

CONTRACT PLANS

THESE PLANS DO NOT REFLECT
CHANGES MADE ON THE PROJECT.

AGENCY OF ADMINISTRATION
DEPARTMENT OF STATE BUILDINGS
2 GOVERNOR AIKEN AVENUE
MONTPELIER, VERMONT 05602
JOHN J. ZAMPIERI, COMMISSIONER

State of Vermont
Agency of Transportation

WATERFORD WELCOME CENTER

In the Town of Waterford on Interstate 93

Project consists of renovating the existing
Welcome Center and associated site work.



Howard Dean, M.D.
Governor

AGENCY OF TRANSPORTATION
133 STATE STREET
MONTPELIER, VERMONT 05602
GLENN M. GERSHANECK, SECRETARY

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A.O.T. - STANDARDS

- C-1 GRANITE SLOPED EDGING, VERTICAL GRANITE CURB,
PRECAST REINFORCED CONCRETE CURB, CAST IN
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- E-191 PAVEMENT MARKING DETAILS 8-18-95
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- E-197 DELINEATOR PLACEMENT TYPICAL 08-18-95
- E-198 DELINEATORS AND MILEPOSTS 8-18-95

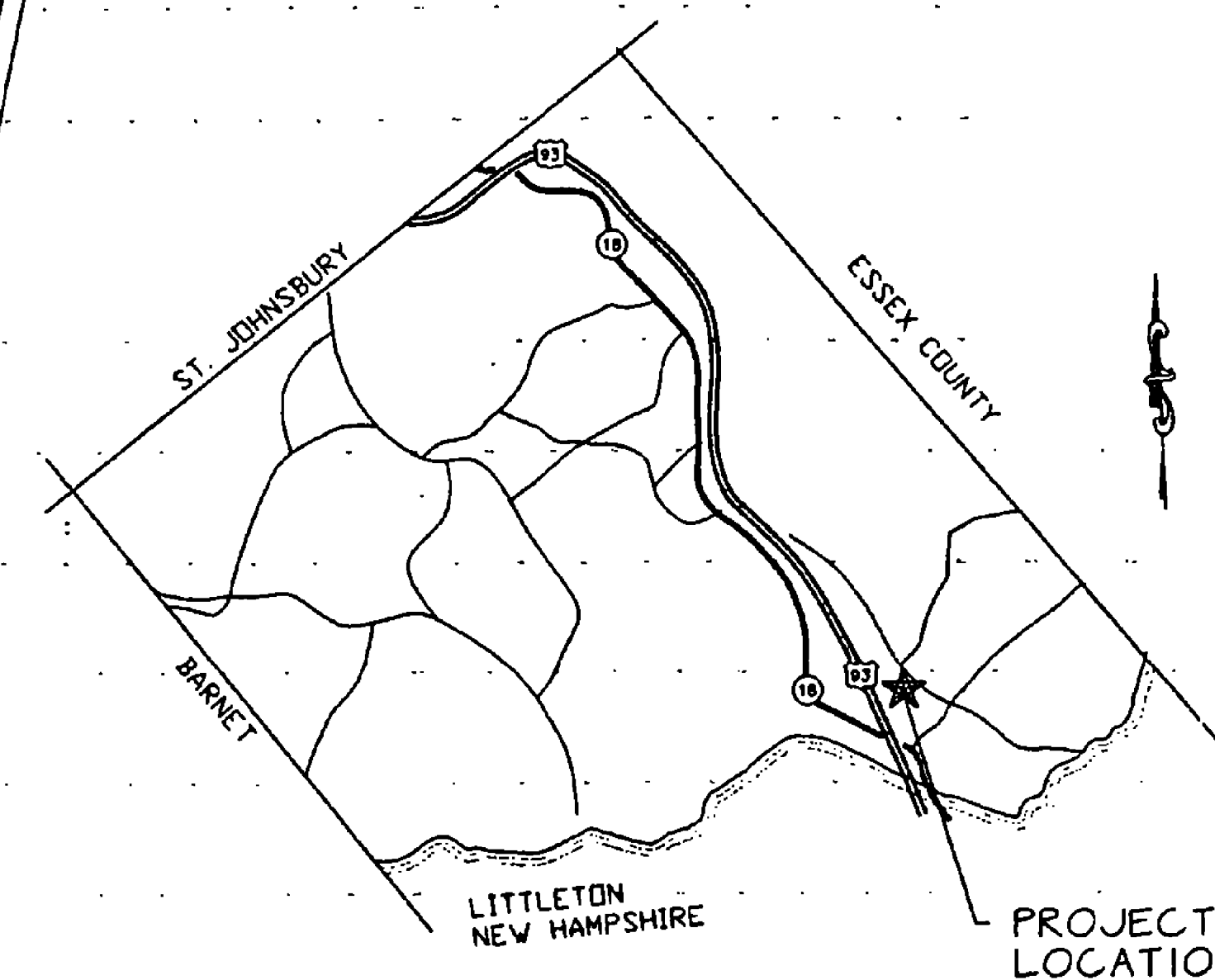
DEC 23 1996

SPATES CONSTRUCTION, INC.

PRESIDENT

Secretary of Transportation's Signature

PROJECT LOCATION



TOWN OF WATERFORD

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING
CHANGES AS MAY BE REQUIRED BY THE FEDERAL
HIGHWAY ADMINISTRATION OR THE DIRECTOR OF
CONSTRUCTION AND MAINTENANCE.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE
WITH THESE PLANS AND THE STANDARD SPECIFICATIONS
FOR THE CONSTRUCTION DATED 1990. AS APPROVED BY THE
FEDERAL HIGHWAY ADMINISTRATION ON MARCH 15, 1990
FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT
REVISIONS AND SUCH REVISED SPECIFICATIONS AND
SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE
PLANS.

APPROVED *Glenn M. Gershaneck* DATE *9/20/96*
DIRECTOR OF CONSTRUCTION & MAINTENANCE
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED *Howard D. Dean* DATE *9-20-96*
for DIVISION ADMINISTRATOR

PROJECT WATERFORD WELCOME CENTER
SHEET 1 OF 24 SHEETS

QUANTITY SHEET

QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

SUMMARY OF ESTIMATED QUANTITIES							DETAILED SUMMARY OF QUANTITIES					DETAILED SUMMARY OF QUANTITIES		
QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	REUNDING	QUANTITIES	UNIT	ITEMS	QUANTITIES	UNIT	ITEMS	QUANTITIES	UNIT	ITEMS	
1	EA	DEMOLITION AND DISPOSAL OF BUILDING (PARTIAL)	202.10	EST.										
200	CY	UNCLASSIFIED EXCAVATION	203.17											
* 200	CY	SOLID ROCK EXCAVATION	203.16	EST.										
550	CY	EXCAVATION OF SURFACES AND PAVEMENTS	203.28											
50	CY	EARTH BORROW	203.30	EST.										
425	CY	SAND BORROW	203.31											
90	CY	TRENCH EXCAVATION OF EARTH	204.20											
175	CY	SUBBASE DENSE GRADED CRUSHED STONE	301.35	EST.										
7	CWT	EMULSIFIED ASPHALT	404.65	EST.										
400	TON	BITUMINOUS CONCRETE PAVING	406.25	EST.										
1	EA	REHABILITATION OF DROP INLETS, CATCH BASINS, OR MANHOLES	604.41											
1000	LF	6' UNDERDRAIN	605.10	EST.										
2	EA	UNDERDRAIN FLUSHING BASIN	605.95	EST.										
100	LF	VERTICAL GRANITE CURB	616.21	EST.										
2100	LF	REMOVING AND RESETTING CURB	616.40											
30	SY	BRICK PAVING (CONCRETE GRIDS) (MODIFIED)	618.20	3										
475	SY	BRICK PAVING (SOLID PAVERS)	618.20	2										
1	LS	FIELD OFFICE - ENGINEERS	631.10											
1	LS	TESTING EQUIPMENT - CONCRETE	631.16											
1	LS	TESTING EQUIPMENT - BITUMINOUS	631.17											
1	LS	FIELD OFFICE - TELEPHONE	631.25											
1	LS	MOBILIZATION	635.10	EST.										
70	LF	PAINTED CURB	646.27											
2000	LF	4' DURABLE WHITE LINE	646.40	EST.										
2500	LF	4' DURABLE YELLOW LINE	646.41	EST.										
1000	LF	8' DURABLE WHITE LINE	646.42											
2	EA	DURABLE LETTER OR SYMBOL	646.50											
160	SY	GEOTEXTILE FABRIC FOR ROADBED SUBGRADE SEPARATOR	649.11	EST.										
1150	SY	GEOTEXTILE FOR UNDERDRAIN TRENCH LINING	649.41											
50	LB	SEED	651.15	EST.										
450	SY	SODDING	651.30	EST.										
50	CY	TOPSOIL	651.35											
1	LS	ROADSIDE REST FACILITIES (BLDG. REND)- MAIN BLDG.	658.15											
1	LS	ROADSIDE REST FACILITIES (BLDG. REND)- STORAGE BLDG.	658.15											
90	SF	TRAFFIC SIGNS, TYPE A	675.20	4.6										
575	LB	FLANGED CHANNEL SIGN POST	675.30	17										
15	EA	REMOVING SIGNS	675.50											
50	EA	DELINEATORS WITH STEEL POSTS	676.10											
28	EA	REMOVAL OF EXISTING DELINEATORS	676.12											
* 250	LB	FERTILIZER	651.18	EST.										
* 1	TON	AGRICULTURAL LIMESTONE	651.20	EST.										
* 1	TON	HAY MULCH	651.25	EST.										

* ITEMS OUT OF ORDER

SEEDING FORMULA RURAL AREAS

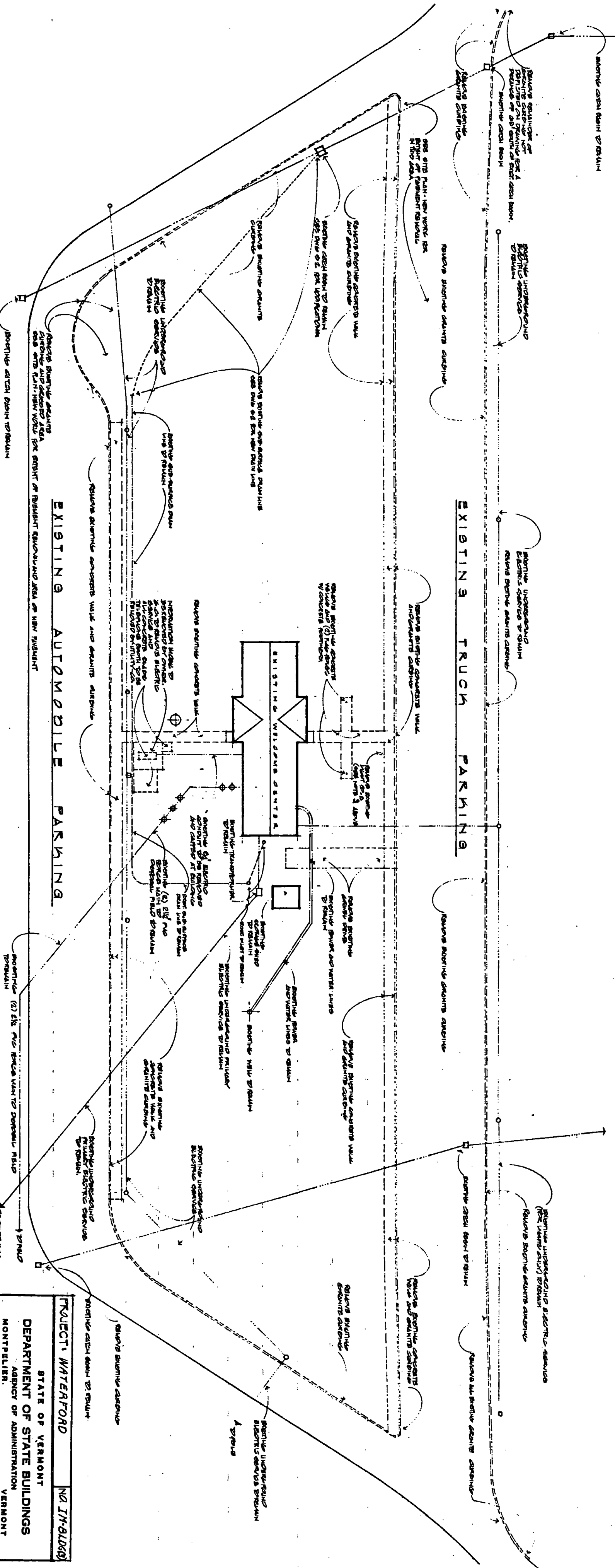
% WT.	LBS./A.	NAME	PUR %	GERM. %
37.5	22.5	CREeping RED FESCUE	98	85
37.5	22.5	TALL FESCUE	95	90
5.0	3.0	RED TOP	95	90
15.0	9.0	BIRDFOOT TREFOIL	98	85
5.0	3.0	ANNUAL RYEGRASS	95	85
100.0	60.0			

GENERAL NOTES

SEED MIXTURE SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
SEEDS TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

SURVEYED BY _____ DATE _____
 DRAWN BY _____ DATE _____
 SQUAD LEADER _____
 DESIGN FILE NO. _____
 IPARM FILE _____ DATE PLOTTED _____
 PROJ. NAME WATERFORD WELCOME CENTER
 PROJ. NO. IM-BLDG (3)
 SHEET 2 OF 24 SHEETS

NOTE:
 1. All drawings showing dimensions are to be finished and as set.
 2. All dimensions are to be taken from the centerline of the road or the center of the building unless otherwise noted.
 3. Existing lot lines, boundary lines, and other lines are shown as they are. They are not to be construed as a warranty of accuracy.



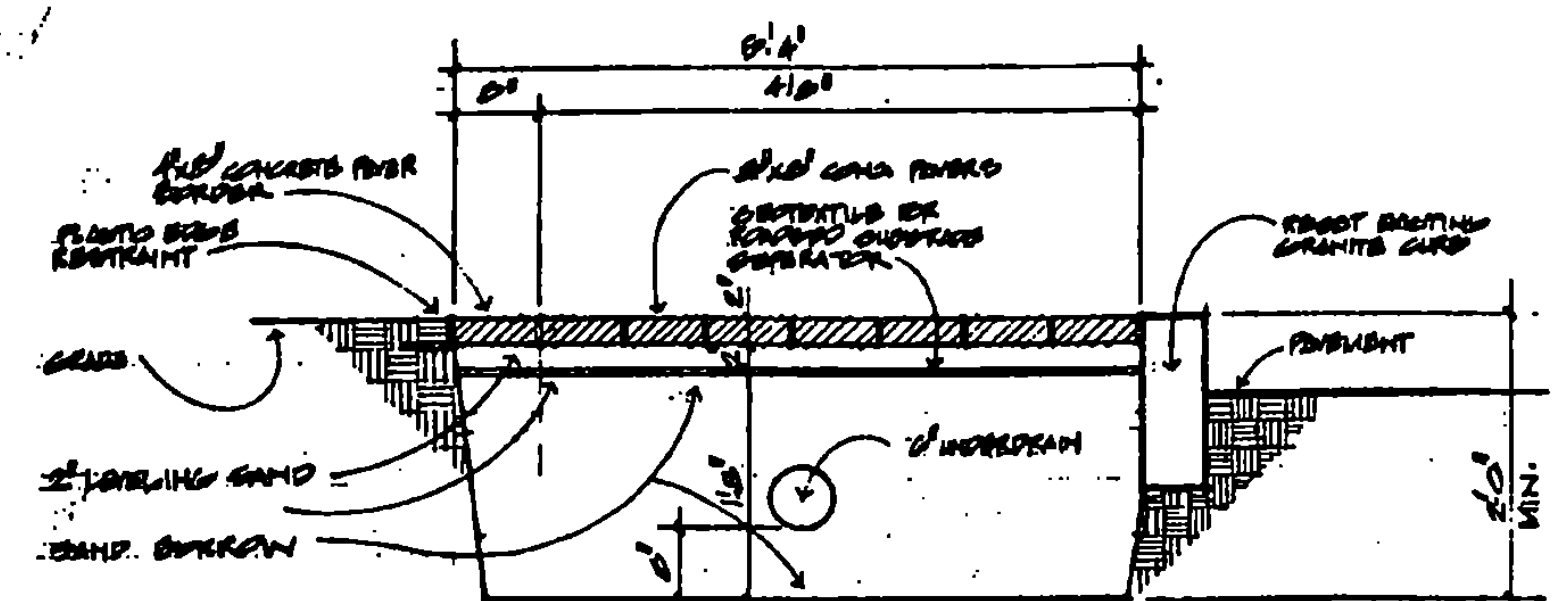
SITE PLAN - REMOVALS

SCALE 1" = 60'

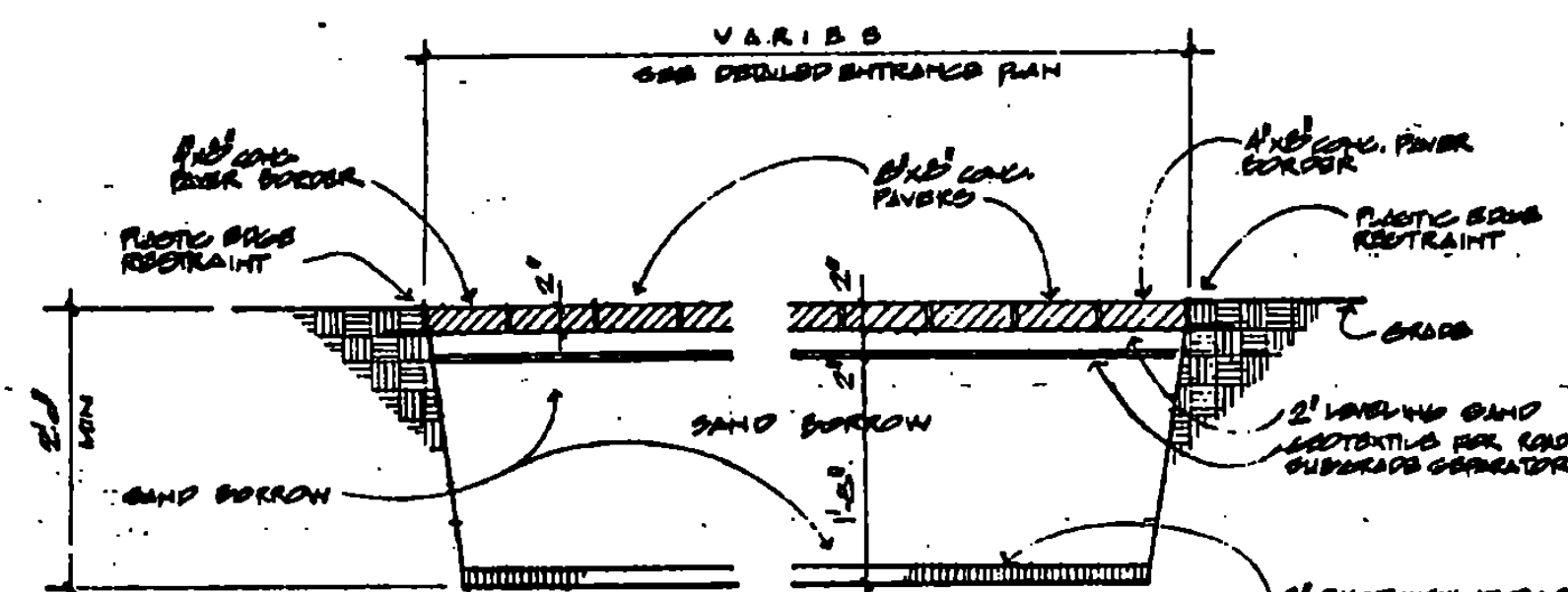


CHARLES E. METZ
 ARCHITECT
 THE 380 RICHMOND DOCK HOUSE
 NEWBURY, VERMONT 05657

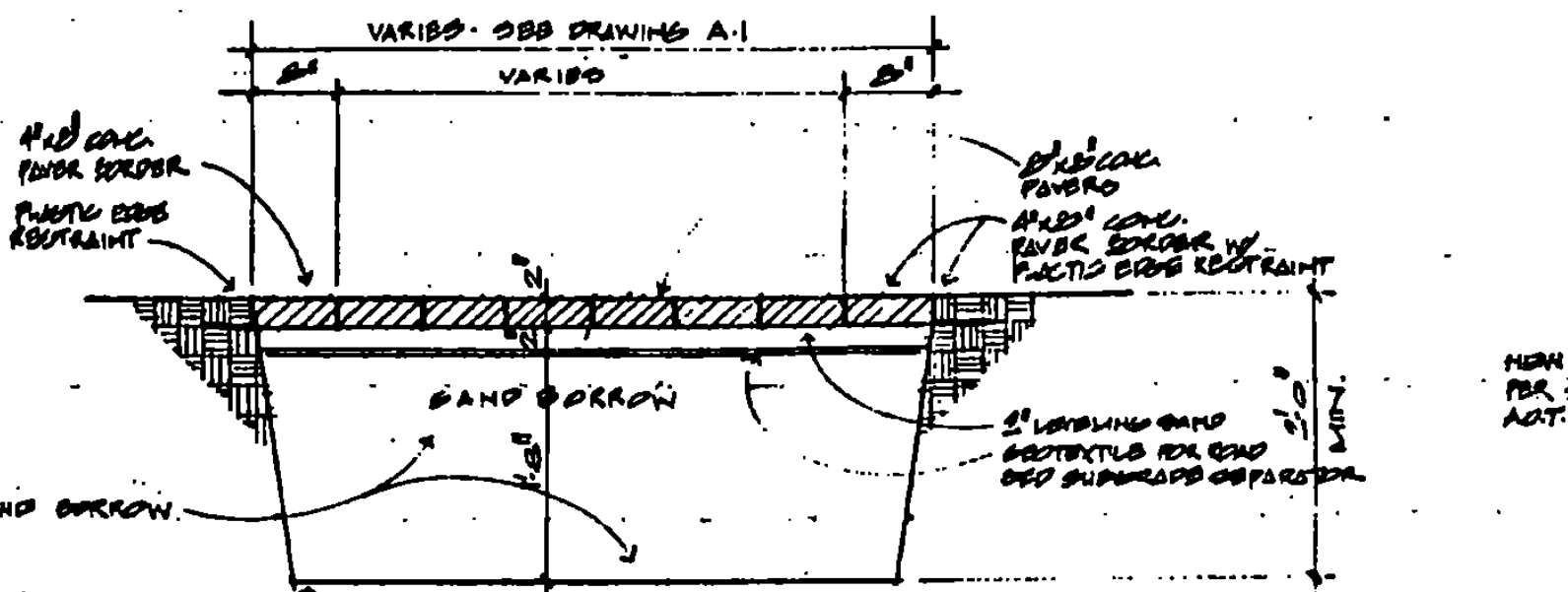
PROJECT WATERFORD		NO. 17-0100
STATE OF VERMONT		
DEPARTMENT OF STATE BUILDINGS		
AGENCY OF ADMINISTRATION		
MONTPELIER, VERMONT		
THE WATERFORD WICOME CENTER		
WATERFORD, VERMONT		
SITE PLAN - REMOVALS		
DATE: 10/24/84	SCALE: 1" = 60'	DATE: 10/24/84
DESIGNED BY: [Signature]	REVISIONS: [Signature]	DATE: 10/24/84
DRAWN BY: [Signature]	APPROVED BY: [Signature]	DATE: 10/24/84
CHECKED BY: [Signature]	DATE: 10/24/84	



