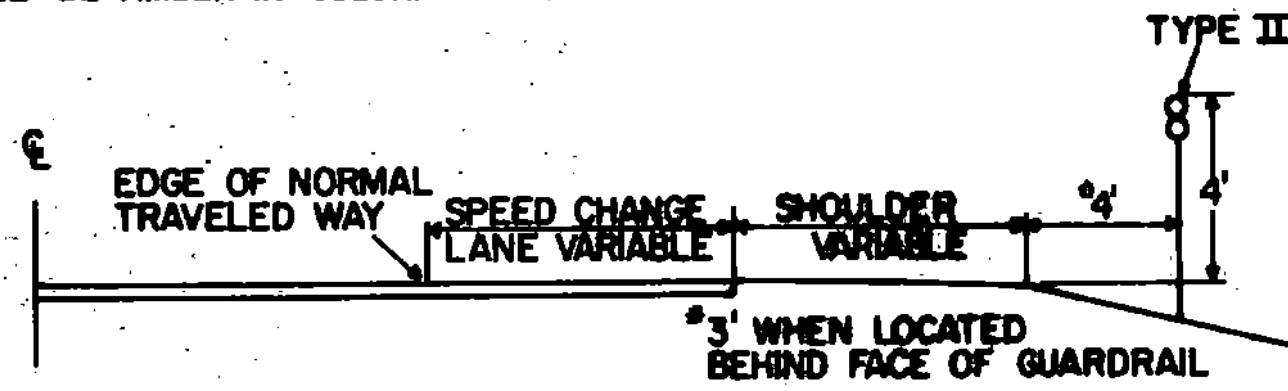
TYPICAL PLACEMENT OF TYPE I DELINEATORS AND MILEPOSTS ON INTERSTATE ROUTES

TYPE I DELINEATORS WITH WHITE REFLECTOR UNITS AND THE APPROPRIATE MILEPOST PLAQUES SHALL BE ERECTED CONTINUOUSLY ALONG THE RIGHT SIDE OF THE INTERSTATE ROADWAYS BETWEEN MILEMARKERS, EXCEPT THAT BEHIND GUARD RAIL MILEPOSTS WITHOUT REFLECTORS SHALL BE ERECTED.

THE TYPE I DELINEATORS AND MILEPOSTS SHALL BE OMITTED ALONG DECELERATION AND ACCELERATION LANES, BUT THE SUCCEEDING SPACING SHALL BE AS IF THE DELINEATORS HAD BEEN ERECTED CONTINUOUSLY AND SHALL BE SO INDICATED.

THE LOCATION OF TYPE I DELINEATORS AND MILEPOSTS ARE TO BE COMPUTED AND MARKED IN THE FIELD BY THE ENGINEER IN ACCORDANCE WITH THE LATEST REVISION OF THE AGENCY'S POLICY ON LOCATION MARKING FOR VERMONT INTERSTATE HIGHWAYS.

TYPE I DELINEATORS WITHOUT MILEPOST PLAQUES SHALL BE ERECTED CONTINUOUSLY ALONG THE LEFT OR MEDIAN SIDE OF THE INTERSTATE HIGHWAYS EXCEPT BEHIND GUARD RAIL. SPACED OPPOSITE EVERY SECOND TYPE I DELINEATOR ON THE RIGHT SIDE, AND CONTINUED AT APPROXIMATELY THE SAME SPACING THROUGH INTERCHANGES AND REST AREAS WHERE THERE MAY NOT BE ANY TYPE I DELINEATORS ON THE RIGHT SIDE. THE SAME LATERAL PLACEMENT SHALL BE FOLLOWED ON THE LEFT AS ON THE RIGHT. THE REFLECTIVE UNITS SHALL BE AMBER IN COLOR.



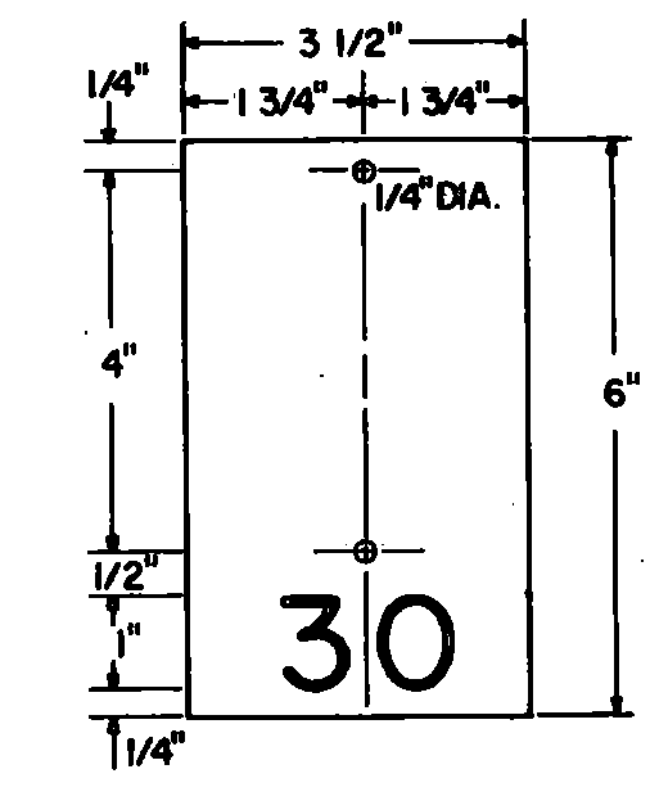
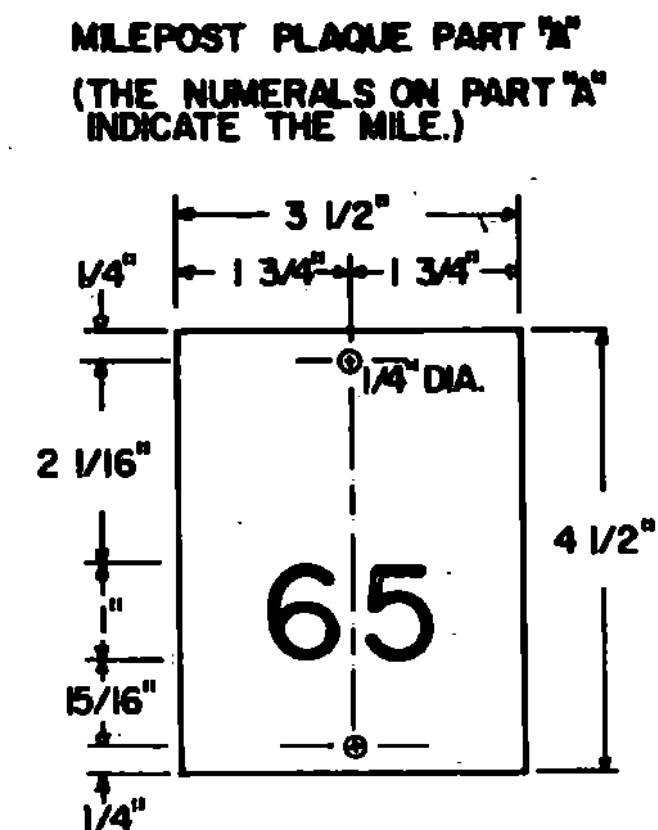
TYPICAL PLACEMENT OF TYPE II DELINEATORS ON SPEED CHANGE LANES

TYPE II DELINEATORS SHALL BE ERECTED CONTINUOUSLY ALONG THE RIGHT SIDE OF THE DECELERATION AND ACCELERATION LANES AT 100' INTERVALS AND SHALL NOT BE OMITTED BEHIND GUARDRAIL SECTIONS AS IS THE CASE FOR TYPE I DELINEATORS. THE DELINEATORS SHALL START AT THE BEGINNING OF THE TAPER AND END AT THE NOSE OF THE EXIT OR ENTRANCE GORE. THEY SHALL HAVE WHITE REFLECTOR UNITS.

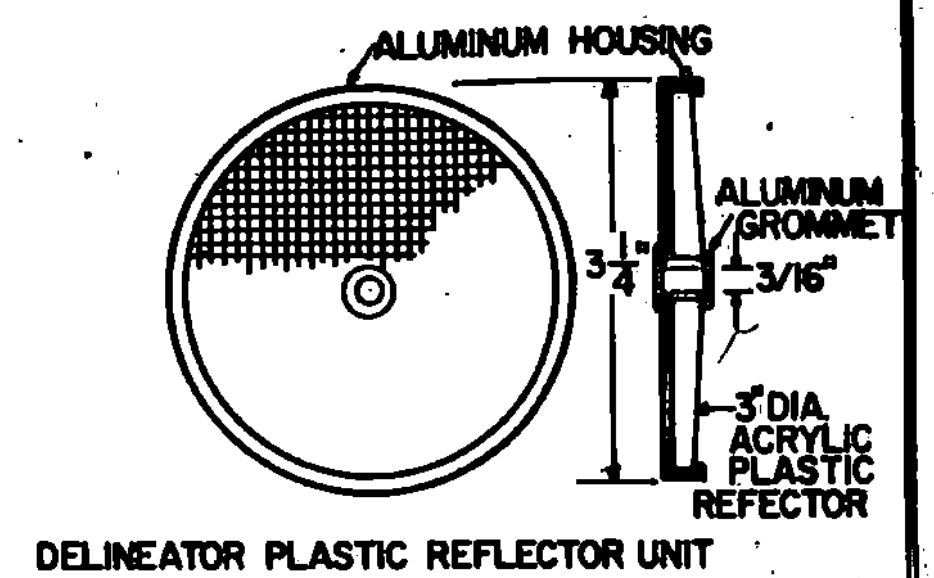
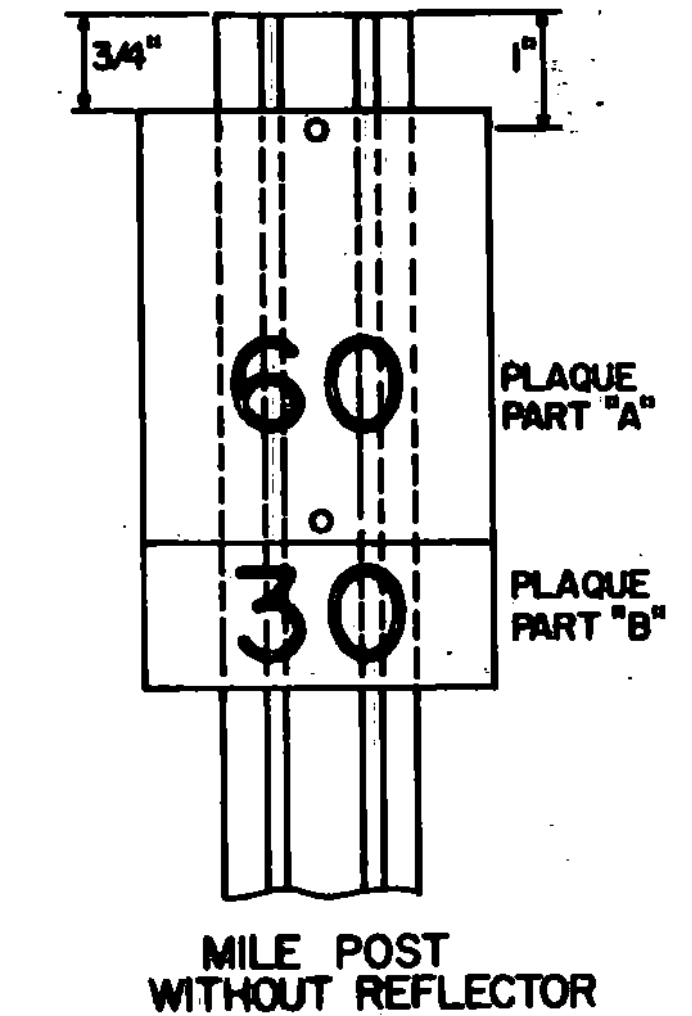
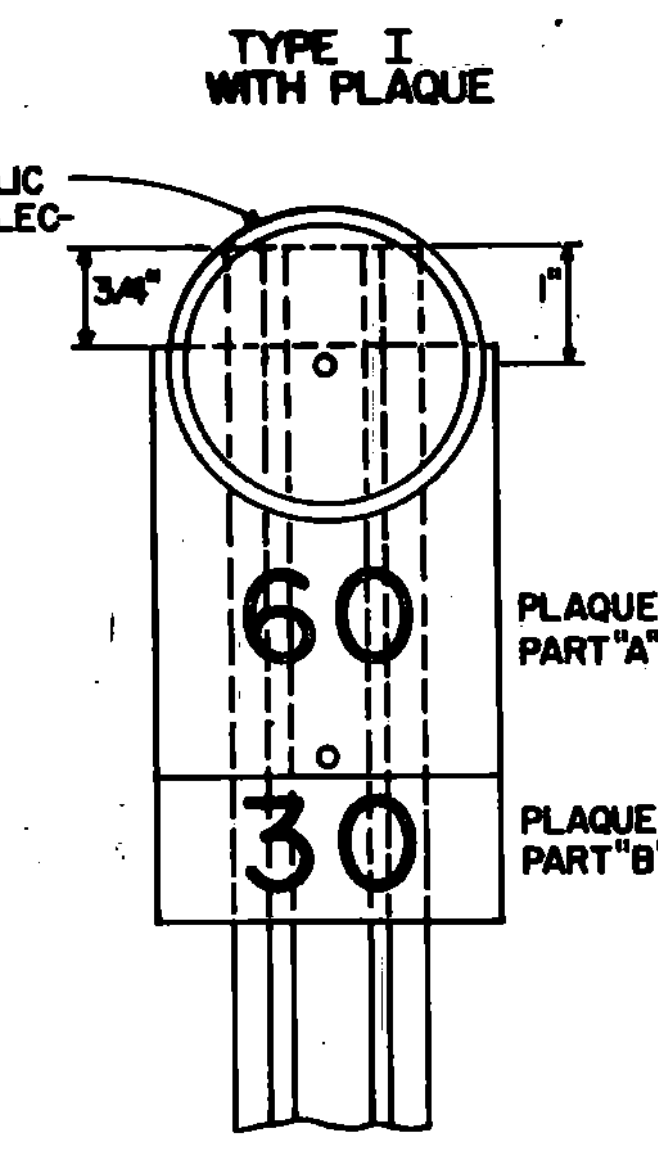
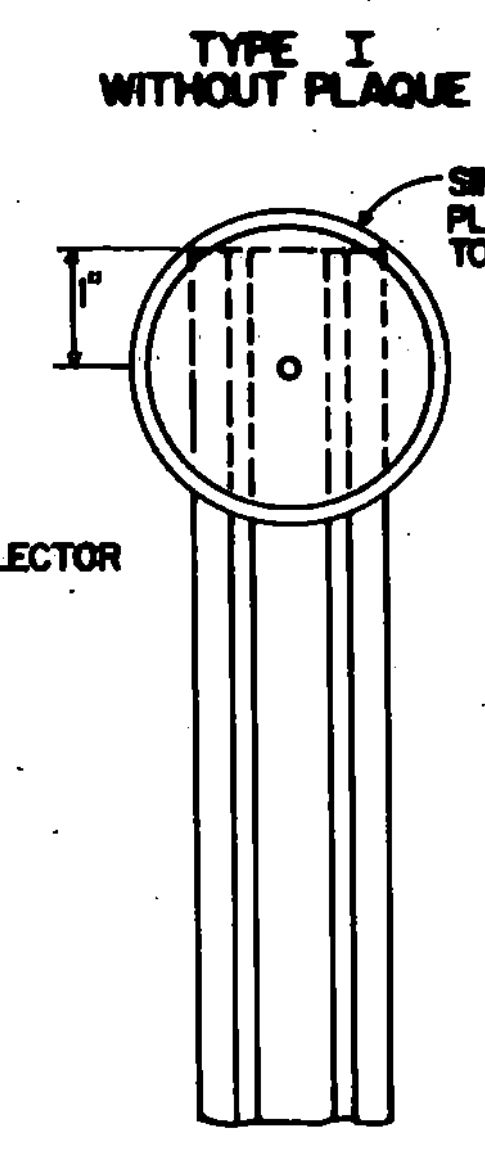
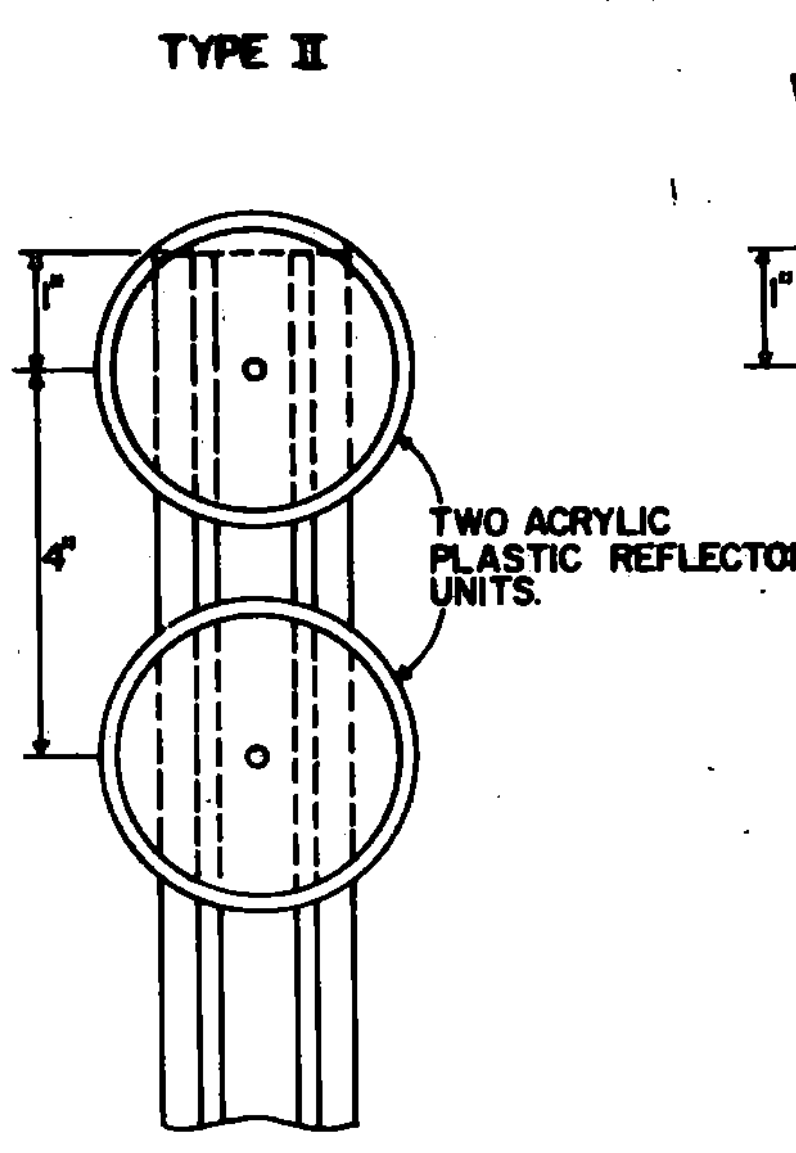
TYPE III DELINEATORS
SEE NOTE #1

TYPE III DELINEATORS SHALL BEGIN 50' FROM WRONG WAY SIGNS AND EXTEND EVERY 50' TO A POINT NOT LESS THAN 25' FROM THE INTERSECTING ROADWAY AND BE MOUNTED ON BOTH SIDES OF THE ROAD.

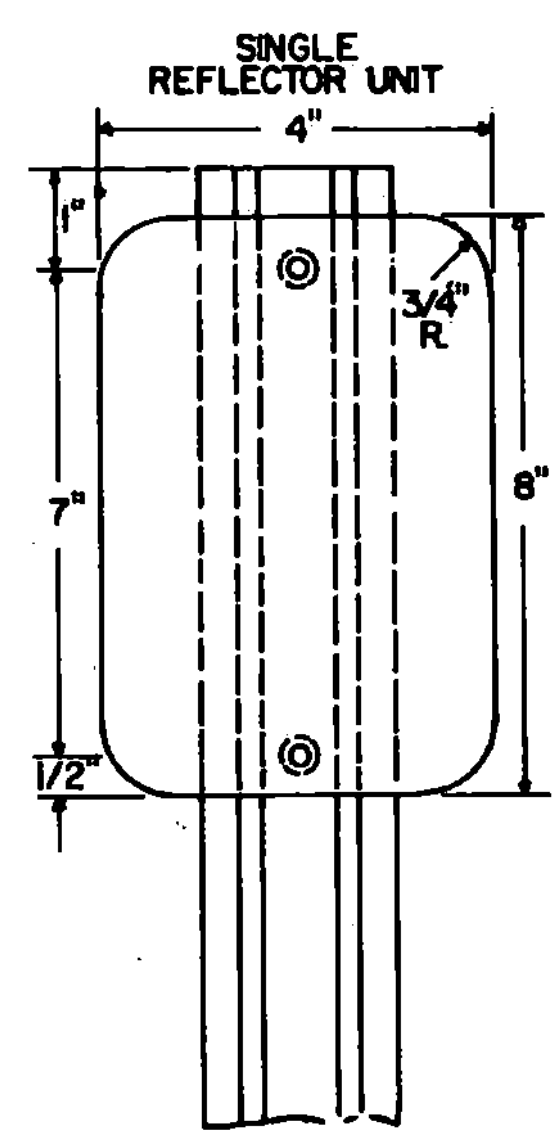
DELINEATORS WITH ACRYLIC PLASTIC REFLECTORS



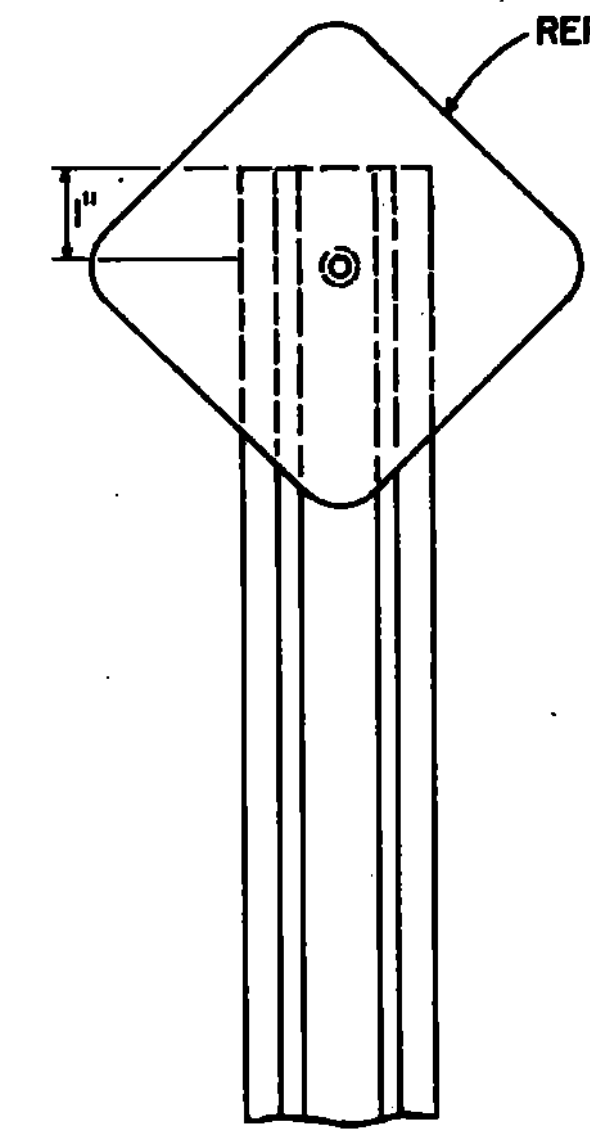
MILEPOST PLAQUE PART "B"
(THE NUMERAL ON PART "B" INDICATES UNITS OF FIVE ONE-HUNDRETHS OF A MILE BETWEEN MILE POSTS.)



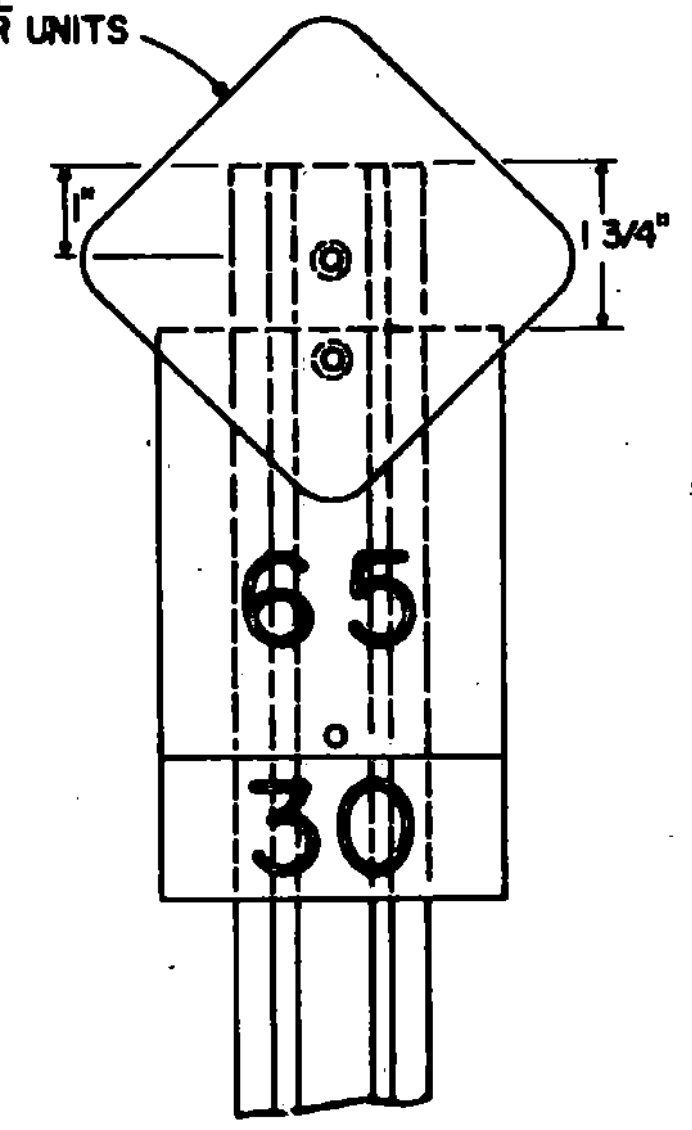
DELINEATOR PLASTIC REFLECTOR UNIT



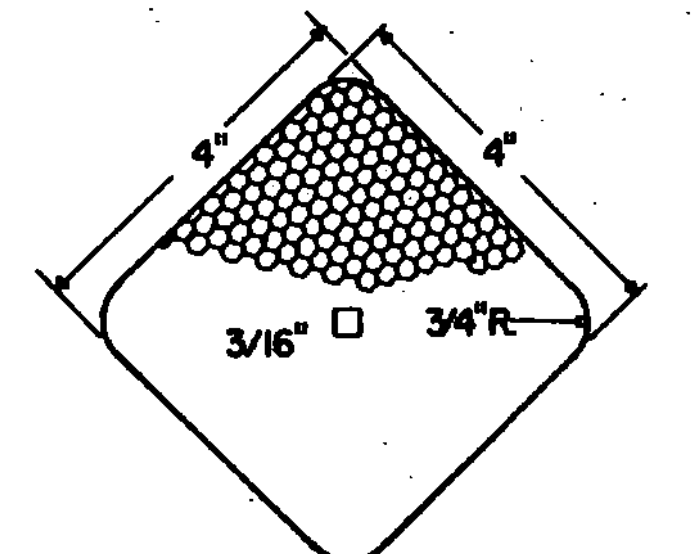
TYPE II



TYPE I WITHOUT PLAQUE



TYPE I WITH PLAQUE



DELINEATOR REFLECTIVE SHEETING UNIT

MATERIAL FOR REFLECTIVE SHEETING DELINEATORS SHALL BE A 0.063" ALUMINUM BACKING WITH A SILVER, AMBER OR RED HIGH INTENSITY REFLECTIVE SHEETING.

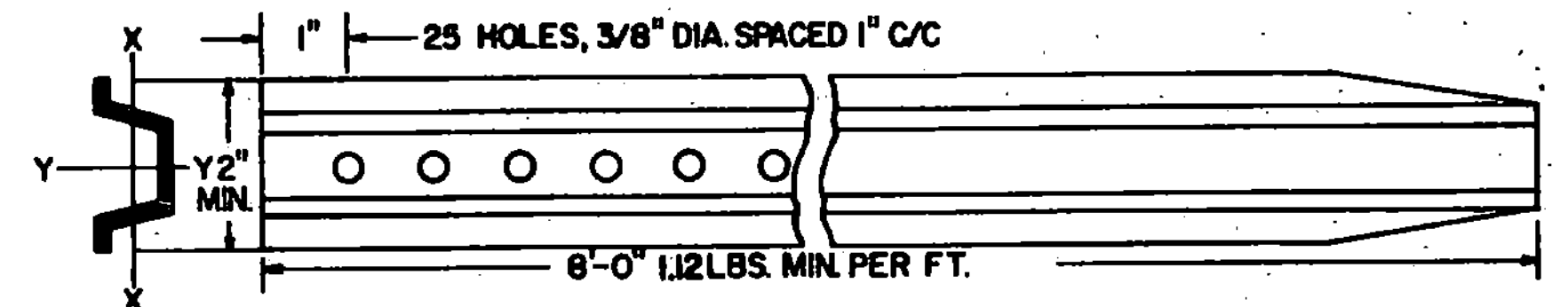
NOTES

1. TYPE III DELINEATORS WILL BE TYPE I DELINEATORS WITH AN ADDITIONAL RED REFLECTIVE UNIT MOUNTED ON THE REVERSE SIDE. THEY SHALL BE ERECTED ON THE RIGHT AND LEFT SIDE OF THE RAMP AS INDICATED ON THE PLANS.
2. EACH UNIT COMPLETE IN PLACE OF DELINEATOR TYPE I WITH OR WITHOUT PLAQUE, DELINEATOR TYPE II, DELINEATOR TYPE III OR MILEPOST WITHOUT REFLECTOR SHALL BE PAID FOR AS DELINEATOR, PAY ITEM 676.10.
3. FOR MOUNTING DELINEATORS AND MILEPOSTS ON BRIDGES, SEE STANDARD E-32.
4. DELINEATOR POSTS SHALL HAVE A MINIMUM EMBEDMENT OF 2'-3' IN THE GROUND.

DELINEATORS WITH REFLECTIVE SHEETING

A DELINEATOR REFLECTOR UNIT WITH ITS MILEPOST PLAQUE SHALL BE MOUNTED ON THE POST WITH TWO OR THREE 3/16" DIA. BY 1 1/2" LONG ALUMINUM BOLTS WITH 1/2" DIA. ALUMINUM VANDAL RESISTANT NUTS, OR A 3/16" DIA. BY 1 1/2" LONG VANDAL RESISTANT FASTENERS.

YY=0.11 IN³ MIN.
XX=0.08 IN³ MIN.



REVISIONS AND CORRECTIONS
DEC. 12, 1973 - REFERENCE TO E-20A CHANGED TO E-32
SEPT. 7, 1979 - TYPE III DELINEATOR ADDED, REFLECTOR UNIT COLORS CHANGED TO CONFORM TO MUTCD
DEC. 13, 1979 - REFLECTIVE CRITERIA DELETED
JULY 17, 1981 - POST WEIGHT CHANGE, DELINEATOR OFFSET REVISED.
AUG. 25, 1981 - CORRECTIONS MADE, POST LENGTH CHANGED.
FEB. 23, 1984 - ADDED SECOND TYPE III DELINEATOR NOTE.
FEB. 3, 1986 - UPDATED TO 1986 SPECIFICATIONS

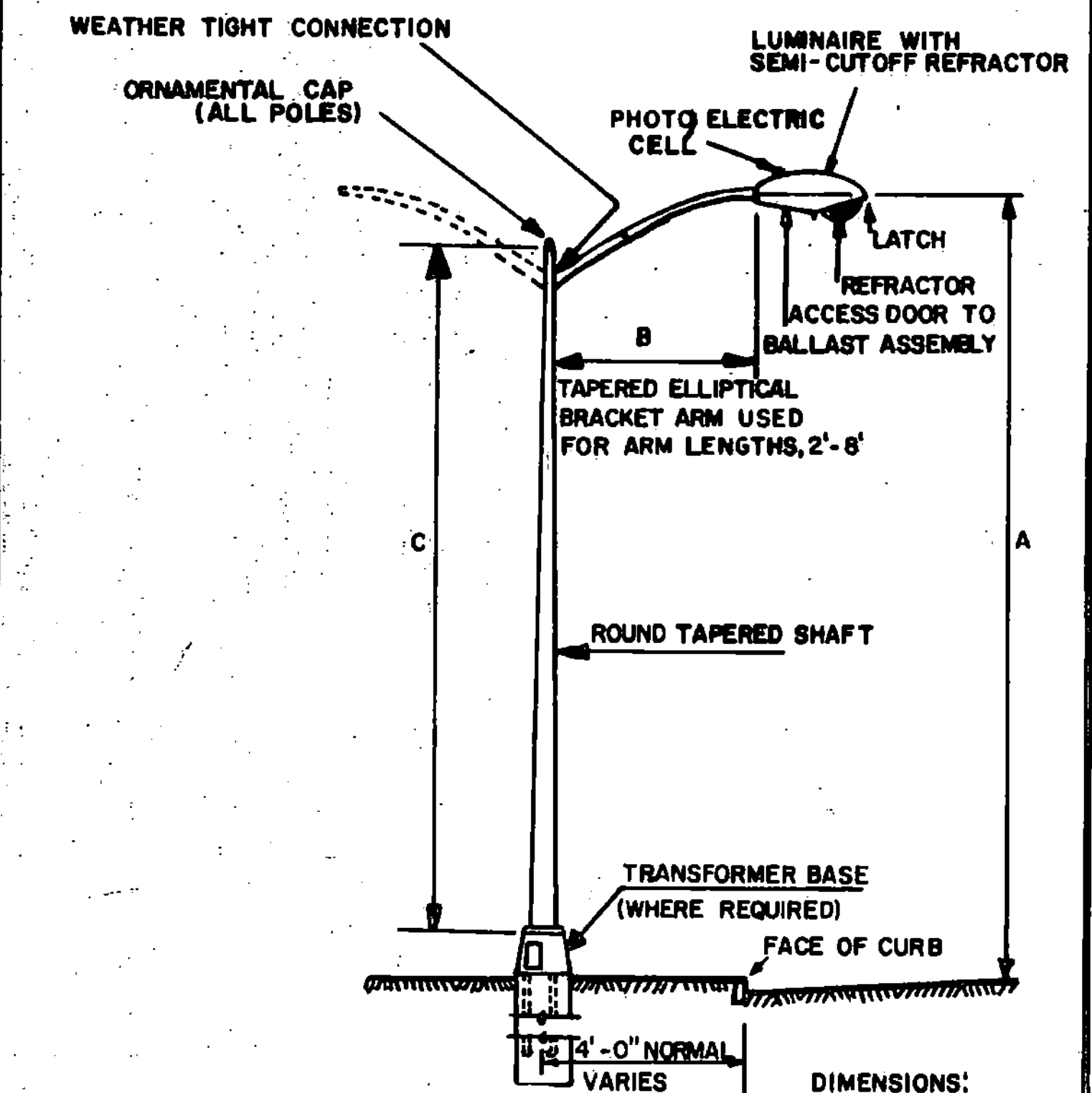
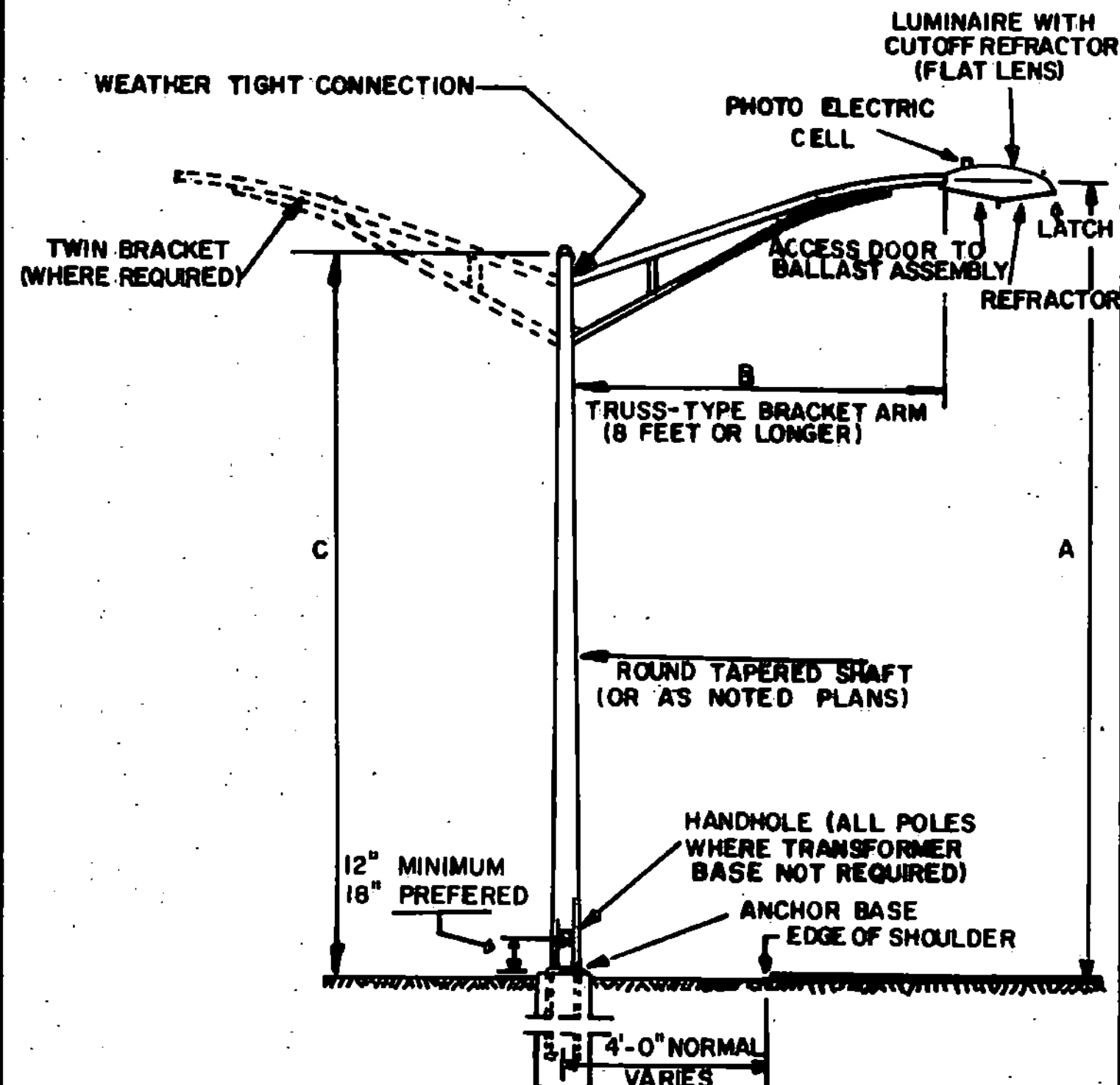
APPROVED: *Dec. 29, 1971*
DATE
P. H. Crowell
CHIEF ENGINEER
E. H. Stinchey
ASST. CHIEF ENGINEER
G. M. Lane
HIGHWAY ENGINEER

DELINEATORS AND MILEPOSTS



STANDARD
E-30

ROUND ALUMINUM AND STEEL POLES



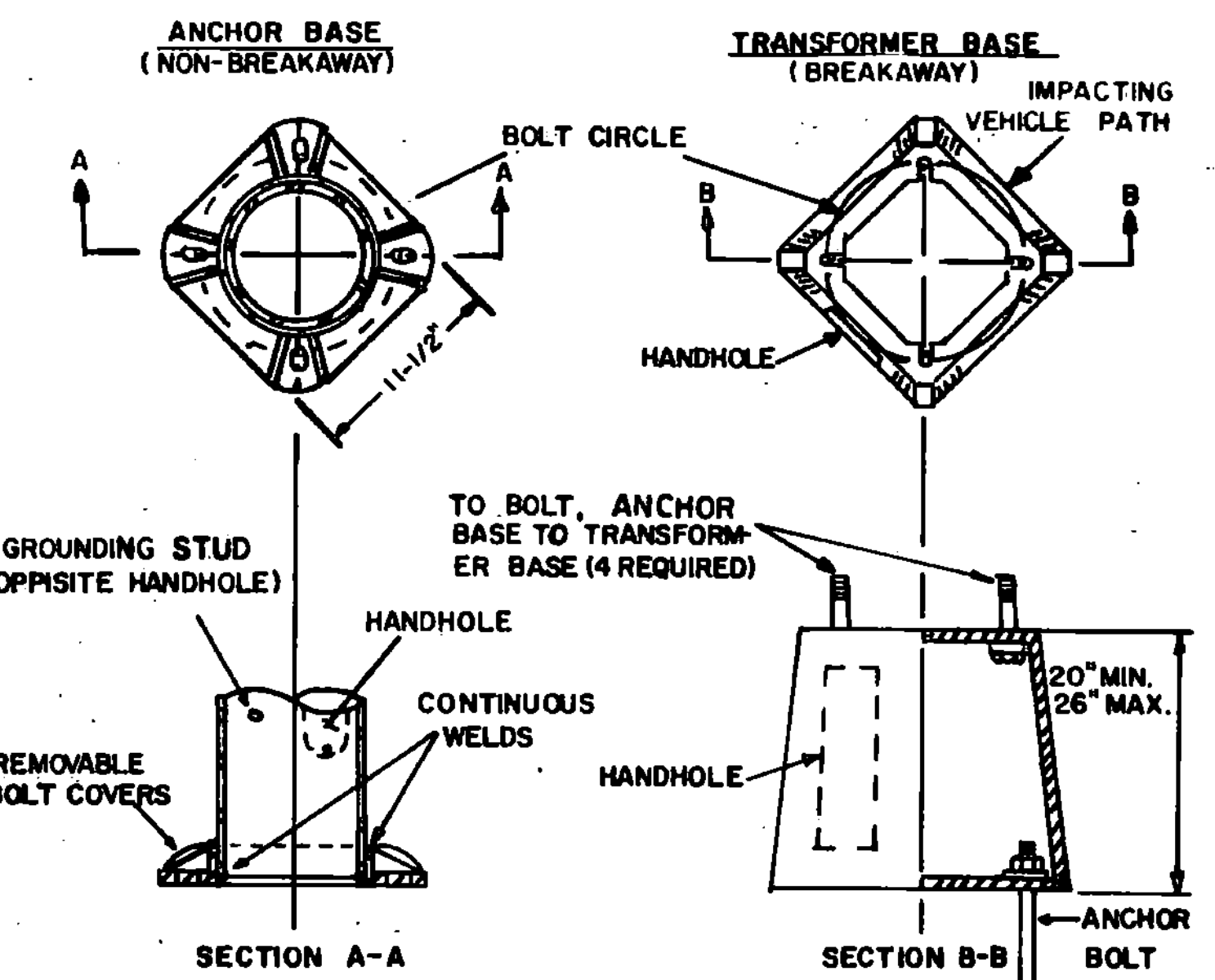
ALL POLES TO BE EQUIPPED WITH ANCHOR BASES UNLESS OTHERWISE INDICATED.
 ALL BRACKETS TO BE EQUIPPED WITH 2" SLIPFITTER FOR MOUNTING LUMINAIRE UNLESS OTHERWISE INDICATED.

REVISIONS AND CORRECTIONS
 JUNE 17, 1985 TRANSFORMER BASE STD. VEHICLE PATH CHANGED. SLOPE TREATMENT FOR CONCRETE BASE CHANGED.
 FEB. 3, 1986 - UPDATED TO 1986 SPECIFICATIONS

DIMENSIONS:
 A=MOUNTING HEIGHT
 B=BRACKET ARM LENGTH
 C=POLE HEIGHT

BASES

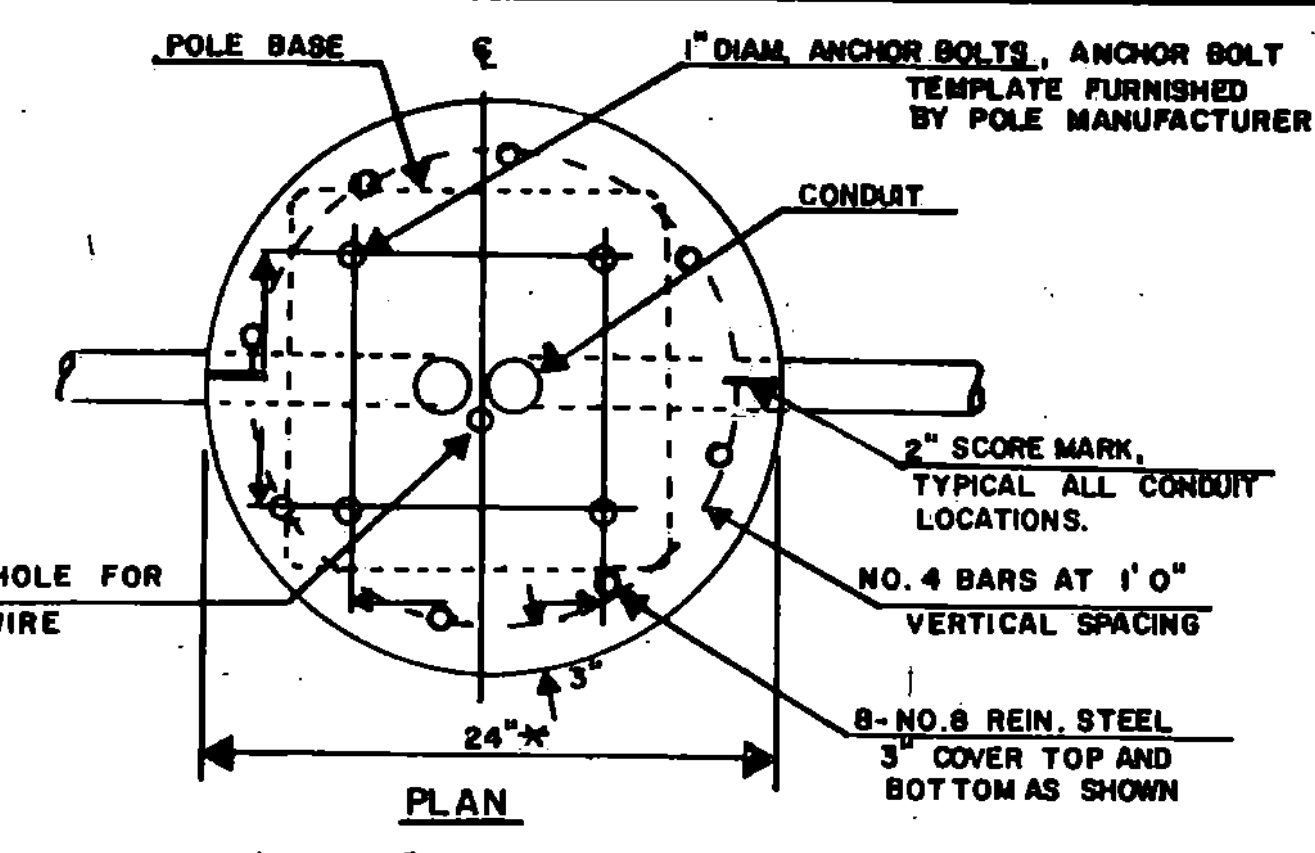
DIMENSIONS SHOWN FOR ANCHOR BASES AND TRANSFORMER BASES MAY VARY SLIGHTLY WITH DIFFERENT MANUFACTURERS.



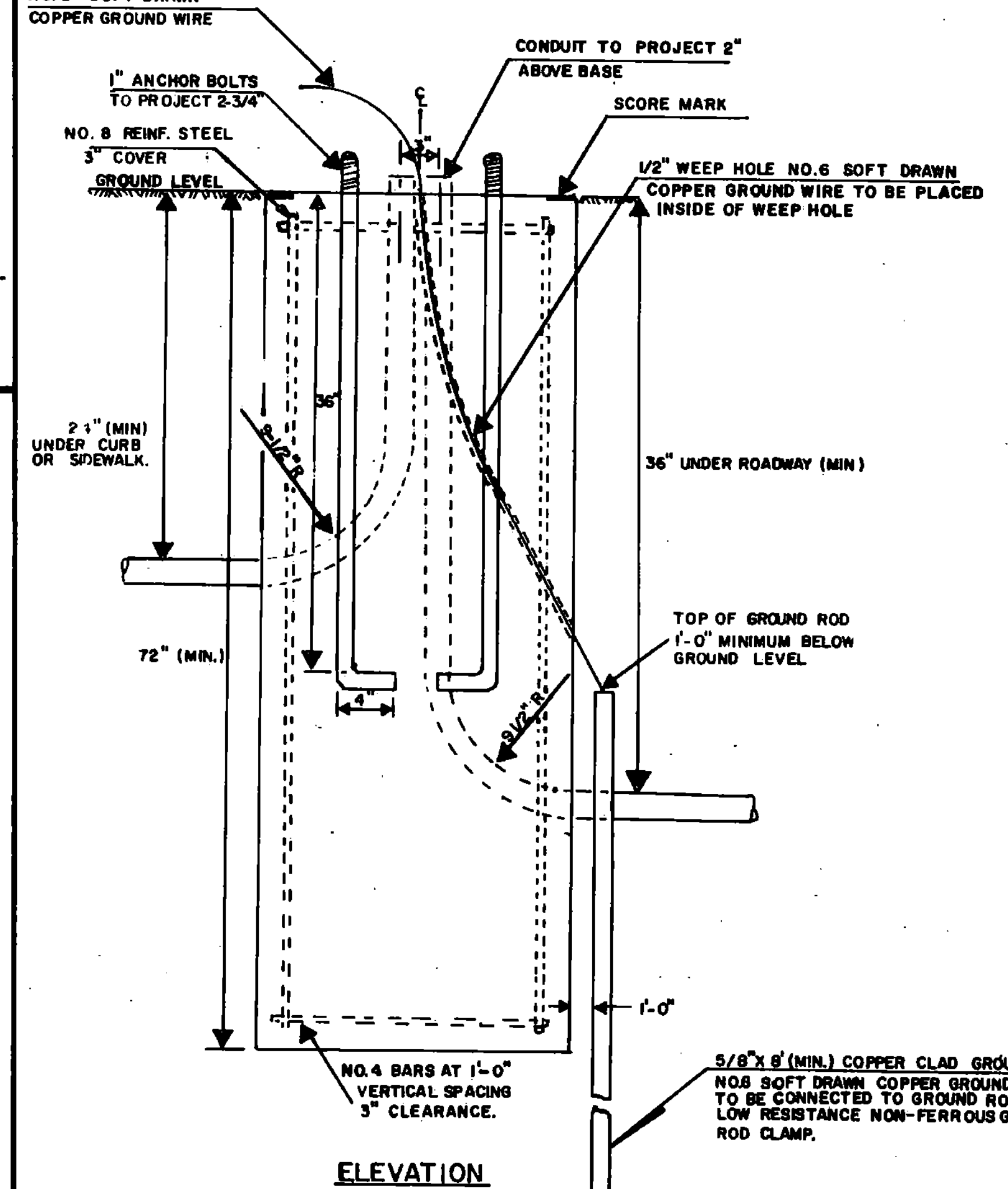
NOTE:
 FOR BREAKAWAY DESIGN A TRANSFORMER BASE, BREAKAWAY COUPLINGS, OR OTHER APPROVED METHOD SHALL BE PLACED BETWEEN THE ANCHOR BASE AND THE CONCRETE BASE.

POLES, ANCHOR BASES, ARMS, AND LUMINAIRES. GENERAL NOTES

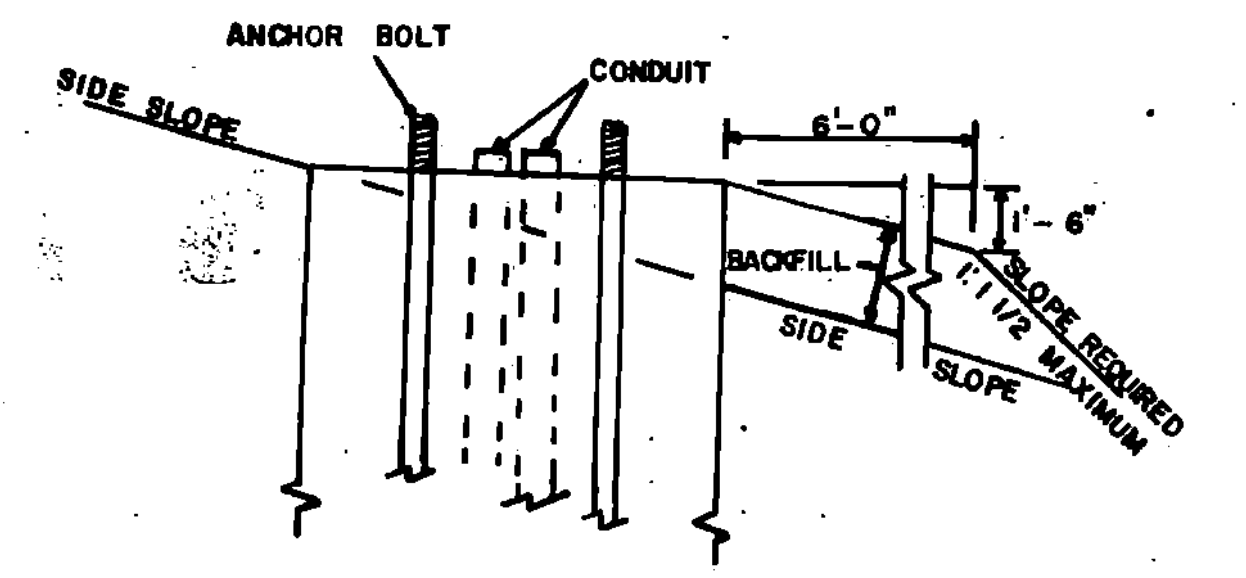
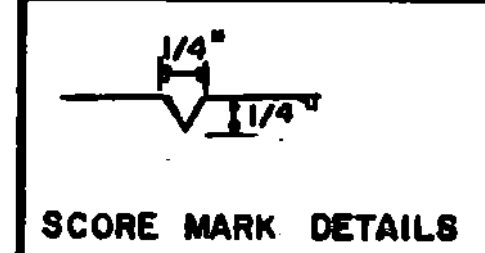
1. NO POLE SHALL BE INSTALLED WITHOUT A LUMINAIRE.
2. ANCHOR BASE AND ANCHOR BOLT DIMENSIONS SHOWN ARE FOR A SINGLE ARM POLE OF HEIGHT 35 FEET OR LESS. SEE PLANS FOR OTHER CONDITIONS.
3. ALL POLES OF THE BREAKAWAY DESIGN SHALL YIELD OR BREAKAWAY WITH A CHANGE IN VEHICLE MOMENTUM OF LESS THAN 1100 POUND-SECONDS WHEN STRUCK BY 2250 POUNDS AT 20 MPH. TO 60 MPH.
4. A 12 FOOT OR LONGER ARM REQUIRES A 6 INCH OUTSIDE DIAMETER POLE TOP.
5. LUMINAIRES SHALL MEET SPECIFICATIONS AS SHOWN ON THE PLANS.
6. ALL ELECTRICAL MATERIAL AND ELECTRICAL WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE AREA ELECTRICAL INSPECTOR AND/OR THE POWER COMPANY WITH JURISDICTION IN THE PROJECT AREA.
7. ALL WORK MUST MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, AS WELL AS LOCAL AND STATE CODES.
8. ALL STREET LIGHT POLES SHALL HAVE A METAL TAG ATTACHED TO THE HANDHOLE WITH THE POLE NUMBER, WATTAGE AND TYPE OF LAMP, EXAMPLE, NO. 2-150W.-H.P.S. (H.P.S.=HIGH PRESSURE SODIUM). MINIMUM LETTER SIZE 1/2 INCH HIGH. PAYMENT FOR TAGS WILL BE SUBSIDIARY TO ITEM 679.15, STREET LIGHTING.
9. POLES, BASE PLATES, ANCHOR BOLTS AND ARMS SHALL MEET THE SPECIFICATION OF THE LATEST EDITION OF AASHTO-AGC-ARTBA'S GUIDE TO STANDARDIZED HIGHWAY LIGHTING POLY HARDWARE.



*USE 30" WITH TRANSFORMER BASES, ARM OVER 8' LONG OR WHEN OTHERWISE NOTED.



CONCRETE BASE



SIDE SLOPE TREATMENT FOR CONCRETE BASE

CONCRETE BASE NOTES

1. ALL CONCRETE BASES TO BE CONCRETE, CLASS B
2. ALL REINFORCING STEEL TO CONFORM TO THE REQUIREMENTS FOR "REINFORCING STEEL."
3. TEMPLATE FOR ANCHOR BOLTS, ANCHOR BOLTS, NUTS AND WASHERS TO BE OBTAINED BY CONTRACTOR FROM MANUFACTURER PRIOR TO CONSTRUCTION OF BASES.
4. SCORE TOP OF CONCRETE BASE TO SHOW LOCATION OF CONDUIT (SL CONDUIT SIZE - AS SHOWN ON THE PLANS).
5. ALL EXPOSED METAL HARDWARE SHALL BE GALVANIZED OR STAINLESS STEEL.

STREET LIGHTING ITEM DETAILS



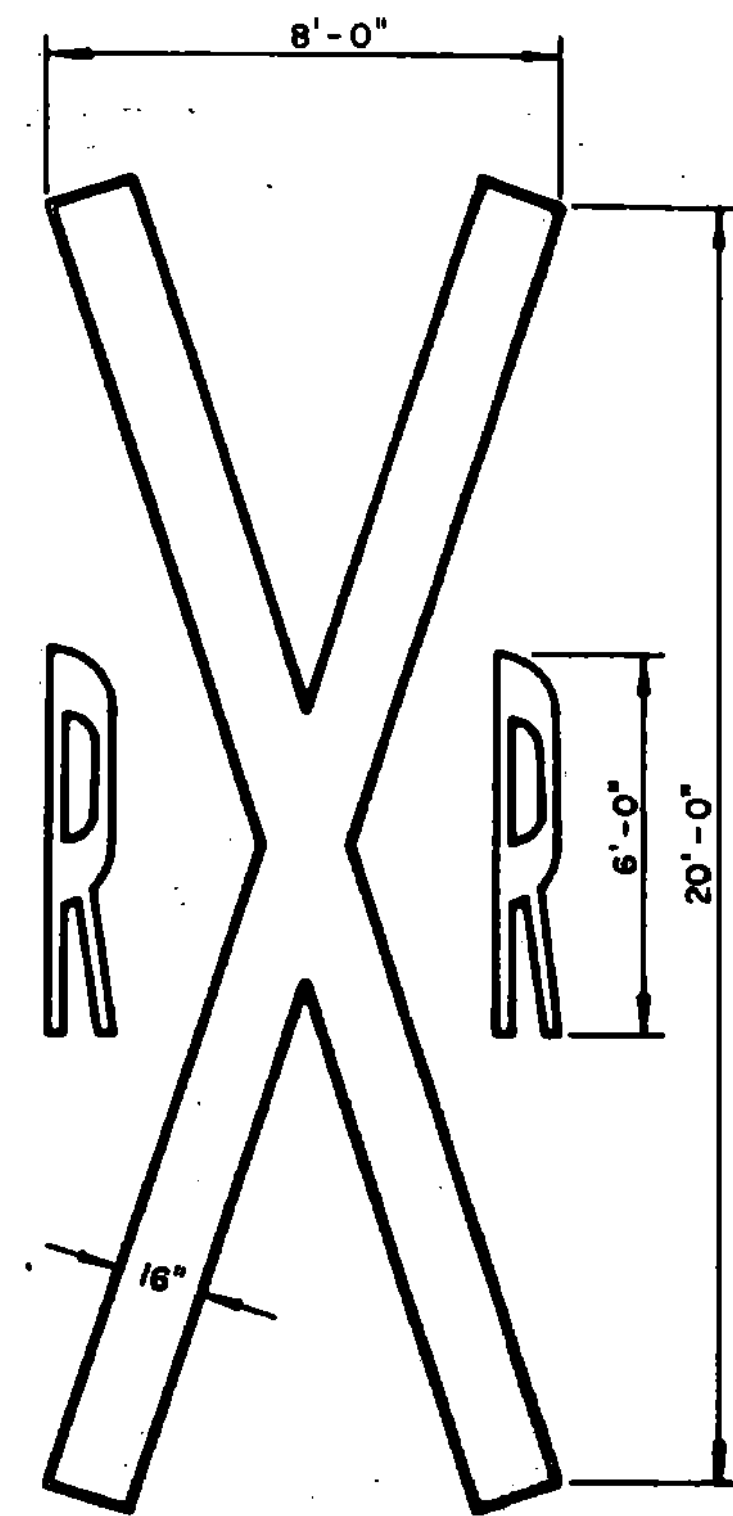
STANDARD E-39

APPROVED _____ DATE JULY 20, 1984

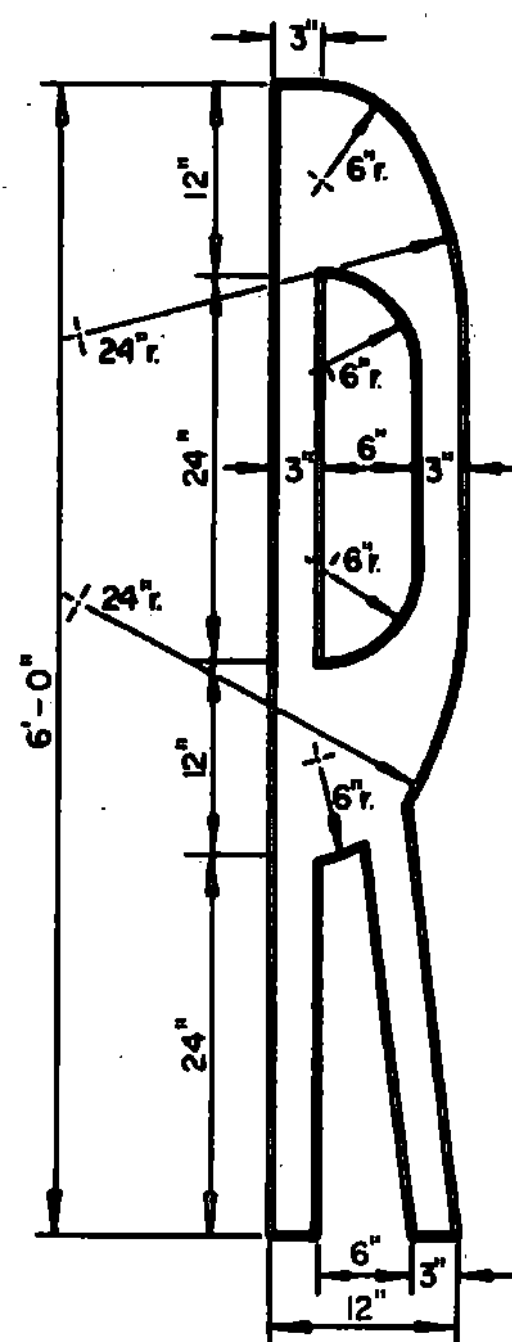
DIRECTOR OF ENGINEERING AND CONSTRUCTION