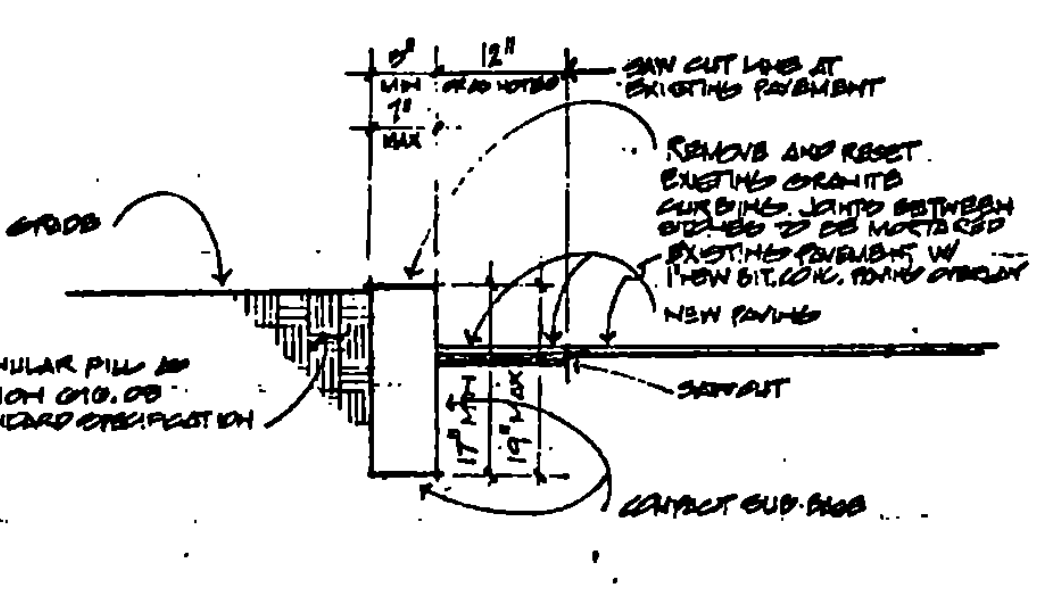
SIDEWALK TYPE A SECTION 1



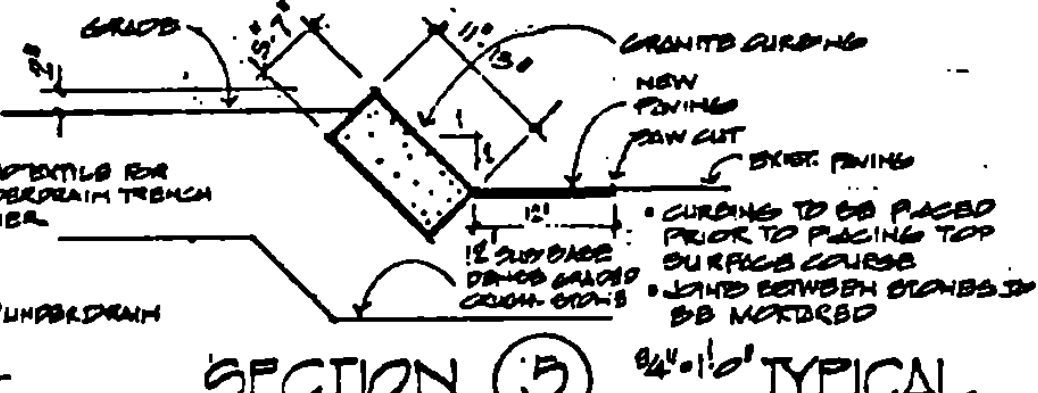
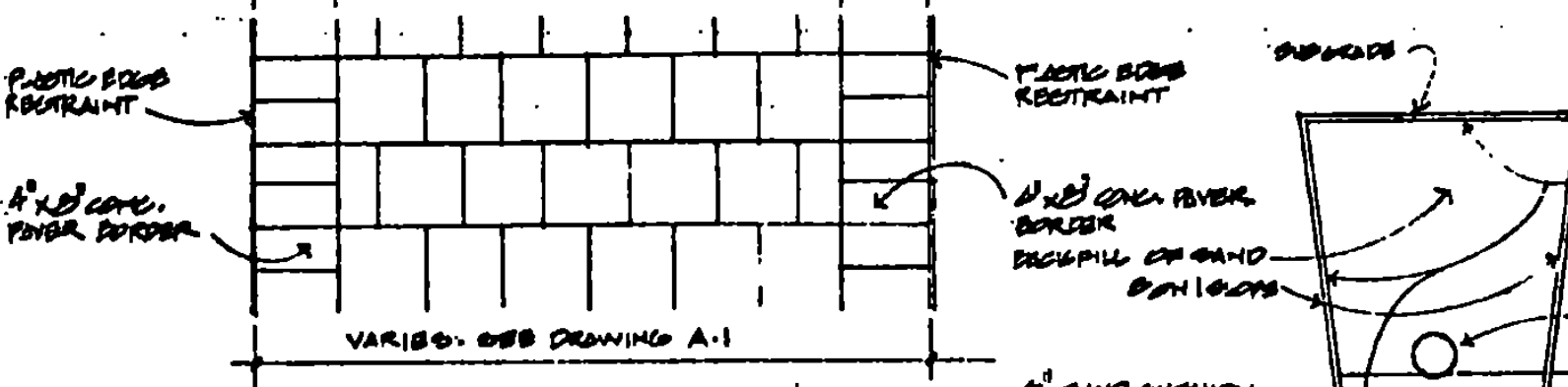
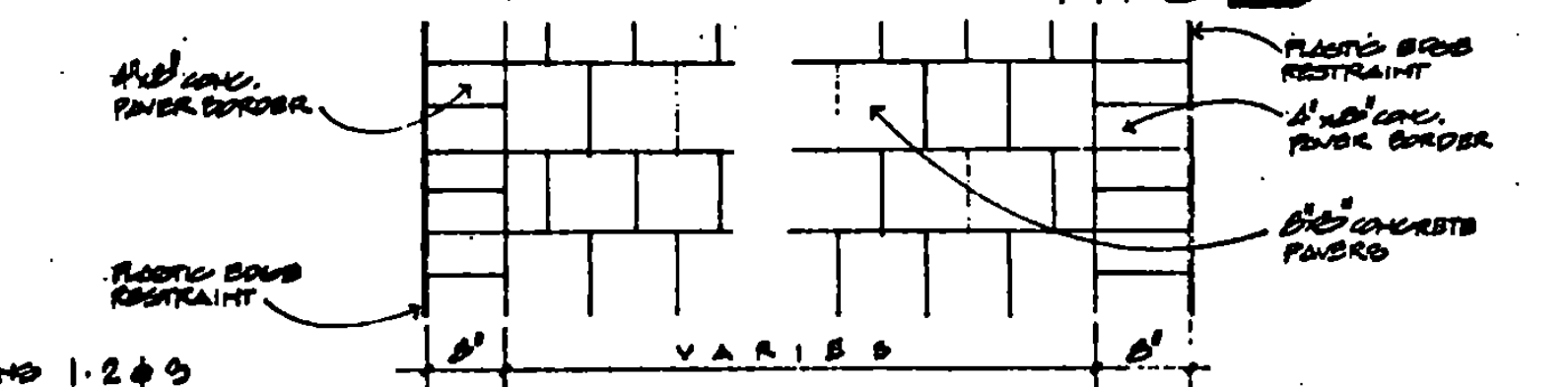
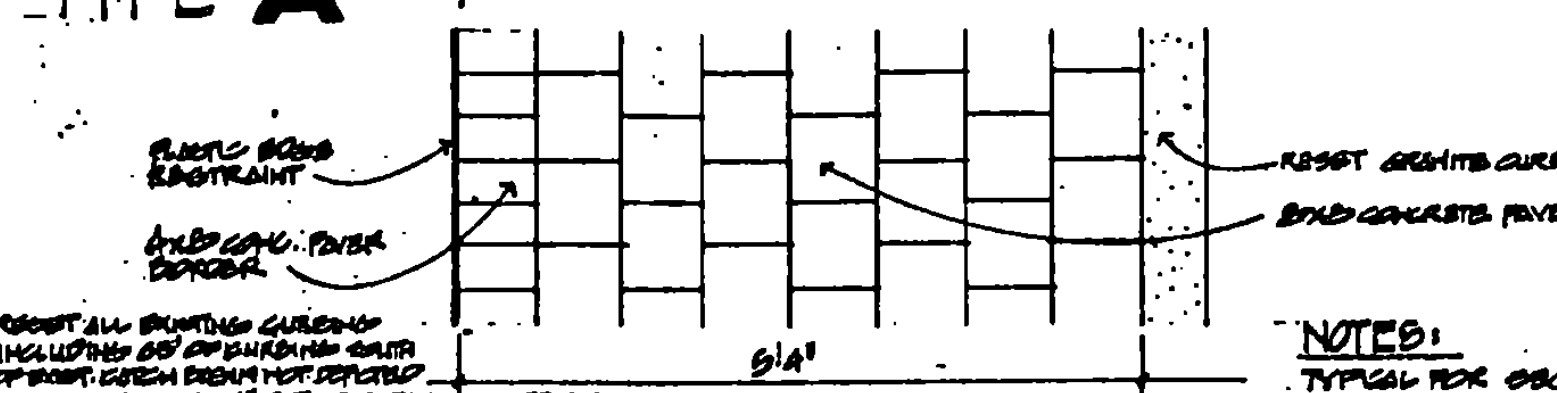
SIDEWALK TYPE B SECTION 2



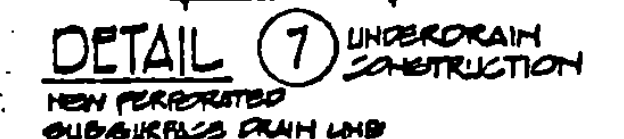
SIDEWALK TYPE C SECTION 3



SECTION 4 TYPICAL

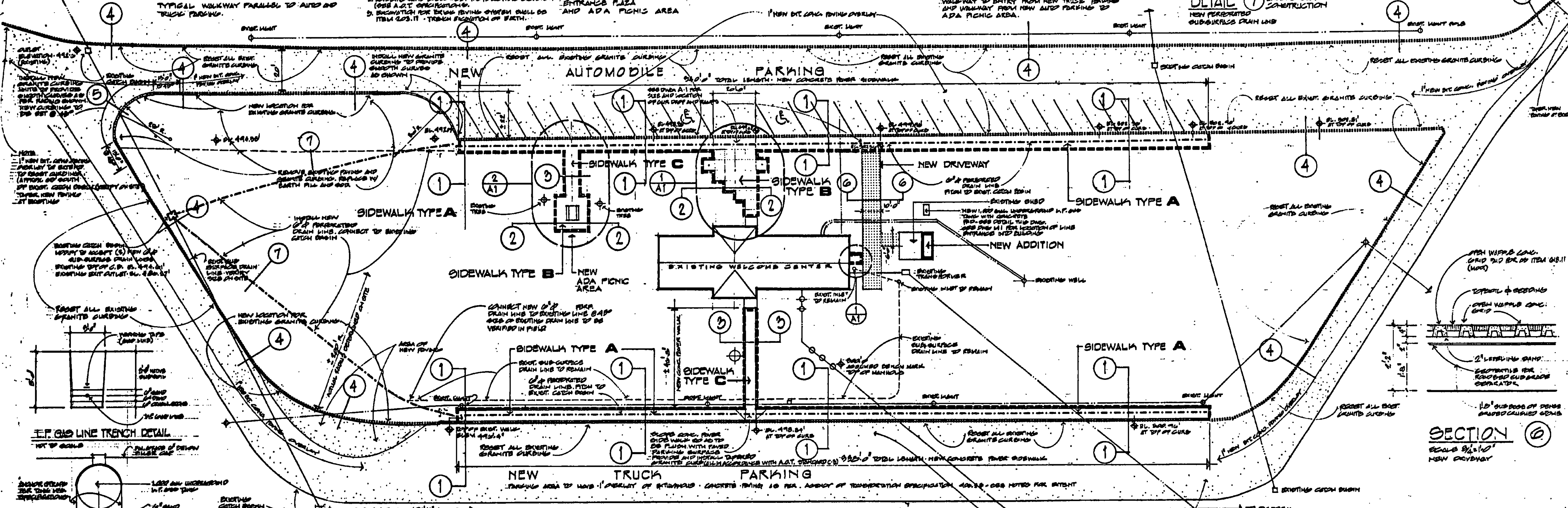


SECTION 5 TYPICAL



DETAIL 7 UNDERDRAIN CONSTRUCTION

NOTES:
 1. TYPICAL FOR SECTIONS 1, 2 & 3
 2. 1" LAYING SAND SHALL NOT BE PAID SEPARATELY BUT SHALL BE INCLUDED IN THIS UNIT PRICE BID FOR ITEM 018.20 - DRIVE PAVEMENT.
 3. LAYING SAND SHALL MEET THE FOLLOWING SPECIFICATION (SEE A-1.1 SPECIFICATION).
 4. DIMENSION FOR BELOW FINISH GRADE SHALL BE ITEM 025.11 - TYPICAL FINISH OF SURF.

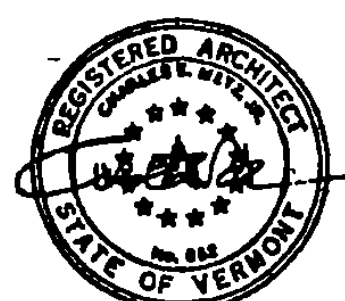
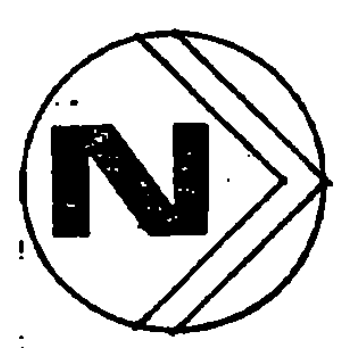


KEY

	EXISTING GRANITE CURBING
	NEW GRANITE CURBING CUT TO RADIUS
	AREA OF NEW DRIVE W/ OPENING FOR CURB
	NEW 4" PERFORATED DRAINAGE LINE UNDER NEW CONCRETE DRIVE WALKWAY OR SUBGRADE DRAIN LINE TO NEW CATCH BASIN
	EXISTING SPOT ELEVATION

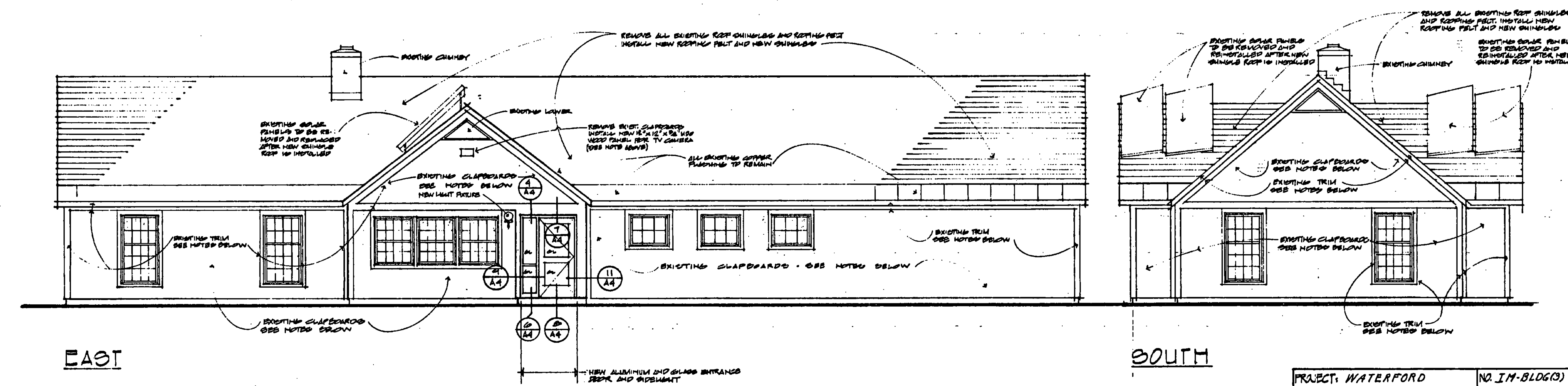
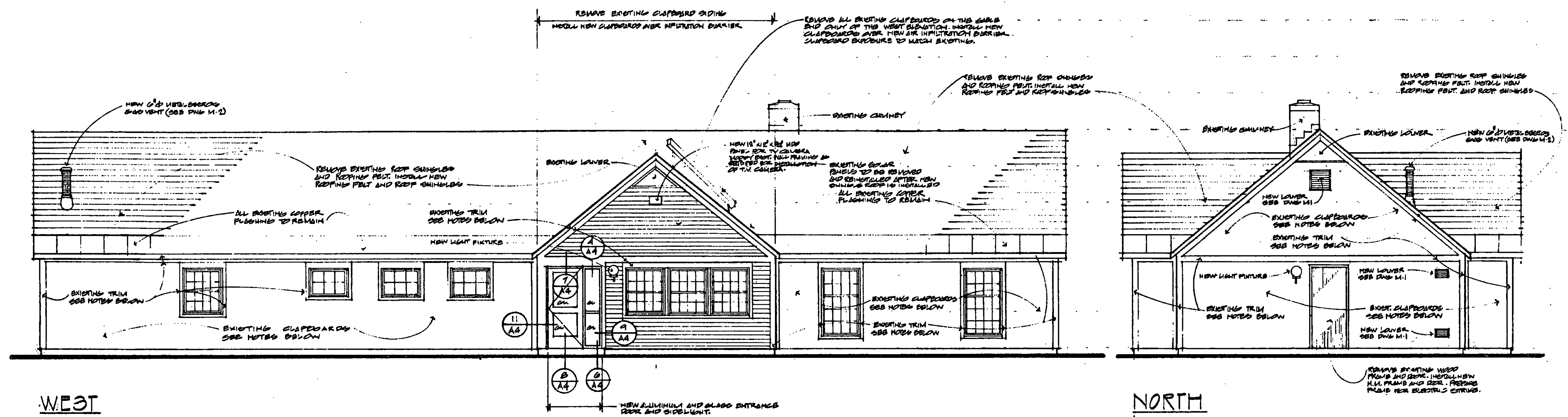
SITE PLAN - NEW WORK

NOTE:
 1. OWNER SHALL RETAIN ALL EXISTING GRANITE CURBING NOT SHOWN FOR NEW CONSTRUCTION. ALL OTHER EXISTING MATERIALS AND EQUIPMENT NOT SHOWN SHALL BE REMOVED FROM THE SITE BY THE OWNER'S CONTRACTOR.



CHARLES E. METZ ARCHITECT
 THE 1820 RICHARD DOB HOUSE
 NEWSBURY, VERMONT, 05051-0878

PROJECT: WATERFORD		NO. IM-BLDG (3)	
STATE OF VERMONT DEPARTMENT OF STATE BUILDINGS AGENCY OF ADMINISTRATION MONTPELIER, VERMONT			
THE WATERFORD WELCOME CENTER WATERFORD, VERMONT			
SITE PLAN - NEW WORK			
DATE: JANUARY 1990	SCALE: 1/8" = 1'-0"	REVISIONS: 01 JANUARY 1990	DWG. NO. 92
DRAWN BY: [Signature]	APPROVED BY: [Signature]	4 of 24	



NOTES:

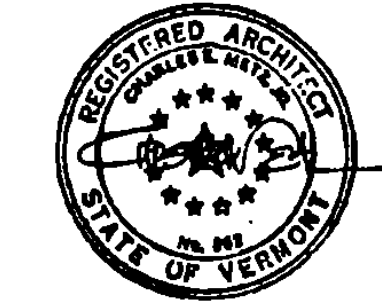
1. A DETAILED INSPECTION OF THE CONDITION OF EXISTING CLAPBOARDS, BY A REPRESENTATIVE OF THE OWNER, SHALL DETERMINE AREAS OF CLAPBOARDS WHICH REQUIRE REMOVAL AND THE INSTALLATION OF NEW CLAPBOARDS. THE GENERAL CONTRACTOR SHALL REMOVE AND REPLACE UP TO 1,000 L.F. OF CLAPBOARD SIDING WHERE AND AS DIRECTED. THE REMOVAL AND INSTALLATION OF THE NEW CLAPBOARD SIDING ON THE GABLE WALL OF THE WEST ELEVATION IS NOT INCLUDED IN THE VARIOUS LINEAL FEET.

2. ALL NAILS AND HIDDEN NAILS SHALL BE RESET OR REPLACED WHERE THE EXISTING CLAPBOARD SIDING REMAINS IN PLACE.

3. ALL WOOD TRIM, SUCH AS CORNER BOARDS, FINES, SOTTIES, RAIS BOARDS, WINDOW AND DOOR CASINGS, WINDOW MULLIONS, LOWNERS ETC. SHALL BE PREPARED FOR AND RECEIVE (2) COATS OF PAINT.

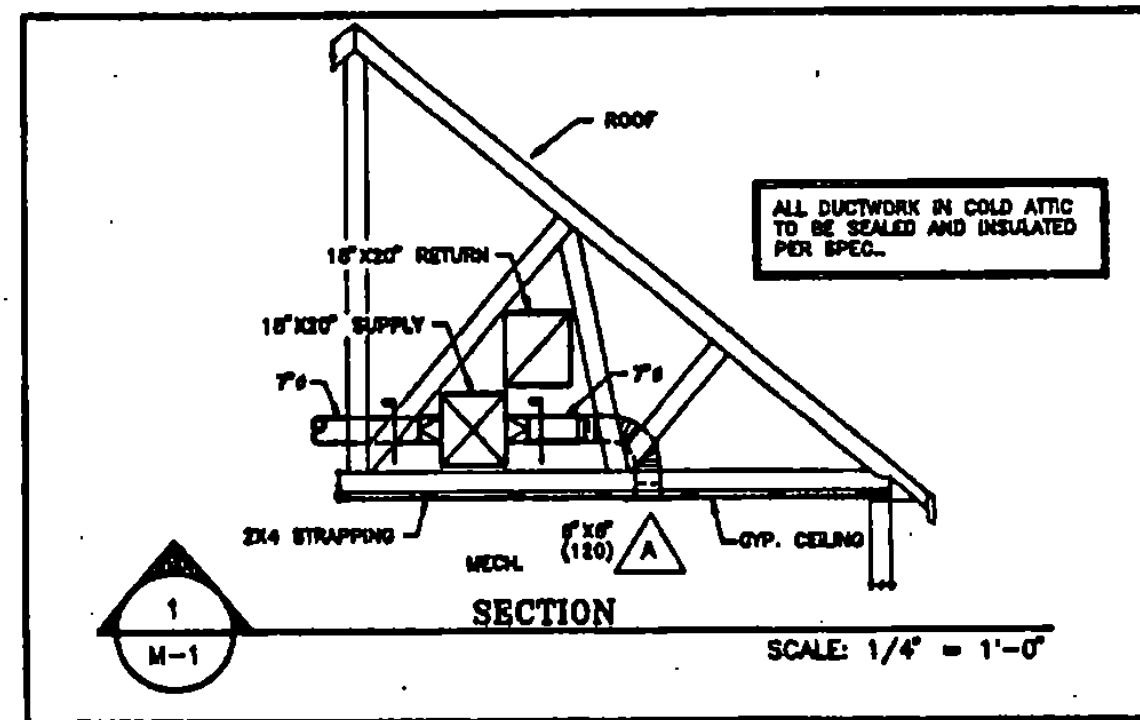
4. ALL EXISTING CLAPBOARDS TO BE PREPARED FOR AND RECEIVE (2) COATS OF PAINT OVER 1 COAT OF PRIMER.

5. ALL NEW CLAPBOARDS TO RECEIVE (1) PRIME COAT AND (2) COATS OF PAINT.



CHARLES E. METZ ARCHITECT
 THE 1920 RICHARD DOB HOUSE
 NEWBURY, VERMONT, 05081-0878

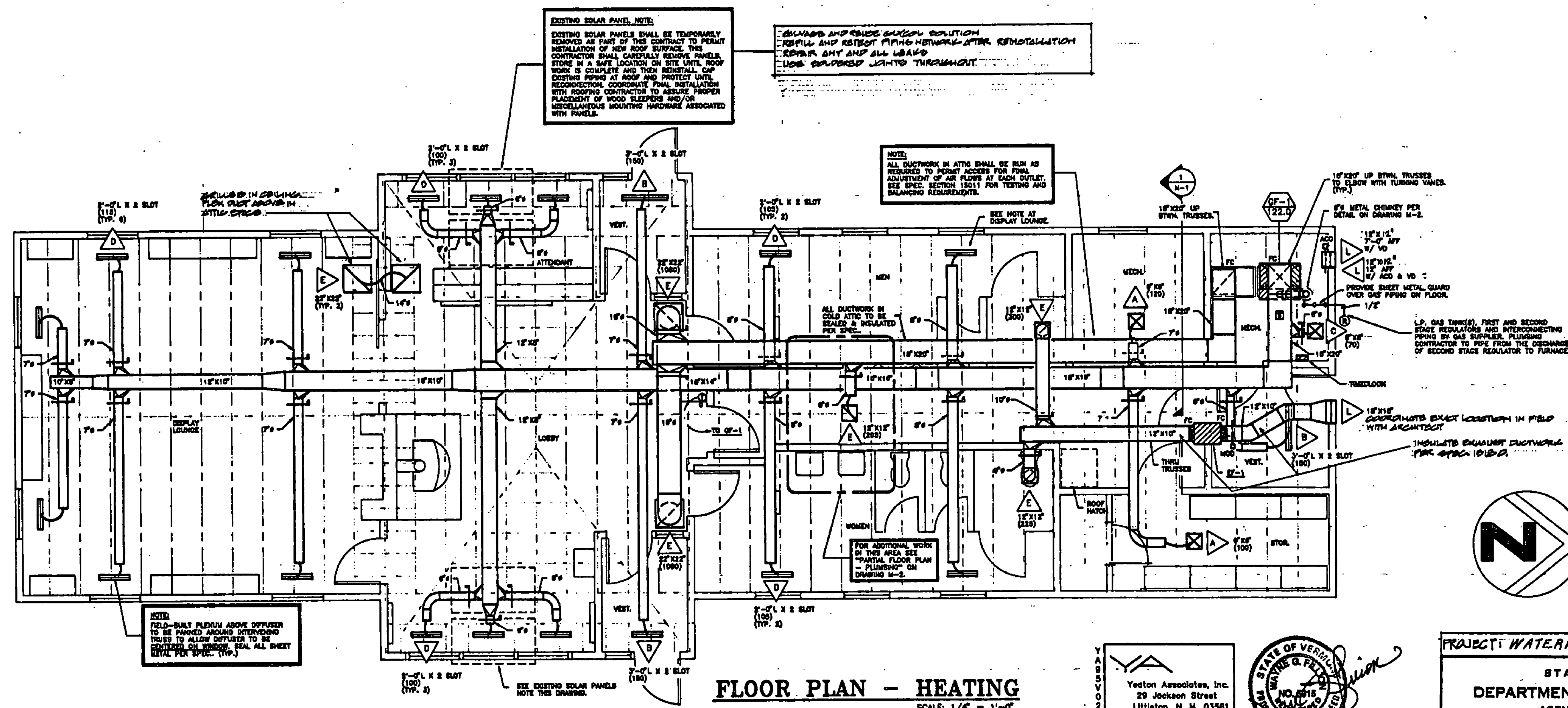
PROJECT: WATERFORD		NO. 1M-BLDG(3)	
STATE OF VERMONT DEPARTMENT OF STATE BUILDINGS AGENCY OF ADMINISTRATION MONTPELIER, VERMONT			
THE WATERFORD WELCOME CENTER WATERFORD VERMONT ELEVATIONS			
DATE: JANUARY 1990	SCALE: 1/4" = 1'-0"	REVISIONS:	DWG. NO. A2
DRAWN BY:	APPROVED BY:		6 OF 24



- GENERAL NOTES**
1. ALL EQUIPMENT AND DUCTWORK SHOWN DIAGRAMMATICALLY ONLY. EXACT LOCATION TO BE DETERMINED AND COORDINATED IN THE FIELD BY ALL TRADES INVOLVED.
 2. ALL ROUGH OPENINGS THRU EXTERIOR WALLS SHALL BE CAULKED WATERTIGHT.
 3. PITCH DUCT CONNECTIONS TO LOUVERS TO DRAIN TOWARD LOUVER.
 4. FLEXIBLE DUCTS TO BE NOT OVER 8 FEET LONG WITH APPROVED TRANSITIONS AND SMOOTH BENDS TO TERMINAL CONNECTIONS.
 5. FLEX DUCT SIZE TO MATCH RUNOUT SIZE UNLESS NOTED OTHERWISE.
 6. MOUNTING HEIGHTS FOR THERMOSTATS, EQUIPMENT ON/OFF SWITCHES, ETC. LOCATED IN HANDICAP ACCESSIBLE SPACES SHALL COMPLY WITH CURRENT STATE AND FEDERAL "HANDICAP COMPLIANCE" LEGISLATION (ADA).

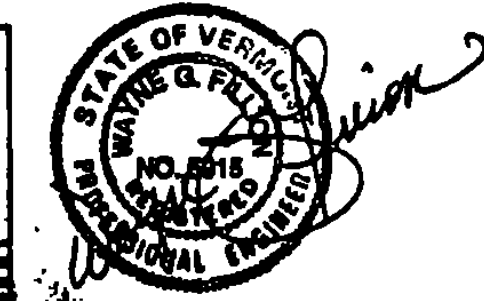
LEGEND

ACD	AUTOMATIC CONTROL DAMPER	⊠	SMOKE DETECTOR (FOR EQUIP. SHUTDOWN)
AF	ABOVE FINISHED FLOOR	⊙	THERMOSTAT W/GUARD
AL	ACOUSTICALLY LINED	⊠	SQUARE ELBOW W/TURNING VANES (T.V.)
ATC	AUTOMATIC TEMPERATURE CONTROL	⊠	EQUIPMENT TAG / MBH HEAT
CFM	CUBIC FEET PER-MINUTE	⊠	GRD / LOUVER SYMBOL
E.A.	ENTERING AIR	⊠	SUPPLY DUCT
E.A.T.	ENTERING AIR TEMPERATURE	⊠	RETURN OR EXHAUST DUCT
EF	EXHAUST FAN	⊠	CONN. POINT OF NEW WORK TO EXISTING
FC	FLEX CONNECTION	⊠	SANITARY WASTE ABOVE GRADE
FD	FIRE DAMPER	⊠	GAS PIPING
G.C.	GENERAL CONTRACTOR	⊠	FIXTURE TRAP PLAN VIEW
L.A.T.	LEAVING AIR TEMPERATURE	⊠	PLUMBING FIXTURE IDENTIFICATION NUMBER
MBH	THOUSAND BTU'S PER HOUR		
MOD	MOTOR OPERATED DAMPER		
M.C.	MECHANICAL CONTRACTOR		
N.T.S.	NOT TO SCALE		
RPM	REVOLUTIONS PER MINUTE		
TYP.	TYPICAL		
U/C	UNDER CUT DOOR BY G.C.		
VD	VOLUME DAMPER		



FLOOR PLAN - HEATING
SCALE: 1/4" = 1'-0"

Yeston Associates, Inc.
29 Jackson Street
Littleton, N. H. 03561



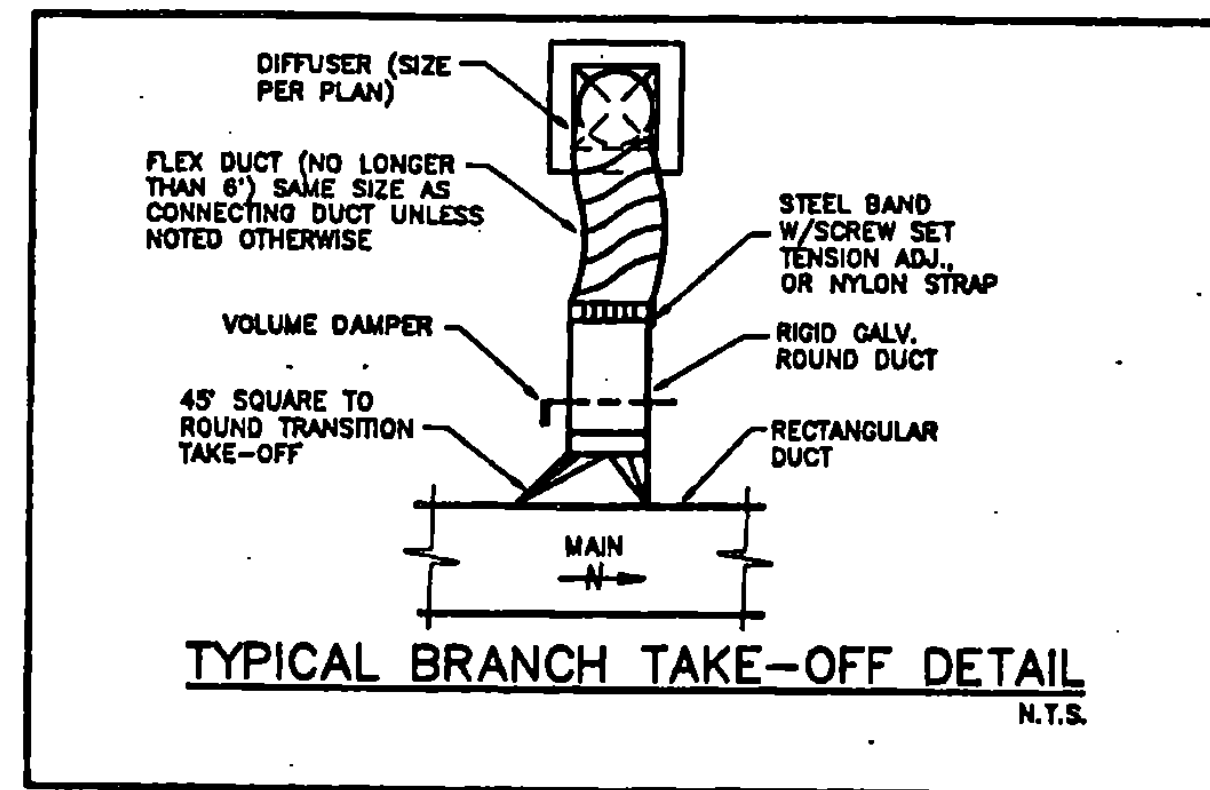
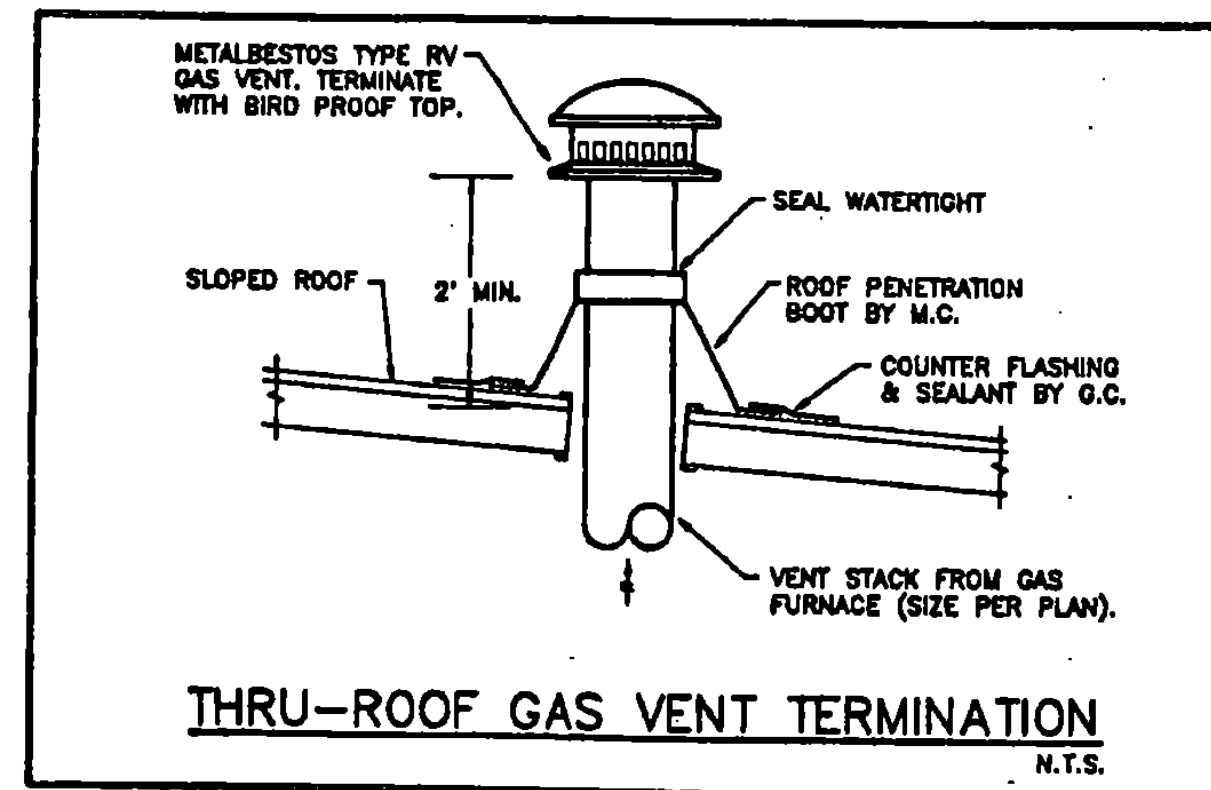
CHARLES E. METZ
ARCHITECT
THE 1880 RICHARD DOE HOUSE
NEWBURY, VERMONT, 05051-0278

PROJECT: WATERFORD NO. IM-BLDG(3)

STATE OF VERMONT
DEPARTMENT OF STATE BUILDINGS
AGENCY OF ADMINISTRATION
MONTPELIER, VERMONT

THE WATERFORD WELCOME CENTER
WATERFORD, VERMONT
FLOOR PLAN - HEATING

DATE: JANUARY 1990	SCALE: 1/4" = 1'-0"	REVISIONS:	DWG. NO. M1
DRAWN BY: Y.A.	APPROVED BY: CEM		2 of 22



PLUMBING FIXTURE SCHEDULE						
NO.	FIXTURE	WASTE	VENT	HW	CW	REMARKS/DESCRIPTION
P-1H	URINAL (ADA)	3"	1 1/2"	-	1/2"	AMERICAN STANDARD WASHBROOK URINAL (8501.010) W/WALL MOUNTED SUPPORT AS MANUFACTURED BY ZURN OR APPROVED EQUAL, SLOAN ROYAL FLUSH VALVE (186-1.0' GPF), MOUNTING HEIGHT 17" TO RIM OF URINAL ABOVE FINISH FLOOR.
P-2H	LAVATORY (ADA)	1 1/4" x 1 1/4"	1 1/2"	1 1/2"	1/2"	AMERICAN STANDARD DECLYX LAVATORY (0321.075) W/CONCEALED ARM WALL MOUNTED CARRIER ZURN (Z-1253), AMERICAN STANDARD FAUCET (2385.130) SINGLE LEVER MIXING W/DRIP DRAIN & TAILPIECE ASSEMBLY, P-TRAP, ANGLE SUPPLY KEY STOPS, MOUNTING HEIGHT 34" TO RIM OF LAVATORY ABOVE FINISH FLOOR. (INSULATE WASTE AND SUPPLY LINES PER SPEC.)

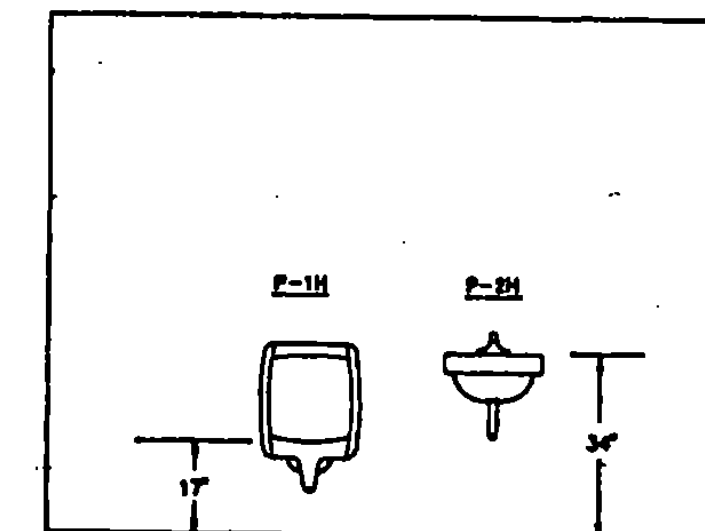
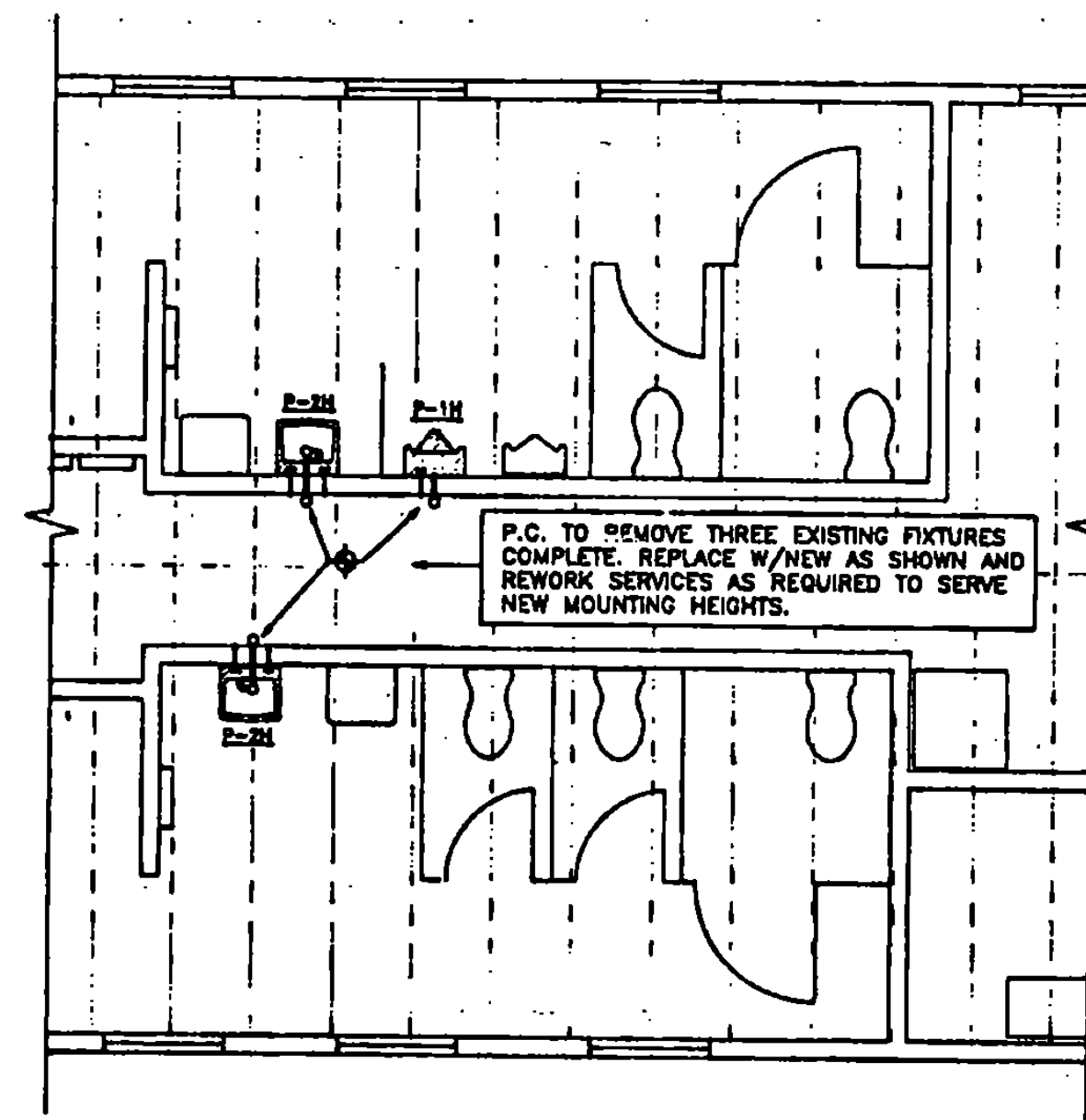
EXHAUST FAN SCHEDULE											
NO.	AREA SERVED	MAKE & MODEL	CFM	RPM	S.P.	HP	ELECTRICAL DATA			STARTER TYPE	REMARKS
							VOLTS	PH	CY		
EF-1	TOILETS	GREENHECK SQ-100-B	525	1140	.375"	1/4	120	1	60	TIMELOCK	①

① FURNISH MOTOR WITH INTEGRAL OVERLOAD PROTECTION, UNIT MOUNTED DISCONNECT SWITCH, INSULATED HOUSING, HANGING VIBRATION ISOLATORS (SPRING TYPE) AND MOTOR OPERATED DAMPER WITH REQUIRED MOTOR PACK. (MOTOR OPERATED DAMPER TO OPEN WHEN FAN STARTS AND CLOSE WHEN FAN STOPS. FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR.)

GAS FIRED FURNACE SCHEDULE											
NO.	MAKE & MODEL	CFM	MBH		EAT	LAT	S.P.	HP	STARTER TYPE	GAS TYPE	REMARKS
			INPUT	OUTPUT							
GF-1	YORK P34C-B30N	2450	182.0	122.0	88"	118"	.85"	1 1/2	MAGNETIC	LP	①

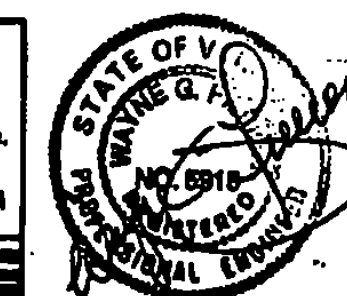
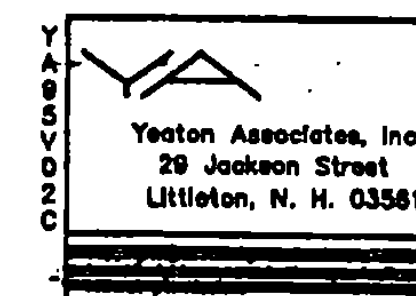
① FURNISH WITH ALL STANDARD EQUIPMENT FOR PROPER INSTALLATION PLUS BASE MOUNT VIBRATION ISOLATORS (NEOPRENE), SIDE FILTER RACK, 2 SETS OF 2" 25# T.A. FILTERS AND LP CONVERSION KIT. (230V-1PH-60CY)

GRILLE, REGISTER, DIFFUSER, LOUVER SCHEDULE			
SYMBOL	MANUFACTURER	TYPE & MODEL	REMARKS (SIZE AND CFM AS SHOWN ON PLANS)
△	AMBUDOTAT	SUPPLY DIFFUSER MODEL DPA1	ALUMINUM CONSTRUCTION, OFF-WHITE FINISH
△	AMBUDOTAT	SLOT DIFFUSER MODEL P-102	ALUMINUM CONSTRUCTION, OFF-WHITE FINISH
△	AMBUDOTAT	SUPPLY DIFFUSER MODEL DPA2	ALUMINUM CONSTRUCTION, OFF-WHITE FINISH
△	AMBUDOTAT	SLOT DIFFUSER MODEL P-102	ALUMINUM CONSTRUCTION, OFF-WHITE FINISH
△	AMBUDOTAT	RETURN/EXHAUST GRILLE MODEL K010	ALUMINUM CONSTRUCTION, OFF-WHITE FINISH
△	METAL AIRE	LOUVER MODEL GAL-8	BAKED ENAMEL FINISH, COLOR SELECTION BY ARCHITECT

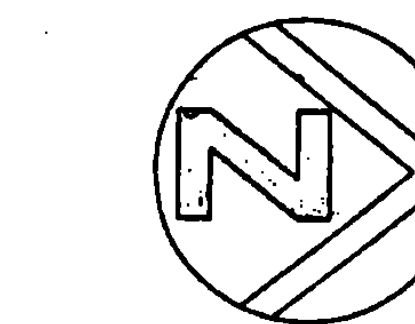


PARTIAL FLOOR PLAN - PLUMBING
SCALE: 1/4" = 1'-0"