CHIEF OF DESIGN _____

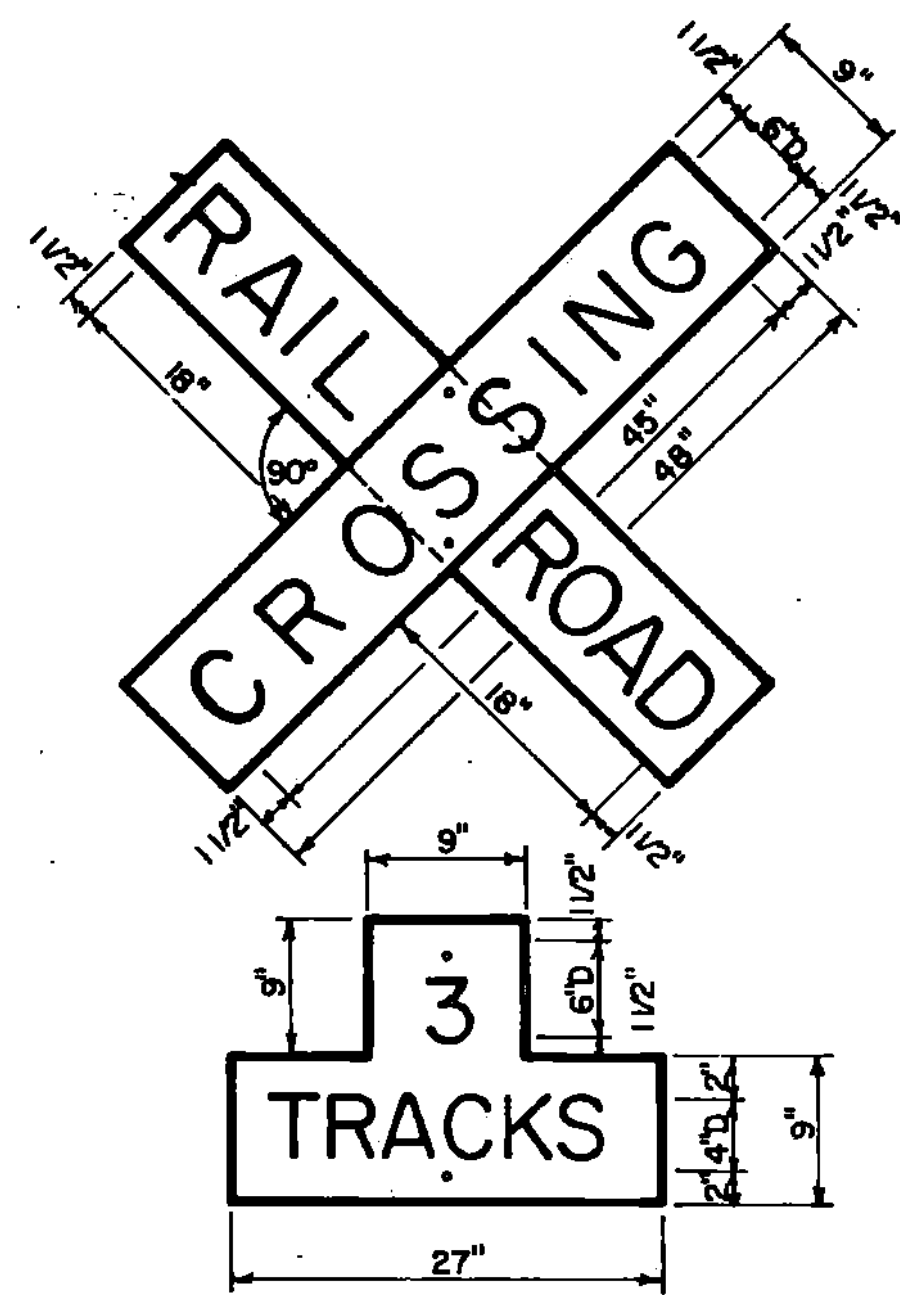
SURVEY AND PLANS ENGINEER _____



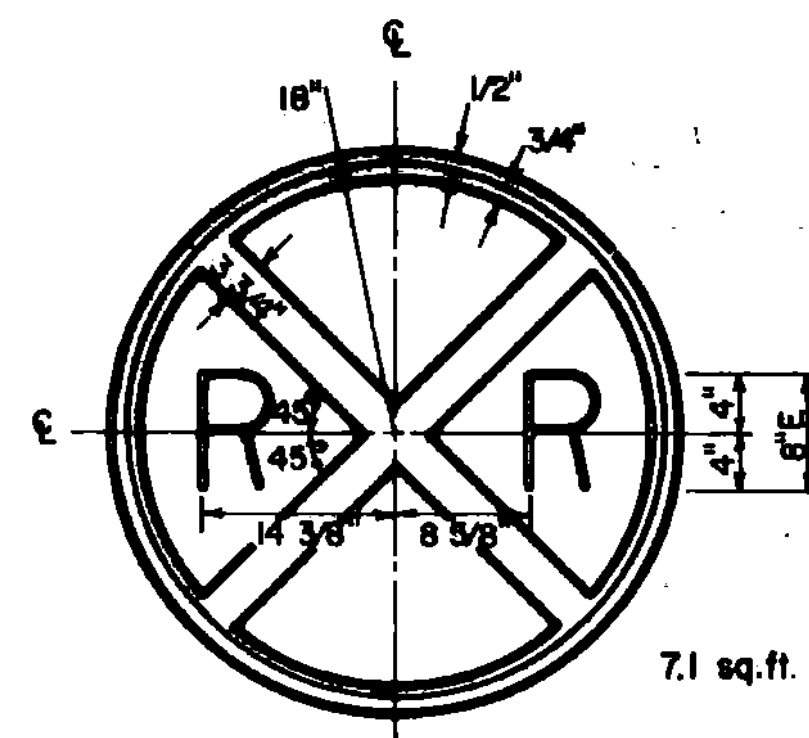
PAVEMENT MARKINGS



MATERIALS:
REFER TO SPECIAL SPECIFICATION FOR REFLECTORIZED
PAVEMENT MARKINGS

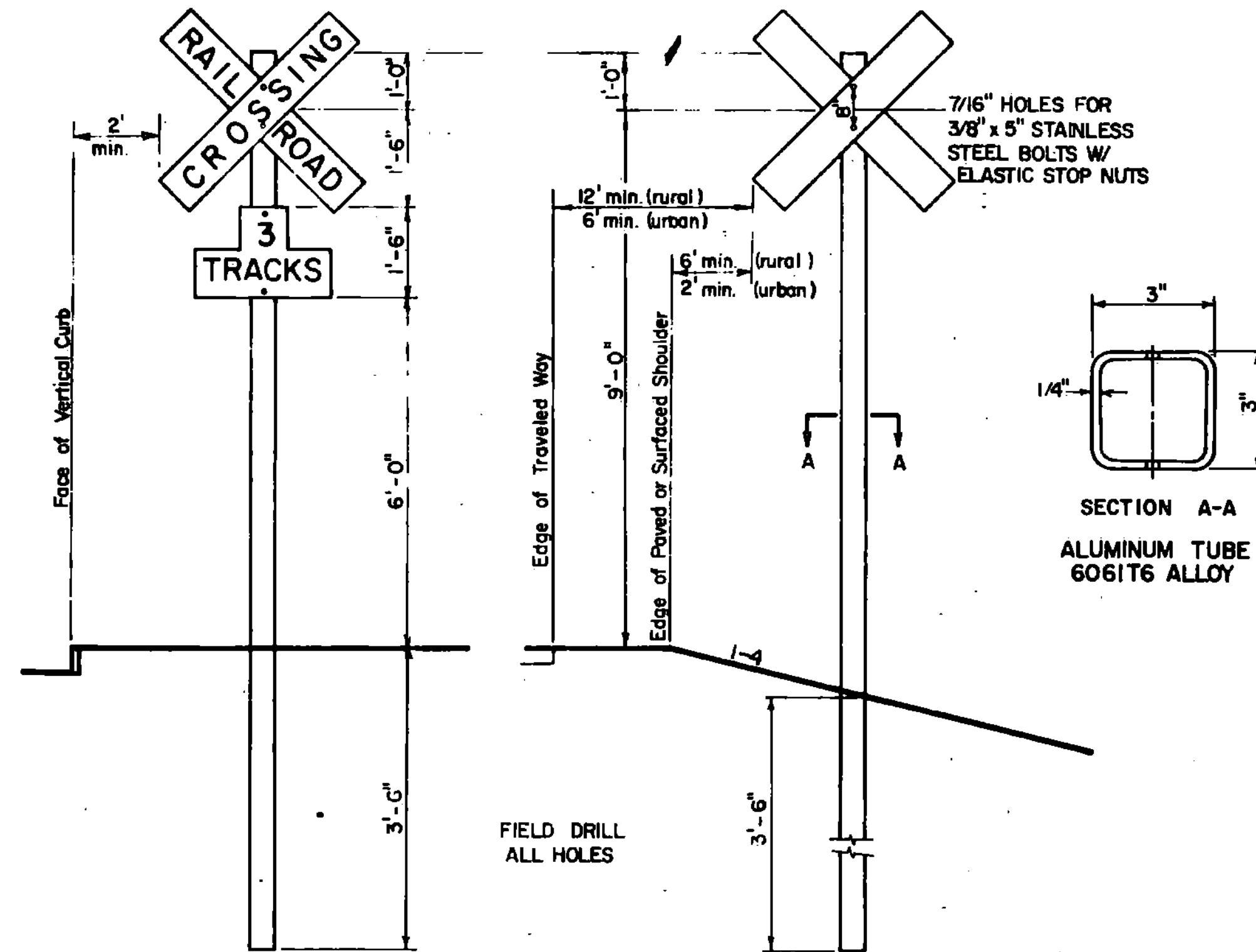


RAILROAD CROSSING SIGN (CROSSBUCK)

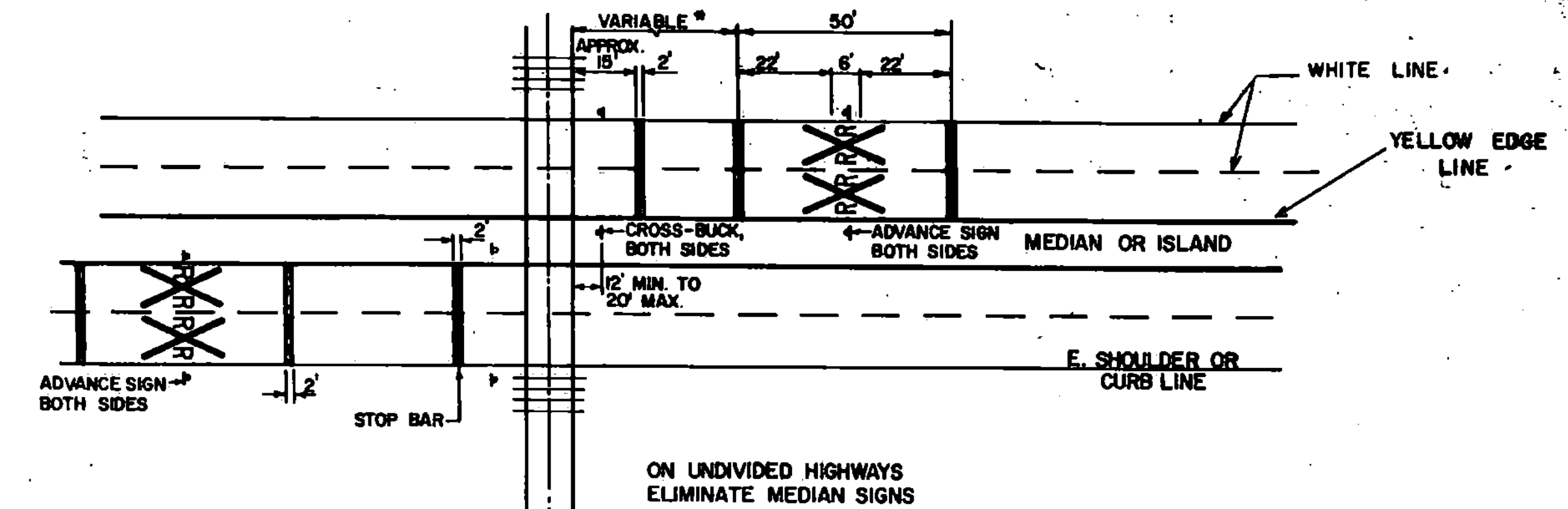
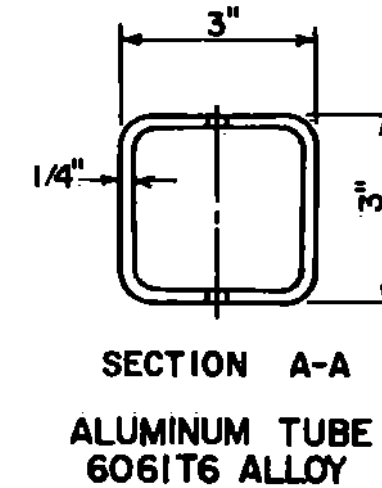


ADVANCE SIGN

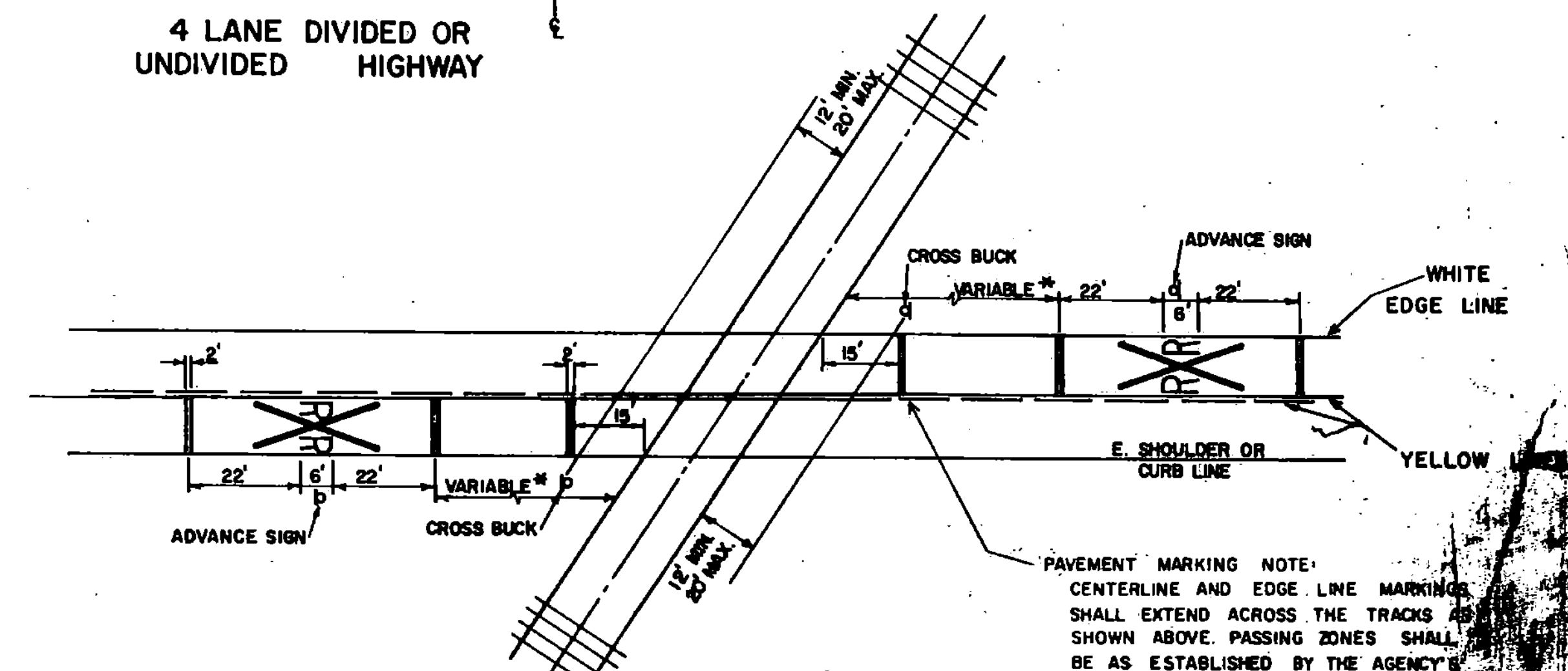
SIGN MATERIAL -
CROSS-BUCKS SHALL BE EITHER 5/8"
HIGH-DENSITY OVERLAY PLYWOOD OR
0.100 ALUMINUM W/SILVER OR WHITE ENCAPSULATED
REFLECTIVE SHEETING. ADVANCE SIGN
SHALL BE 0.125 ALUMINUM W/YELLOW
REFLECTIVE SHEETING. MULTI-TRACK
SIGN SHALL BE 0.06 ALUMINUM W/SILVER
OR WHITE REFLECTIVE SHEETING. TEXT,
STRIPES AND BORDERS SHALL BE EITHER
BLACK PAINTED OR LETTERING FILM.



FIELD DRILL
ALL HOLES



4 LANE DIVIDED OR
UNDIVIDED HIGHWAY



2 WAY TRAFFIC PAVED
ALSO APPLICABLE TO UNPAVED ROADS FOR
PLACEMENT OF CROSSBUCKS AND ADVANCE
SIGNS

PAVEMENT MARKING NOTE:
CENTERLINE AND EDGE LINE MARKINGS
SHALL EXTEND ACROSS THE TRACKS AS
SHOWN ABOVE. PASSING ZONES SHALL
BE AS ESTABLISHED BY THE AGENCY.
* GUIDELINE ON MARKING OF CENTERLINE
ON TWO LANE, TWO WAY, HIGHWAYS.

GENERAL NOTES

- Pavement Markings**
These markings shall be placed, if physically feasible, on all paved approaches to railroad crossings, where there are signals and/or automatic gate and at all other crossings where the prevailing speed of highway traffic is 40 MPH or greater.
The markings shall also be placed at crossings where engineering studies indicate there is a significant potential conflict between vehicles and trains. At minor crossings or in urban areas, these markings may be omitted if engineering study indicates that other devices installed provide suitable protection. Such markings shall be white except for the no passing markings. This marking shall be centered opposite the Advance Warning Sign and as indicated above.
- Cross-bucks**
Where physically feasible and visible to approaching traffic, these signs shall be installed on the right-hand side of the roadway for each approach to the crossing.

- Auxiliary Signs**
A number of tracks sign shall be used where there are two or more tracks at the crossing.
- Advance Warning Sign**
Railroad Advance Warning signs will be provided and located in accordance with Section 88-3 of the MUTCD.

For post-hardware, anchors and erection information, refer to standard sheet E-24A.

REVISIONS & CORRECTIONS

MARCH 26, 1979 PAVEMENT MARKINGS REVISED
SEPT. 4, 1979 - NOTE 4 MODIFIED
APRIL 28, 1980 - NOTE 4 MODIFIED. EMBEDMENT
DETAILS FOR CROSS-BUCK
SUPPORT REVISED.
MAY 10, 1985 - CENTERLINE MARKING NOTE ADDED
1985 - UPDATED TO 1985
SPECIFICATIONS

APPROVED

DATE 8/27/77
S. J. G...
CHIEF ENGINEER
R. O. Munn
CHIEF OF DESIGN
Loren J. Jones
HIGHWAY ENGINEER

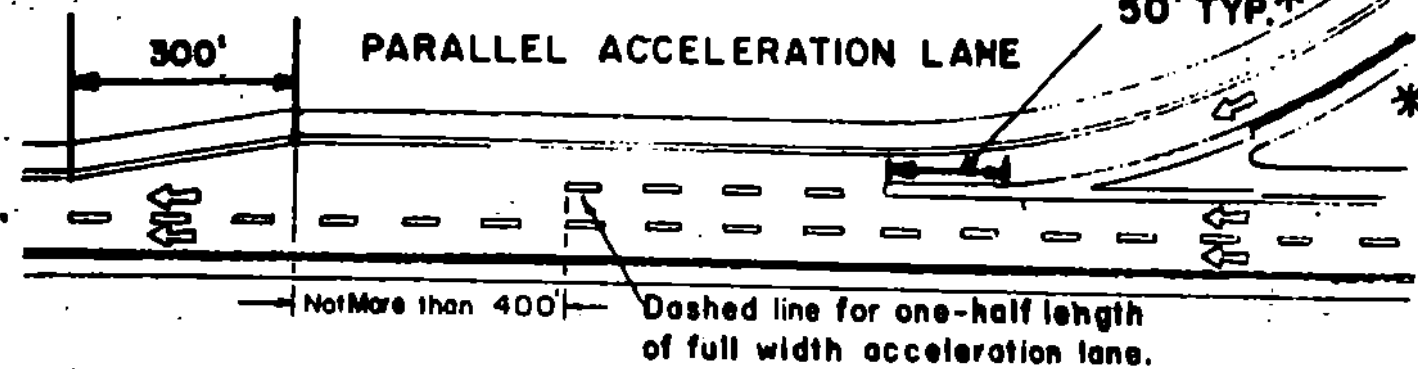
RAILROAD CROSSING SIGNS
AND PAVEMENT MARKINGS