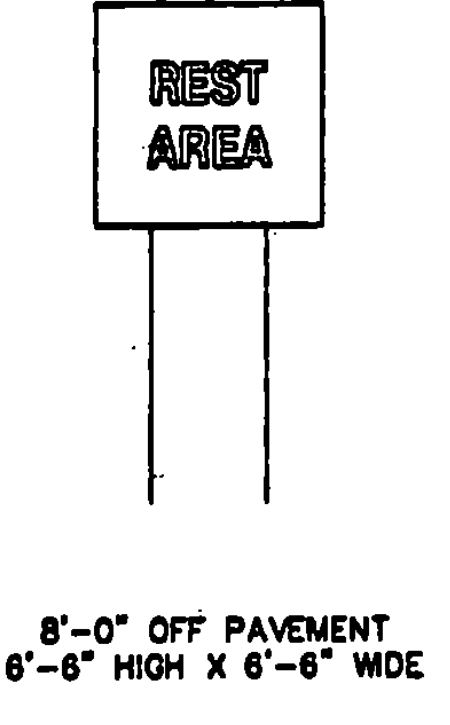
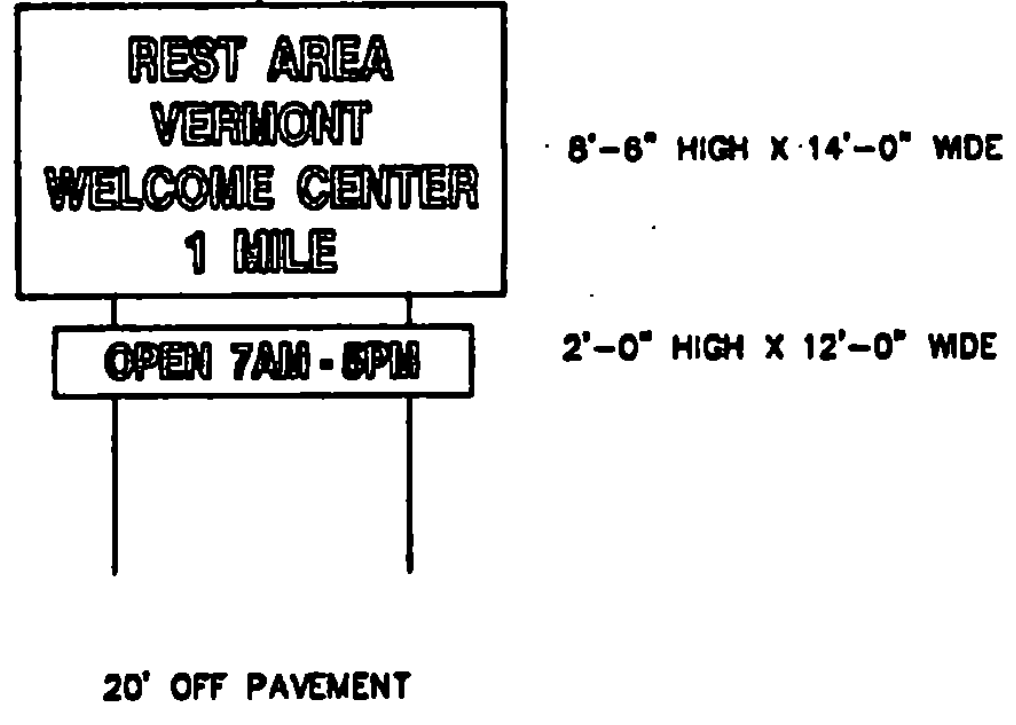
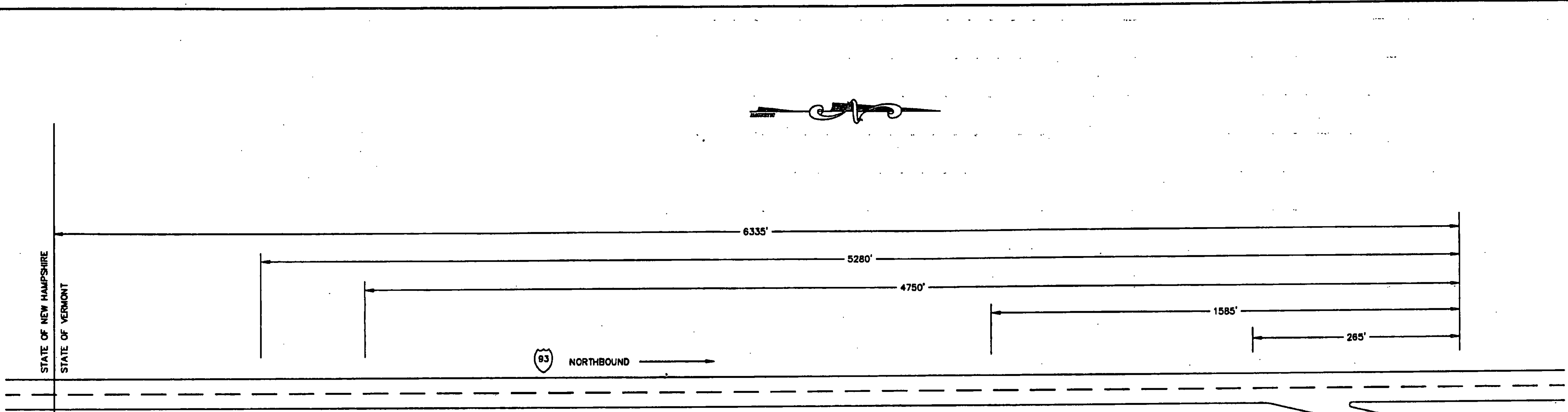
SMOKE DETECTOR SCHEDULE	
THE FOLLOWING UNITS SHALL HAVE SMOKE DETECTORS FOR AUTO SHUT DOWN:	GF-1
SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR. SMOKE DETECTORS SHALL BE INSTALLED IN SUPPLY AIR DISCHARGE DUCT OF EQUIPMENT NOTED BY THE MECHANICAL CONTRACTOR.	
PLAN SYMBOL =	⑤



CHARLES E. METZ
ARCHITECT
THE 1820 RICHARD DOB HOUSE
NEWBURY, VERMONT, 05051-0278



PROJECT: WATERFORD	NAIM-BLOG10
STATE OF VERMONT DEPARTMENT OF STATE BUILDINGS AGENCY OF ADMINISTRATION MONTPELIER, VERMONT	
THE WATERFORD WELCOME CENTER WATERFORD, VERMONT FLOOR PLAN - PLUMBING SCHEDULE	
DATE: JANUARY, 1990	SCALE: 1/4" = 1'-0"
DRAWN BY: YA	APPROVED BY: [Signature]
	DWG. NO. MZ
	12 of 22

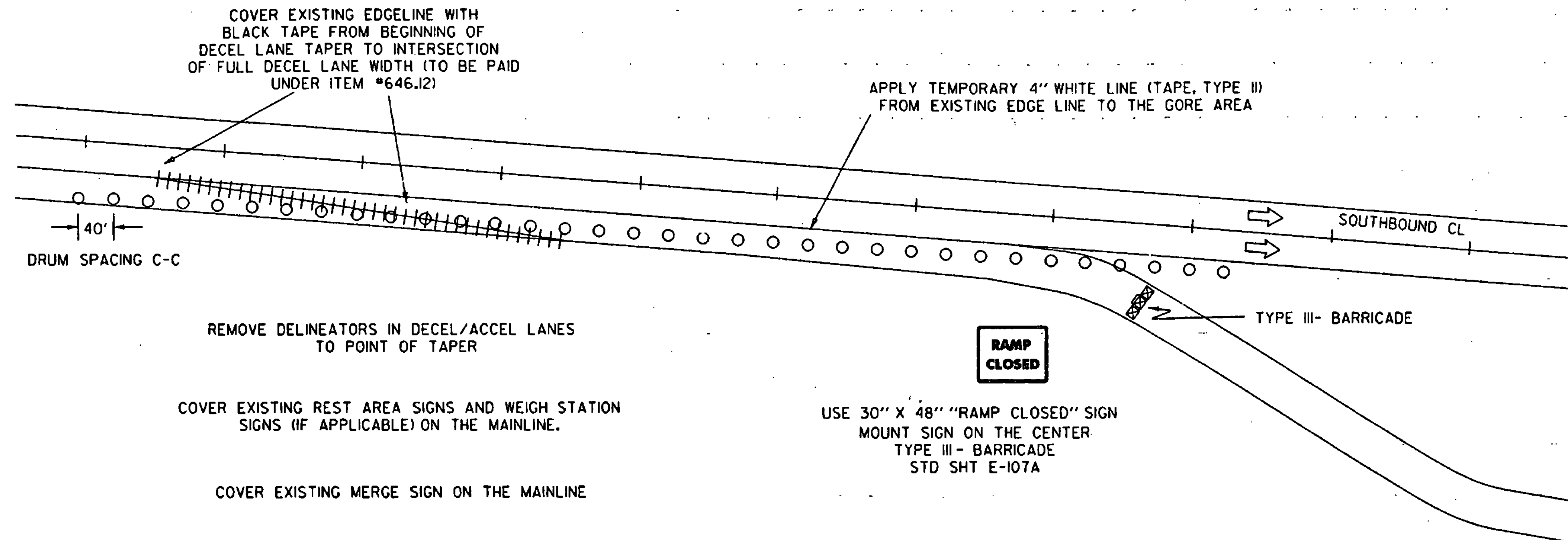


I-93 SIGNAGE SCHEMATIC
NOT TO SCALE

NOTE:
OFFSETS ARE FROM EDGE OF PAVED SHOULDER
TO NEAR EDGE OF SIGN.

SIGNS SHOWN ON THIS SHEET ARE
TO BE COVERED WHEN THE REST AREA
IS NOT TO BE USED BY THE PUBLIC.

PROJECT: WATERFORD	NO. IM-BLDG(9)
STATE OF VERMONT	
DEPARTMENT OF STATE BUILDINGS	
AGENCY OF ADMINISTRATION	
MONTPELIER,	VERMONT
RENOVATIONS TO THE VERMONT WELCOME CENTER	
WATERFORD, VERMONT	
SHEET 12 OF 24 SHEETS	



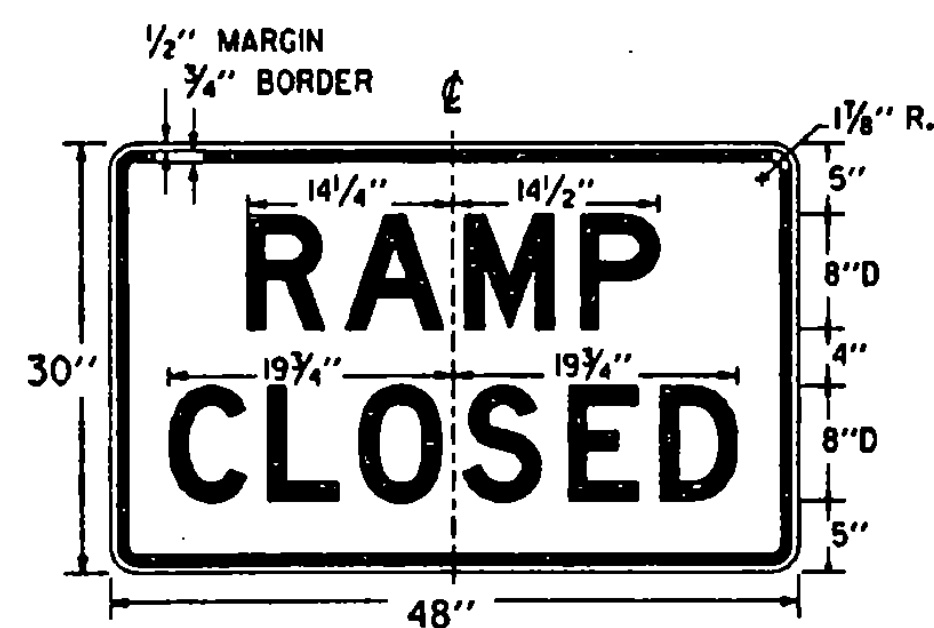
REMOVE DELINEATORS IN DECEL/ACCEL LANES TO POINT OF TAPER

COVER EXISTING REST AREA SIGNS AND WEIGH STATION SIGNS (IF APPLICABLE) ON THE MAINLINE.

COVER EXISTING MERGE SIGN ON THE MAINLINE

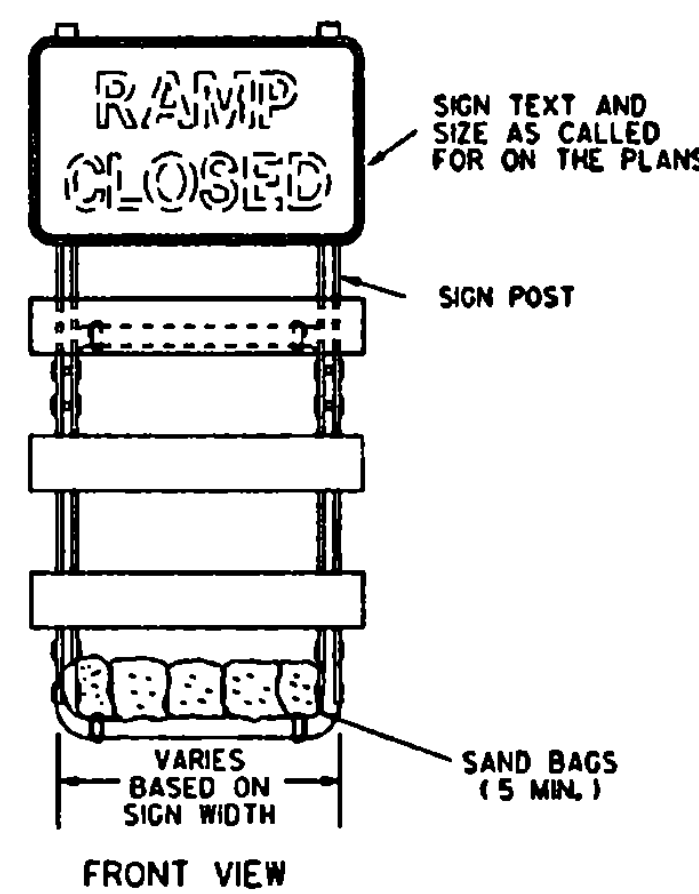
USE 30" X 48" "RAMP CLOSED" SIGN MOUNT SIGN ON THE CENTER TYPE III - BARRICADE STD SHT E-107A

NTS

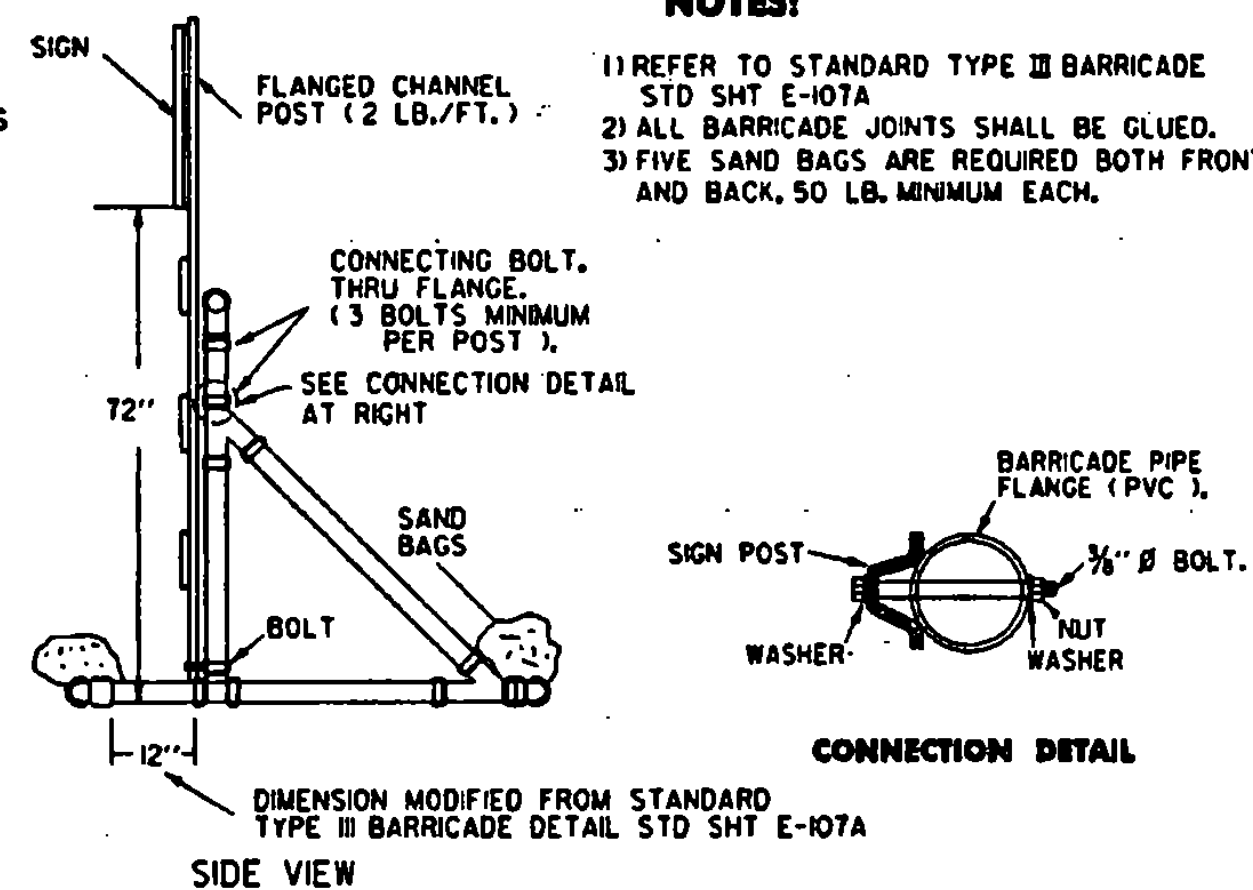


COLORS:
BLACK TEXT AND BORDER
WHITE REFLECTORIZED BACKGROUND

SEE STANDARD SHEET E-100 FOR NOTES AND TEXT DETAILS
SIGN DETAILS INDICATE THE APPROPRIATE COLOR.



FRONT VIEW
SIGN MOUNTING ON TYPE III BARRICADE



SIDE VIEW
DIMENSION MODIFIED FROM STANDARD TYPE III BARRICADE DETAIL STD SHT E-107A

NOTES:

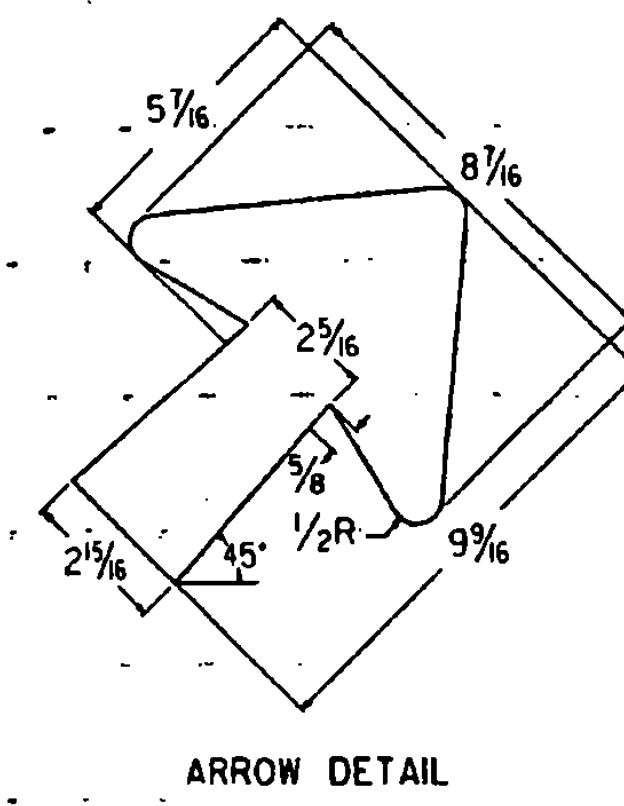
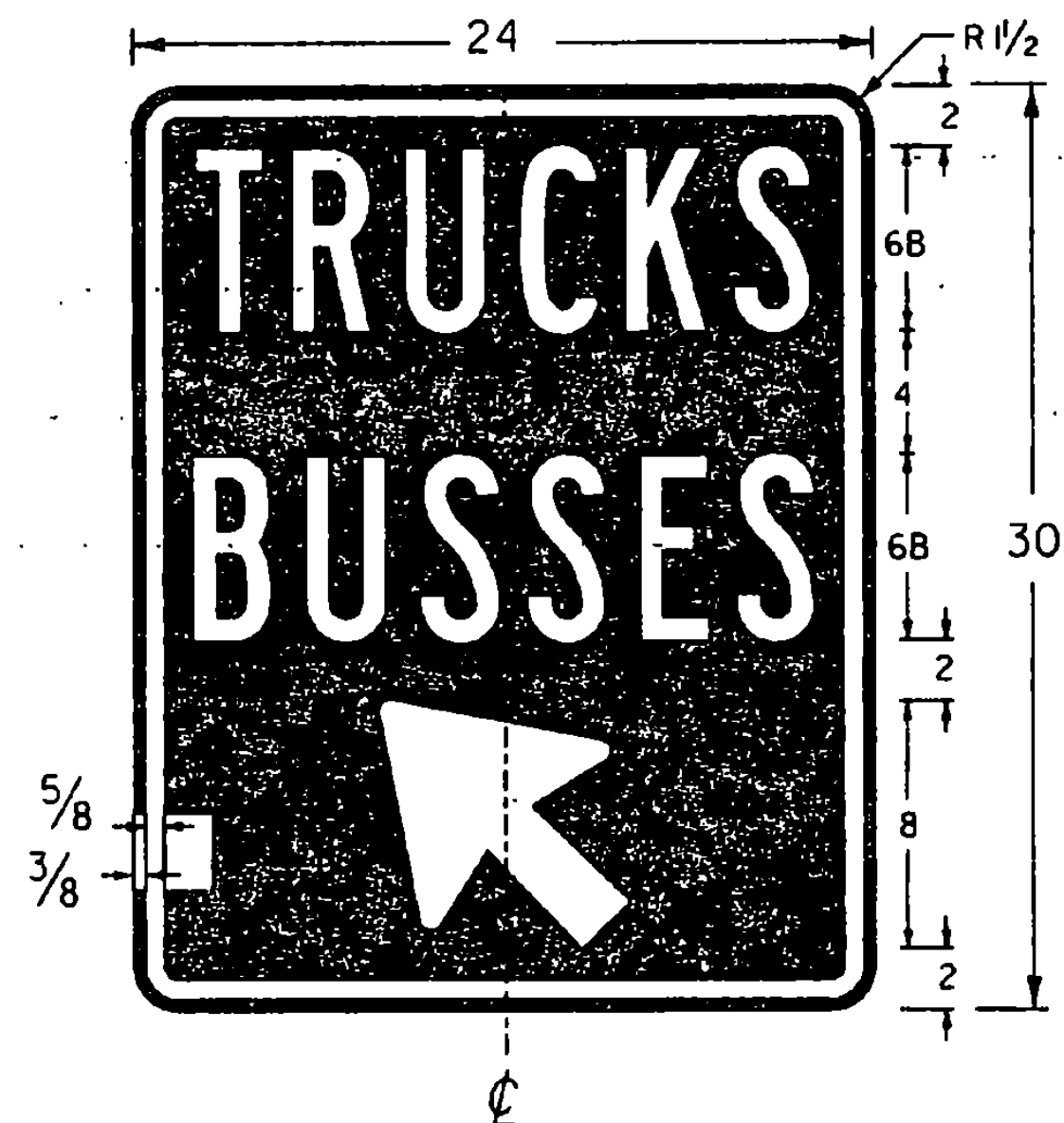
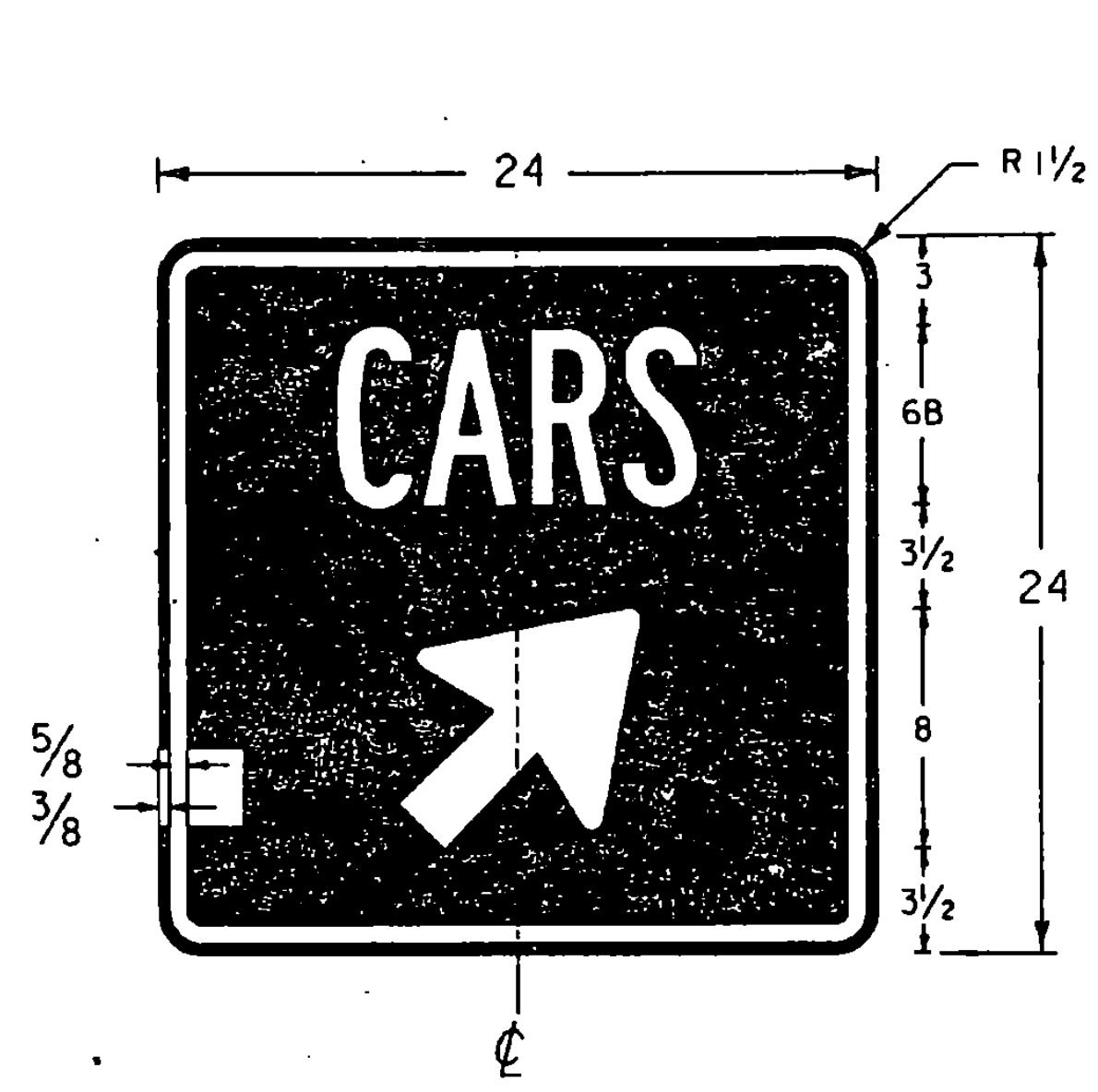
- 1) REFER TO STANDARD TYPE III BARRICADE STD SHT E-107A
- 2) ALL BARRICADE JOINTS SHALL BE GLUED.
- 3) FIVE SAND BAGS ARE REQUIRED BOTH FRONT AND BACK, 50 LB. MINIMUM EACH.

LEGEND

- - CHANNELIZING DRUM
- ⊠ - TYPE III BARRICADES
- ↑ - INDICATES TRAFFIC DIRECTION
- +++ - REMOVAL OF EXISTING PAVEMENT MARKINGS

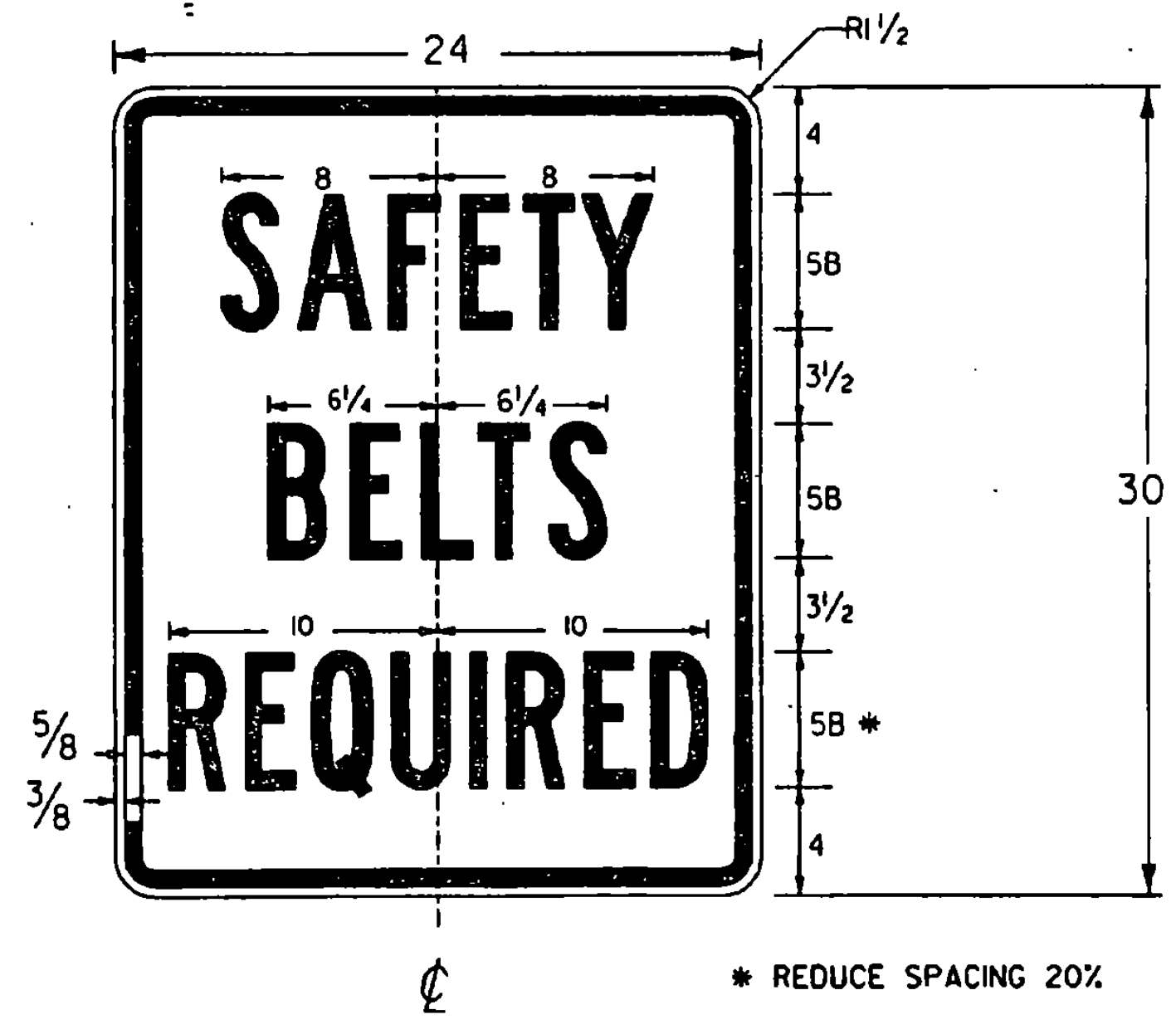
enrg1.1.i
/traf/enrg1/enrg1.dgn

TEMPORARY RAMP CLOSURE PACKAGE FOR REST AREA	
PREPARED BY	LCS DATE 9/95
CHECKED BY	DATE
DESIGN SUPERVISOR	DAR DATE
PROJ.	WATERFORD IM-BLDG(3)
TRAFFIC SHEET NO.	1 OF 4
SHEET	20 OF 24 SHEETS



ARROW DETAIL

COLORS
LEGEND & BORDER - WHITE (REFL.)
BACKGROUND - BLUE



* REDUCE SPACING 20%

COLORS
LEGEND & BORDER - BLACK
BACKGROUND - WHITE (REFL.)

GENERAL:
ALL DIMENSIONS IN INCHES.

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.

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

	24" X 24"	36" X 24"	36" X 12"	48" X 30"
FLAT SHEET ALUMINUM	0.080"	0.100"	0.125"	
HIGH DENSITY OVERLAID PLYWOOD	1/2"	5/8"	3/4"	
GALVANIZED FLAT SHEET STEEL	16 GAGE	14 GAGE	12 GAGE	

ENCAPSULATED LENS REFLECTIVE SHEETING SHALL BE USED FOR THE SIGN BACKGROUND WHERE NOTED.

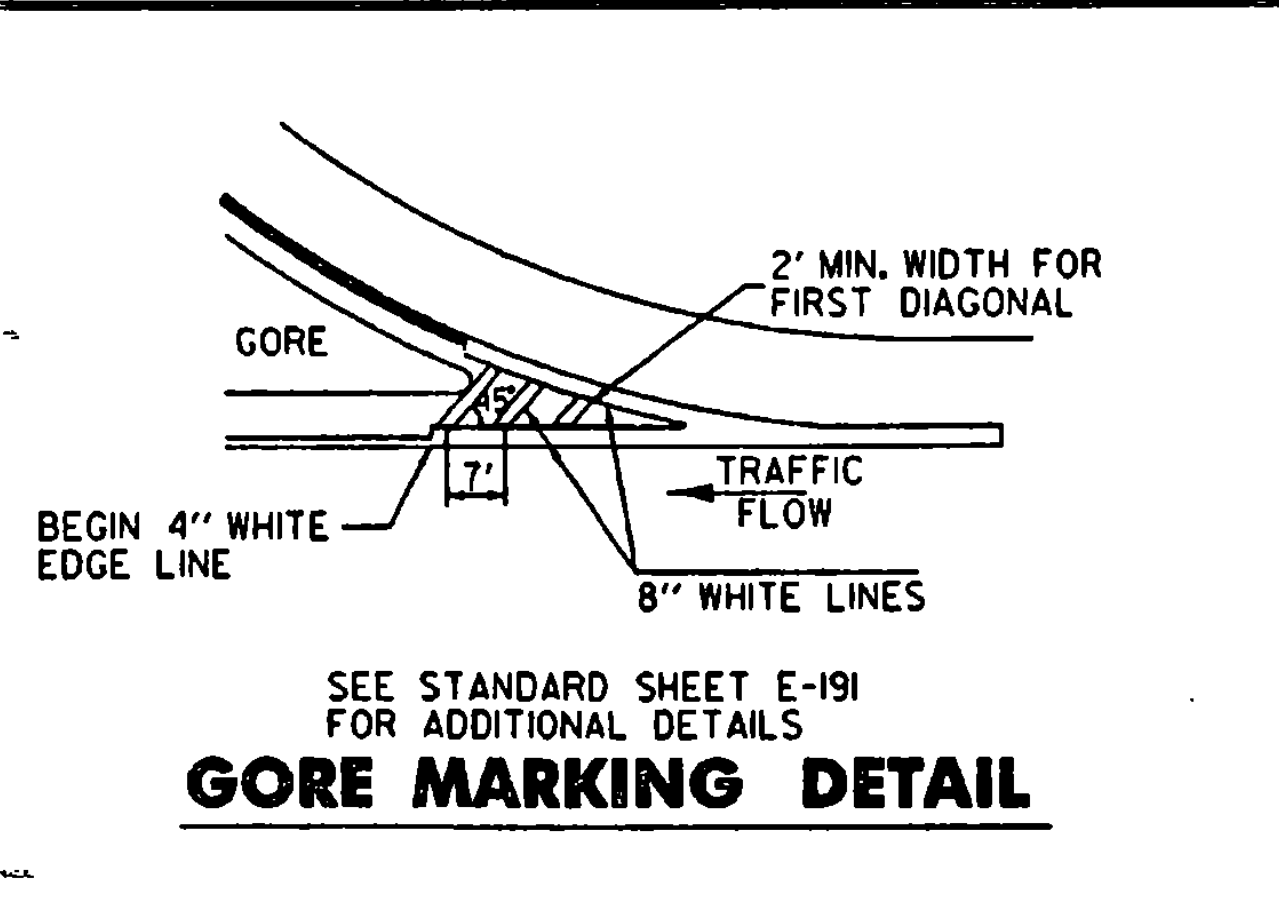
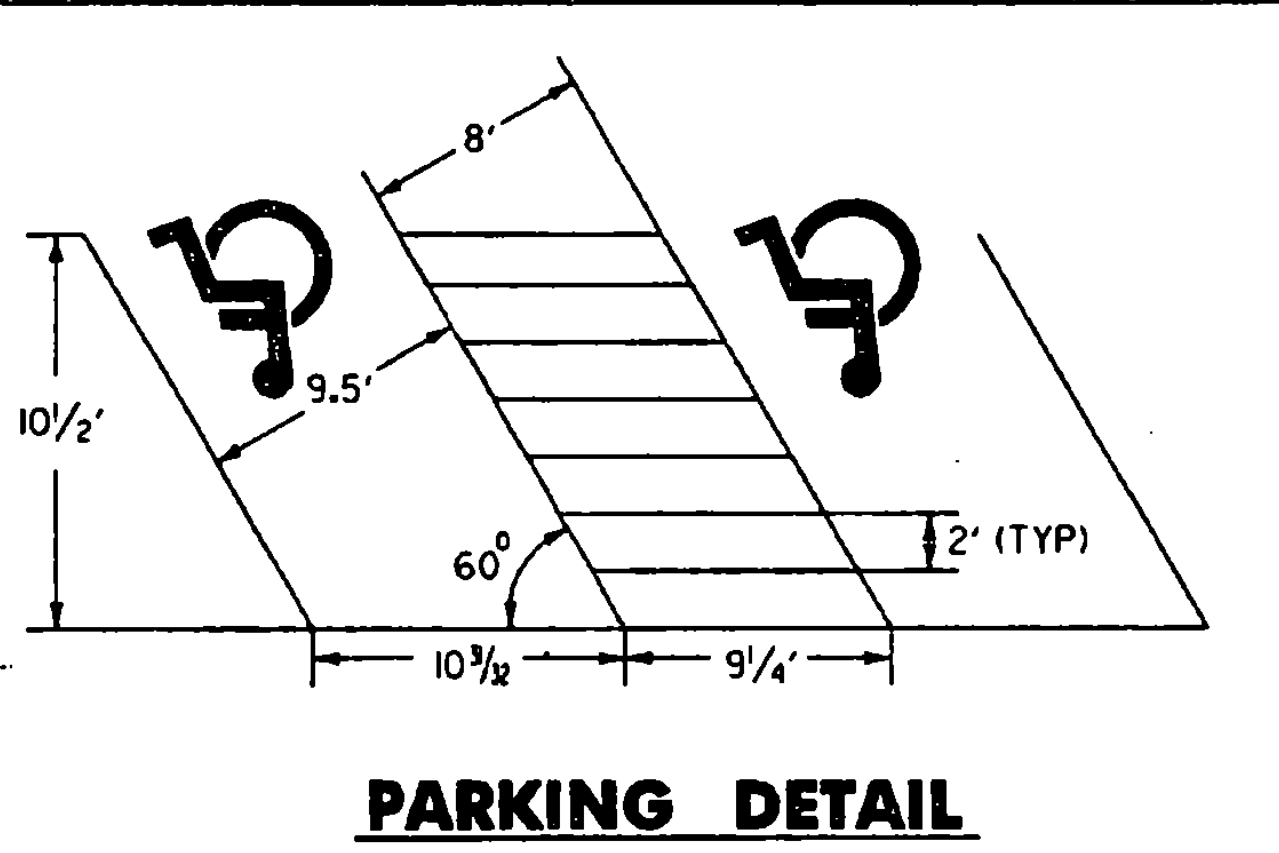
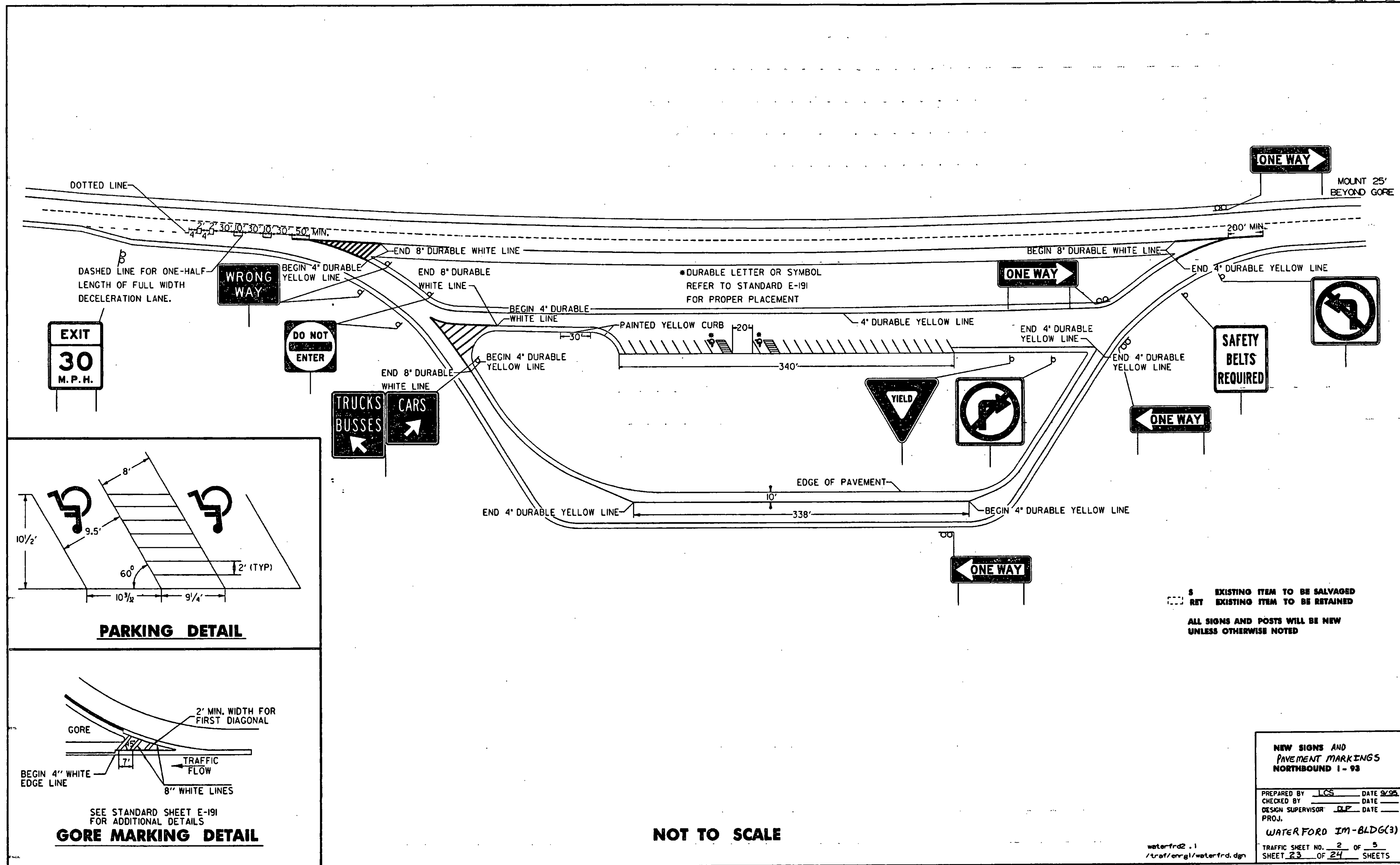
THE REFLECTIVE MATERIAL SHALL BE AASHTO TYPE II OR III WHITE REFLECTIVE SHEETING APPLIED TO THE ENTIRE BACKGROUND OF THE SIGN. THE TEXT OF THE SIGNS MAY BE LETTERING FILM, SILK SCREENED OR HANDPAINTED. HAND PAINTING MUST BE COMPARABLE IN QUALITY TO THE RESULTS OBTAINED BY SILK SCREENING.

SPECIFICATIONS:
REGULATORY SIGNS SHALL MEET THE VERMONT STANDARD 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".

enrg1_4.i
/traf/enrg1/enrg1.dgn

SIGN DETAILS FOR WATERFORD REST AREA	
PREPARED BY	LCS DATE 9/95
CHECKED BY	DATE
DESIGN SUPERVISOR	D.P. DATE
PROJ.	WATERFORD IM-BLDG(3)
TRAFFIC SHEET NO.	4 OF 4
SHEET	22 OF 24 SHEETS

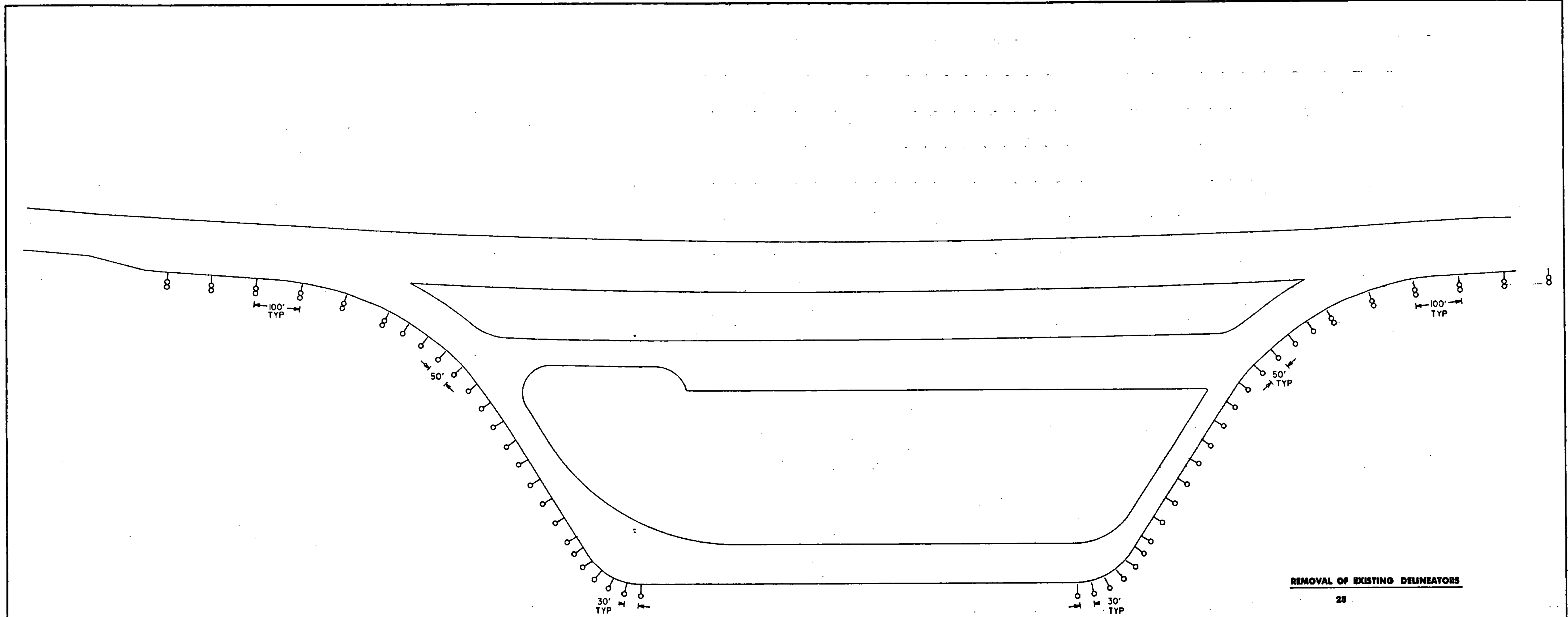


NOT TO SCALE

S EXISTING ITEM TO BE SALVAGED
 RET EXISTING ITEM TO BE RETAINED
 ALL SIGNS AND POSTS WILL BE NEW UNLESS OTHERWISE NOTED

NEW SIGNS AND PAVEMENT MARKINGS	
NORTHBOUND I-93	
PREPARED BY	LCS DATE 9/98
CHECKED BY	DATE
DESIGN SUPERVISOR	DLP DATE
PROJ.	
WATERFORD IM-BLDG(3)	
TRAFFIC SHEET NO.	2 OF 5
SHEET	23 OF 24 SHEETS