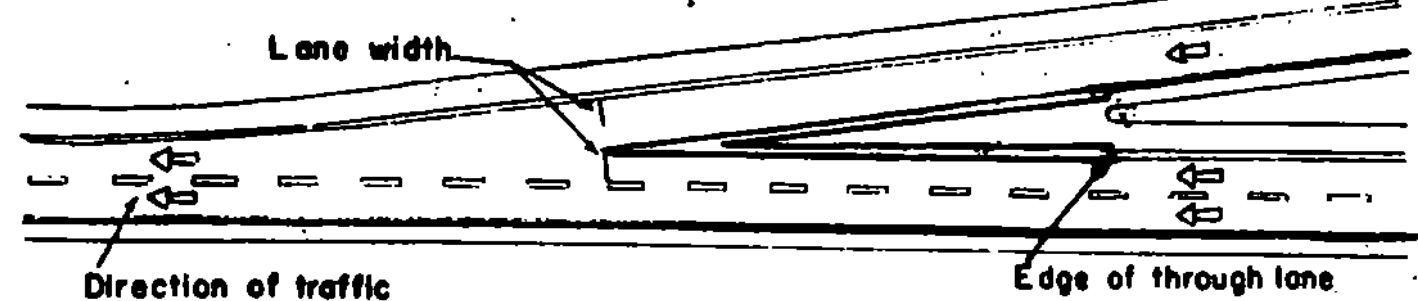
STANDARD

E-45

Typical entrance ramp markings

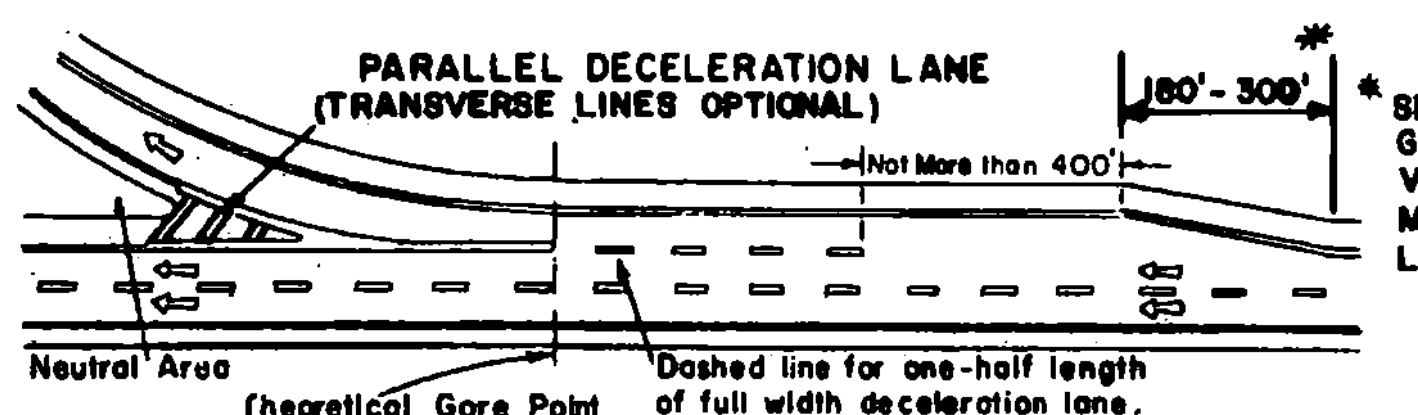


TAPERED ACCELERATION LANE

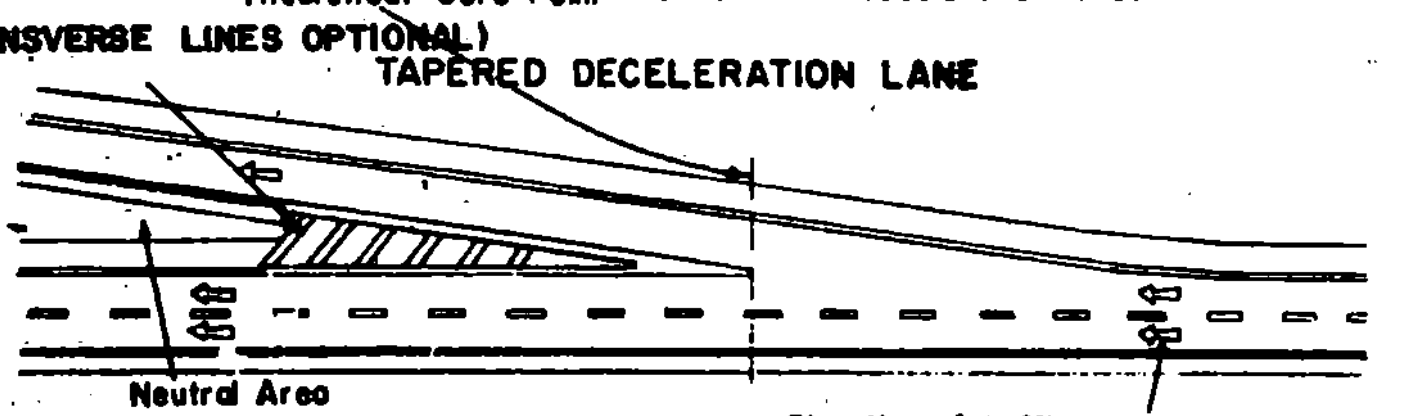


- 4" White Lines
- 4" Yellow Lines
- 8" Channelization White Lines

Typical exit ramp markings

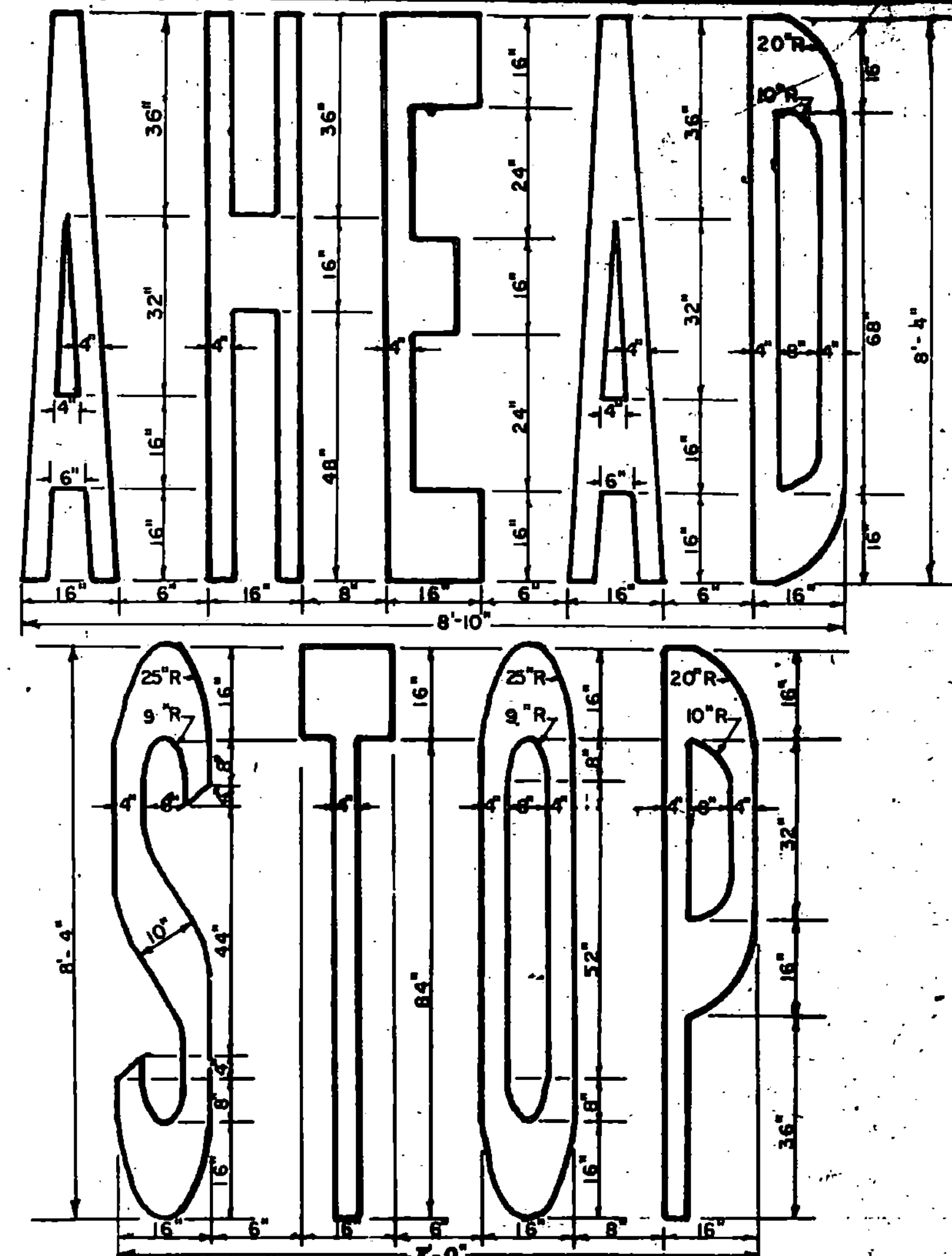
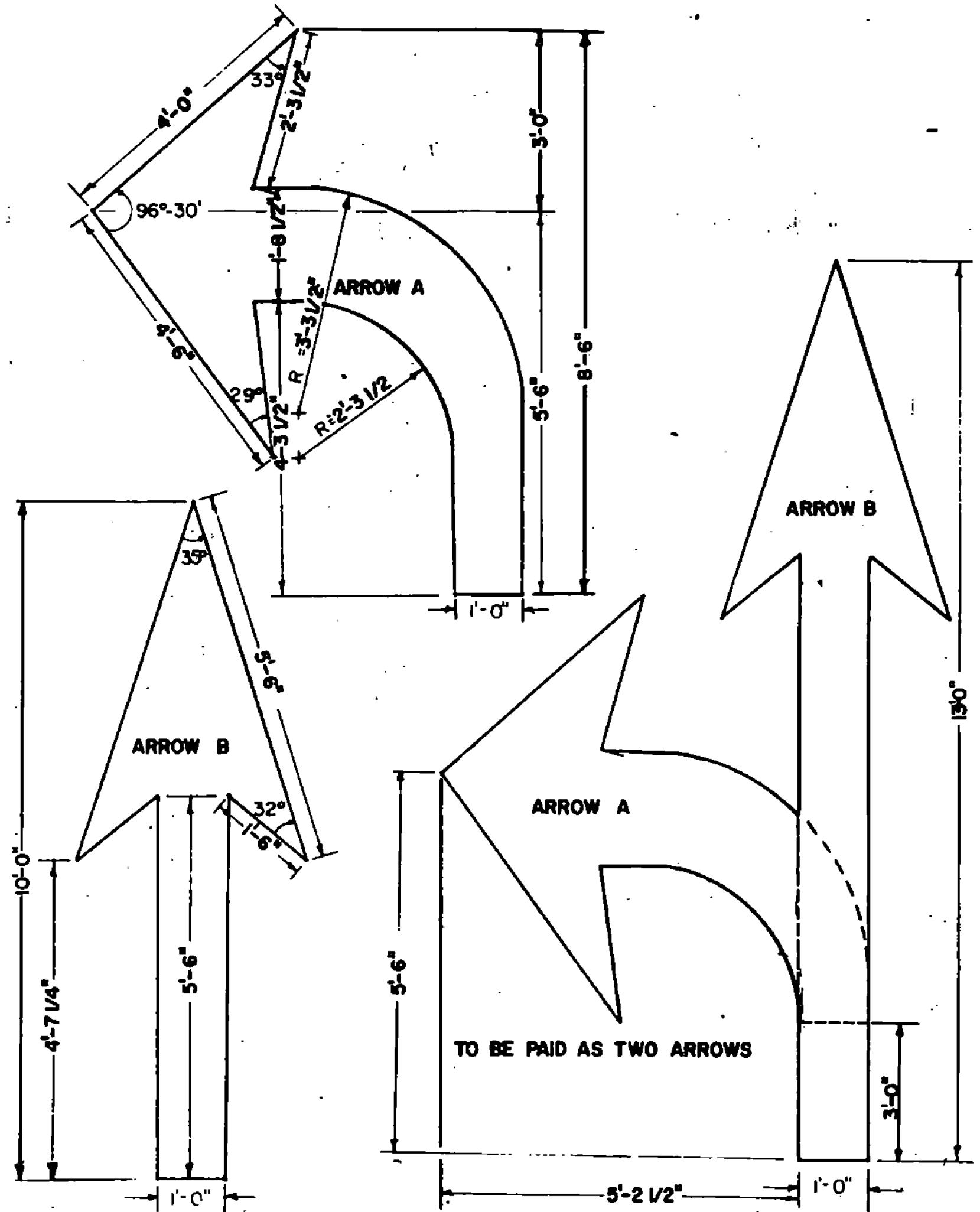
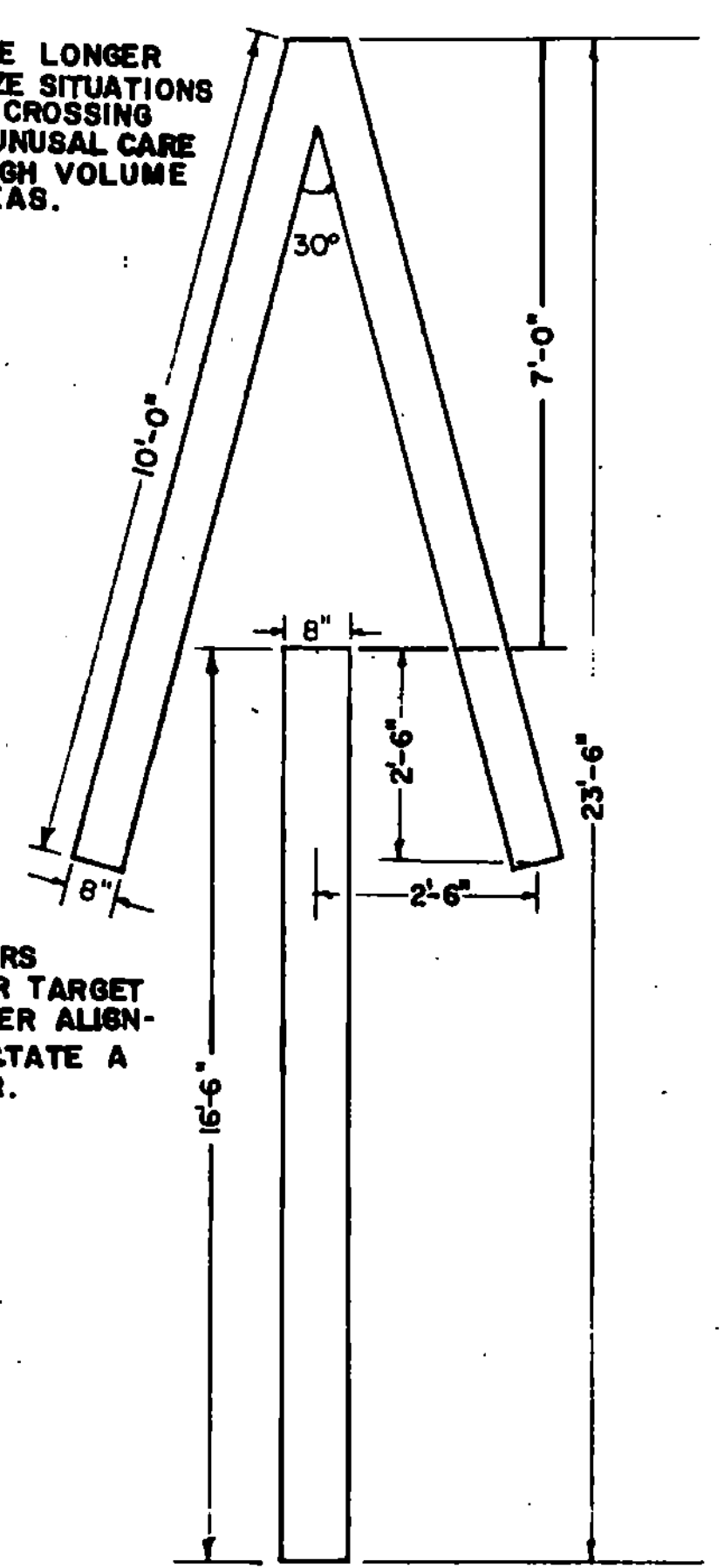


* SHORTER TAPERS GIVE A BETTER TARGET VALUE, HOWEVER ALIGNMENT MAY DICTATE A LONGER TAPER.



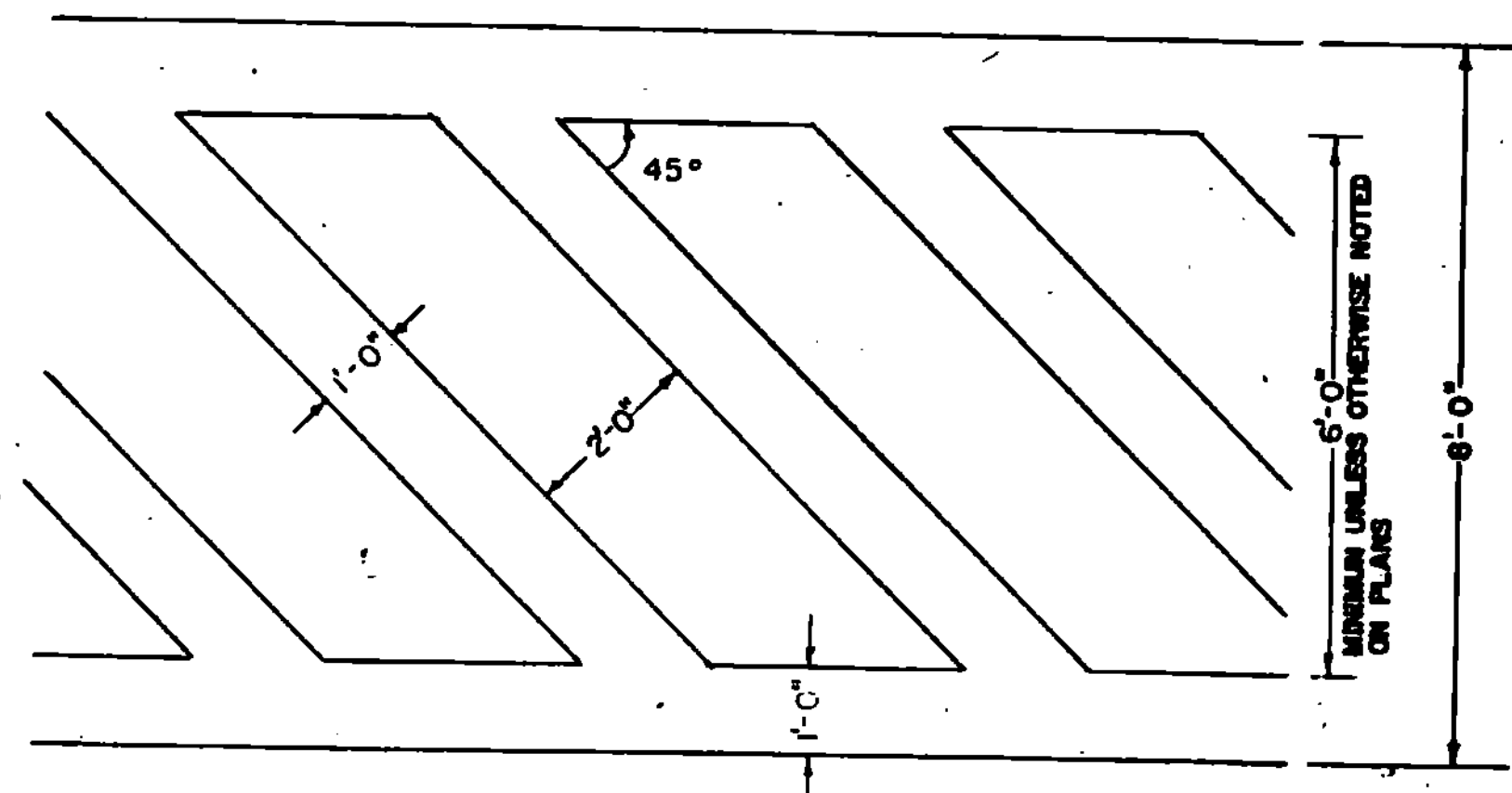
TRANSVERSE LINES SHALL CONSIST OF 8" WHITE LINES SPACED 5'-0" C-C AND SET AT 45° TO MAIN LINE EDGE LINES. THESE MARKINGS SHALL BE USED TO INCREASE VISIBILITY DUE TO DIFFICULT VERTICAL OR HORIZONTAL ALIGNMENT.

RAMP PAVEMENT ARROW DETAIL

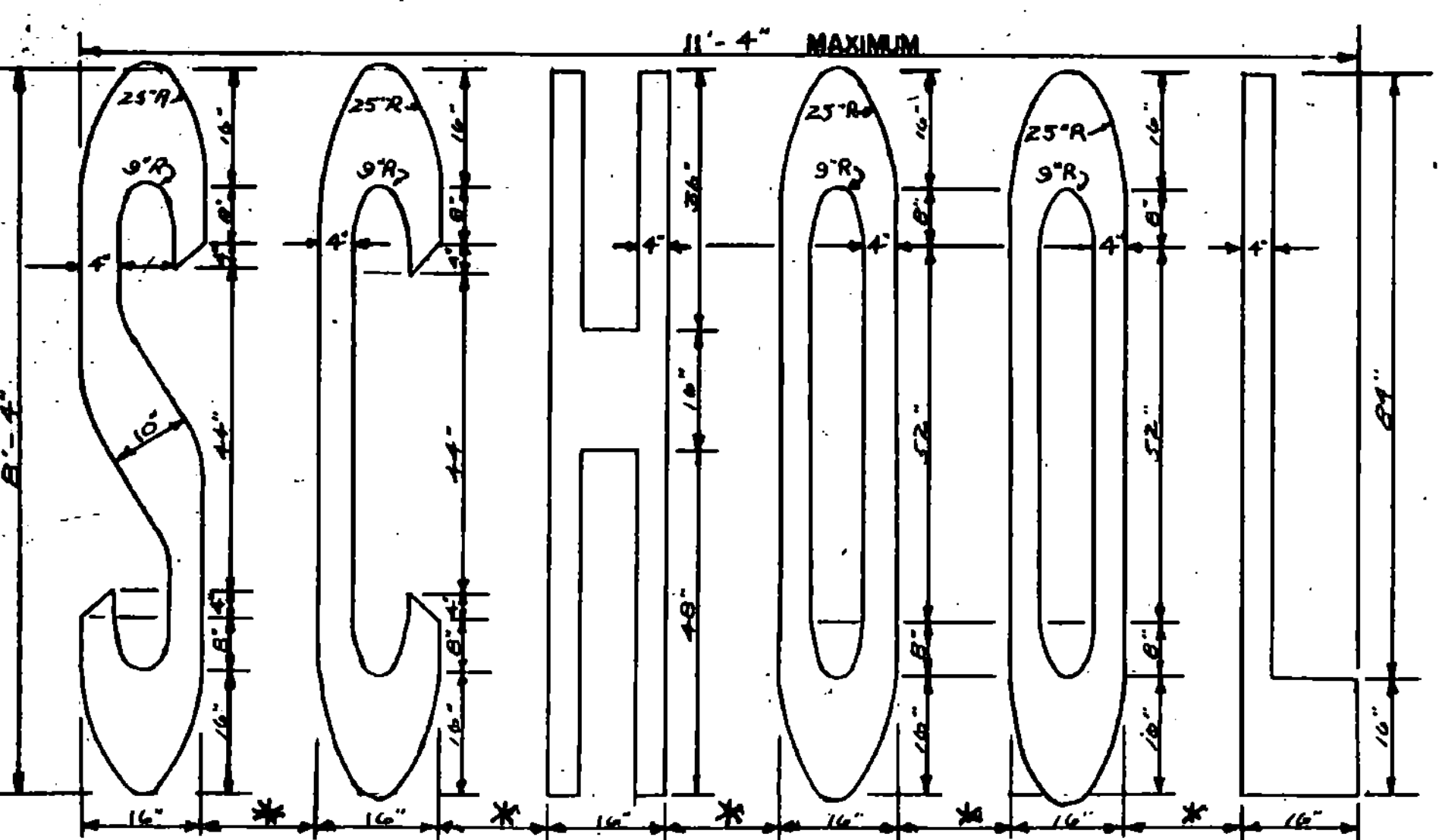
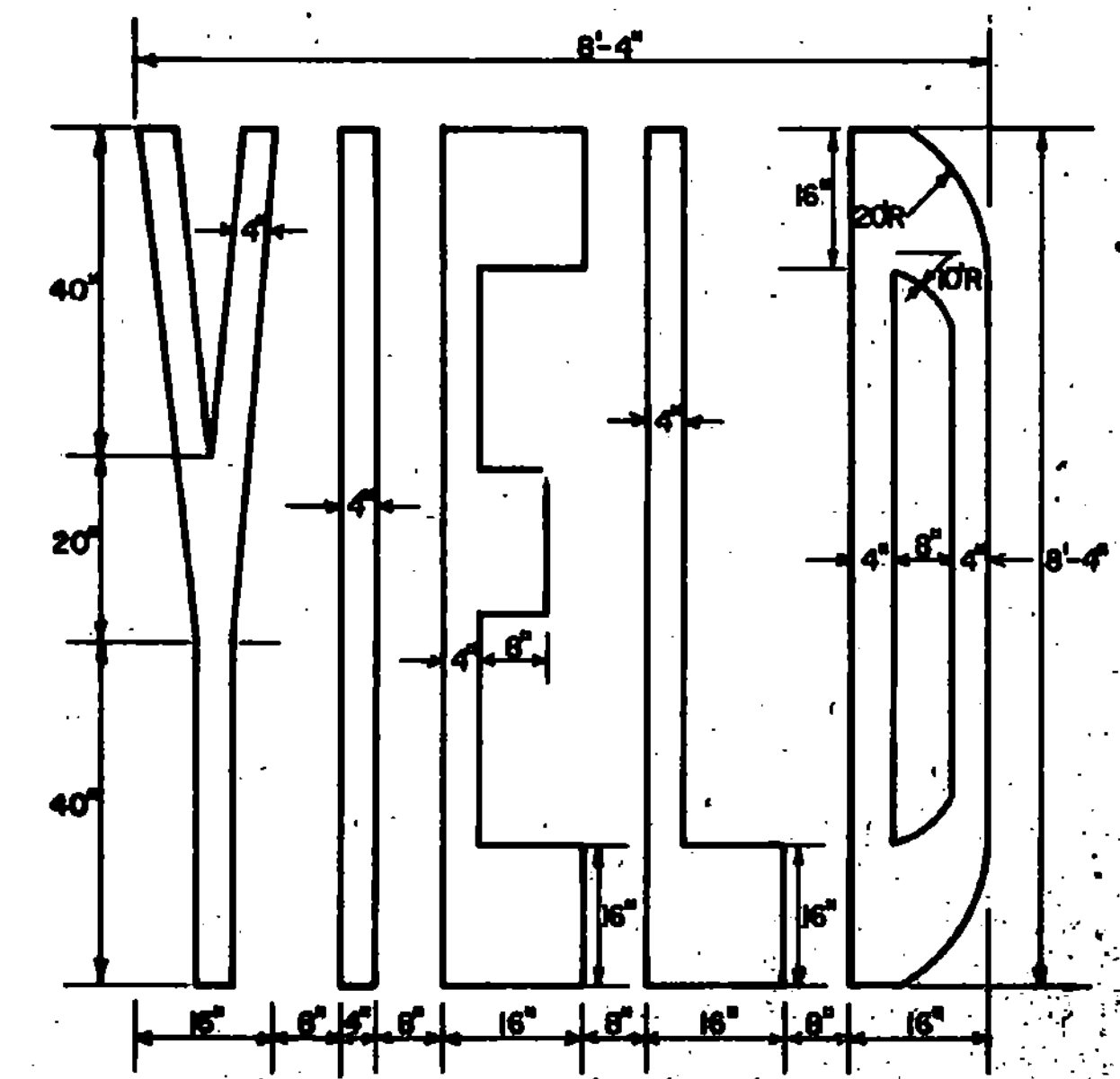


32' SPACING BETWEEN WORDS
USE FOR STOP AREA
SIGNAL AREA
YIELD AREA

CROSSWALK DETAIL



ARROWS AND WORD MARKINGS THAT CONFORM TO THE DIMENSIONS SHOWN ON THIS SHEET OR AS DETAILED IN THE BOOKLET ENTITLED "THE STANDARD PAVEMENT MARKING ALPHABET AND SYMBOLS, 1977" PREPARED BY THE FEDERAL HIGHWAY ADMINISTRATION WILL BE ACCEPTABLE.

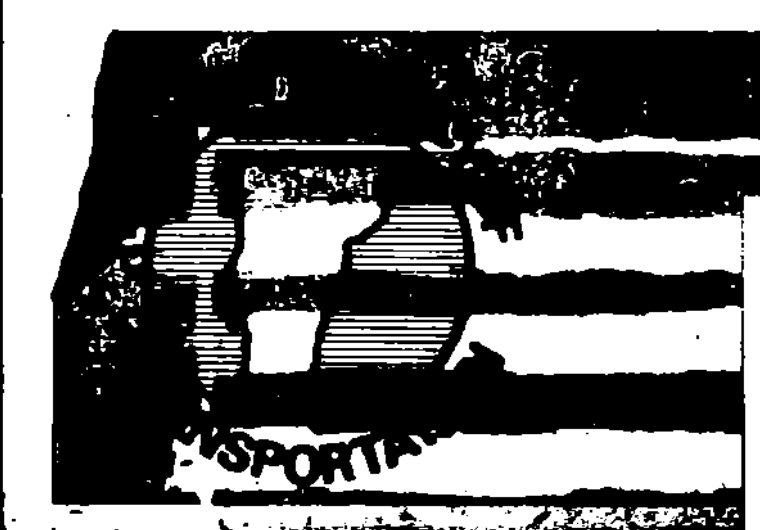


* (4" - 8") - ADJUST TO AVAILABLE PAVEMENT WIDTH

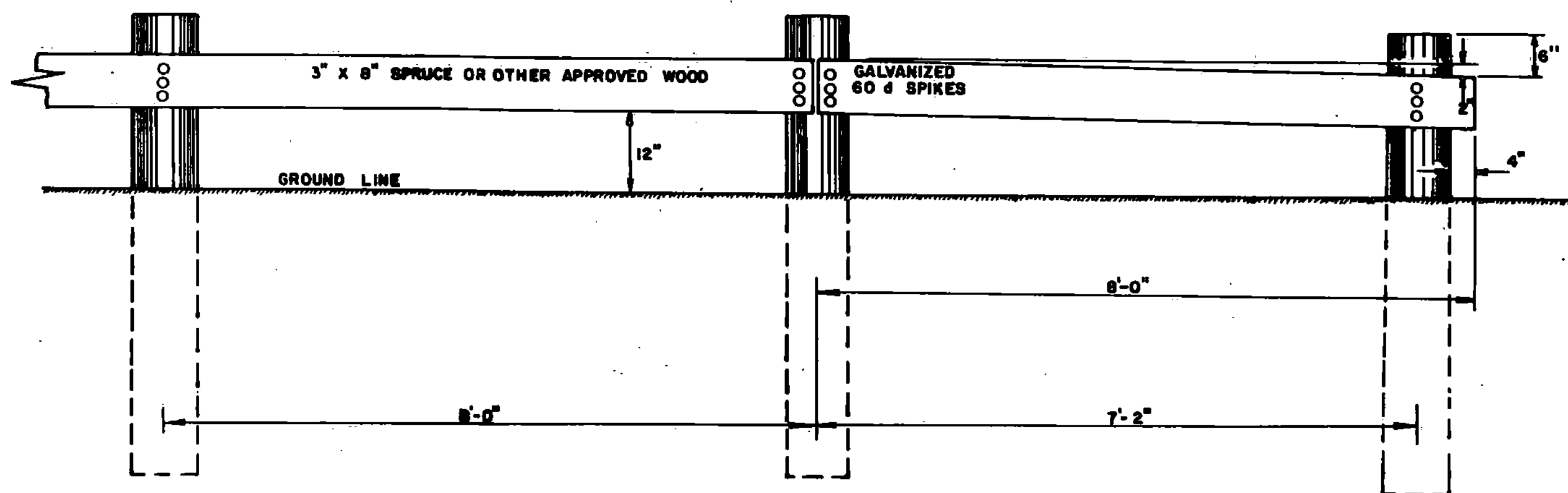
REVISIONS AND CORRECTIONS
MAR 18, 1982 YIELD ADDED.
NOV. 20, 1985 REVISED GORE MARKINGS & "SCHOOL" SPACING
FEB. 3, 1986 - UPDATED TO 1986 SPECIFICATIONS

APPROVED: August 4, 1981 DATE
S. J. Page
DIRECTOR OF ENGINEERING AND CONSTRUCTION
C. J. Long
CHIEF OF DESIGN
Lawrence
TRANSPORTATION DESIGN ENGINEER

PAVEMENT MARKING DETAILS

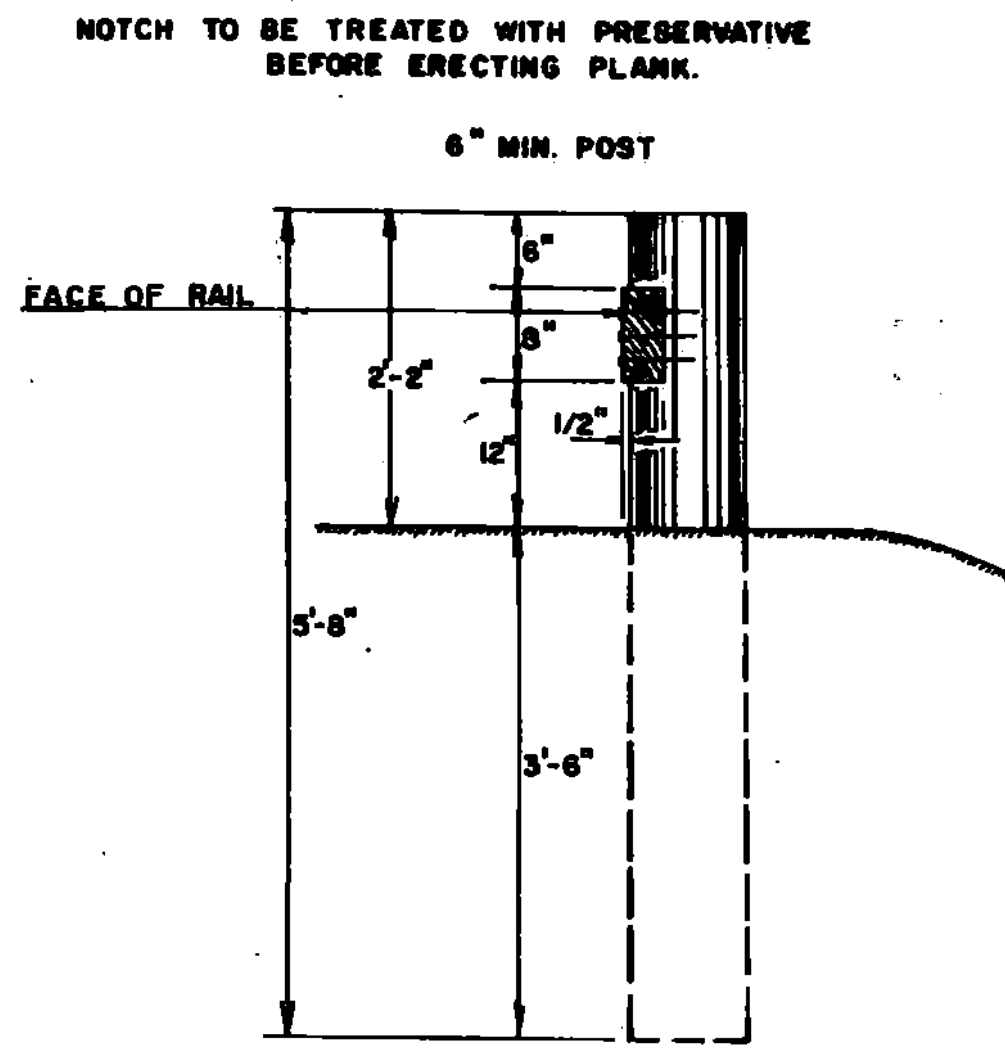


E-50



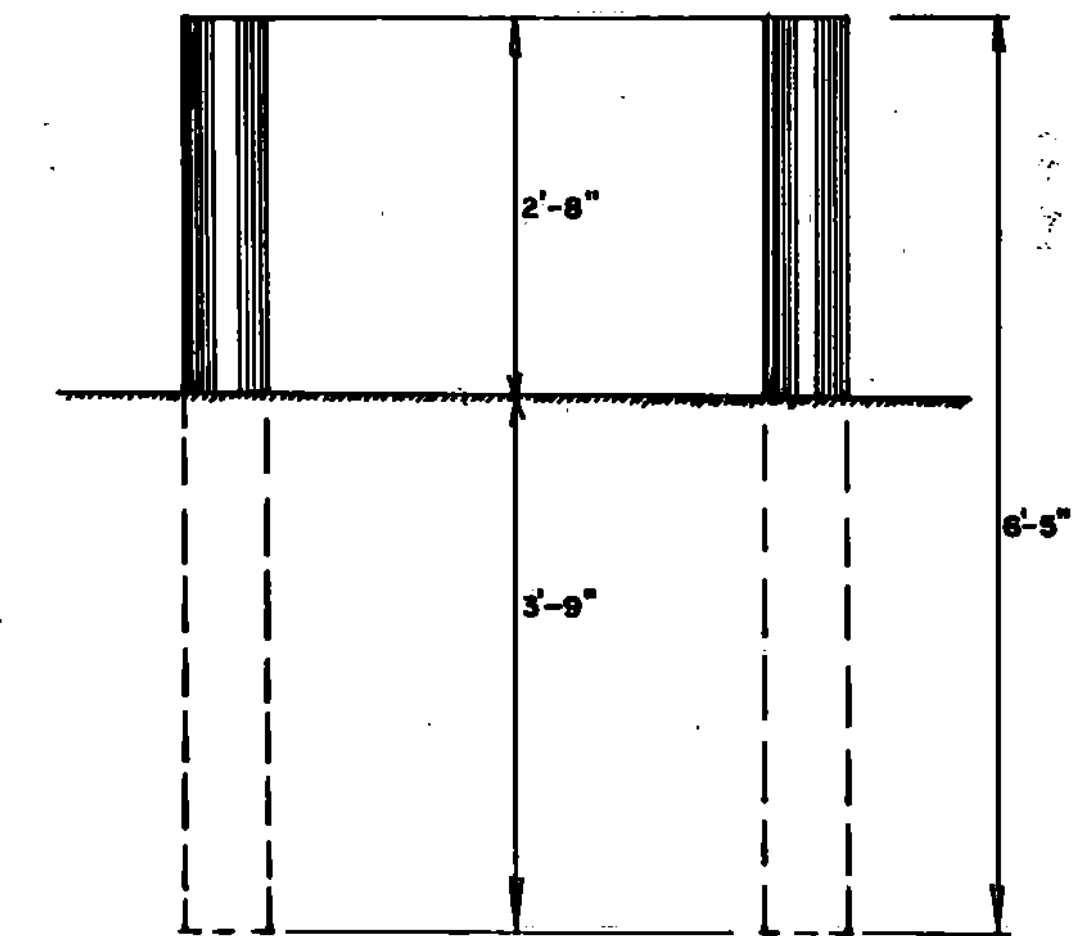
PLANK SIXTEEN FEET IN LENGTH TO BE USED WHEREVER POSSIBLE. POSTS SIX (6) INCHES SQUARE MAY BE USED IN PLACE OF ROUND POSTS. FIRST AND LAST POSTS OF EACH SECTION TO BE SET BACK TWELVE INCHES FROM THE GENERAL LINE OF POSTS, WHEN FOUR OR MORE POSTS ARE REQUIRED. REFLECTIVE MATERIAL TO BE PLACED AS DIRECTED BY THE ENGINEER. ALL WOOD MEMBERS SHALL BE GIVEN A PRESERVATIVE TREATMENT.