waterfrd2 . 1
/trf/eng/waterfrd.dgn



REMOVAL OF EXISTING DELINEATORS

28

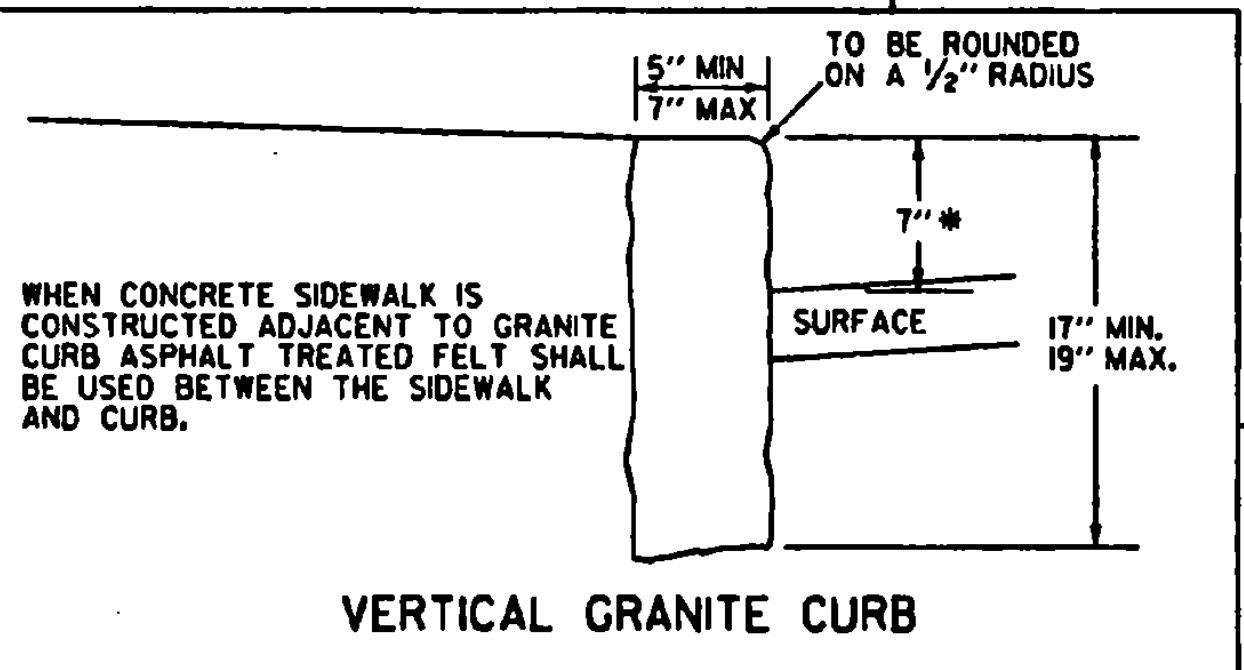
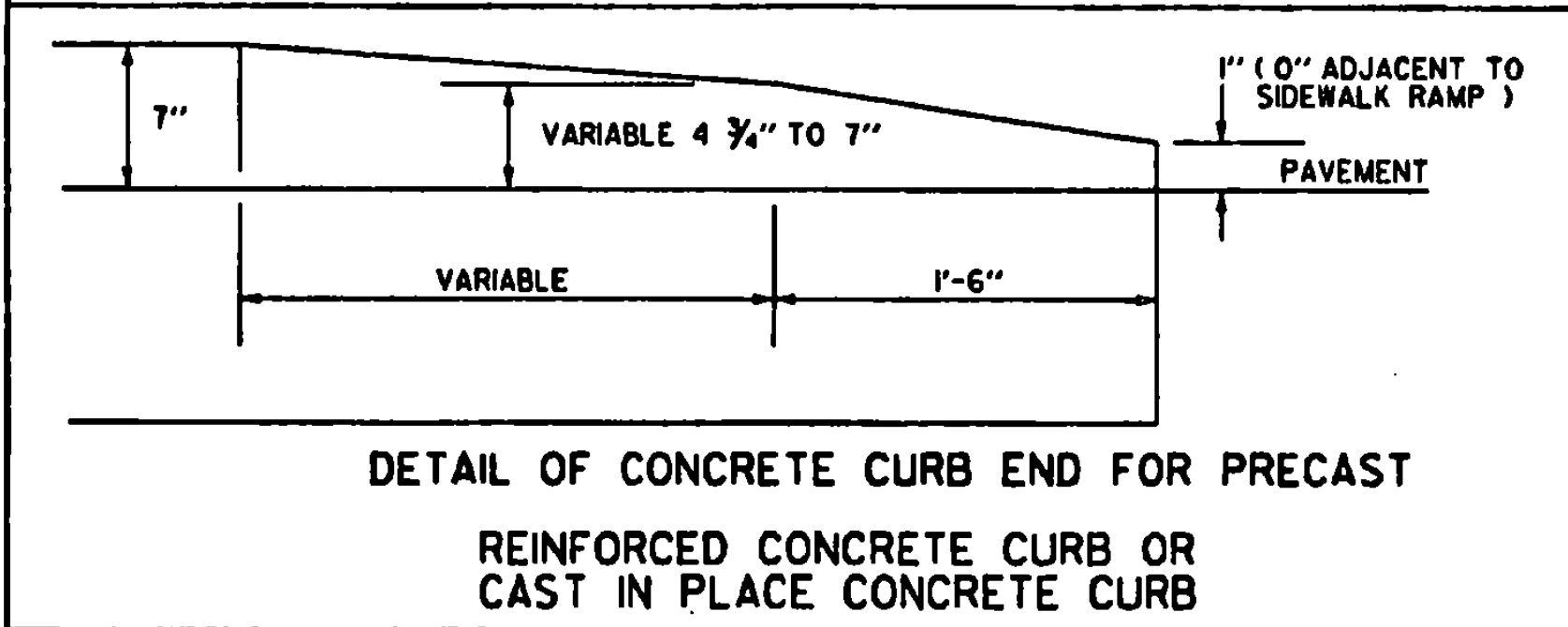
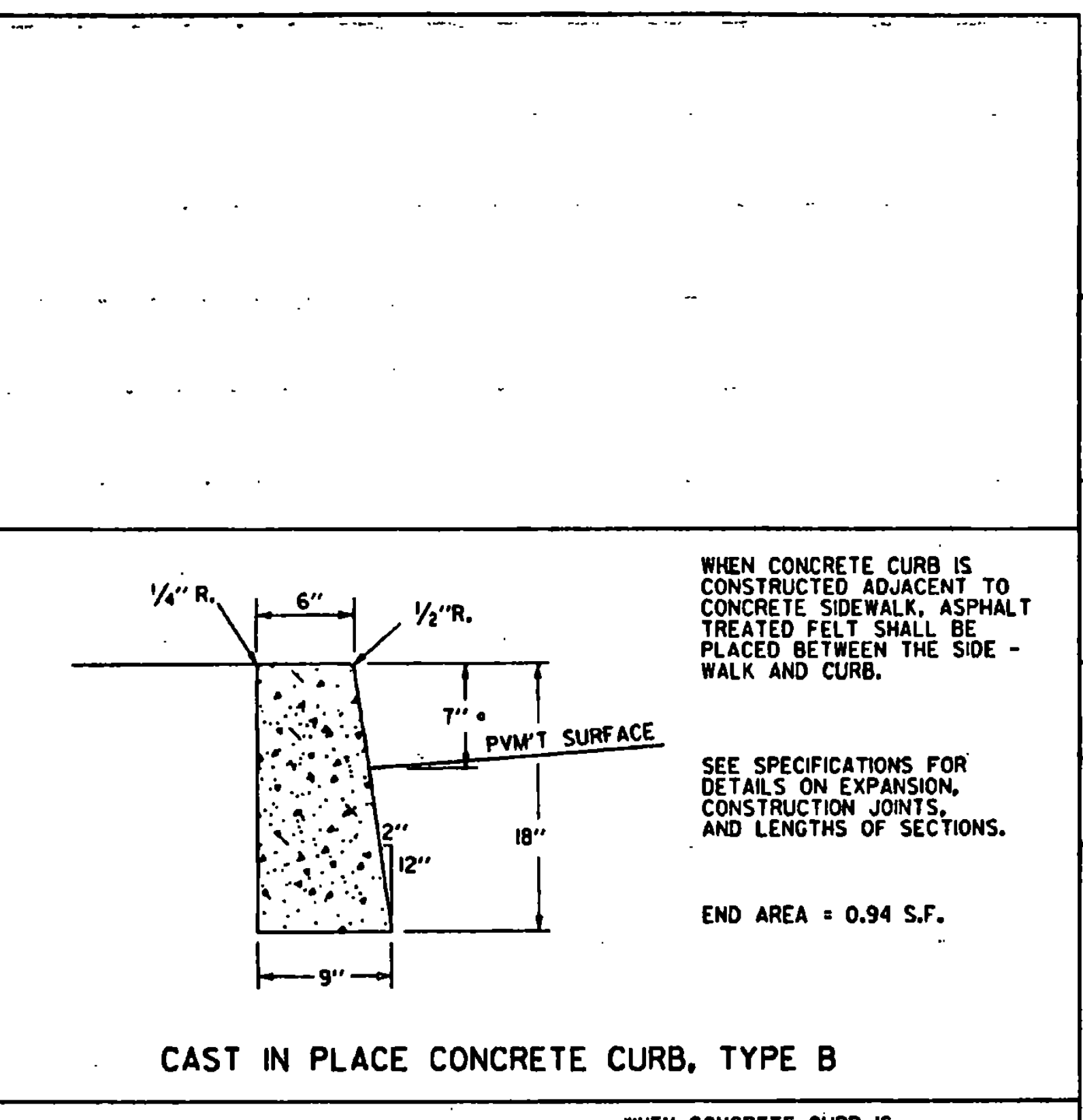
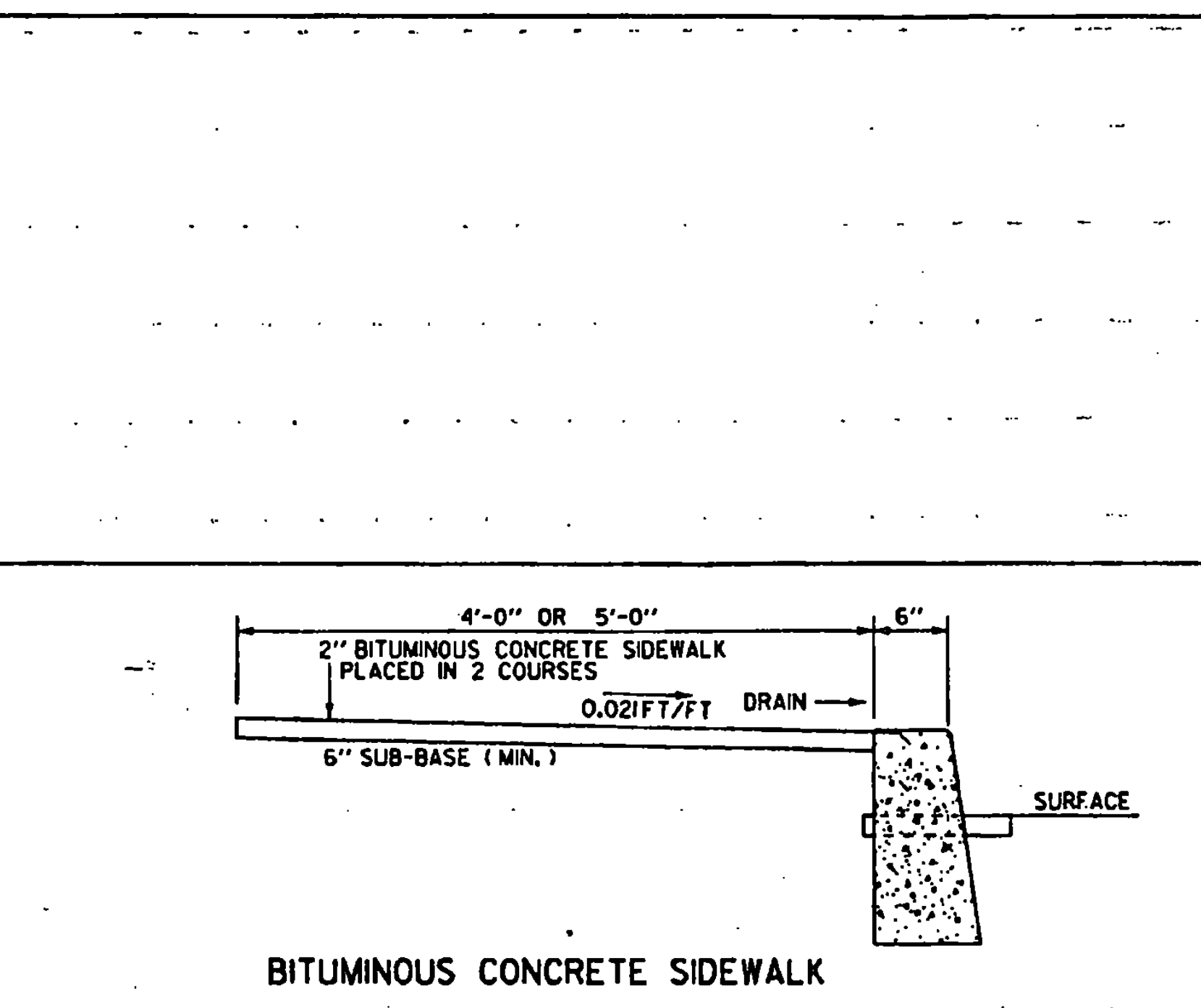
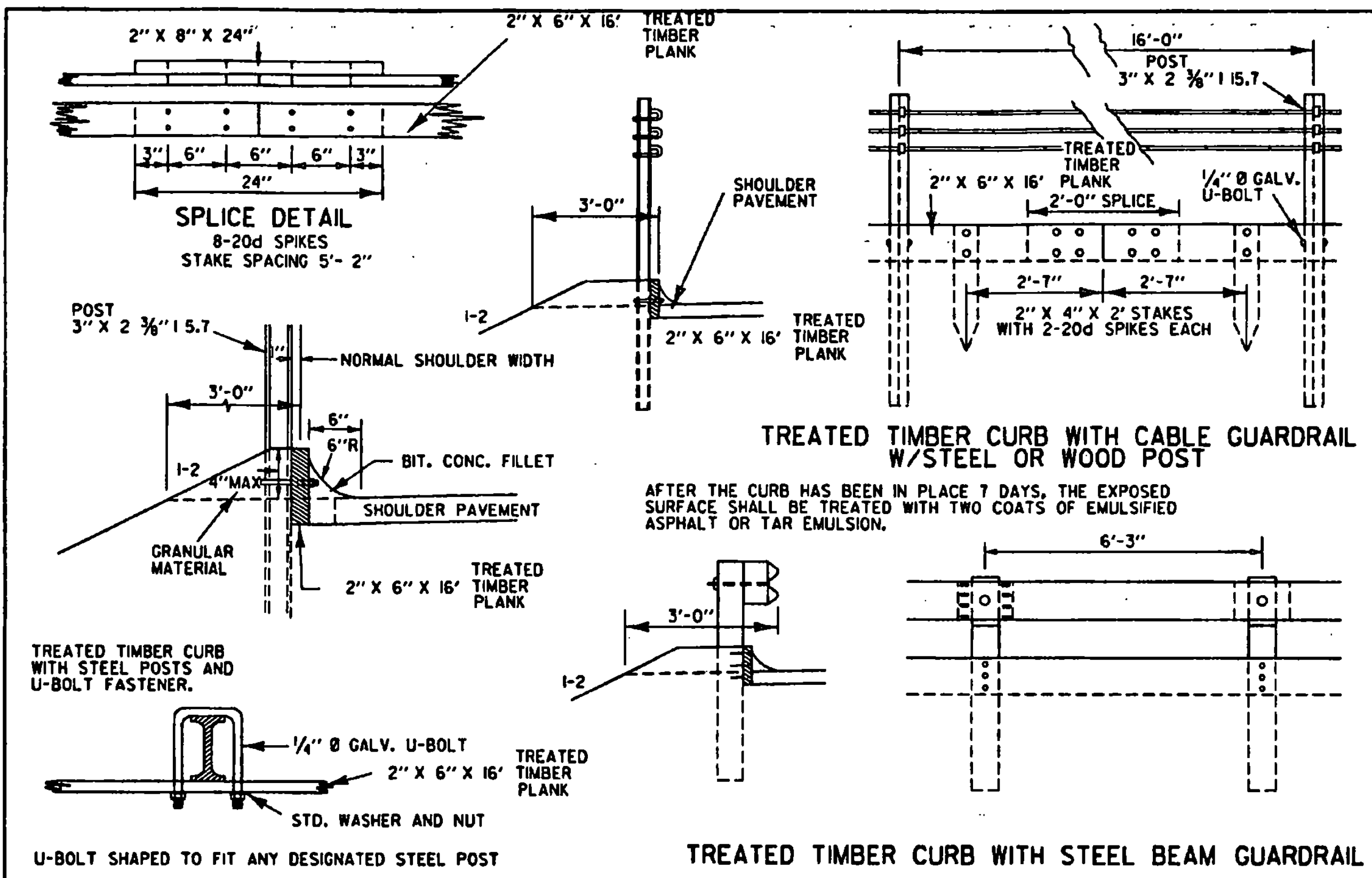
LEGEND

- TYPE I (AMBER) †
- TYPE I (WHITE) †
- TYPE II †
- TYPE III (AMBER) †
- TYPE III (WHITE) †

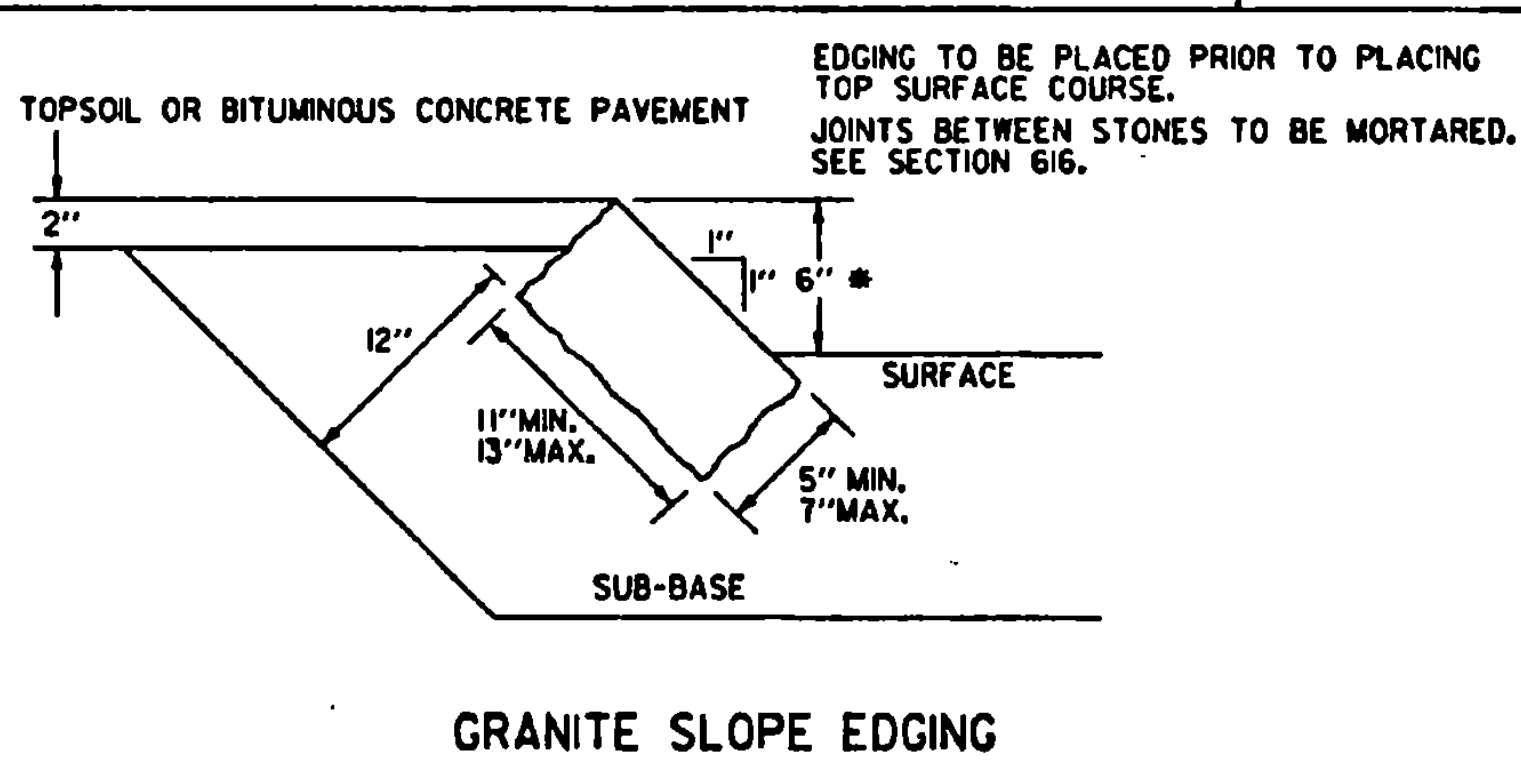
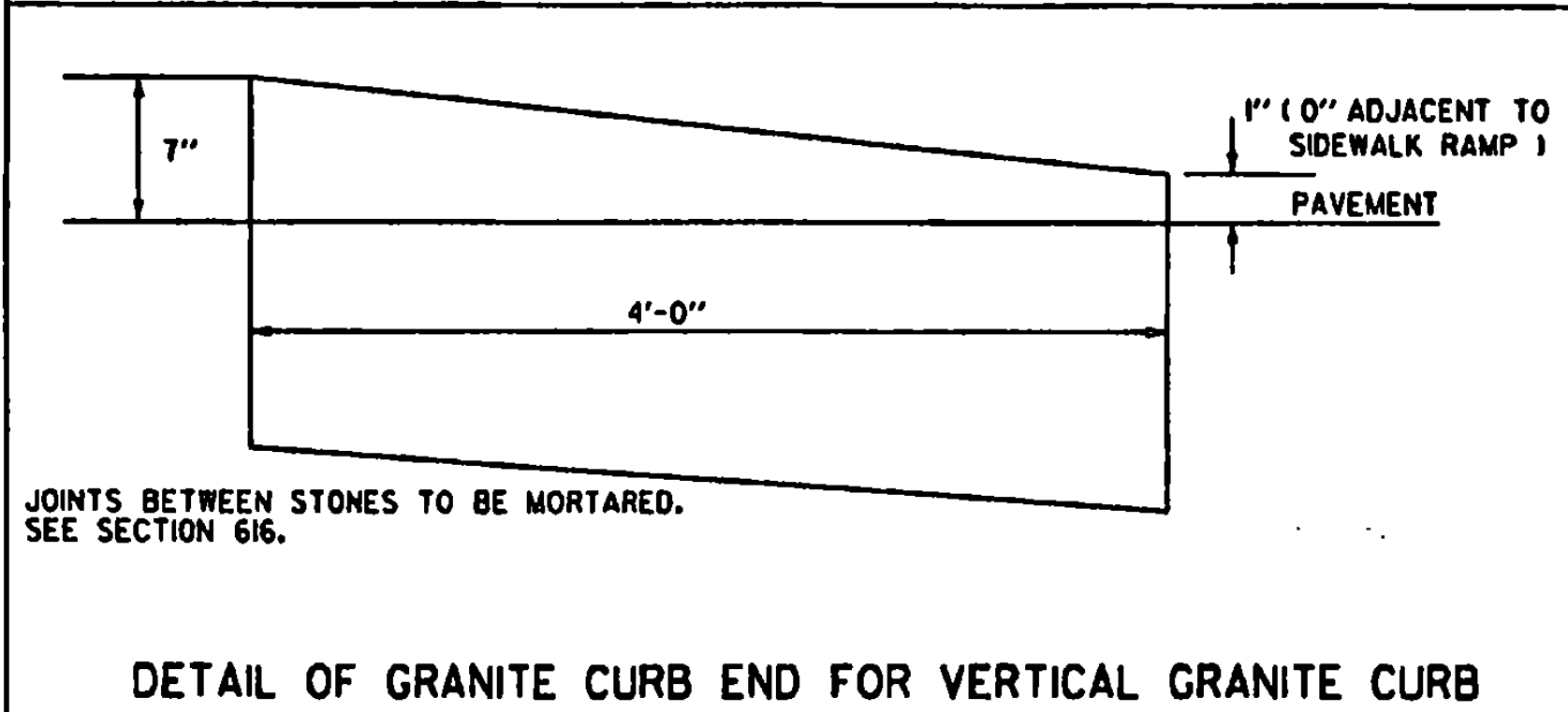
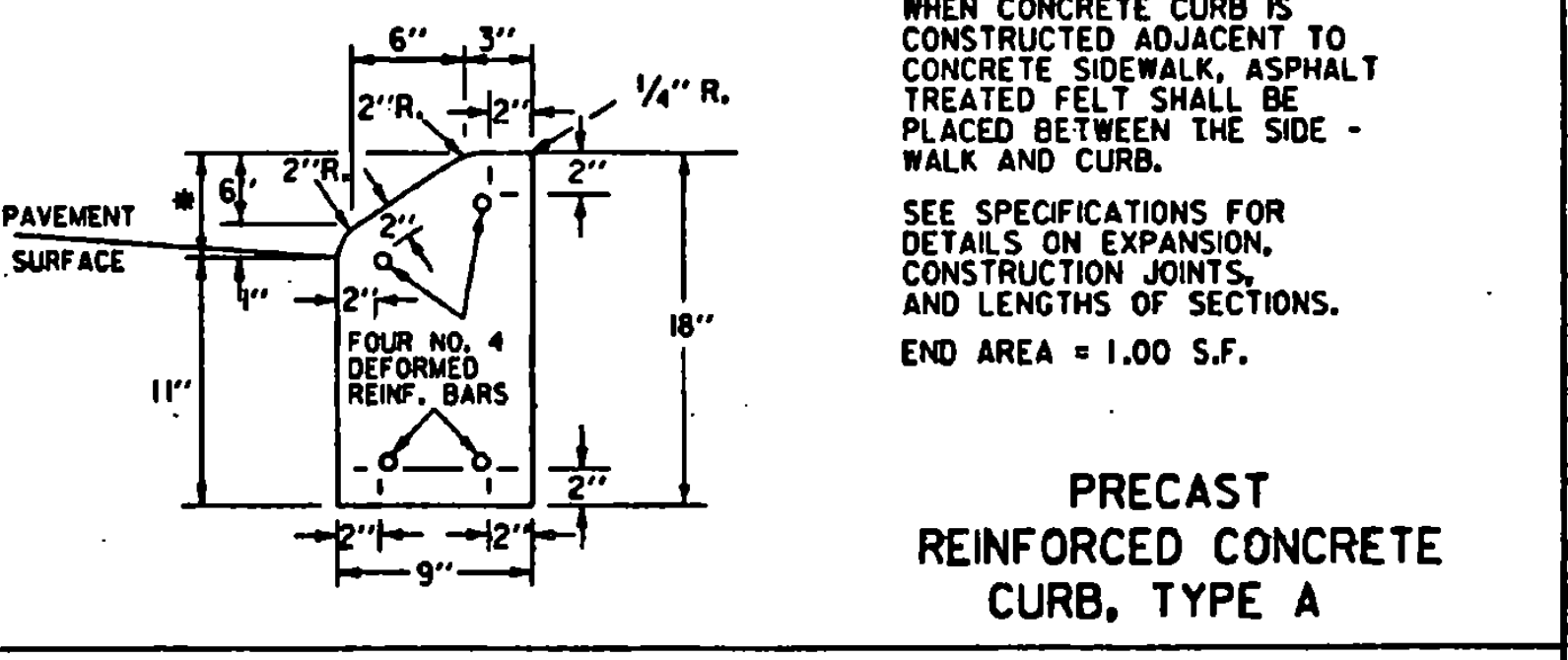
NOT TO SCALE

DELINEATOR LAYOUT	
NORTHBOUND I - 93	
PREPARED BY <u>LCS</u>	DATE <u>9/95</u>
CHECKED BY _____	DATE _____
DESIGN SUPERVISOR <u>DP</u>	DATE _____
PROJ. <u>WATERFORD IM-BLDG(3)</u>	
TRAFFIC SHEET NO. <u>5</u> OF <u>5</u>	SHEET <u>24</u> OF <u>24</u> SHEETS

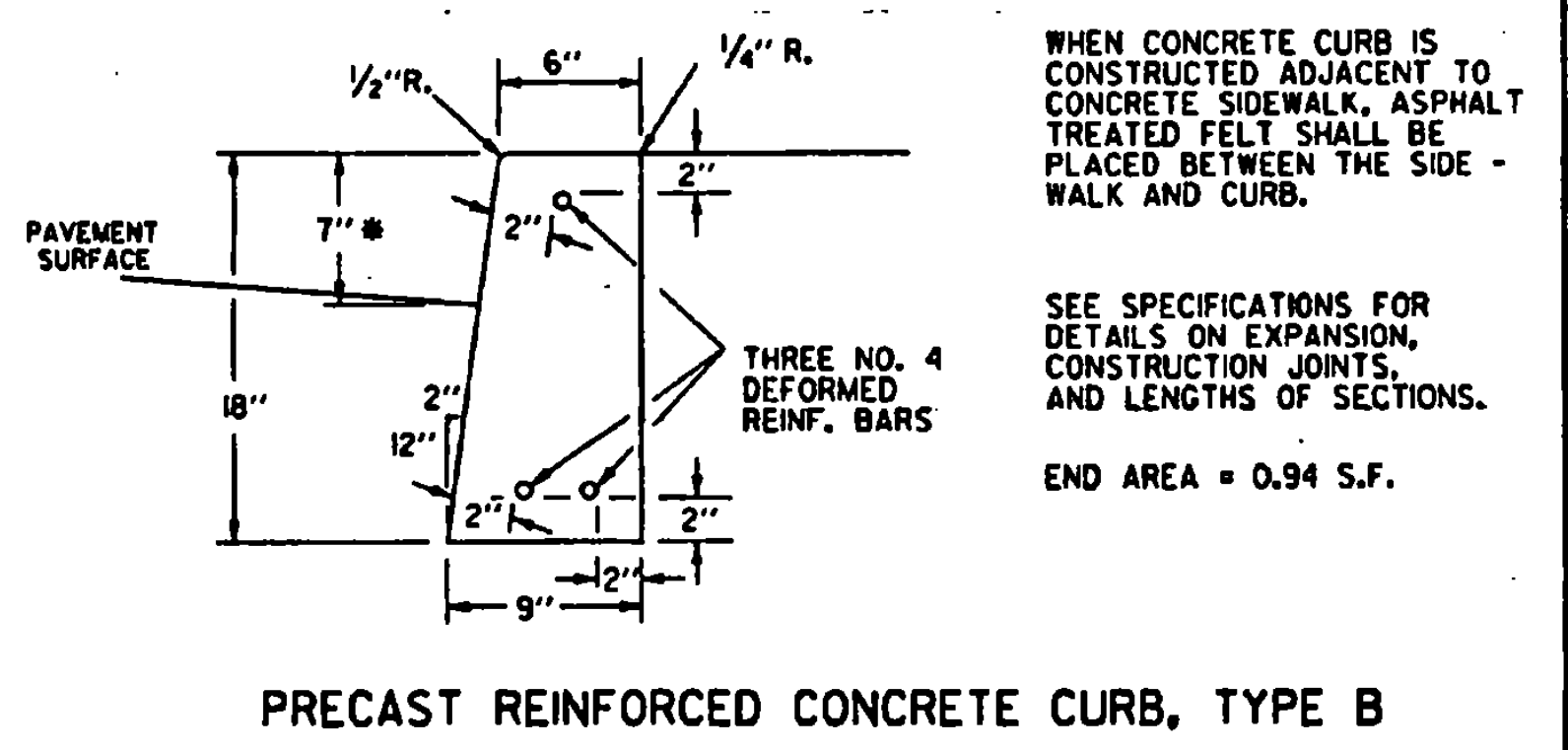
waterfrd2 . 1
/traf/eng1/waterfrd.dgn



NOTE
* HEIGHT NOT TO EXCEED 4" WHEN CURBING IS INSTALLED ADJACENT TO GUARDRAIL (STANDARD SHAPE TO BE BURIED TO THIS DEPTH)



NOTE
* HEIGHT NOT TO EXCEED 4" WHEN CURBING IS INSTALLED ADJACENT TO GUARDRAIL (STANDARD SHAPE TO BE BURIED TO THIS DEPTH)

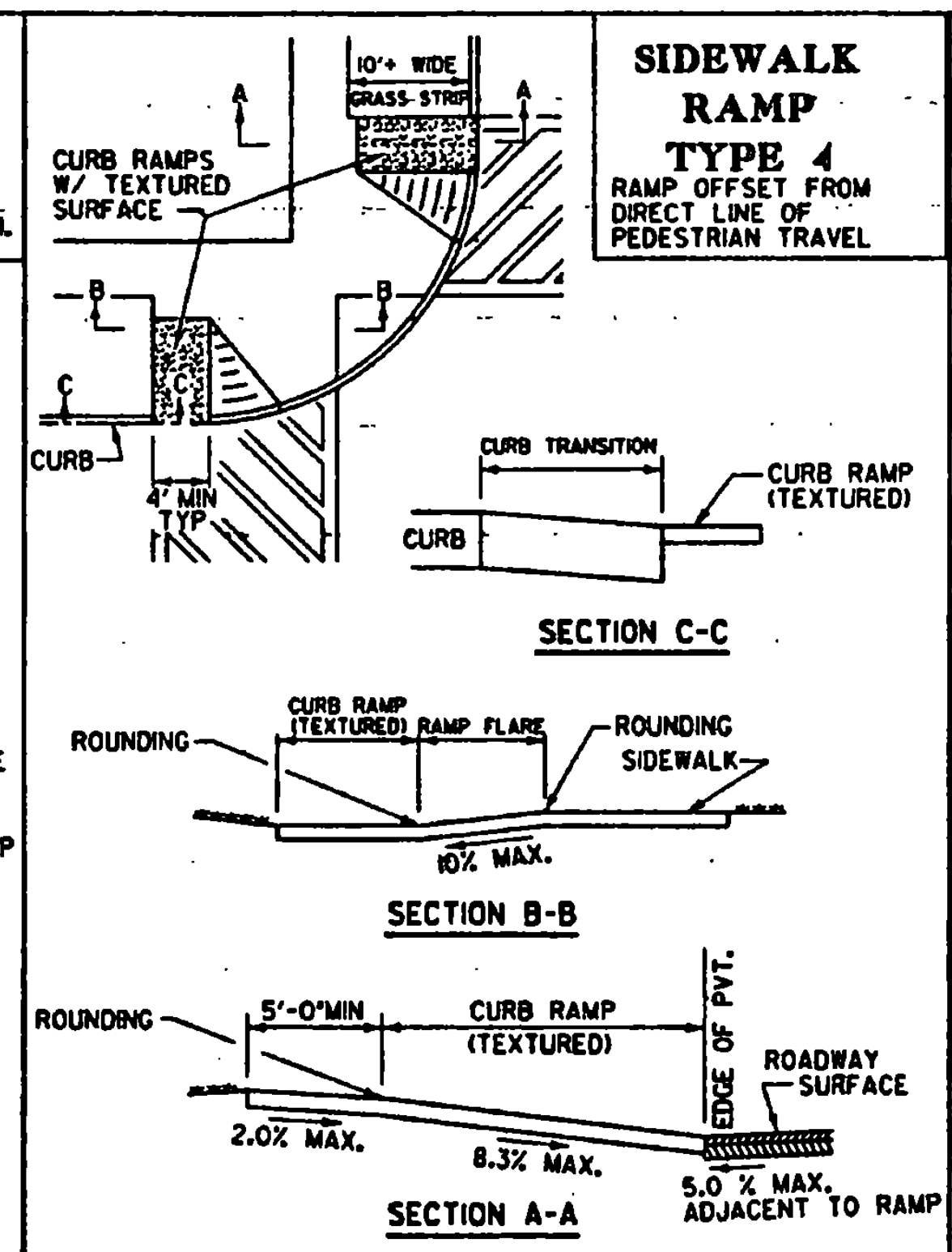
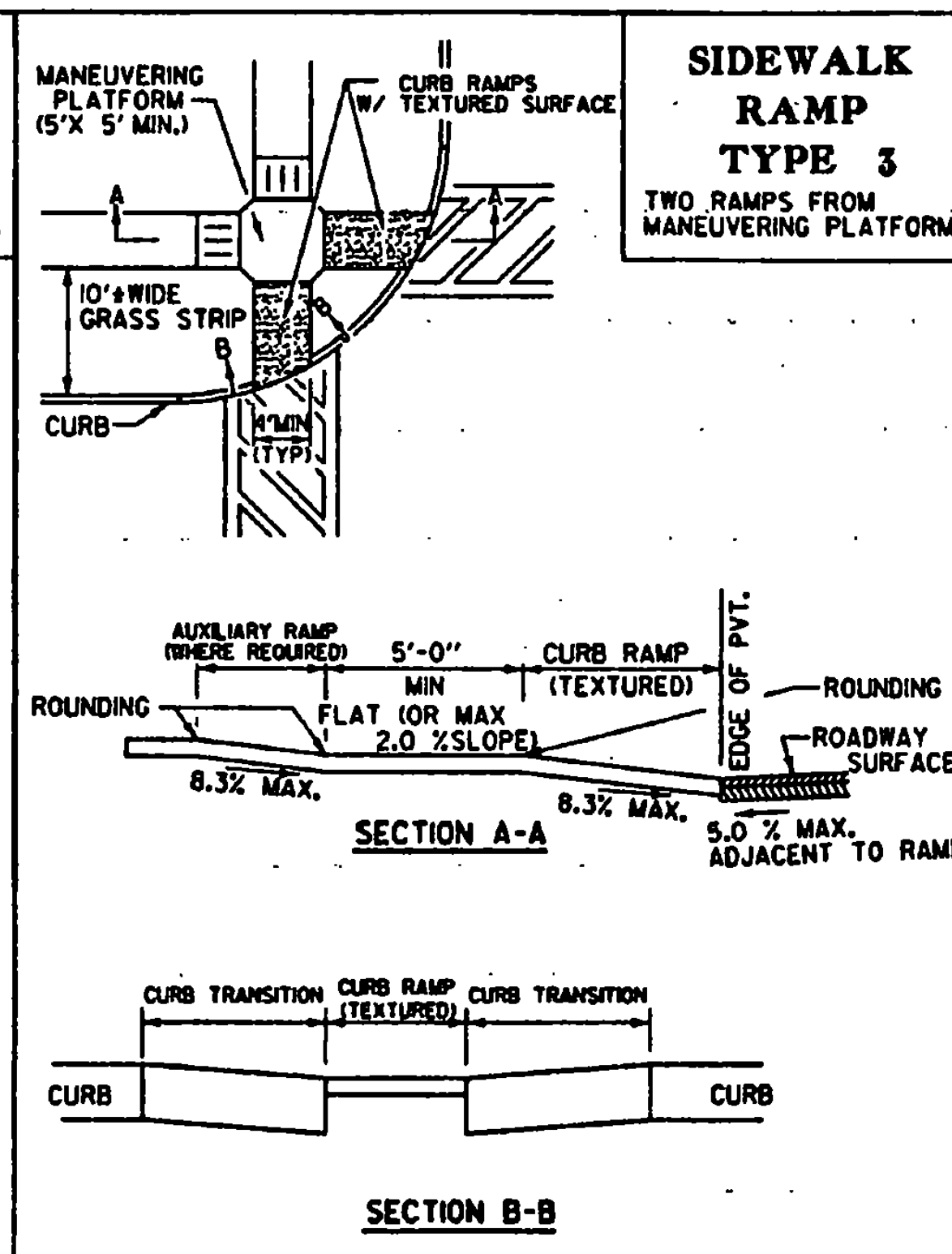
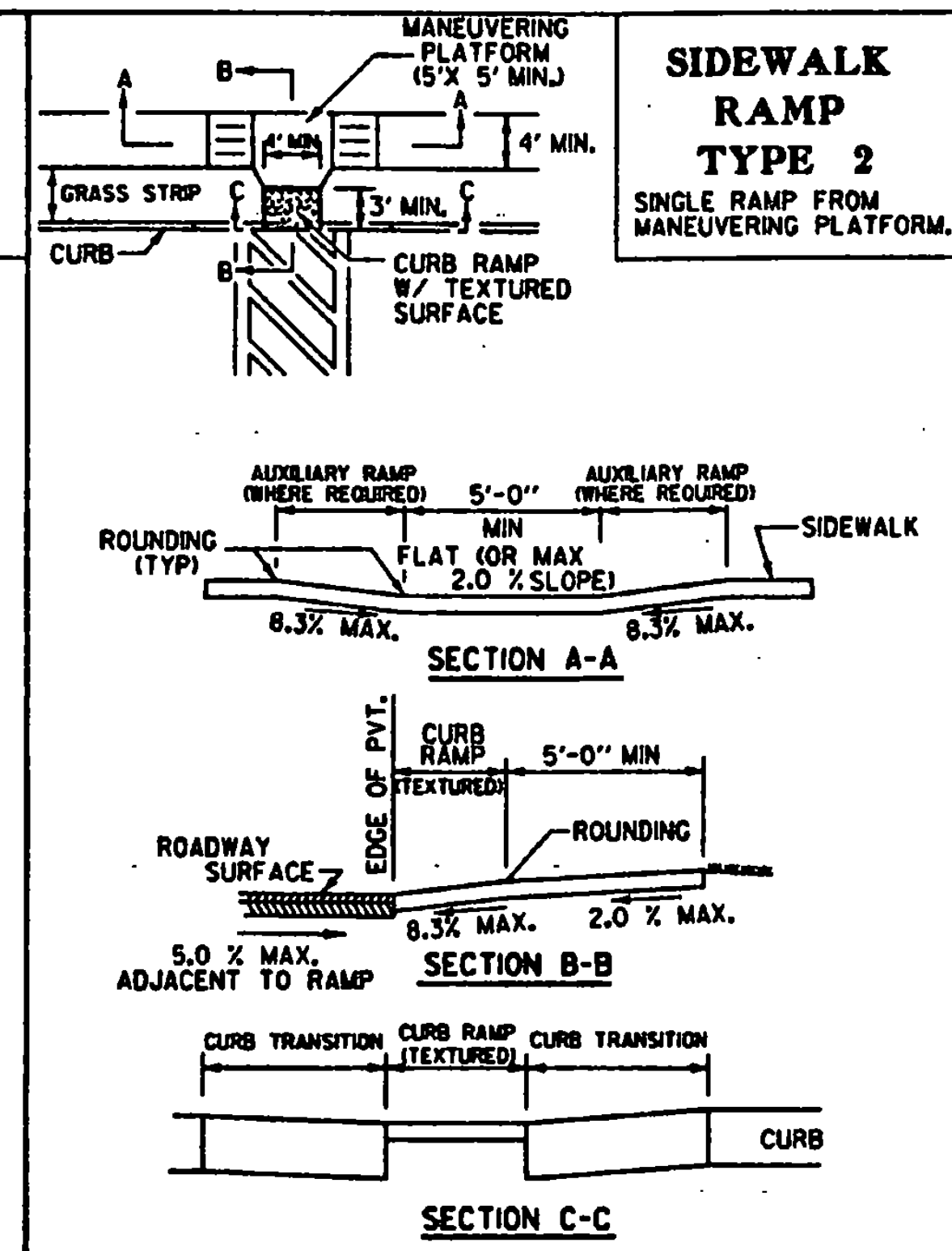
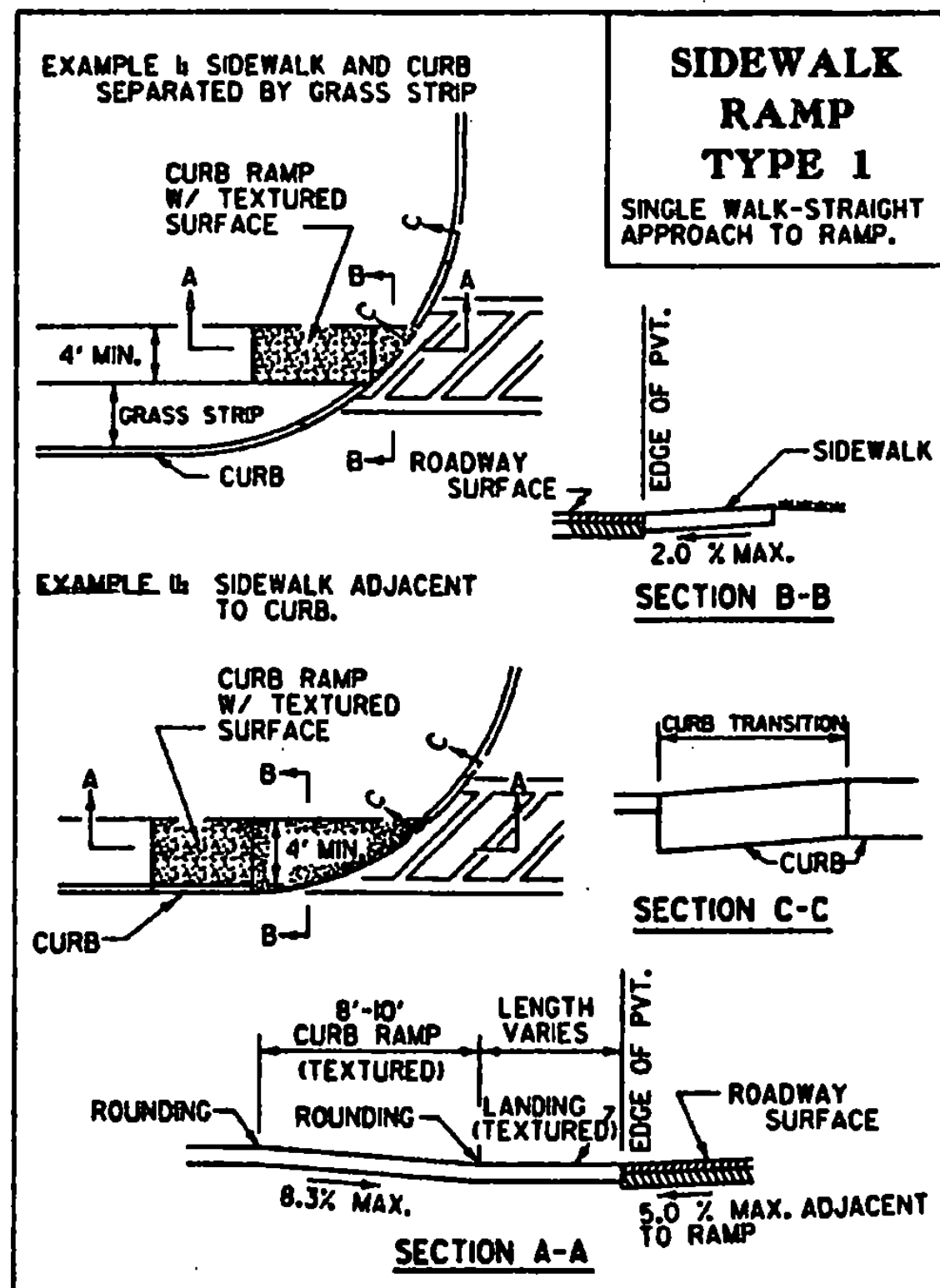


REVISIONS AND CORRECTIONS
DEC. 8, 1971 - ORIGINAL APPROVAL DATE
NOV 16, 1992 - CHANGED 6" CURB TO 4"
JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