PLANK RAIL
TO BE USED AS A BARRICADE OFF THE HIGHWAY



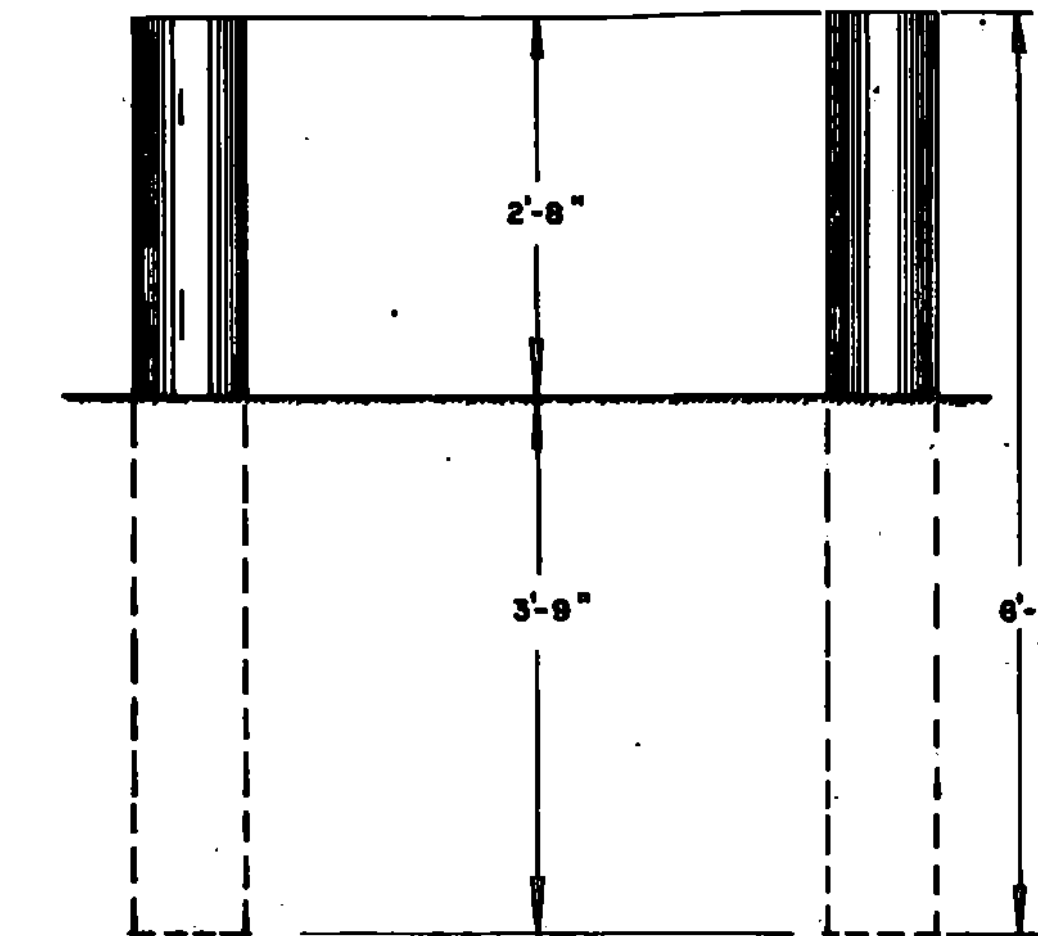
6" MIN. POST
NOTCH TO BE TREATED WITH PRESERVATIVE BEFORE ERECTING PLANK.
FACE OF RAIL
3" x 1 1/2" REFLECTIVE ALUMINUM STRIP TO BE PLACED ON EVERY OTHER WOOD POST IN A LINE OF POSTS AND CLEARLY VISIBLE TO APPROACHING TRAFFIC.
STRIPS TO BE ATTACHED TO THE DESIGNATED RAIL POSTS ON BOTH SIDES OF THE ROAD AND VISIBLE TO TRAFFIC IN BOTH DIRECTIONS.
REFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.09 AND SHALL BE OF ENCAPSULATED LENS SILVER OR AMBER.

DELINEATION OF WOOD RAIL AND GUIDE POSTS



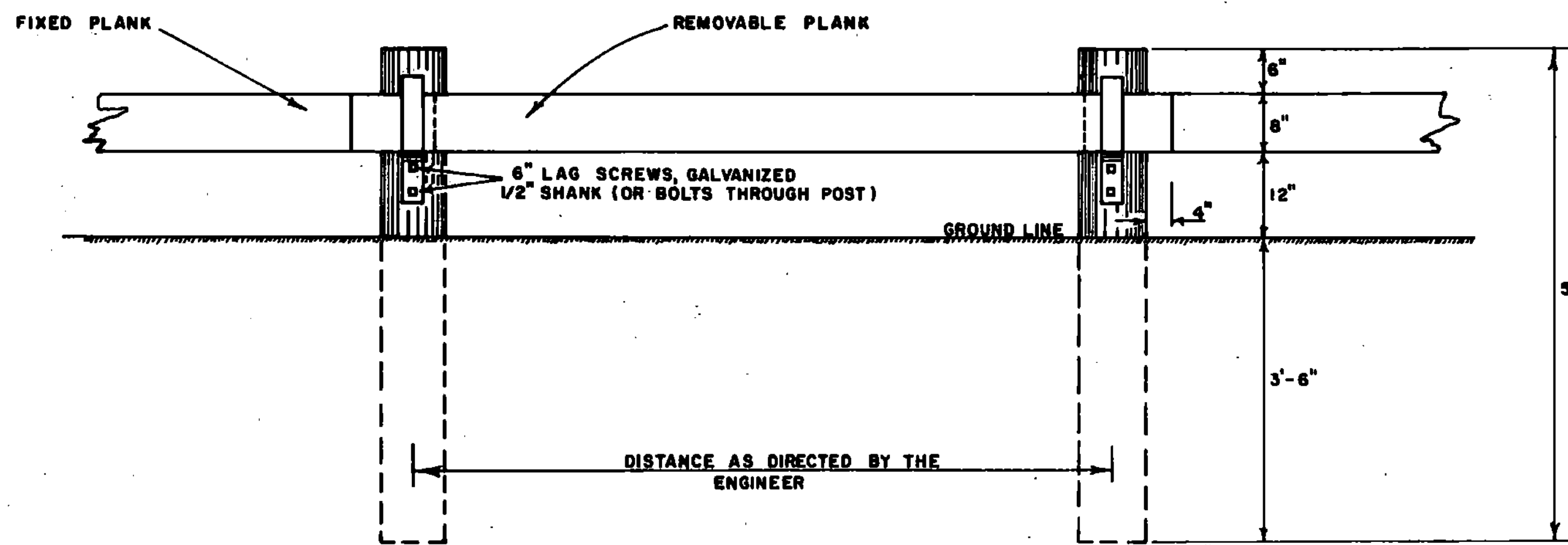
WOOD MARKER POSTS
MARKER POSTS ARE TO BE 4" TO 5 1/2" IN DIAMETER AND ARE TO BE PLACED AS DIRECTED BY THE ENGINEER. POSTS SHALL BE GIVEN A PRESERVATIVE TREATMENT.

WOOD MARKER POSTS

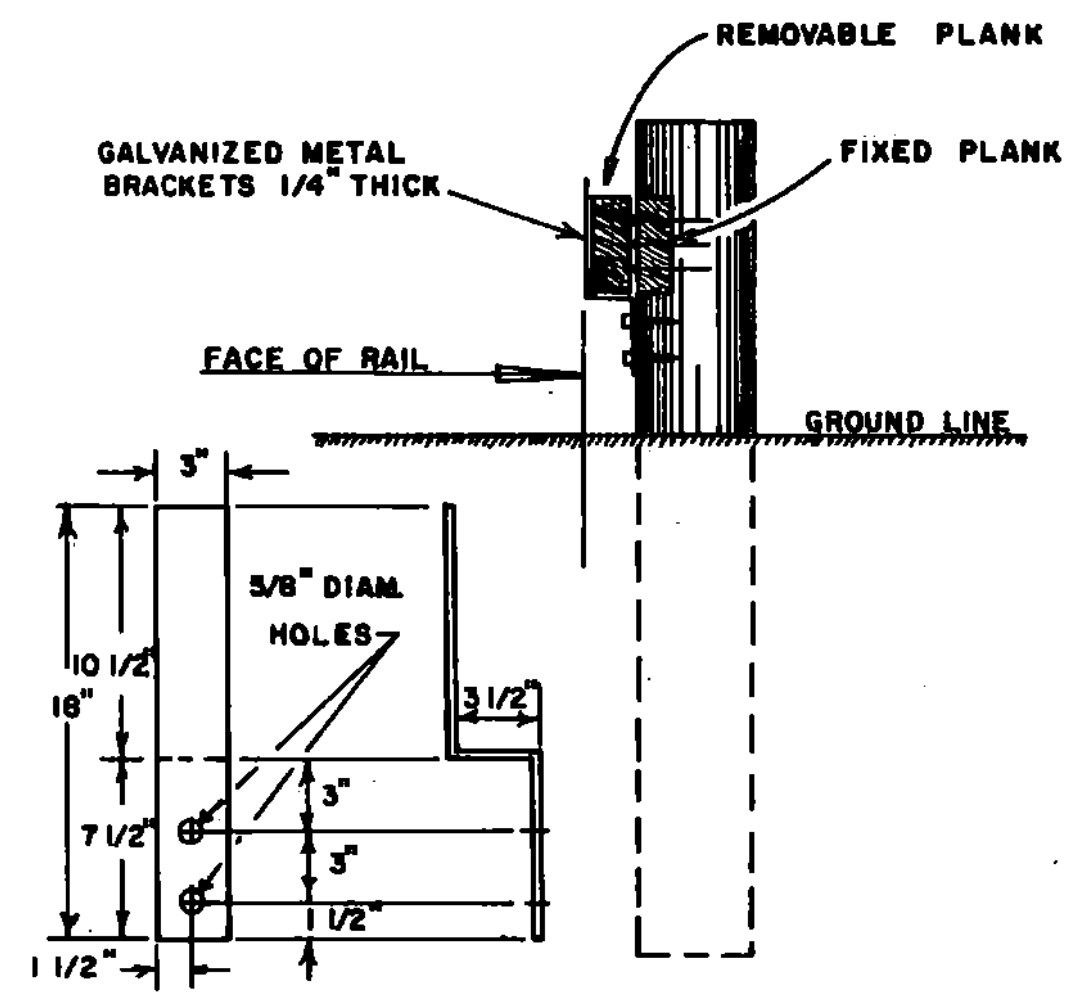


WOOD GUIDE POSTS
REFLECTIVE MATERIAL TO BE PLACED AS DIRECTED BY THE ENGINEER. POSTS ARE TO BE 4" TO 5 1/2" IN DIAMETER AND ARE TO BE PLACED AS DIRECTED BY THE ENGINEER. POSTS SHALL BE GIVEN A PRESERVATIVE TREATMENT.

WOOD GUIDE POSTS

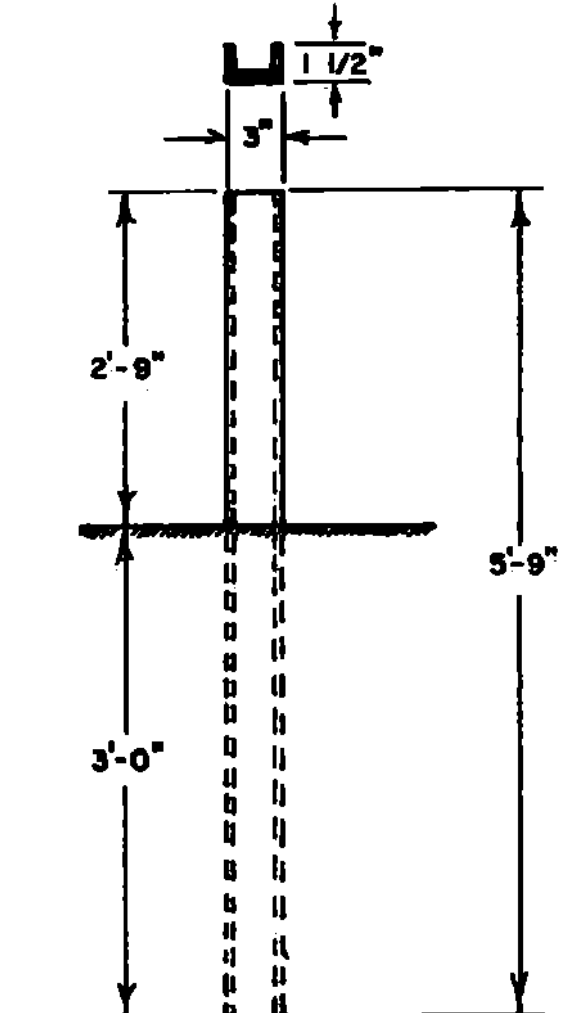


ENTRANCE THROUGH PLANK RAIL



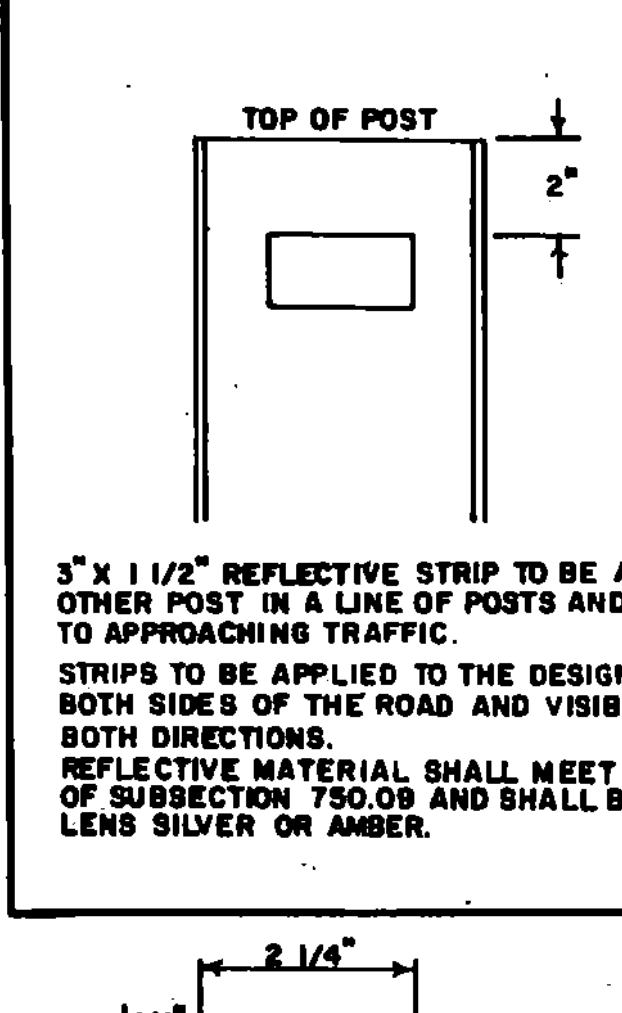
BRACKET DETAIL

GALVANIZED METAL BRACKETS ARE TO BE INCLUDED IN THE UNIT BID PRICE FOR PLANK RAIL.



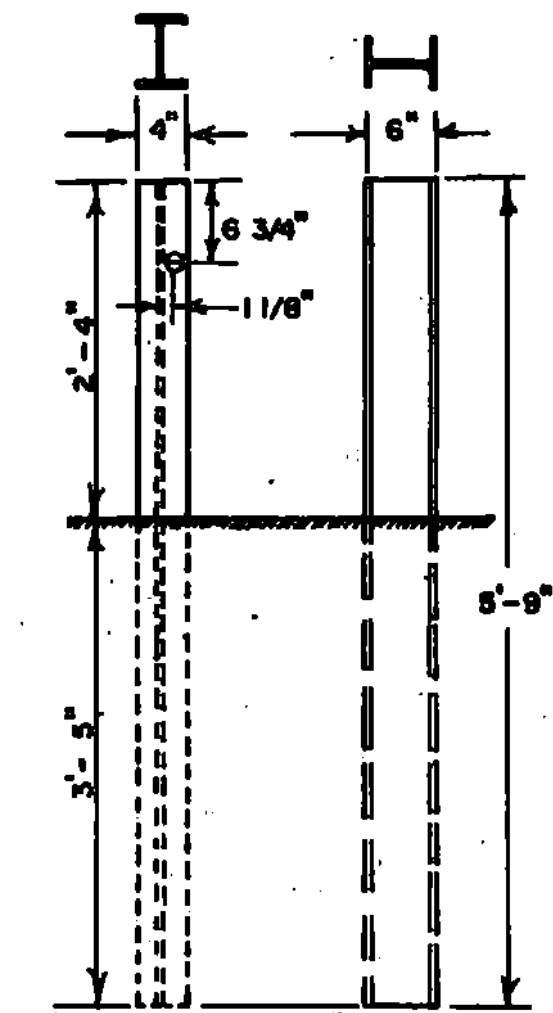
STEEL MARKER POSTS
ALL STEEL MARKER POSTS TO BE GALVANIZED. STEEL MARKER POSTS TO BE PLACED AS DIRECTED BY THE ENGINEER. POSTS ARE TO BE AMERICAN STANDARD CHANNEL 3" x 3" (4.1 LBS PER FT.)

STEEL MARKER POSTS



ALTERNATE POST
3" x 1 1/2" REFLECTIVE STRIP TO BE APPLIED TO EVERY OTHER POST IN A LINE OF POSTS AND CLEARLY VISIBLE TO APPROACHING TRAFFIC. STRIPS TO BE APPLIED TO THE DESIGNATED POSTS ON BOTH SIDES OF THE ROAD AND VISIBLE TO TRAFFIC IN BOTH DIRECTIONS. REFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.09 AND SHALL BE OF ENCAPSULATED LENS SILVER OR AMBER.

ALTERNATE POST



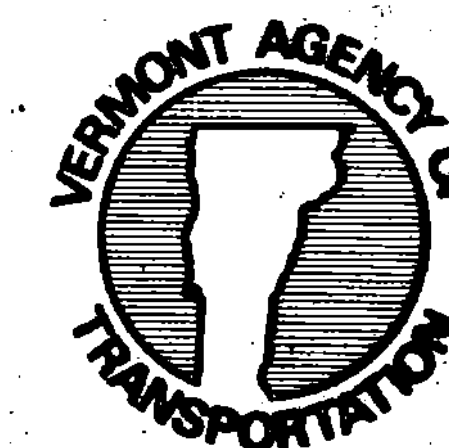
STEEL GUIDE POSTS
ALL STEEL GUIDE POSTS TO BE GALVANIZED. REFLECTIVE MATERIAL TO BE PLACED AS DIRECTED BY THE ENGINEER. POSTS ARE TO BE 5 1/2" x 6" x 4" (85 LBS PER FT.) ALL POSTS IN A GIVEN RUN OF BARRIER TO BE UNIFORM.

STEEL GUIDE POSTS

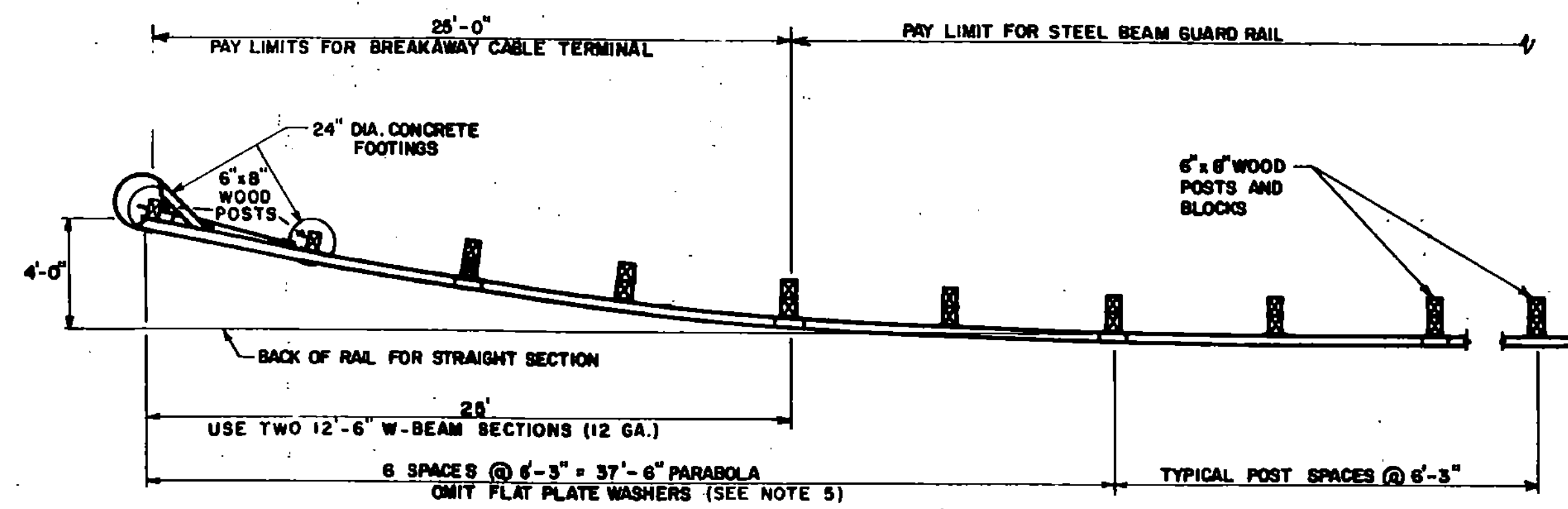
REVISIONS AND CORRECTIONS
MAY 23, 1974 ALTERNATE POST ADDED
MAY 29, 1979 NOTE ON REFLECTIVE MATERIAL CHANGED
JULY 23, 1980 CHANGED DIAMETER OF WOOD MARKER POST AND WOOD GUIDE POST
MAY 28, 1982 REMOVED ALTERNATE POST DETAIL.
OCT. 31, 1985 REVISED TO CONFORM WITH 1986 SPECIFICATIONS.

APPROVED DATE Dec. 8, 1971
P.H. Arnold
CHIEF ENGINEER
E. J. Stehney
ASSY. CHIEF ENGINEER
G. M. Lane
HIGHWAY ENGINEER

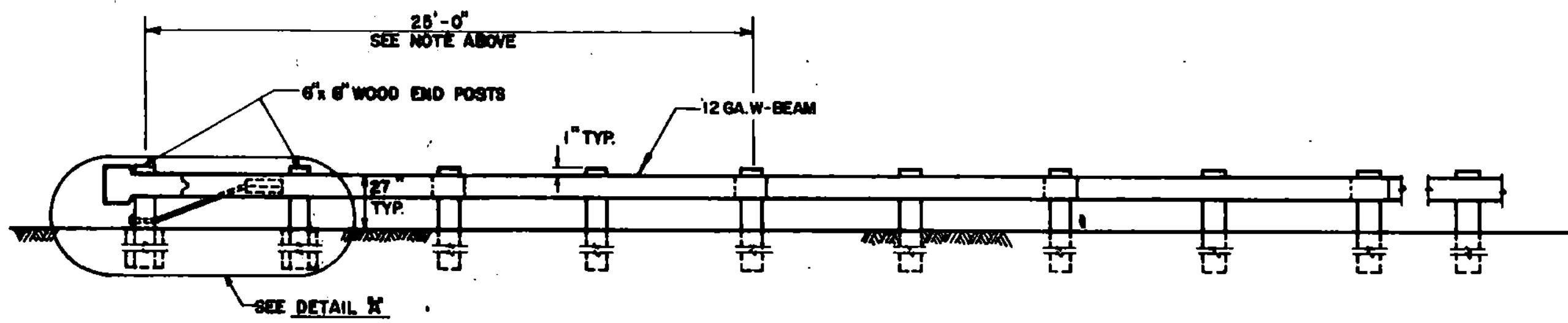
PLANK RAIL
GUIDE POSTS
WOOD MARKER POSTS
STEEL MARKER POSTS



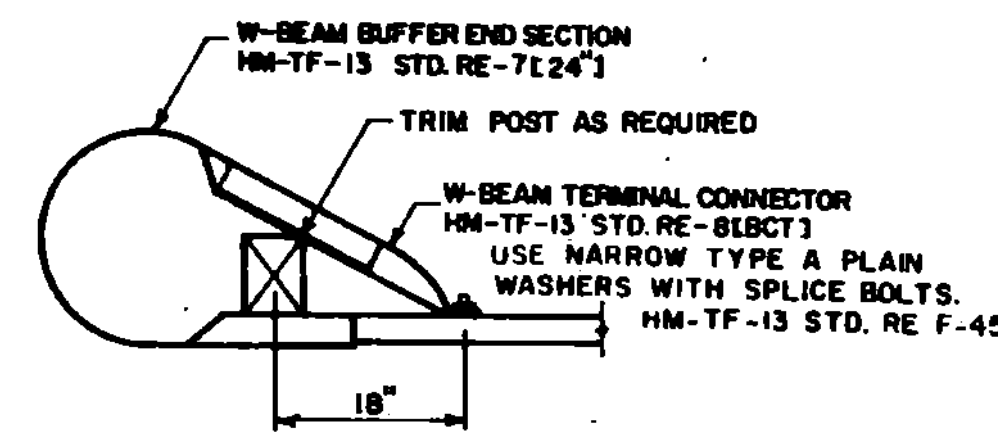
STANDARD
G-4



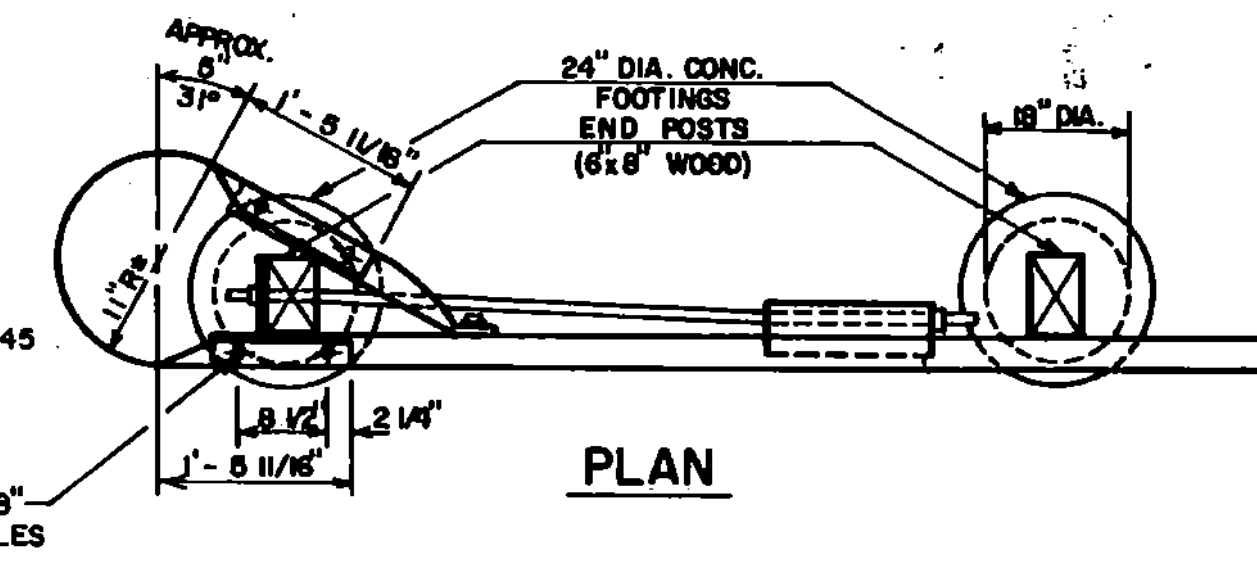
PLAN



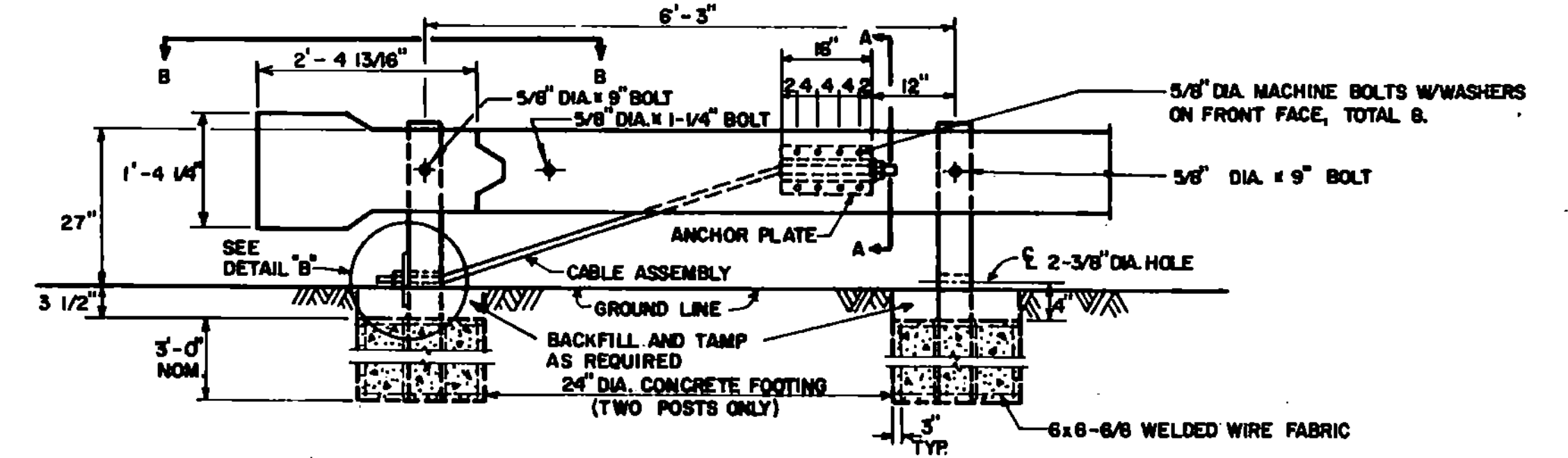
ELEVATION



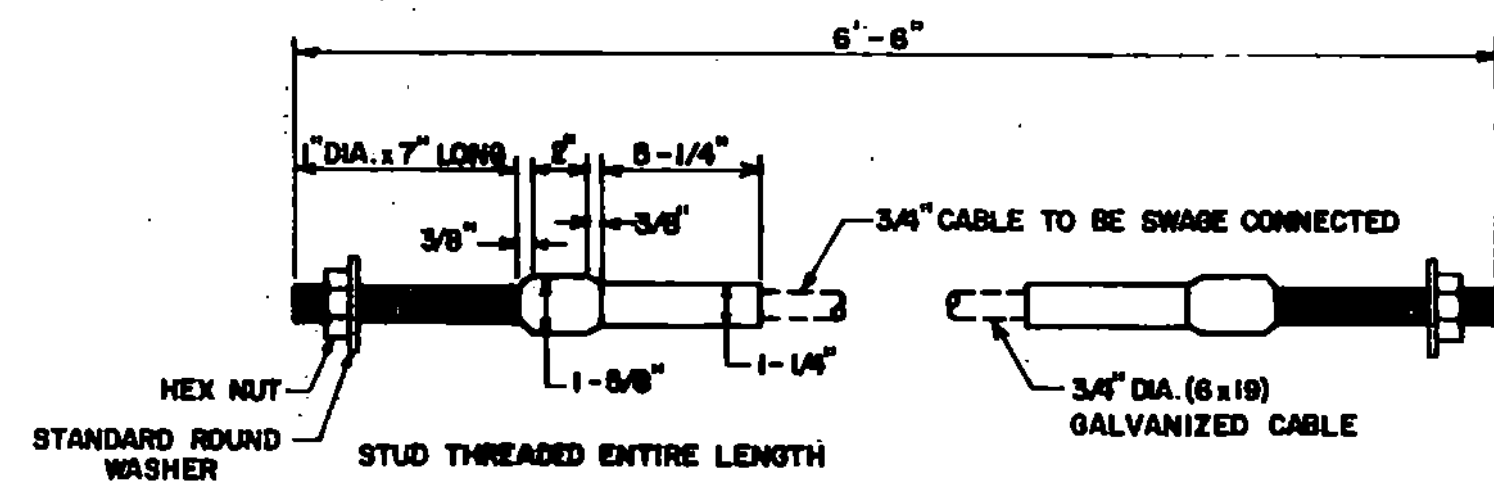
VIEW B-B



PLAN



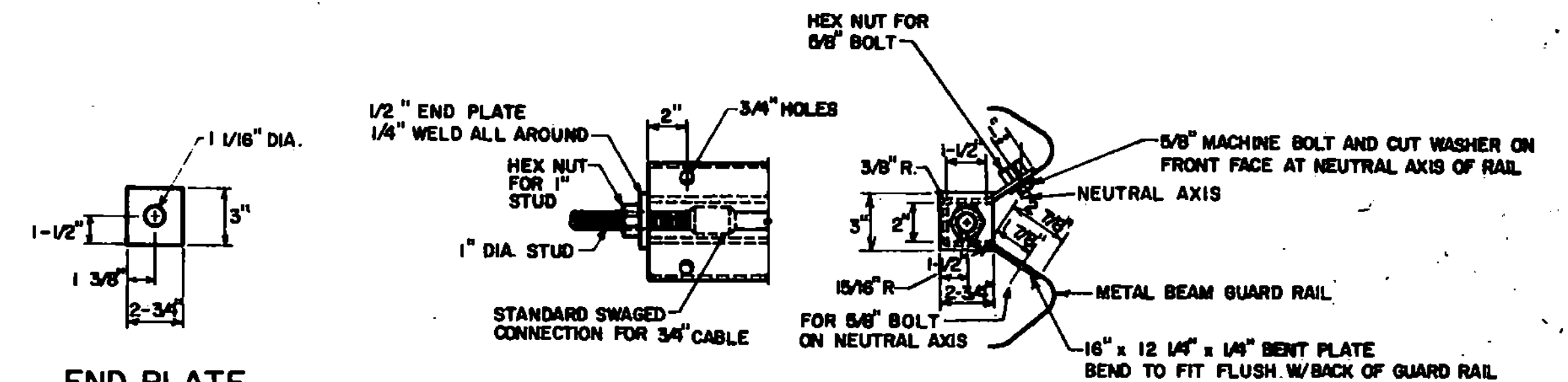
ELEVATION
DETAIL "A"



CABLE ASSEMBLY

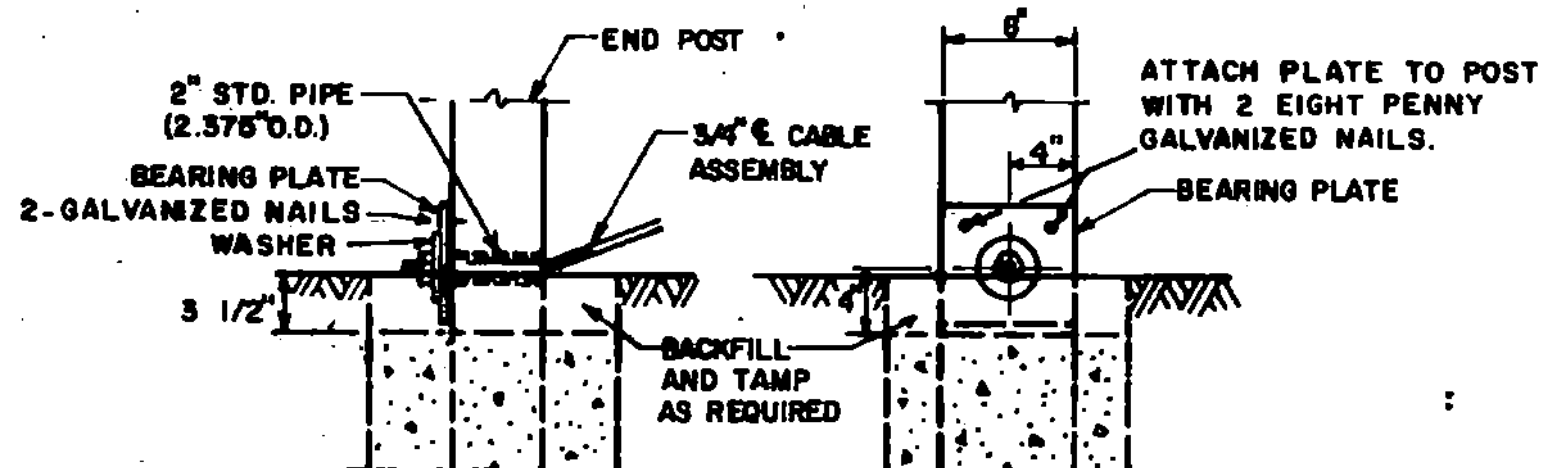
NOTES

1. OTHER ANCHOR CABLE ASSEMBLIES MAY BE USED. MINIMUM BREAKING STRENGTH OF ASSEMBLY SHOULD BE 40000 LBS.
2. CONCRETE FOOTINGS ARE CLASS B. IN SANDY FILL AREAS, CONSIDERATION TO INCREASING SIZE OF END FOOTING IS SUGGESTED.
3. A DOUBLE WRAP OF ASPHALT TREATED FELT AROUND END POSTS BEFORE CONCRETE PLACEMENT WILL FACILITATE REPLACEMENT OF DAMAGED POSTS.
4. STANDARD SHEET G-1 WILL BE USED IN CONJUNCTION WITH THIS STANDARD.
5. FLAT PLATE WASHERS ARE NOT USED ON NEW INSTALLATIONS. ON RETROFIT INSTALLATIONS THE FLAT PLATE WASHERS MUST BE OMITTED WITHIN THE 37'-6" PARABOLIC SECTION TO ENSURE PROPER PERFORMANCE UNDER IMPACT.
6. FOR ADDITIONAL DETAILS ON HARDWARE SEE THE LATEST EDITION OF AASHTO-AGC-ARTBA PUBLICATION "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE."

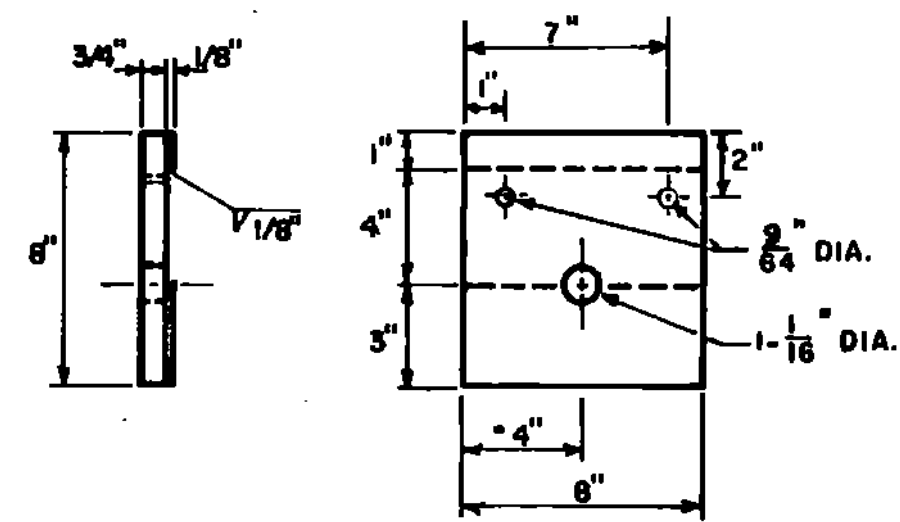


END PLATE

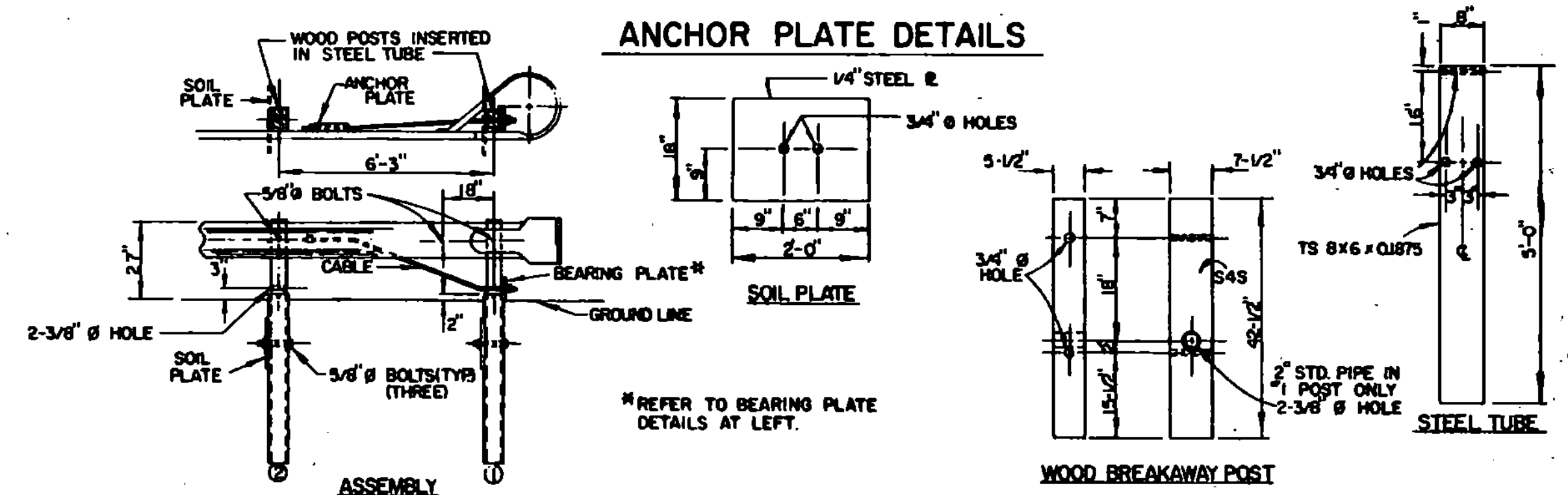
SECTION A-A



DETAIL "B"



BEARING PLATE DETAILS



ANCHOR PLATE DETAILS

ALTERNATE FOUNDATION DETAILS

- REVISIONS AND CORRECTIONS
- APR 21, 1977 - BREAKAWAY DETAIL LOWERED TO GROUND LINE.
 - JAN 19, 1981 - ALTERNATE FOUNDATION DETAILS ADDED, MISCELLANEOUS CLARIFICATION OF NOTES AND DETAILS.
 - AUG 12, 1981 - REMOVED BEARING PLATE DETAIL FROM ALTERNATE FOUNDATION DETAILS.
 - AUG 27, 1984 - BACK-UP PLATE REQUIREMENT DELETED, NEW NOTE 5 ADDED.
 - DEC 21, 1984 - REVISED NOTE 5, NEW NOTE 6 ADDED, REMOVED 26' W-BEAM SECTION.
 - OCT 31, 1985 - REVISED TO CONFORM W/86 SPECS.

APPROVED: DATE July 21, 1976

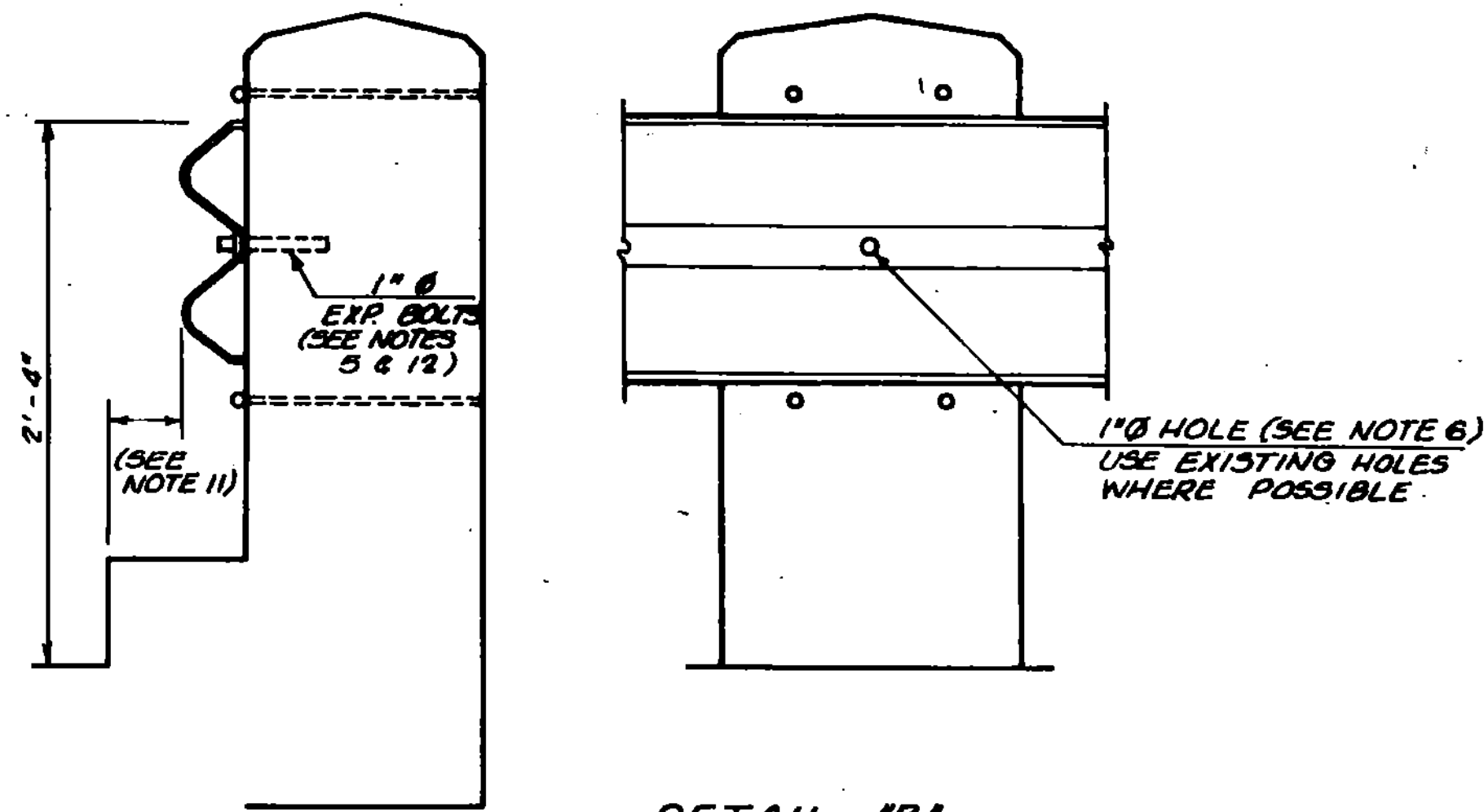
E.H. Stickney
CHIEF ENGINEER

R.O. Munn
ASST. CHIEF ENGINEER

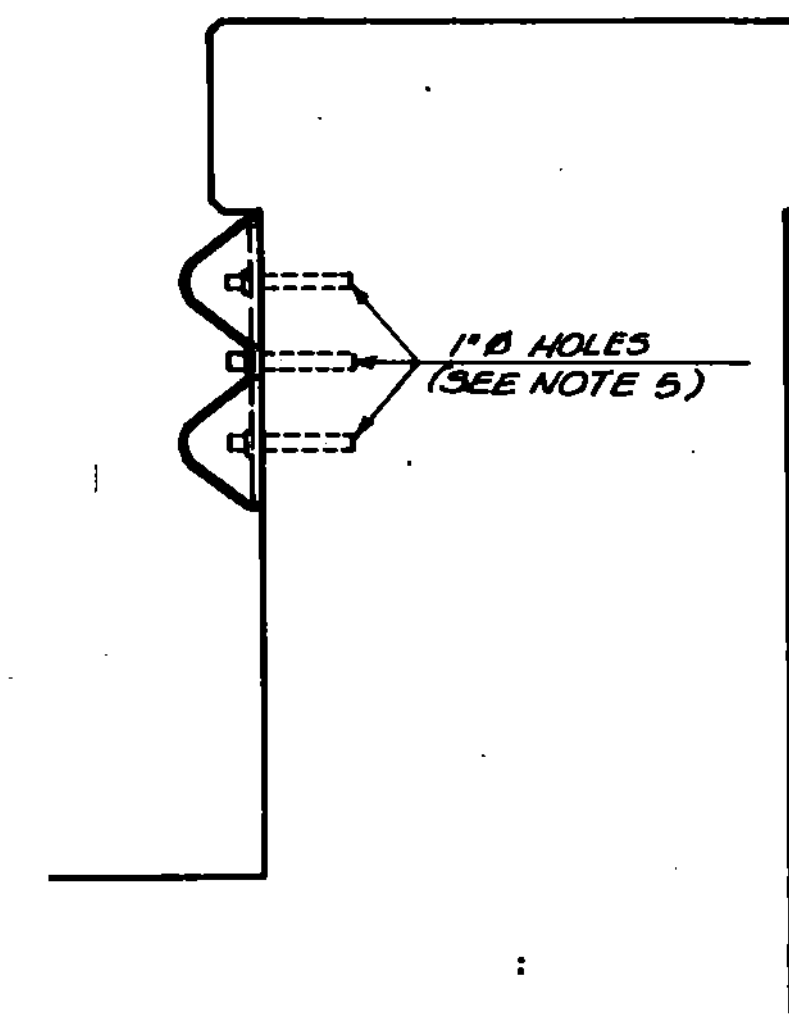
Louise Jones
HIGHWAY ENGINEER

BREAKAWAY CABLE TERMINAL WITH WOOD POSTS

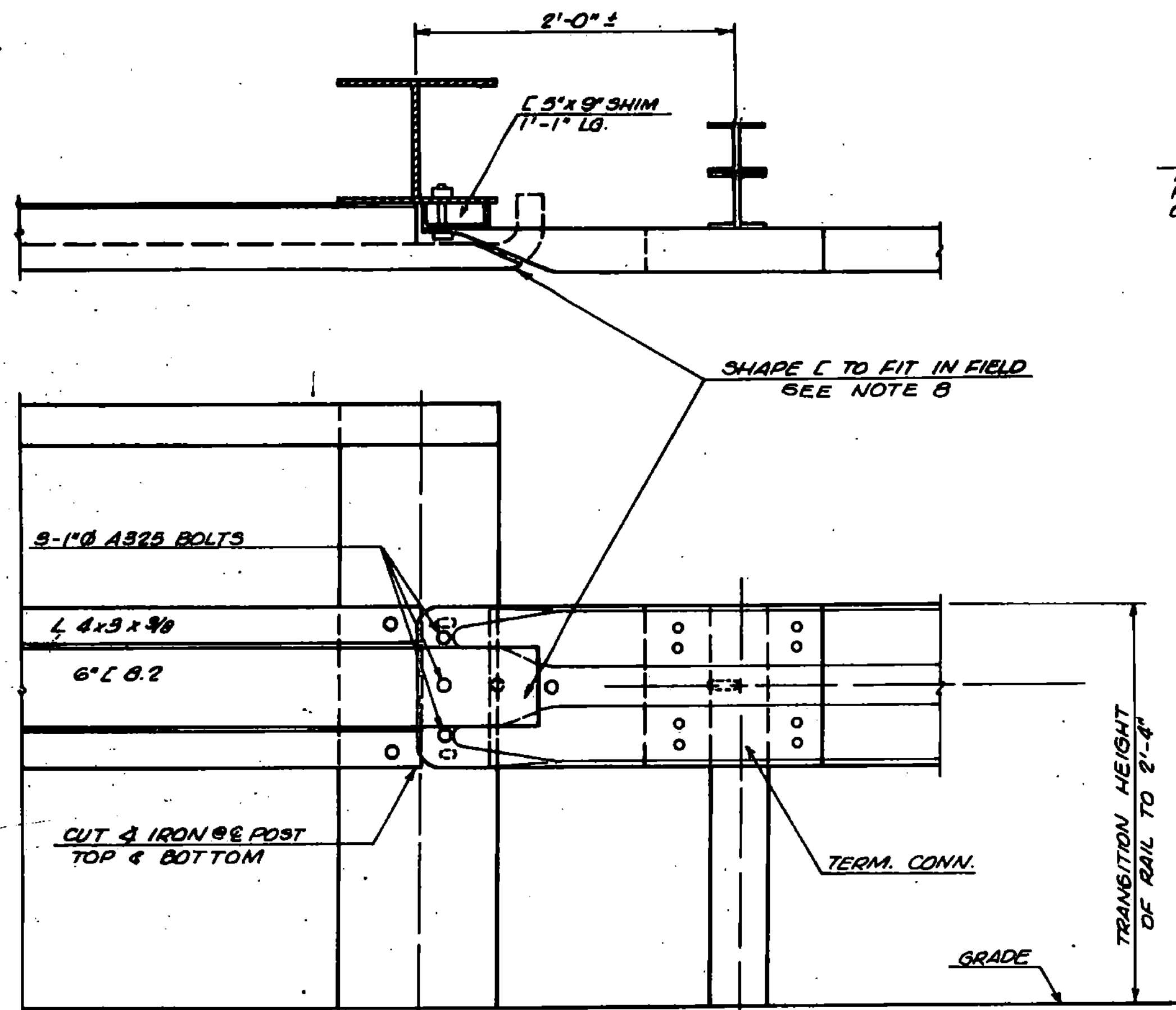
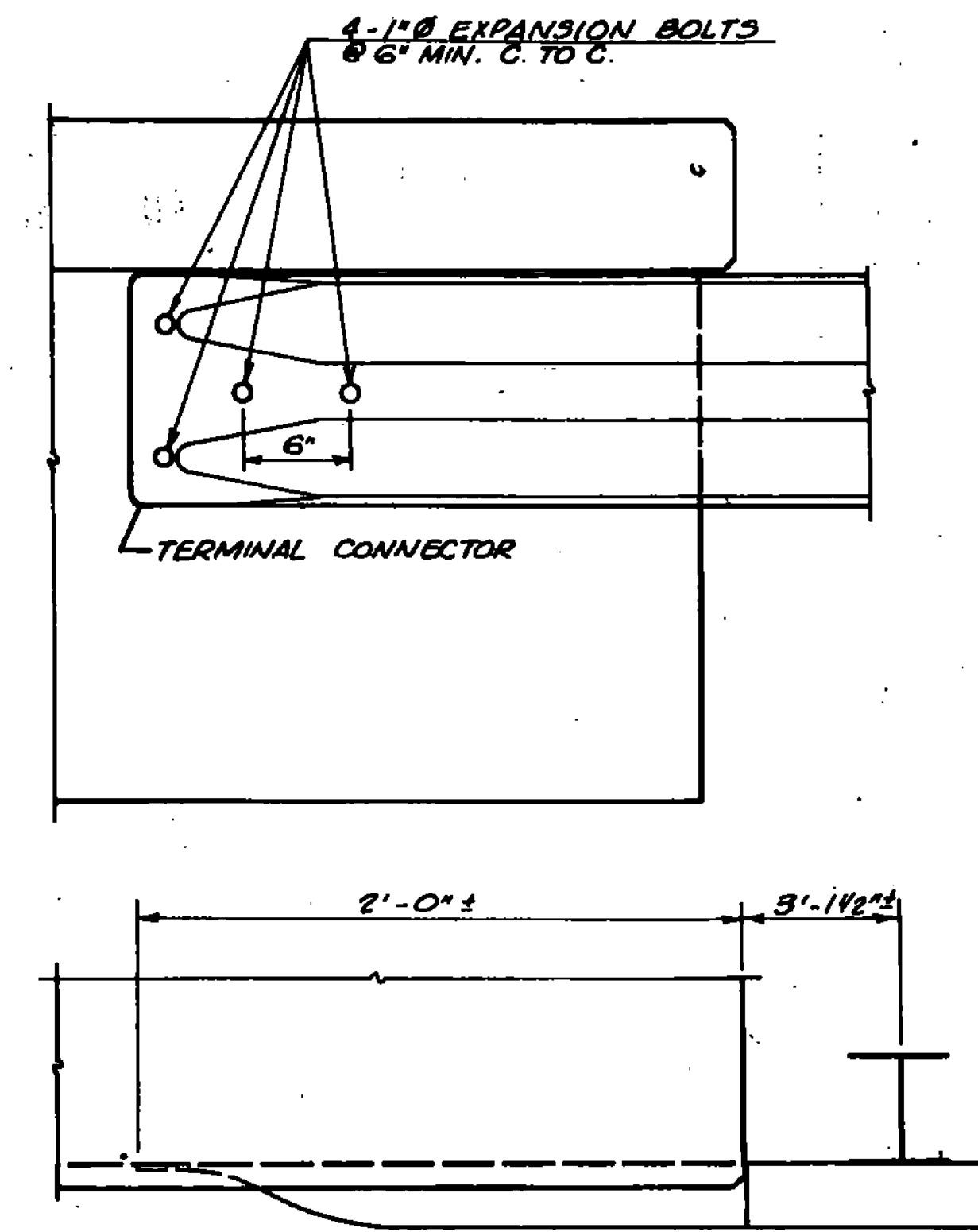




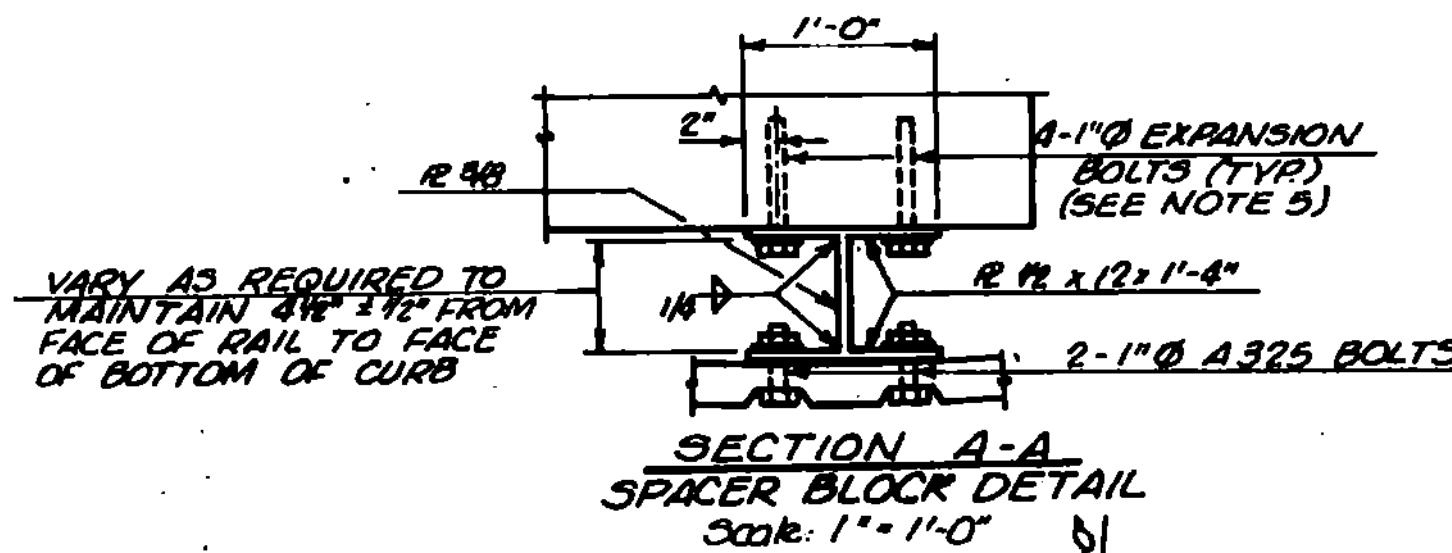
DETAIL "B"
Steel Beam Installation
on Concrete Post
Scale 1/2" = 1'-0"



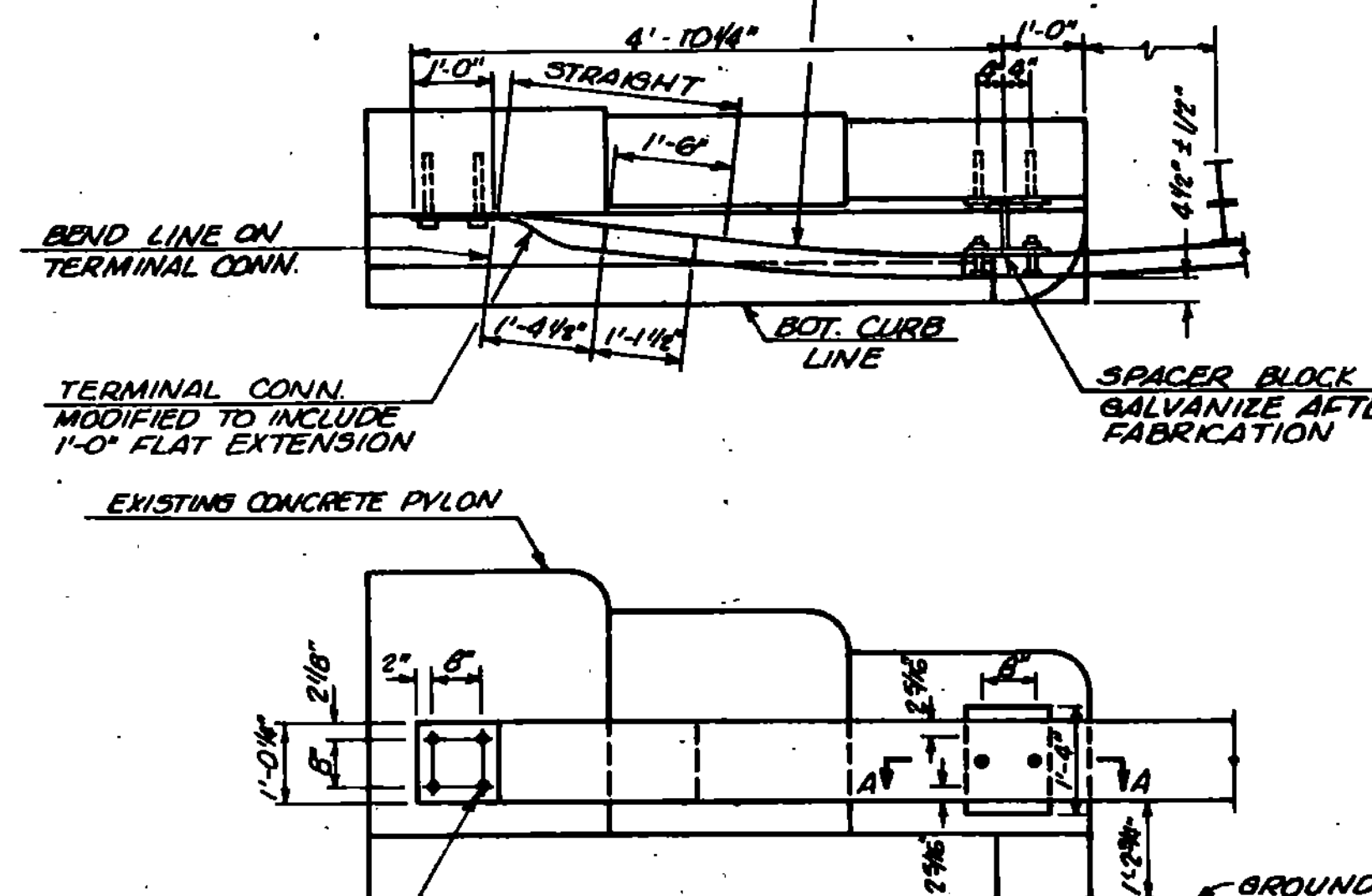
DETAIL "C"
Terminal Connection
to Solid Rail
Scale 1/2" = 1'-0"



DETAIL "D"
Terminal Connection to
Steel Truss Rail
Scale 1/2" = 1'-0"



SECTION A-A
SPACER BLOCK DETAIL
Scale: 1" = 1'-0"



DETAIL "A"
Blocked-out Steel Beam Connection
on Concrete Pylon with Curb
Scale 1/2" = 1'-0"

- GENERAL NOTES**
1. AT LEAST 2 PANELS (25') OF RAIL AT APPROACH TO BRIDGE SHALL BE HEAVY DUTY STEEL BEAM. SEE STANDARD G-1 FOR ADDITIONAL DETAILS.
 2. ALL METAL PARTS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M III. ALL FIELD ALTERATIONS TO GALVANIZED MEMBERS SHALL BE PAINTED WITH 2 COATS OF ZINC RICH PAINT (SECTION 708.07).
 3. TERMINAL CONNECTORS SHALL BE STANDARD HM-TF-19/RE-8.
 4. EXPANSION BOLTS SHALL BE STAINLESS STEEL, ASTM A 582 TYPE 309, 1" BY 9 INCHES IN LENGTH WITH A MINIMUM THREAD LENGTH OF 2 INCHES. EXPANSION WEDGES SHALL BE ASTM A 276 TYPE 304. NUTS AND WASHERS SHALL BE TYPE 18-8 STAINLESS STEEL.
 5. EXPANSION BOLTS SHALL HAVE 7" MIN. DEPTH OF EMBEDMENT INTO EXISTING CONCRETE AND SHALL BE CAPABLE OF ULTIMATE TENSILE STRENGTH = 18,000 LBS. MIN. DETAILS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.
 6. STEEL BEAM RAILING TO BE INSTALLED ON EXISTING CONCRETE POSTS SHALL BE DRILLED TO FIT IN THE FIELD.
 7. POST SPACING TO BE 9'-1 1/2" AT EACH CORNER OF ALL BRIDGES FOR ONE PANEL (12.5'). UNLESS OTHERWISE NOTED NORMAL LINE POST SPACING TO BE 6'-9".
 8. WHEN CONNECTING NEW BEAM RAIL TO EXISTING STEEL RAIL ON TRUSS BRIDGES ANY EXISTING BRIDGE RAIL CUT SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH SECTION 513.
 9. EXISTING BRIDGE RAILING SHALL NOT BE REMOVED UNTIL THE NEW BRIDGE RAILING AND ALL NECESSARY ACCESSORIES ARE ON PROJECT.
 10. ONLY ONE SIDE OF EACH BRIDGE SHALL BE WORKED ON AT A TIME.
 11. WHEN THE CURB TO RAIL OFFSET EXCEEDS 6", USE A SPACER BLOCK AS SHOWN IN SECTION A-A. MAINTAIN 4 1/2" ± 1/2" CURB TO RAIL OFFSET.
 12. THE POST MAY BE DRILLED THROUGH AND THE RAIL FASTENED WITH ONE 5/8" Ø GALVANIZED BOLT. A 6" SQUARE GALVANIZED WASHER (1/4" THICK) SHALL BE INSTALLED ON THE BACK SIDE OF THE POST.

REVISIONS & CORRECTIONS
FEB. 16, 1978 - CONSTRUCTION DETAILS REVISED.
NOV. 25, 1980 - TITLE BLOCK REVISED

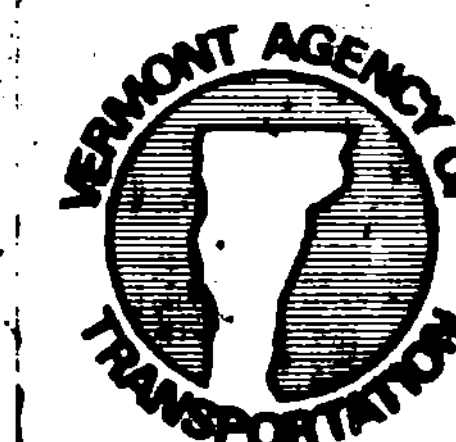
APPROVED: DATE Nov. 29, 1977

 CHIEF ENGINEER

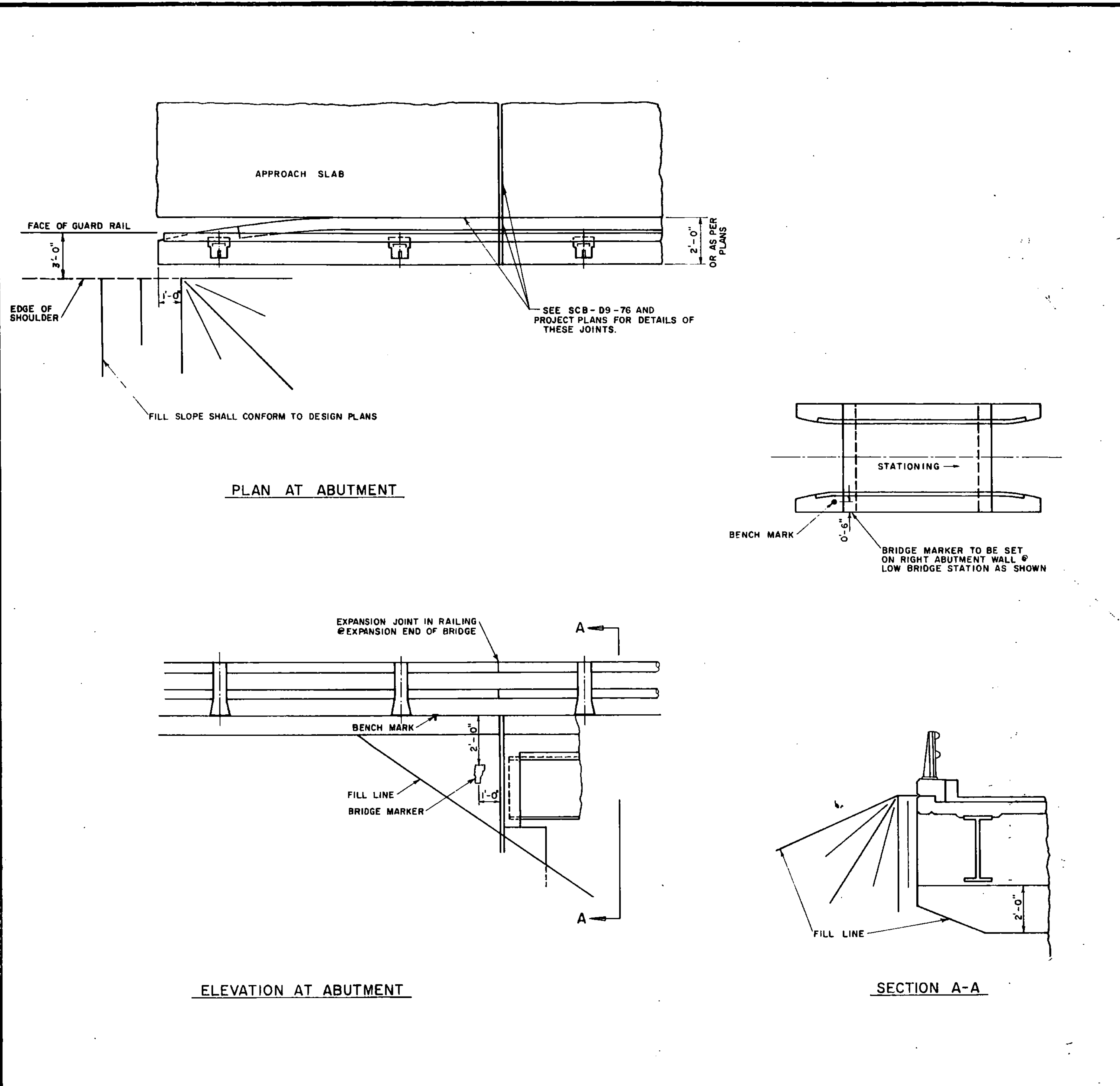
 CHIEF OF DESIGN

 DESIGN ENGINEER

**STEEL BEAM GUARD RAIL ATTACHMENTS
TO EXISTING BRIDGE
TERMINAL CONNECTOR FOR STEEL BEAM GUARD RAIL**



**STANDARD
G-16**



GENERAL NOTES

ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, DATED MARCH 1976, AND ITS LATEST REVISIONS AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 1977 AND ITS LATEST REVISIONS. DESIGN IS FOR HS-20-44 LOADING MODIFIED FOR THE NATIONAL SYSTEM OF INTERSTATE HIGHWAYS, APPLIED IN ACCORDANCE WITH THE PROVISIONS OF AASHTO STANDARD SPECIFICATIONS.

THE FOLLOWING NOTES SHALL APPLY UNLESS OTHERWISE NOTED ON PROJECT PLANS.

- ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM DESIGNATION A-588 (UNPAINTED). ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" Ø ASTM A-325, TYPE III BOLTS IN 15/16" Ø HOLES. WHERE CONNECTIONS ARE NOT DETAILED ON THE PLANS THEY SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STATE FOR APPROVAL.
- WHEN NOT DETAILED ON THE PLANS, SIMPLE SPAN BEAMS SHALL BE CAMBERED FOR THE DEAD LOAD DEFLECTION PLUS ONE-EIGHTH (1/8) INCH FOR EACH TEN FEET OF SPAN OR FRACTION THEREOF. THE CAMBER SHALL APPROXIMATE A SIMPLE CIRCULAR CURVE FROM END TO END OF BEAM. TOLERANCES IN CAMBER SHALL BE AS INDICATED IN THE A.I.S.C. HANDBOOK FOR ROLLED BEAMS AND AS INDICATED IN THE AWS SPECIFICATION FOR WELDED GIRDERS.
- ALL WELDING AND DIMENSIONAL TOLERANCES OF WELDED MEMBERS SHALL CONFORM TO AWS D1.1-80 "STRUCTURAL WELDING CODE" AND ITS LATEST REVISIONS EXCEPT AS MODIFIED BY THE AASHTO STANDARD SPECIFICATIONS FOR WELDING OF STRUCTURAL STEEL HIGHWAY BRIDGES, DATED 1981 AND ITS LATEST REVISIONS.
- ALLOWABLE DESIGN STRESSES:

CONCRETE: CLASS A	f'c	3,500 psi	fc	1400 psi
CLASS B	f'c	3,500 psi	fc	1400 psi
STRUCTURAL STEEL	A-588	MAX. DESIGN STRESS-	27,000 psi (or as per AASHTO Specs.)	
REINFORCING STEEL	GRADE	40	GRADE	60
DESIGN STRESS(TENSION)		20,000 psi		24,000 psi
DESIGN STRESS(COMPRESSION)		16,000 psi		20,000 psi
- AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF ERECTED BEAMS SHALL BE TAKEN UNDER THE DIRECTION OF THE ENGINEER FOR USE IN DETERMINING THE FINAL GRADE.
- MINIMUM COVER FOR REINFORCING STEEL (EXCEPT IN DECKS) SHALL BE 2" IN BACK FACES OF WALLS AGAINST EARTH AND 3" ELSEWHERE.
- ALL EXPOSED EDGES OF CONCRETE IN THE SUBSTRUCTURE AND SUPERSTRUCTURE SHALL BE CHAMFERED 1" x 1".
- DECK CONCRETE SHALL BE CONCRETE CLASS A. ALL OTHER CONCRETE SHALL BE CONCRETE CLASS B.
- BRIDGE SEATS OF ALL PIERS AND ABUTMENTS SHALL BE SLOPED 1/2" PER FOOT EXCEPT UNDER BEARING PLATES WHERE THE SURFACES SHALL BE LEVEL. ABUTMENTS SHALL BE SLOPED FULL WIDTH. PIERS SHALL BE SLOPED EACH WAY FROM CENTER. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH STEEL TROWEL FINISHED.
- ABUTMENT CONCRETE ABOVE THE ADJACENT BRIDGE SEAT ELEVATIONS SHALL PREFERABLY NOT BE PLACED UNTIL FINAL FINISHED GRADE OF DECK IS ESTABLISHED BY THE ENGINEER.
- ANY FORM BRACKET HOLES IN FASCIA BEAMS OR GIRDER WEBS SHALL BE FILLED WITH BUTT-HEAD OR HEX-HEAD BOLTS (TYPE III ON A-588 STEEL).
- GRANULAR BORROW USED IN AREAS THROUGH WHICH PILES ARE TO BE DRIVEN SHALL HAVE A MAXIMUM STONE SIZE OF NINE INCHES.
- BORINGS INDICATED ON THE DRAWINGS HAVE BEEN MADE FOR DESIGN PURPOSES ONLY AND DO NOT WARRANT ACTUAL SUB-SURFACE CONDITIONS.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68° F.

*NOTE: SPECIFICATIONS CALL FOR A CLASS A CONCRETE WHICH WILL PRODUCE 4000 PSI AT 28 DAYS. HOWEVER, SUPERSTRUCTURE CONCRETE IS DESIGNED ON THE BASIS OF f'c = 3500 THUS PROVIDING AN ADDITIONAL FACTOR OF SAFETY IN BRIDGE SLABS.

- IF ALL DECK CONCRETE IS NOT PLACED IN ONE WORKING DAY, A MINIMUM DELAY PERIOD OF 96 HOURS (FOLLOWING END OF PLACEMENT OF THE PREVIOUS CONCRETE) WILL BE REQUIRED BEFORE PLACING ADDITIONAL CONCRETE. THE MINIMUM DELAY PERIOD SHALL BE INCREASED WHEN SO ORDERED BY THE ENGINEER. IN ALL CASES THE PLACEMENT SEQUENCE INDICATED ON THE PLANS SHALL BE FOLLOWED.
- REINFORCING PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:

SPACING TOLERANCE: ± 1"
CLEARANCE TOLERANCE: ± 1/4"

REVISIONS AND CORRECTIONS

- Added word seat in line 3 of Note #9 J. WOOD 4-23-75
- CHANGED VERMONT SPEC. DATE, GEN. NOTE, AND ADDED NOTE NO. 15, W. TRIPP 4-26-76.
- REVISED NOTES, W. TRIPP, 12-15-76.
- REVISED DATES, NOTE NO. 3, W. TRIPP 4-25-77
- REVISED NOTES W. TRIPP 4-3-78
- REVISED NOTE NO. 3, DATES W. TRIPP 9-14-81

APPROVED

DATE Jan. 30, 1975

[Signature]
CHIEF ENGINEER

[Signature]
ASST. CHIEF ENGINEER

[Signature]
BRIDGE ENGINEER

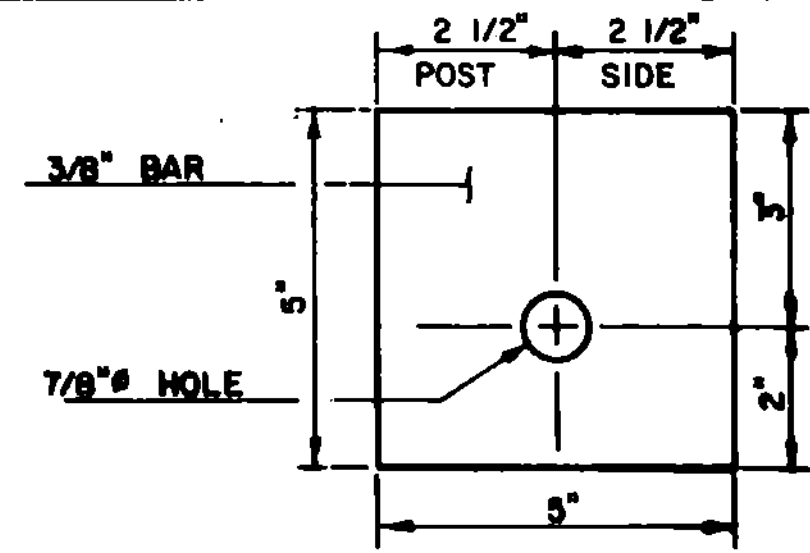
DETAILS OF W BEAM BRIDGES
GENERAL INFORMATION
AND
GENERAL NOTES

VERMONT
DEPARTMENT
OF HIGHWAYS
STANDARD

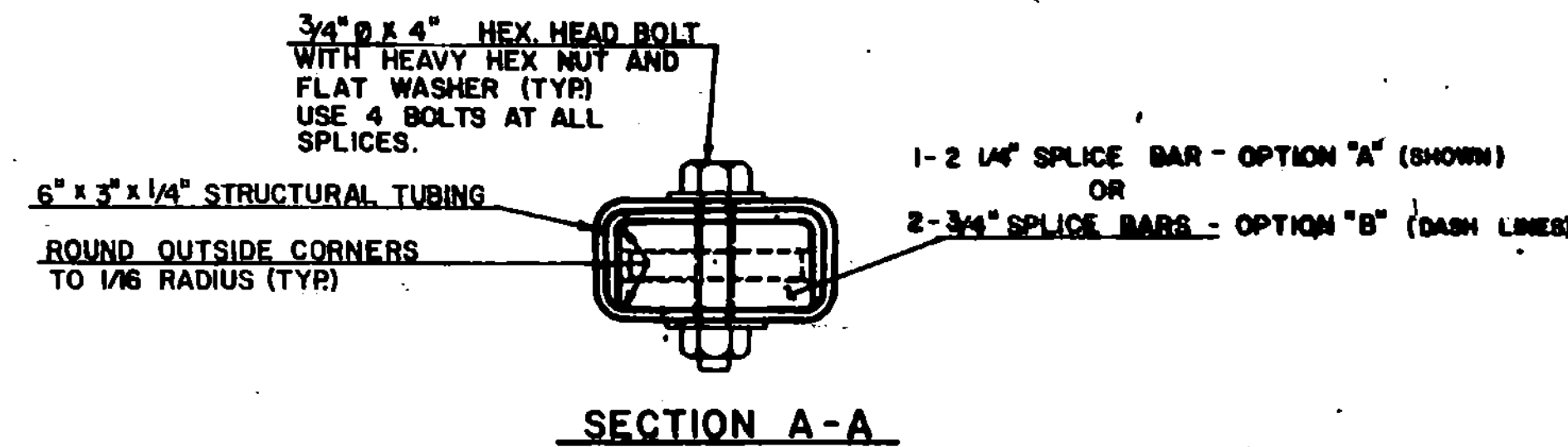
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NOTES

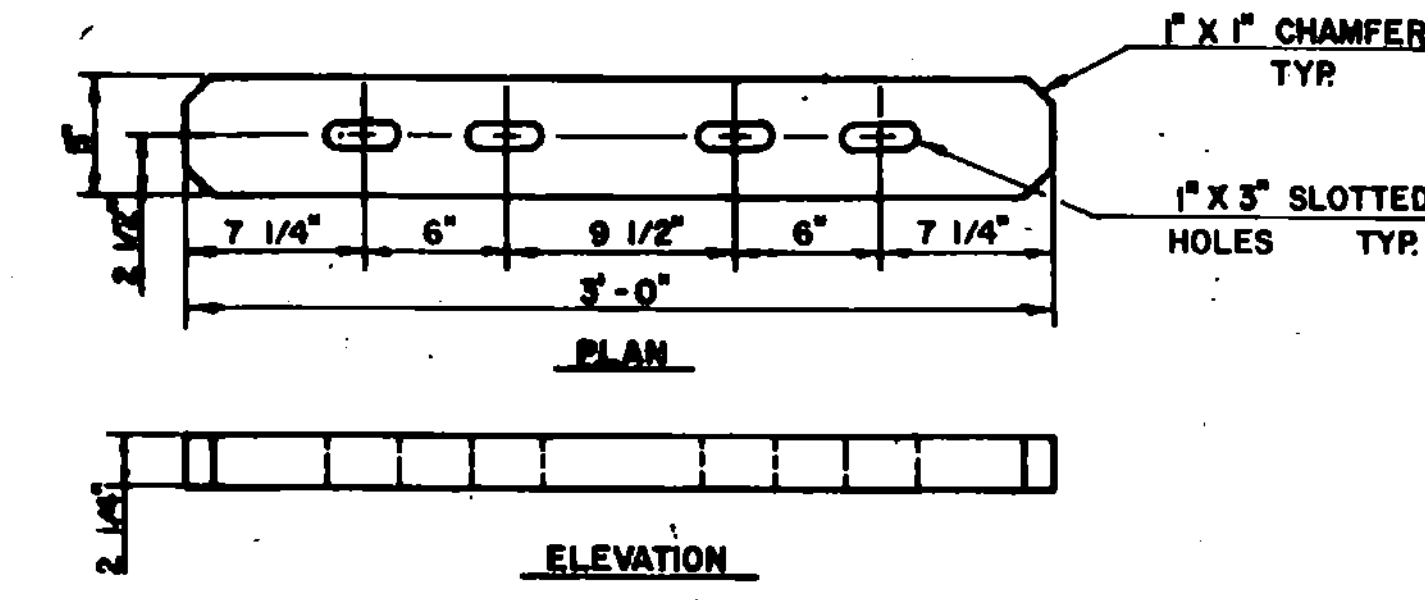
1. RAILING IS DESIGNED IN ACCORDANCE WITH THE 1981 AASHTO SPECIFICATIONS.
2. ALL PLATES, BARS, AND ANGLES SHALL BE ASTM A 36 STEEL, UNLESS OTHERWISE SPECIFIED, ALL BOLTS SHALL BE ASTM A 307. STRUCTURAL STEEL TUBING SHALL BE ASTM A 500 COLD-FORMED GRADE B AS MODIFIED IN SECTION 732.04(a).
3. ALL BOX BEAM BRIDGE RAILING, COMPONENTS, ANCHOR BOLTS AND ATTACHMENT HARDWARE SHALL BE GALVANIZED TO ASTM A 123 AFTER FABRICATION.
4. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS, INCLUDING WELDING PROCEDURES, TO THE STRUCTURES DIVISION FOR APPROVAL IN ACCORDANCE WITH THE PROVISIONS OF SECTION 506.04 - SHOP DRAWINGS. ALL WELDING SHALL CONFORM WITH SECTION 506.24.
5. PROCEDURE QUALIFICATION FOR ALL WELDS SHALL BE PERFORMED AND APPROVED PRIOR TO FABRICATION. WELDER QUALIFICATION WILL BE REQUIRED FOR EACH PROCEDURE. PROCEDURE AND WELDER QUALIFICATION ACCEPTANCE SHALL BE APPROVED BY RADIOGRAPHIC TESTING.
6. THE RAIL SYSTEM SHALL BE CONTINUOUS WITH EACH TUBE SECTION ATTACHED TO A MINIMUM OF TWO POSTS. ALL JOINTS SHALL BE SPLICED AS DETAILED, WITH ALL SPLICE CONNECTIONS IN THE SAME PANEL LOCATED ONE DIRECTLY ABOVE THE OTHER.
7. ALL POSTS SHALL BE SET NORMAL TO GRADE. NUTS PLACED IN CONCRETE ARE TO BE ROTATED WITHIN 24 HOURS AFTER CONCRETE IS PLACED TO BREAK BOND BETWEEN NUT AND CONCRETE. NUTS SHALL THEN BE USED TO ALIGN THE POSTS BOTH HORIZONTALLY AND VERTICALLY. AFTER FINAL POSITION HAS BEEN APPROVED, ALL VOIDS BETWEEN THE BASE PLATE AND CONCRETE SURFACE SHALL BE GROUTED WITH NON-SHRINK GROUT CONFORMING WITH SECTION 707.04, MORTAR, TYPE II.
8. ANCHOR BOLTS SHALL BE PRECAST IN THE CURB SECTION, AND CONFORM WITH THE REQUIREMENTS OF SECTION 714.16.
9. FOR RADII LESS THAN 950 FEET, THE BEAM RAIL SHALL BE SHOP BENT TO FIT THE APPLICABLE CURVE.
10. RAILING JOINT SPLICES SHALL BE PROVIDED FOR ALL SUPERSTRUCTURE JOINTS. THE RAIL JOINT OPENING SHALL BE 1 INCH OR CAPABLE OF PROVIDING THE MOVEMENT SPECIFIED. SPLICE PLATE DETAILS SHALL BE MODIFIED AS REQUIRED FOR JOINTS REQUIRING MORE THAN 2 INCHES OF TOTAL MOVEMENT.
11. REFER TO STANDARD SCB-D4-76 AND SCB-D6-73 FOR CURB DETAILS.
12. REFER TO STANDARD SB-R4B-82 FOR GUARD RAIL APPROACH SECTION-TYPE I & TYPE II DETAILS.
13. DELINEATORS SHALL BE MOUNTED AS SHOWN ON DETAILS. PAYMENT SHALL BE SUBSIDIARY TO OTHER ITEMS.
14. WALL THICKNESS OF THE 6" x 6" STRUCTURAL TUBING FOR THE RAIL POST SHALL BE 5/16" INCH MINIMUM, 3/8" INCH, OR 1/2" INCH THICKNESS TUBING MAY BE SUBSTITUTED AT THE OPTION OF THE FABRICATOR.



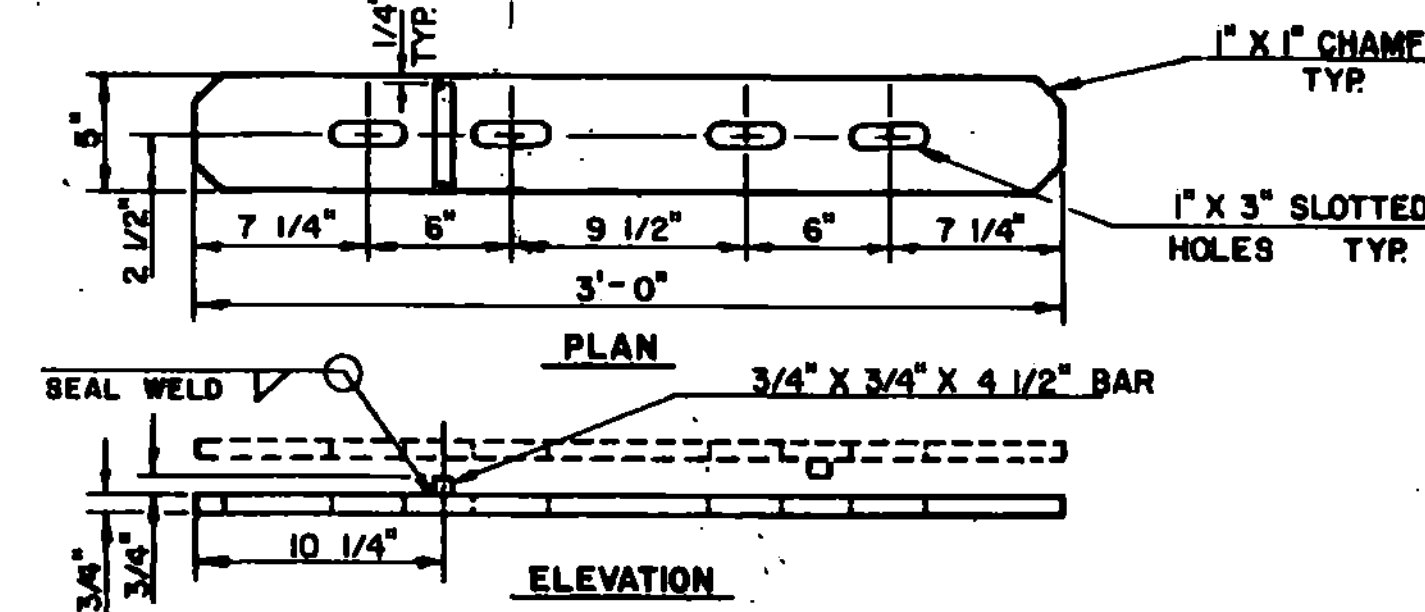
SHELF BRACKET DETAIL



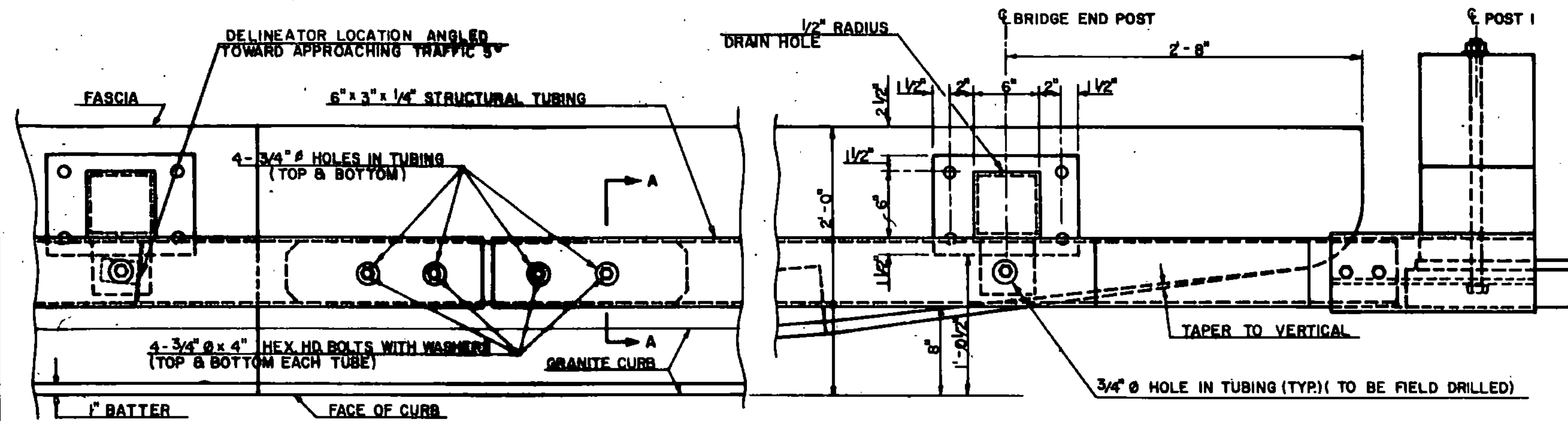
SECTION A-A



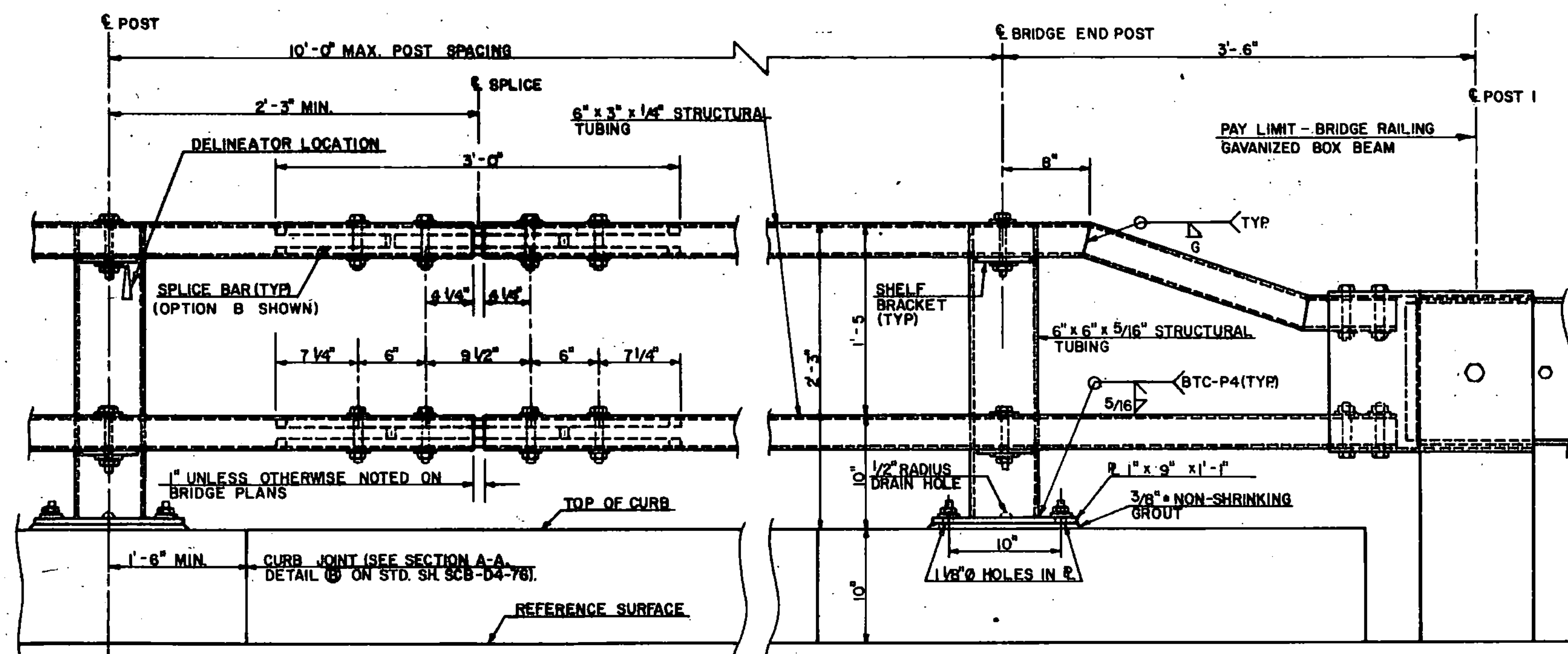
SPLICE BAR (OPTION "A")



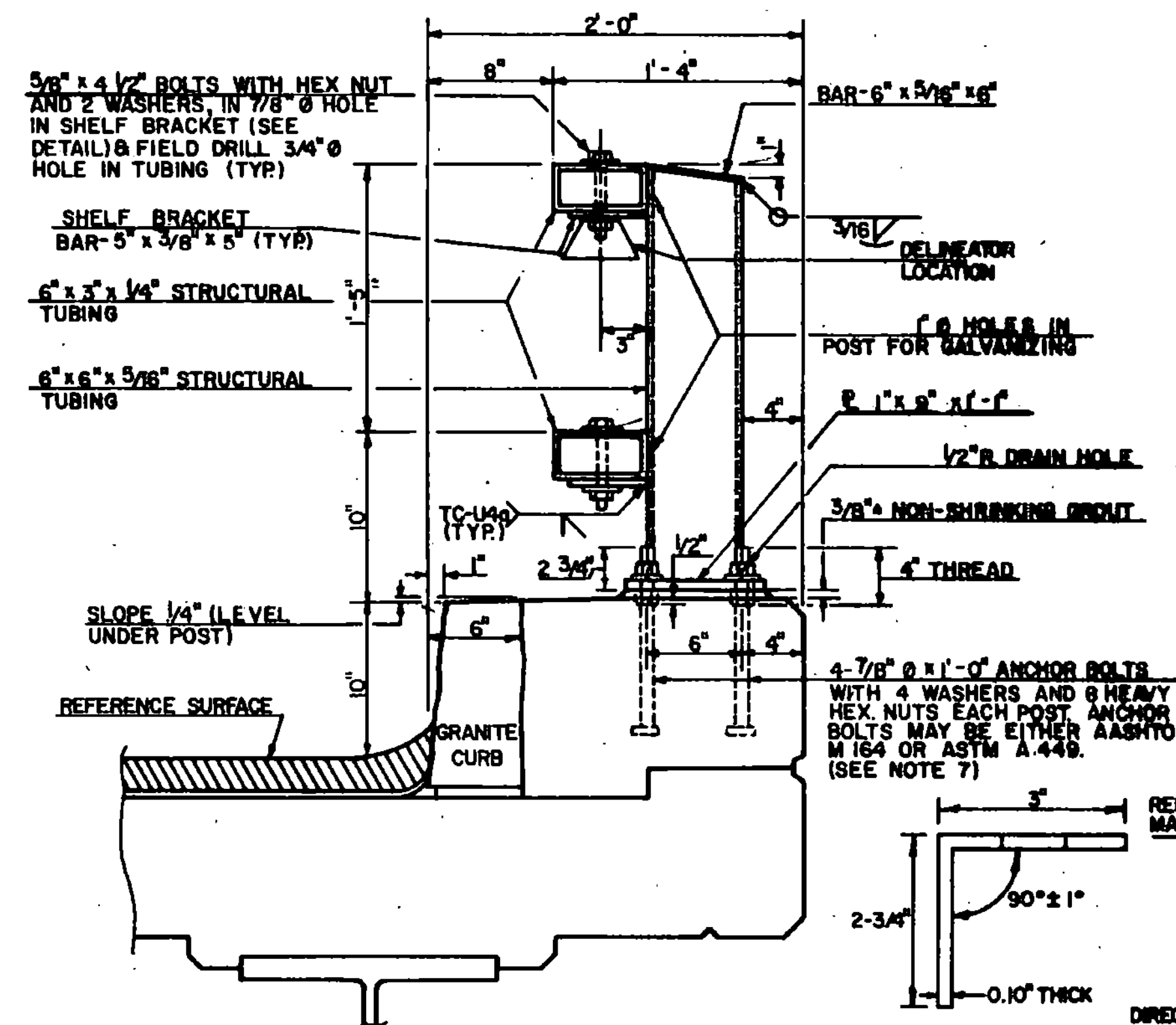
SPLICE BAR (OPTION "B")



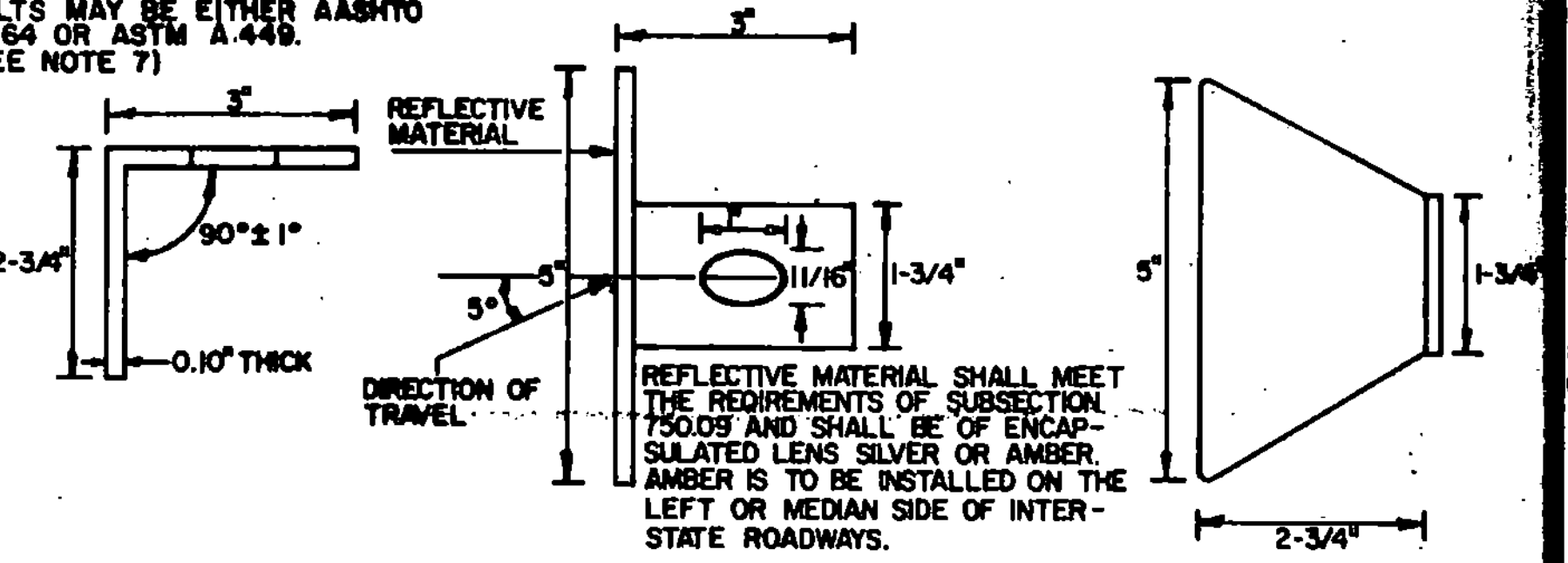
PLAN OF BOX BEAM BRIDGE RAIL



ELEVATION OF BOX BEAM BRIDGE RAIL



TYPICAL SECTION OF BOX BEAM BRIDGE RAIL



THIS REFLECTORIZED ALUMINUM DELINEATOR IS TO BE ERECTED EVERY 30 FEET OR CLOSEST POST. DELINEATOR SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.

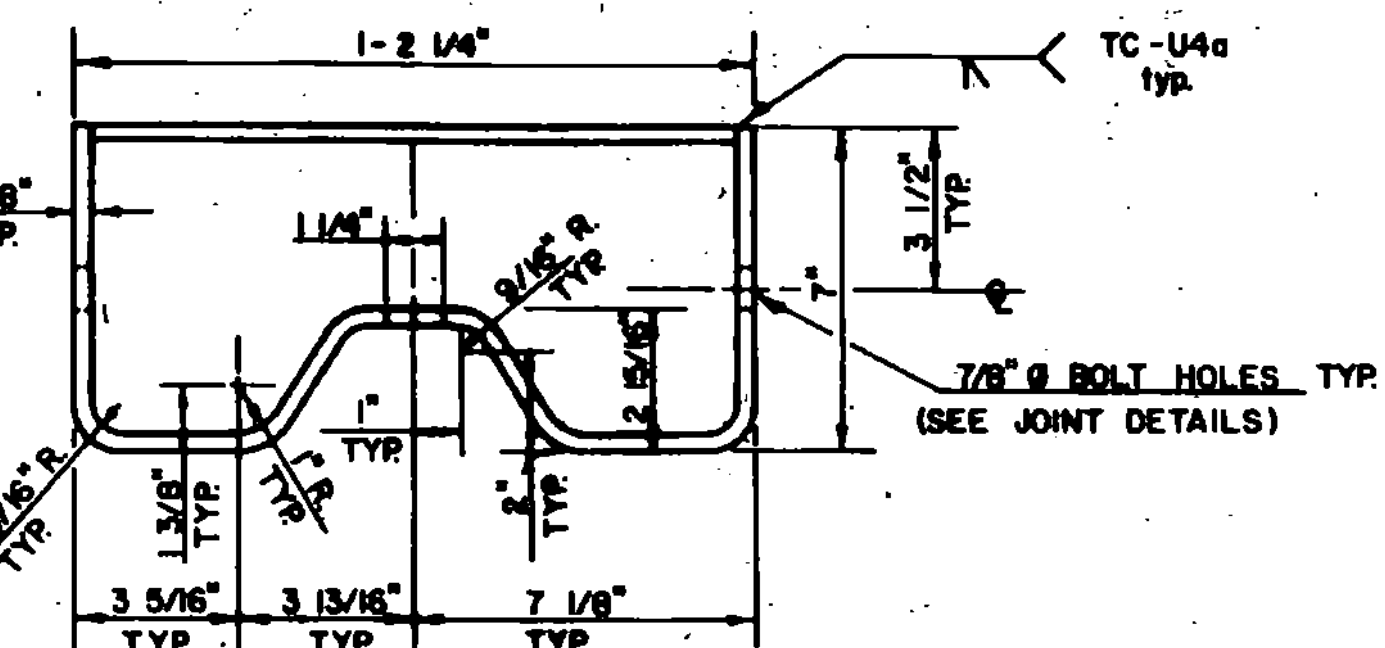
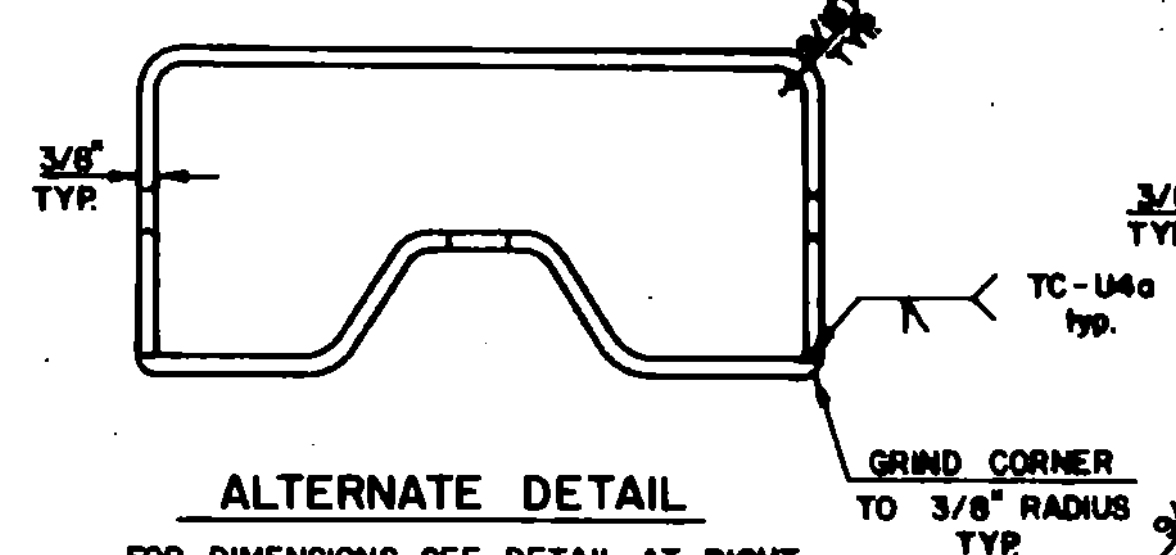
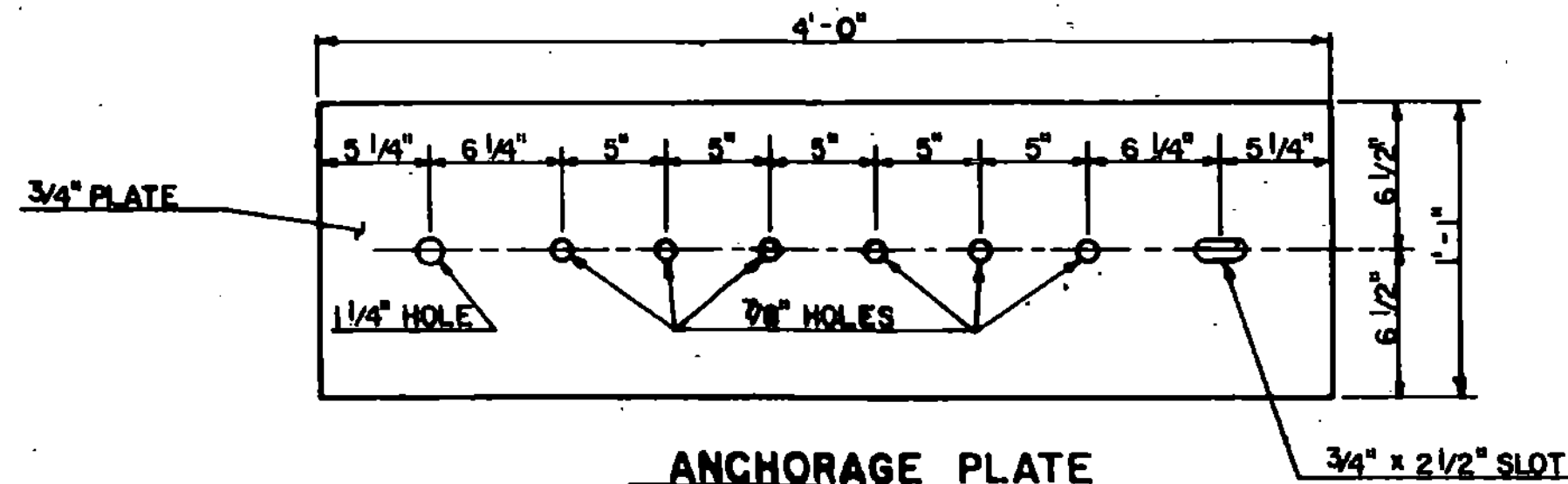
REVISIONS AND CORRECTIONS
 1. REVISION DELINEATORS ADDED D.A.R. 6-8-82
 2. REVISION CHANGED LOCATION OF DELINEATORS D.A.R. 8-22-83
 3. REVISION NOTE #12 TO INCLUDE TYPE II AND REVISED ANCHORAGE CONNECTOR AND SPLICE BAR. R.HAUPY 9/7/83
 4. REVISION HOLE DIMENSION IN SHELF BRACKET, ADD DIMENSION TO POST NO. 1, AND ADD NOTE NO. 14. R.S.H. 12-13-84

APPROVED:
 DECEMBER 28, 1981
 DATE
 [Signature] CHIEF OF DESIGN
 [Signature] STRUCTURES ENGINEER
 [Signature] DIRECTOR OF ENGINEERING AND CONSTRUCTION

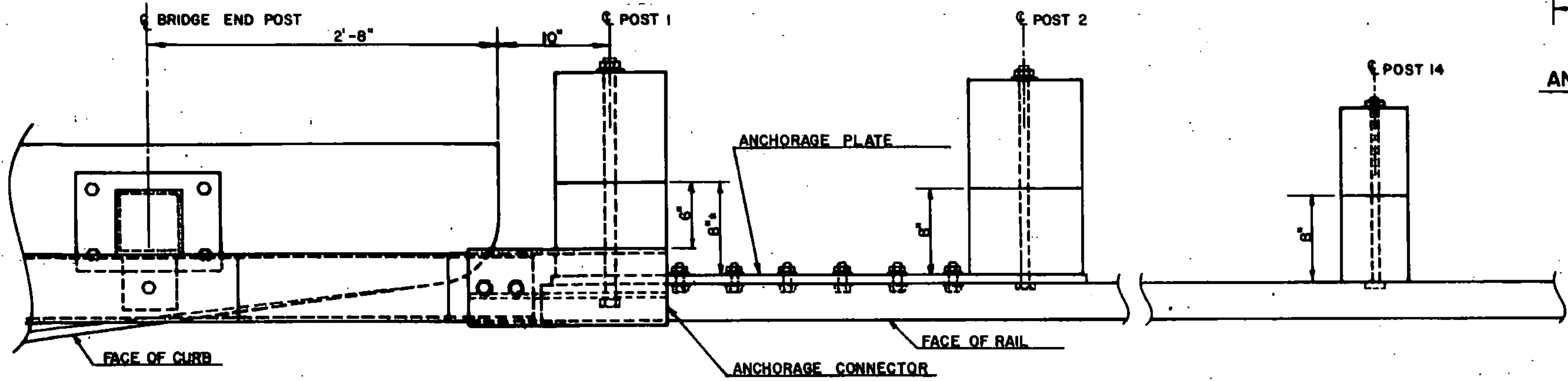
BRIDGE RAILING GALVANIZED BOX BEAM



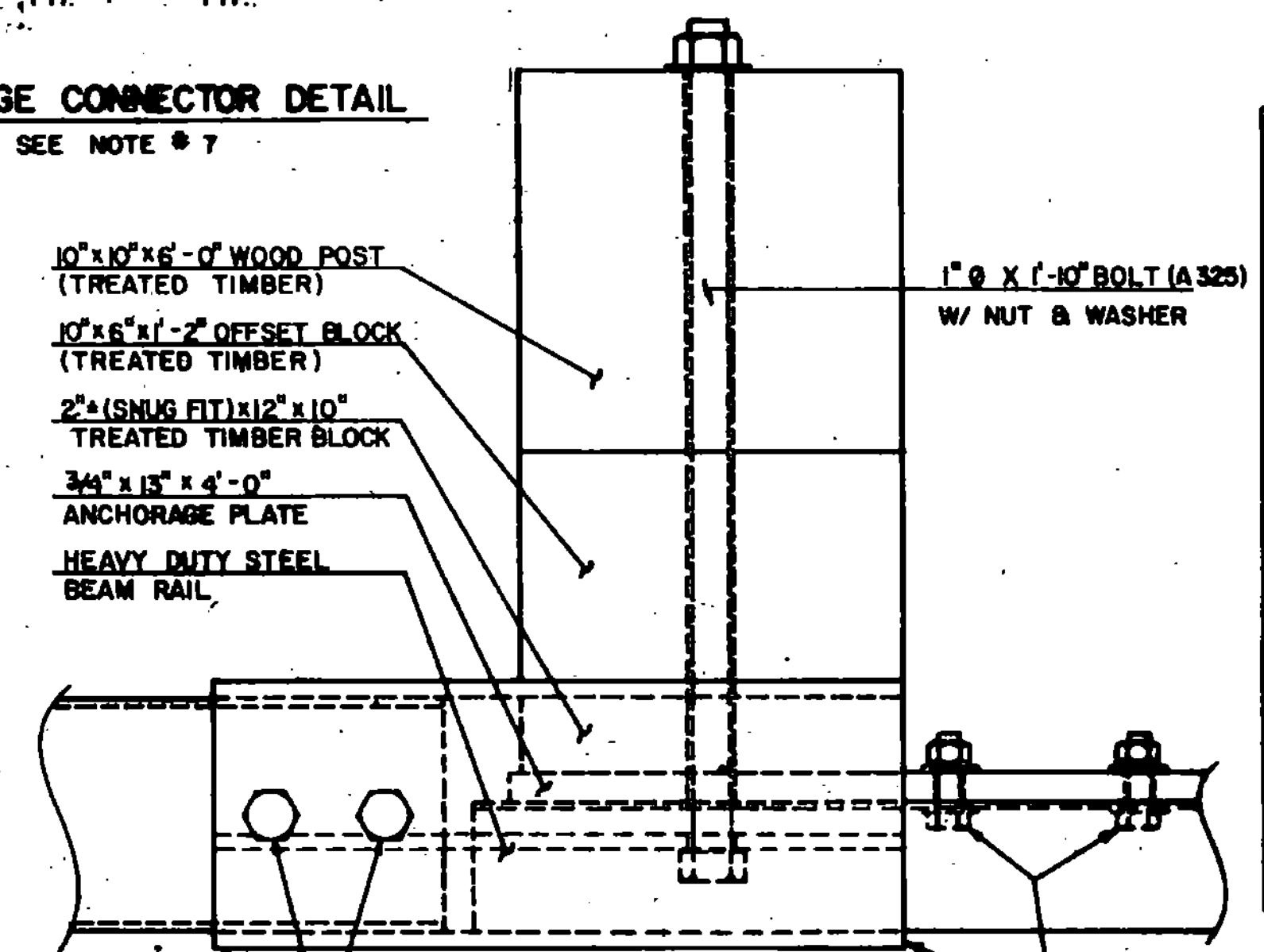
STANDARD SB-R4A-82



- NOTES**
- REFER TO STANDARD G-1 FOR DETAILS OF APPROACH GUARD RAIL.
 - APPROACH RAIL SPLICES SHALL LAP IN DIRECTION OF TRAFFIC FLOW.
 - ANCHORAGE CONNECTOR AND ANCHORAGE PLATE SHALL BE ASTM A 36 STEEL GALVANIZED TO ASTM A 123 AFTER FABRICATION.
 - REFER TO STANDARD SB-R4A-82 FOR NOTES AND DETAILS OF BRIDGE RAILING.
 - GUARD RAIL APPROACH SECTION-TYPE I & II SHALL INCLUDE ANCHORAGE PLATE, ANCHORAGE CONNECTOR, RAIL, POSTS, BLOCKS, AND ATTACHMENT HARDWARE.
 - APPROACH RAILING SHALL BE HEAVY DUTY STEEL BEAM FOR 60'-0" FROM THE C OF POST I FOR TYPE I AND 12'-6" FROM THE C OF POST I FOR TYPE II.
 - ALLOWABLE DIMENSIONAL TOLERANCE FOR BENT SECTIONS IS ±1/16 OF AN INCH.



ANCHORAGE CONNECTOR DETAIL
SEE NOTE # 7

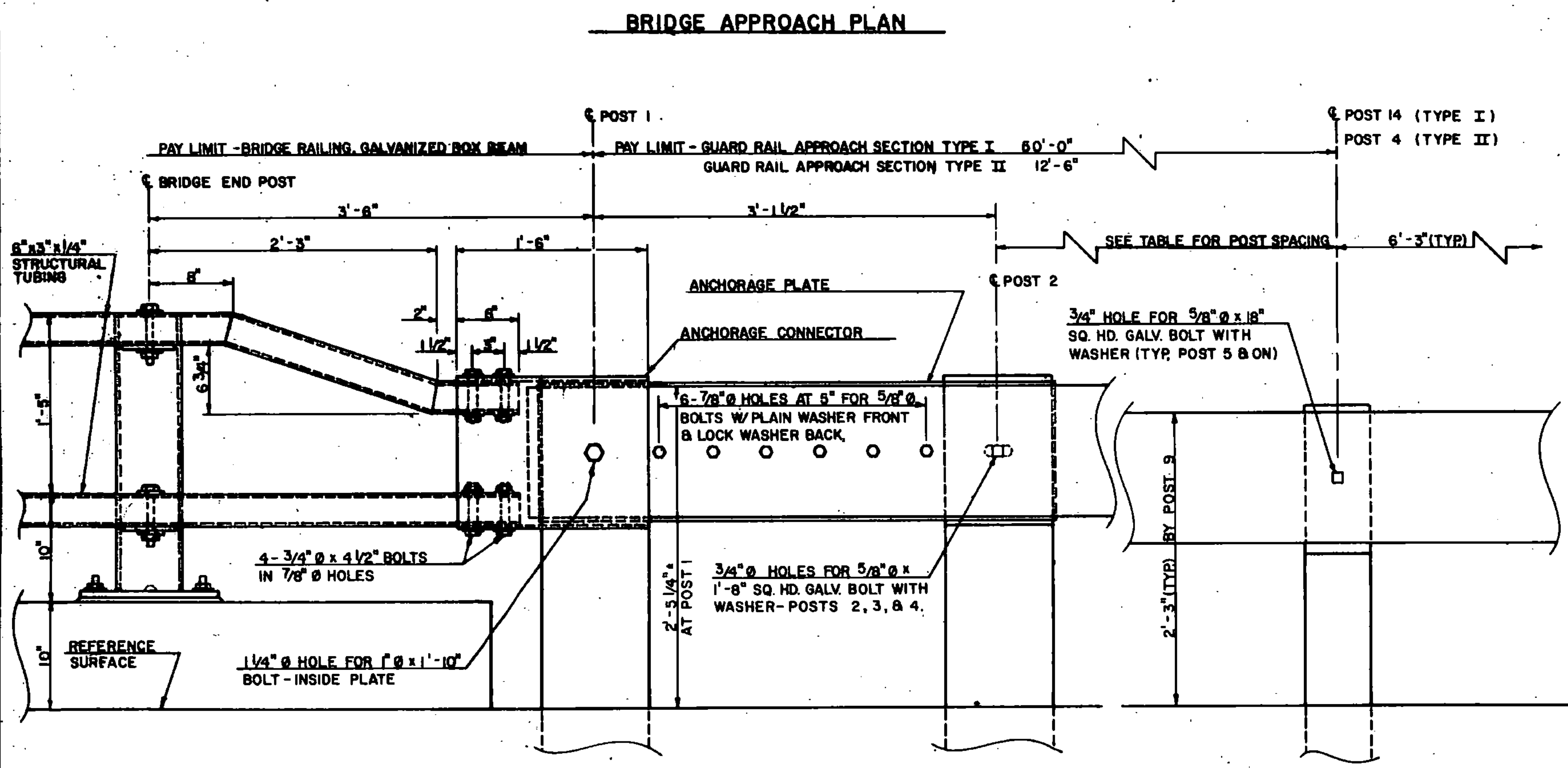


GUARD RAIL APPROACH SECTION TYPE I

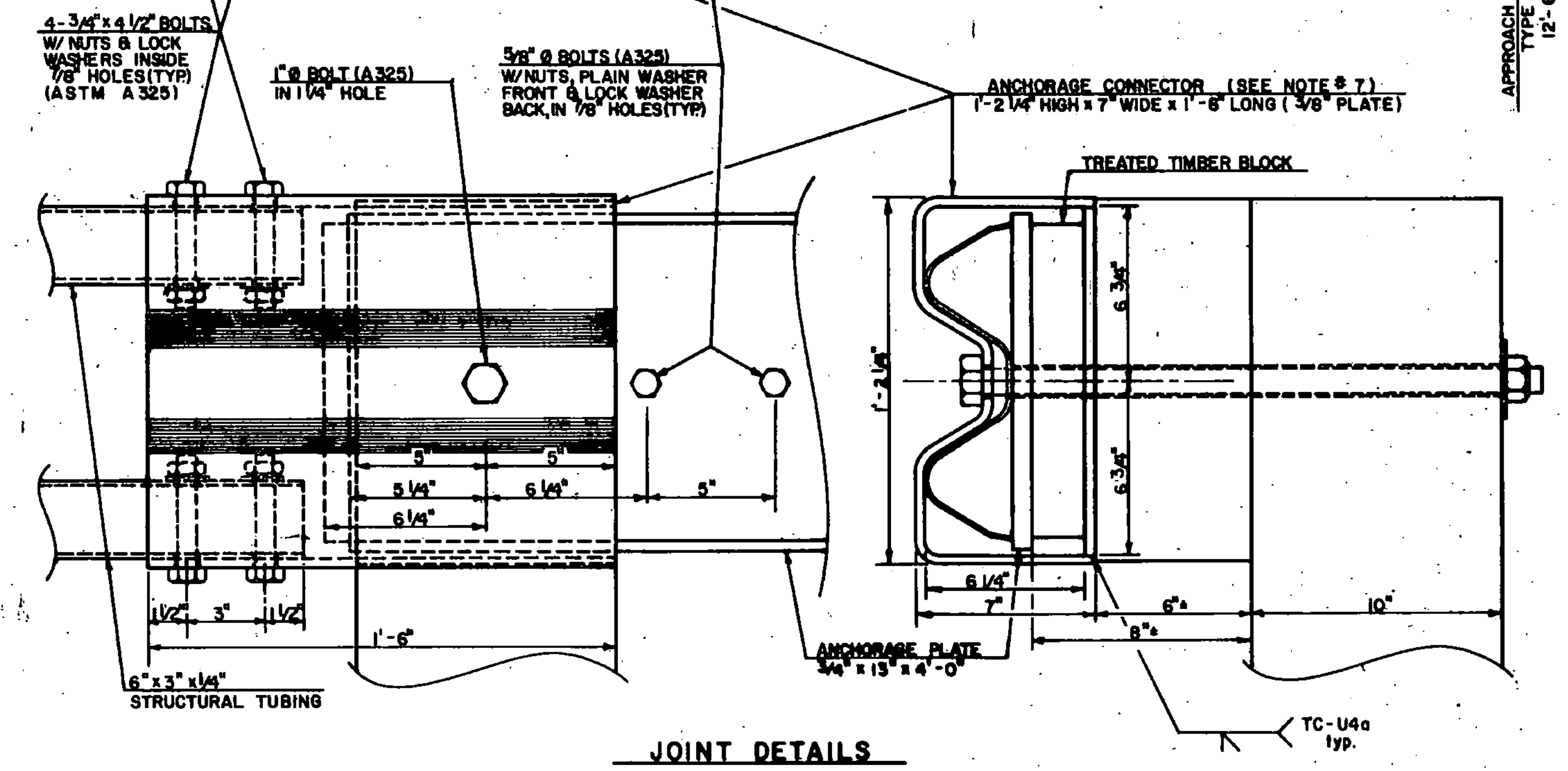
POST NO.	POST SIZE	OFFSET BLOCK	SPACING	
END POST				
1	10" x 10"	10" x 6"	3'-6"	GUARD RAIL APPROACH SECTION TYPE I, 50'-0"
2	10" x 10"	10" x 6"	3'-1 1/2"	
3	10" x 10"	10" x 6"	3'-1 1/2"	
4	10" x 10"	10" x 6"	3'-1 1/2"	
5	8" x 8"	8" x 8"	3'-1 1/2"	
6	8" x 8"	8" x 8"	3'-1 1/2"	
7	8" x 8"	8" x 8"	3'-1 1/2"	
8	8" x 8"	8" x 8"	3'-1 1/2"	
9	6" x 8"	6" x 8"	3'-1 1/2"	
10	6" x 8"	6" x 8"	4'-2"	
11	6" x 8"	6" x 8"	4'-2"	
12	6" x 8"	6" x 8"	4'-2"	
13	6" x 8"	6" x 8"	6'-3"	
14	6" x 8" (TYP)	6" x 8" (TYP)	6'-3" (TYP)	

GUARD RAIL APPROACH SECTION TYPE II

POST NO.	POST SIZE	OFFSET BLOCK	SPACING	
END POST				
1	10" x 10"	10" x 6"	3'-6"	GUARD RAIL APPROACH SECTION TYPE II, 12'-6"
2	10" x 10"	10" x 6"	3'-1 1/2"	
3	8" x 8"	8" x 8"	4'-8 1/4"	
4	8" x 8"	8" x 8"	6'-3" (TYP)	



BRIDGE APPROACH ELEVATION



JOINT DETAILS

REVISIONS AND CORRECTIONS

- ADDED TYPE II APPROACH DETAILS, AND REVISED ANCHORAGE CONNECTOR DETAILS. R. HAUPT 9/7/83
- ADDED DIMENSION TO POST NO. 1. R.S.H. 12-13-84

APPROVED: **DECEMBER 28, 1981**
DATE

William J. Goss
CHIEF OF DESIGN

W.M. Smith
STRUCTURES ENGINEER

S.J. Goss
DIRECTOR OF ENGINEERING AND CONSTRUCTION

GUARD RAIL APPROACH SECTION-TYPE I & TYPE II



STANDARD SB-R4B-82