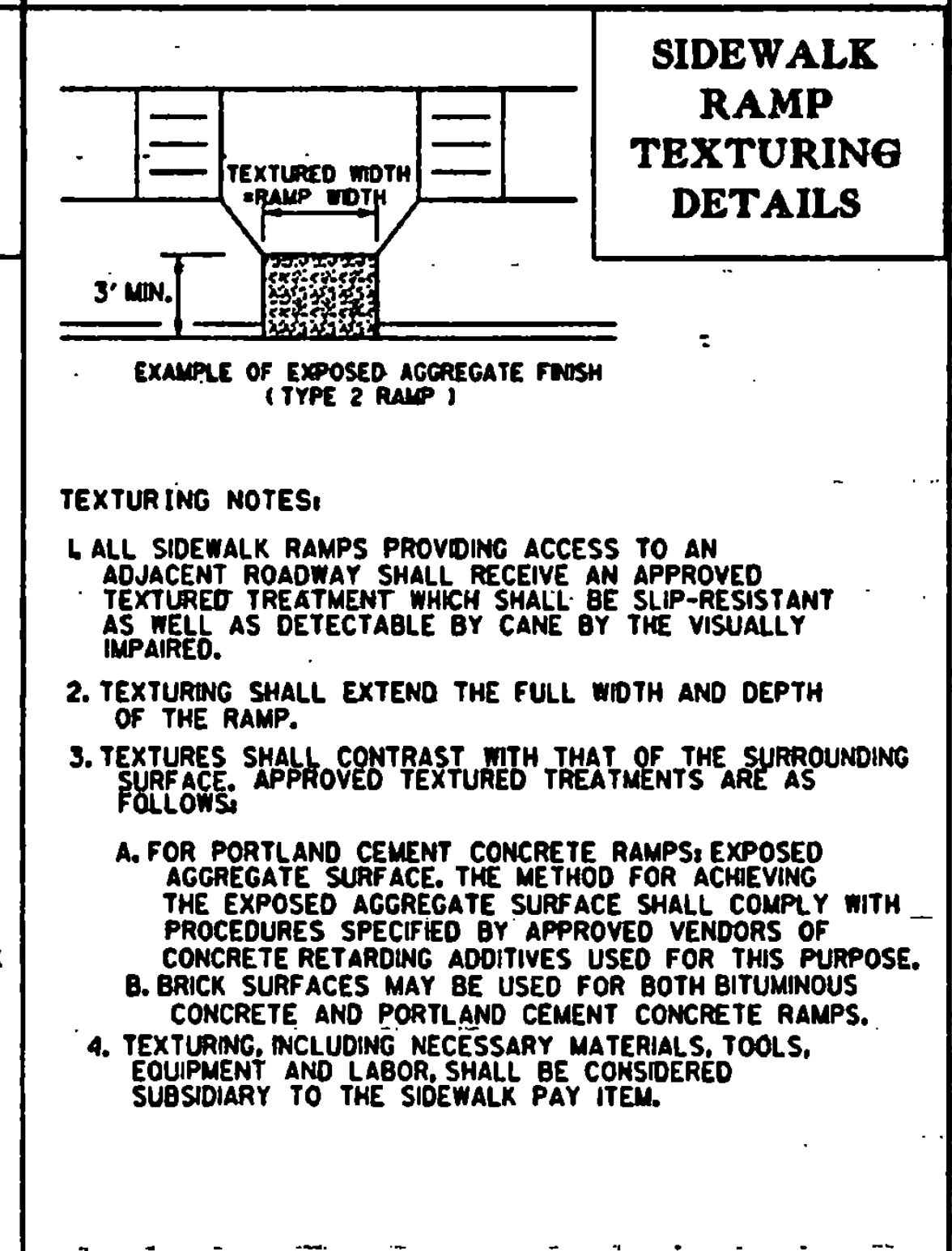
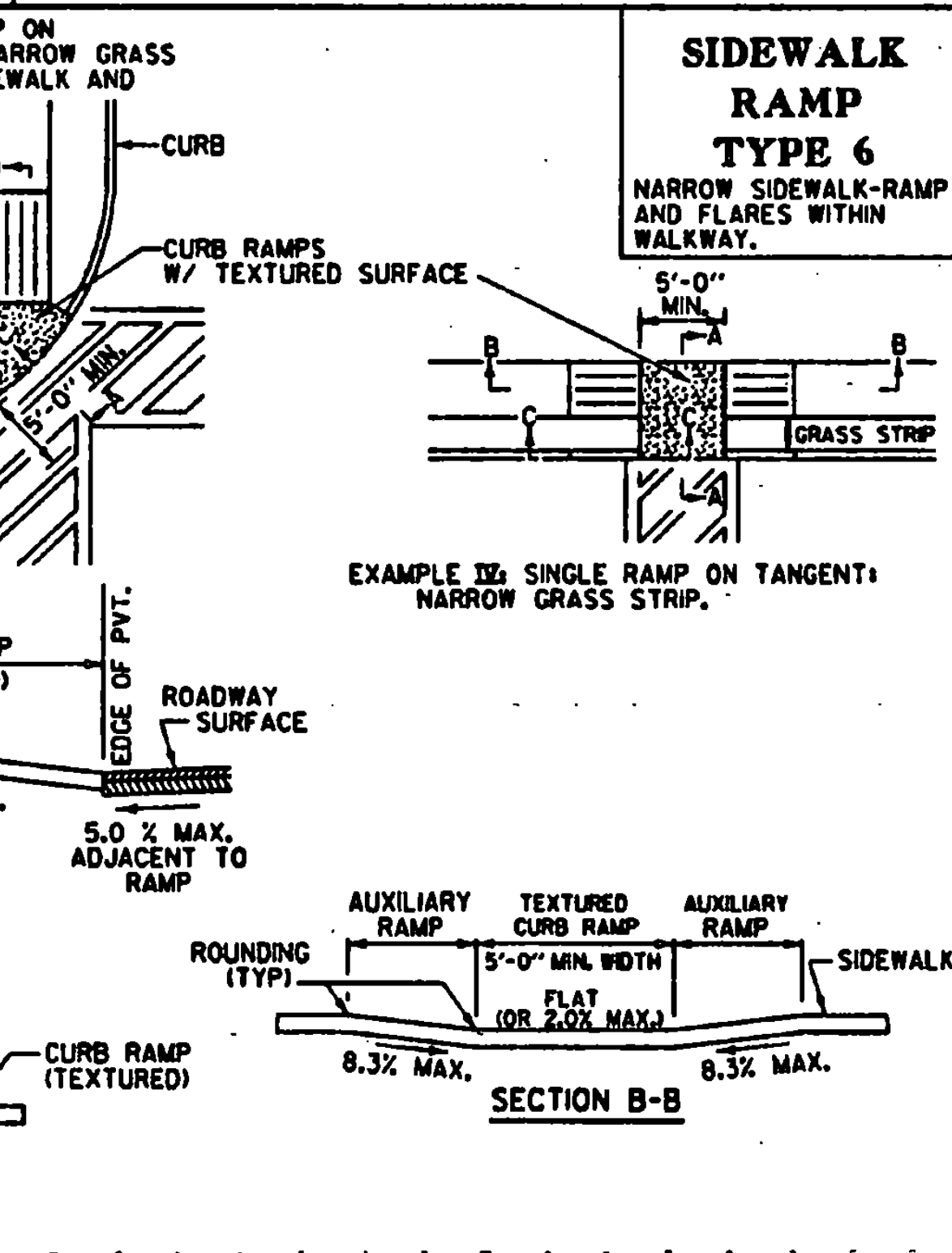
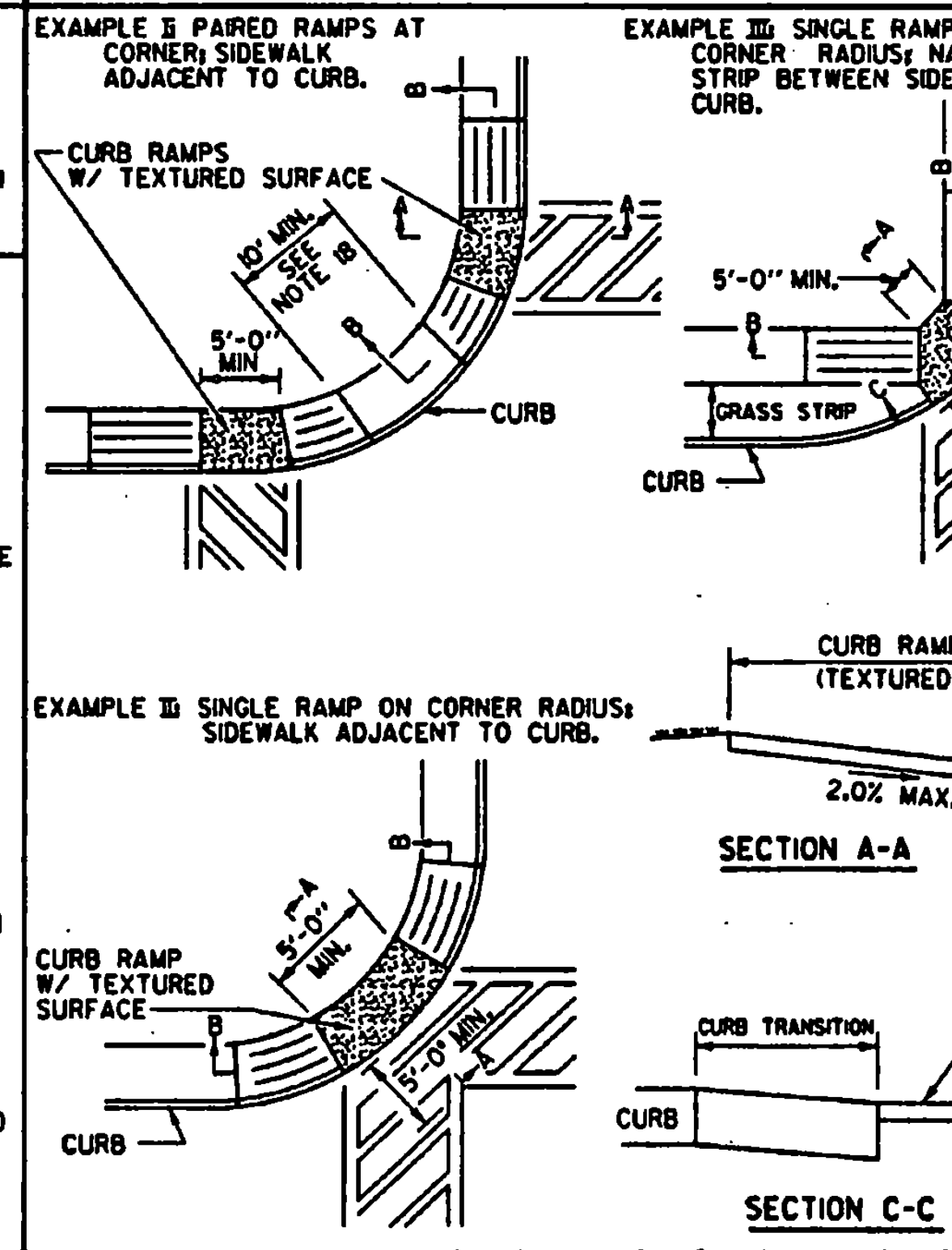
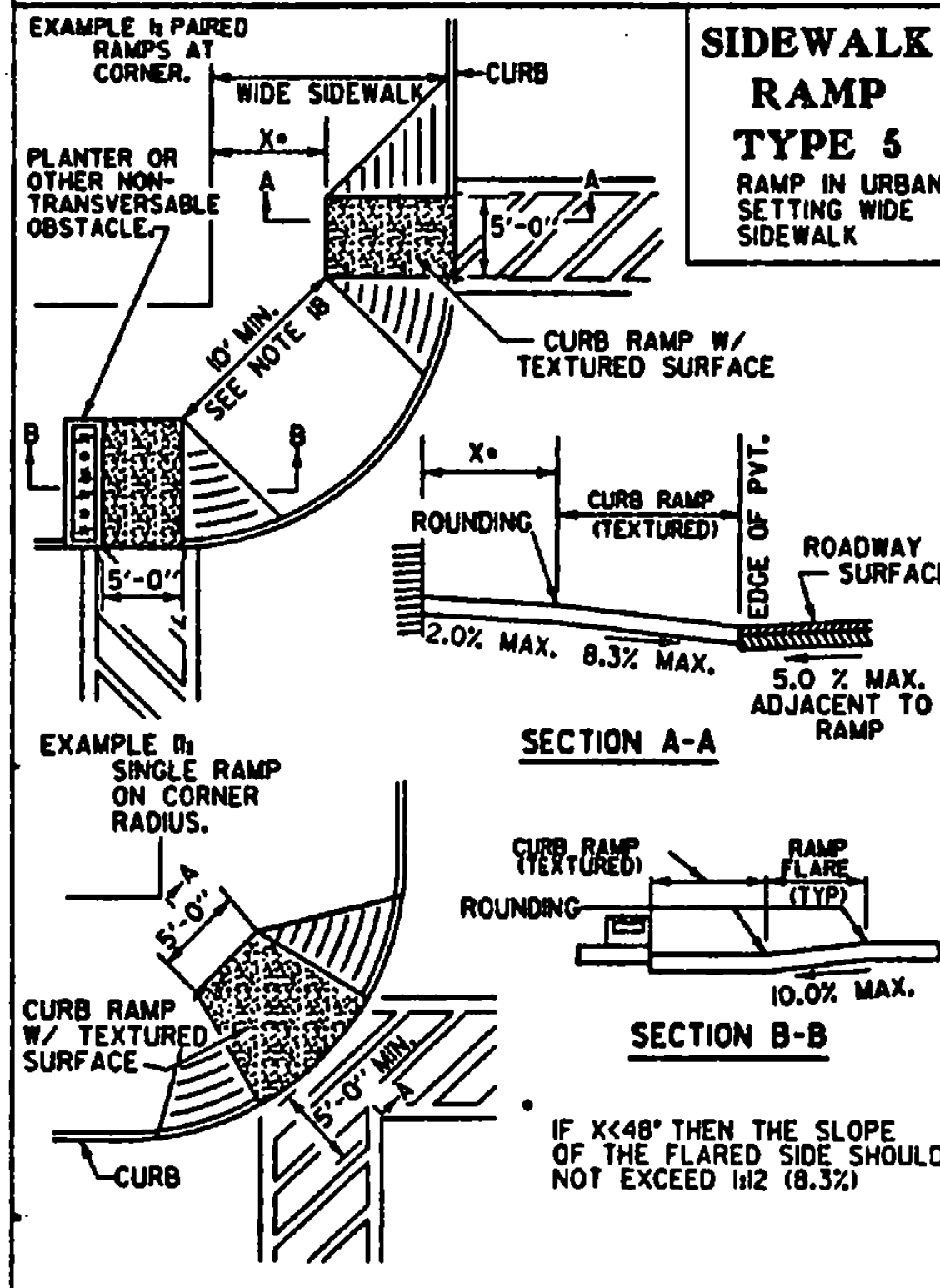
APPROVED
APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION, FINAL APPROVAL PENDING.
Stephen D. McCall, PE
DIRECTOR OF ENGINEERING
John D. Manning, PE
DESIGN ENGINEER

GRANITE SLOPE EDGING
VERTICAL GRANITE CURB
PRECAST REINFORCED CONCRETE CURB
CAST IN PLACE CONCRETE CURB
TREATED TIMBER CURB

STANDARD
C-1



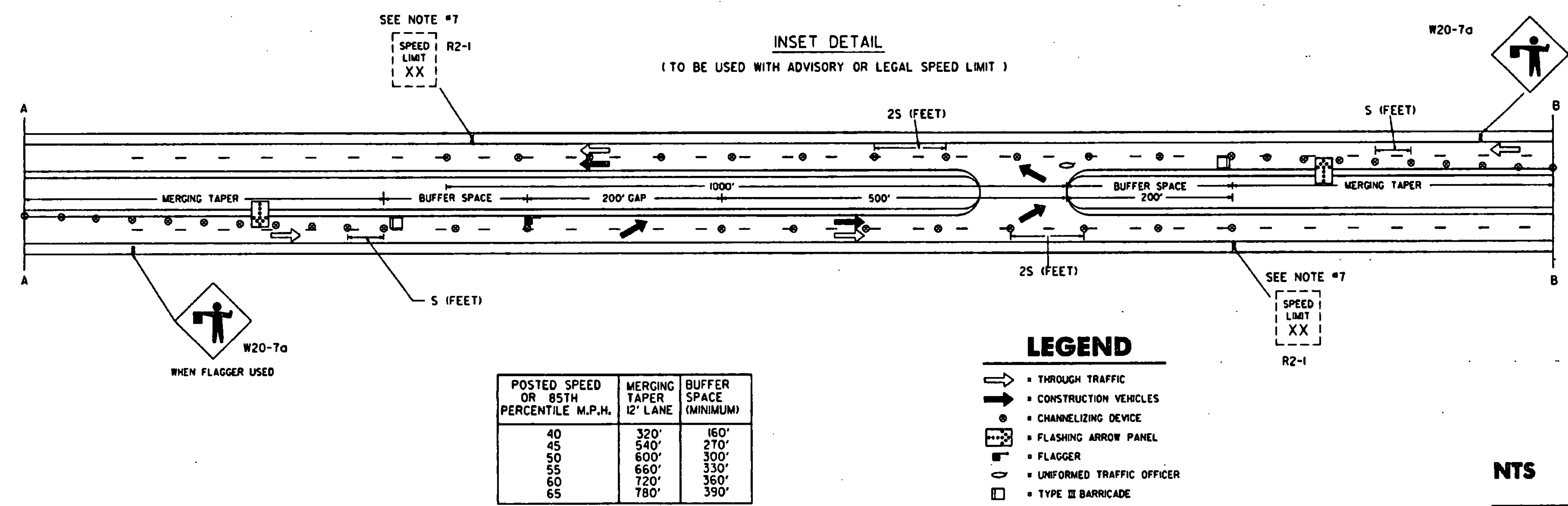
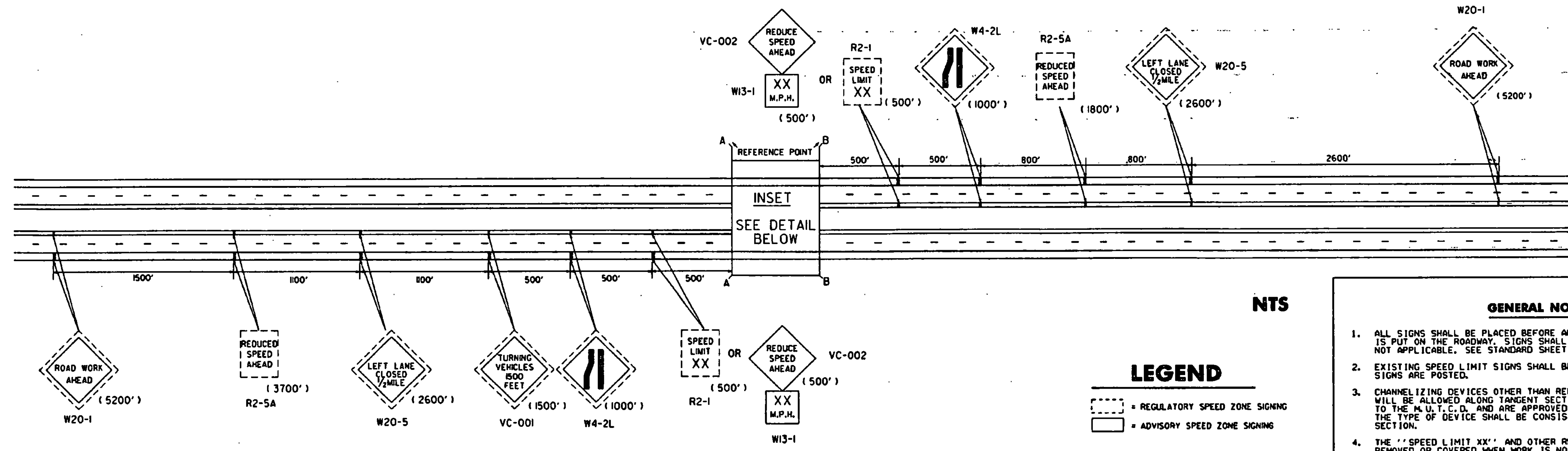
- GENERAL NOTES:**
- THE DIMENSIONS AND GRADES SHOWN ON THIS STANDARD WILL BE ADHERED TO IN THE DESIGN AND THE CONSTRUCTION OF SIDEWALK RAMP. WHERE SIDEWALKS RUN ADJACENT TO ROADWAYS ON STEEP (5% OR GREATER) GRADES, RAMP GRADES WILL BE AS FLAT AS POSSIBLE. (ON LOW SIDE OF DRIVES AND INTERSECTING SIDE STREETS, RAMP SHALL SLOPE TOWARDS DRIVE OR SIDE STREET @ 2%)
 - MINIMUM RAMP WIDTH:
A. 4' WHERE RAMP MAY BE APPROACHED DIRECTLY.
B. 5'-0" WHERE THE RAMP MUST BE (OR OFTEN WILL BE) APPROACHED FROM THE SIDE, TO PROVIDE MANEUVERING ROOM FOR WHEELCHAIRS.
 - ALLOWABLE GRADES ON RAMP:
A. 8.3% MAXIMUM WHERE RAMP IS APPROACHED DIRECTLY.
B. 2.0% WHERE RAMP IS APPROACHED FROM THE SIDE.
C. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.
 - ALLOWABLE GRADES ON FLARES ADJACENT TO RAMP:
A. 10.0% MAXIMUM WHEN DIRECTLY IN PATH THAT PEDESTRIANS MUST USE.
B. 8.3% MAXIMUM WHEN NORMALLY USED BY WHEELCHAIRS TO ENTER OR EXIT RAMP.
C. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.
 - CROSS SLOPES ON RAMP SURFACES SHALL NOT EXCEED 2.0%.
 - AN OVERRUN DISTANCE OF 5' MINIMUM SHOULD BE PROVIDED AT THE TOP AND BOTTOM OF SIDEWALK RAMP TO ALLOW FOR STOPPING AND MANEUVERING OF WHEELCHAIRS.
 - TRANSITIONS (GRADE CHANGES) AT TOPS AND BOTTOMS OF RAMP AND FLARES SHOULD BE ROUNDED.
 - VERTICAL DROP-OFF EDGES TO RAMP WILL NOT BE BUILT UNLESS THE RAMP ABUTS AN AREA WHICH WILL NOT BE USED BY PEDESTRIANS.
 - NO VERTICAL "LIP" OR "CURB REVEAL" WILL BE PROVIDED WHERE THE RAMP ADJOINS THE ROADWAY.
 - RAMP SHALL IN ALL CASES DIRECT USERS INTO THE CROSSWALK AREA.
 - WHERE POSSIBLE, SIDEWALK RAMP AND FLARES SHOULD BE LOCATED OUTSIDE THE DIRECT LINE OF TRAVEL MOST LIKELY TO BE FOLLOWED BY THE VISUALLY IMPAIRED.
 - SIDEWALK RAMP SHOULD NOT BE LOCATED WHERE THEIR USE MAY BE PREVENTED BY SIGNS, POLES, PLANTERS, MAILBOXES, ETC.
 - WHERE POSSIBLE, SIDEWALK RAMP SHOULD NOT BE LOCATED WHERE USERS MUST CROSS DROP INLET GRATES, MANHOLE COVERS OR OTHER ACCESS LIDS. IF THIS CANNOT BE AVOIDED THEN GRATE DESIGN AND PLACEMENT SHALL CONFORM TO ADA REQUIREMENTS.
 - CURB DRAINAGE SHOULD BE CONSTRUCTED SO AS TO PRECLUDE THE FLOW OF WATER PAST THE SIDEWALK RAMP.
 - WHERE CURB CORNER RADIUS EXCEEDS 25', TWO SIDEWALK RAMP ARE RECOMMENDED IN PREFERENCE TO A SINGLE RAMP.
 - JOINTS WILL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT SIDEWALK SPECIFICATIONS, HOWEVER EXPANSION JOINTS WITHIN THE SIDEWALK RAMP AREA WILL BE AVOIDED WHEREVER POSSIBLE.
 - SLOPES OF ADJOINING CUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB RAMP SHALL NOT EXCEED 1:20 (5%). NO LIP IS ALLOWED WHERE SIDEWALK RAMP MEETS THE GUTTER.
 - THIS DIMENSION SHALL BE ATTAINED WHERE POSSIBLE TO AVOID THE ROLLER COASTER EFFECT.



REVISIONS AND CORRECTIONS
SEPT. 15, 1993 - REVISED TO CONFORM TO ADA REQUIREMENTS
JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

APPROVED
Frank J. MacArthur
DIRECTOR OF ENGINEERING
John M. Mungo
DESIGN ENGINEER

SIDEWALK RAMPS



- GENERAL NOTES**
- ALL SIGNS SHALL BE PLACED BEFORE ANY WORK BEGINS OR EQUIPMENT IS PUT ON THE ROADWAY. SIGNS SHALL BE COVERED OR REMOVED WHEN NOT APPLICABLE. SEE STANDARD SHEET E-100 FOR REQUIREMENTS.
 - EXISTING SPEED LIMIT SIGNS SHALL BE COVERED WHEN REDUCED SPEED SIGNS ARE POSTED.
 - CHANNELIZING DEVICES OTHER THAN REFLECTORIZED PLASTIC DRUMS WILL BE ALLOWED ALONG TANGENT SECTIONS AS LONG AS THEY CONFORM TO THE M.U.T.C.D. AND ARE APPROVED BY THE RESIDENT ENGINEER. THE TYPE OF DEVICE SHALL BE CONSISTENT THROUGHOUT THE TANGENT SECTION.
 - THE "SPEED LIMIT XX" AND OTHER RELATED SIGNS SHALL BE REMOVED OR COVERED WHEN WORK IS NOT IN PROGRESS AND ROADWAY IS NOT RESTRICTED.
 - "SPEED ZONE AHEAD" SIGNS MAY BE USED IN LIEU OF "REDUCED SPEED AHEAD".
 - FOR RELATIVELY SHORT TERM PROJECTS WITH NO OFFICIAL REGULATORY SPEED ZONE ENACTMENT, ADVISORY SPEED PLACUES MOUNTED AS SUPPLEMENTAL SIGNS ON OTHER WARNING SIGNS MAY BE USED.
 - WHEN REDUCED REGULATORY SPEED LIMITS ARE USED THEN A SIGN, INFORMING MOTORIST THAT THE TEMPORARY SPEED ZONE HAS ENDED, SHALL BE INSTALLED AT THE END OF THE WORK AREA.
 - ALL FIXED SIGNS SHALL BE MOUNTED ON YIELDING STEEL, ALUMINUM OR WOOD SUPPORTS AS SHOWN ON STANDARD SHEETS E-100 AND E-121.
 - PORTABLE SIGNS SHALL BE KEPT LEVEL WHEN PLACED ON THE EDGE OF ROADWAY AND ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACES SHALL BE PLACED ABOVE THE TOP OF THE GUARDRAIL.
 - WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.
 - WHEN SIGNING FOR THIS OPERATION INTERFERES WITH THAT FOR WORK ON THE MAINLINE, THE RESIDENT ENGINEER SHALL ESTABLISH THE APPROPRIATE SIGN REQUIREMENTS.
 - THE CHOICE OF USING FLAGGERS OR UNIFORMED OFFICERS IS AT THE DISCRETION OF THE ENGINEER.
 - CHANNELIZING DEVICES SHALL BE PLACED AS FOLLOWS:
TAPERS - DEVICES SHALL BE SPACED A MAXIMUM OF 'S' (THE SPEED LIMIT IN FEET) APART.
TANGENT - DEVICES SHALL BE SPACED 2 X 'S' (THE SPEED LIMIT IN FEET) APART.
 - THE FLASHING ARROW PANELS SHALL BE LOCATED AS NEAR TO THE FRONT OF THE TAPER AS POSSIBLE WHILE STILL REMAINING INSIDE THE CHANNELIZING DEVICES.
 - MERGING TAPERS SHOULD BE DESIGNED FOR THE SPEED LIMIT OF THE ROADWAY PRIOR TO CONSTRUCTION.
 - CONSTRUCTION VEHICLES USED FOR HAULING MATERIAL AT THE WORK SITE AND TRAVELLING ON PUBLIC HIGHWAYS SHOULD HAVE A "CONSTRUCTION VEHICLE DO NOT FOLLOW" SIGN MOUNTED ON THE REAR OF THE VEHICLE.

T0105

REVISIONS AND CORRECTIONS
AUG. 08, 1995 - DATE OF ORIGINAL ISSUE

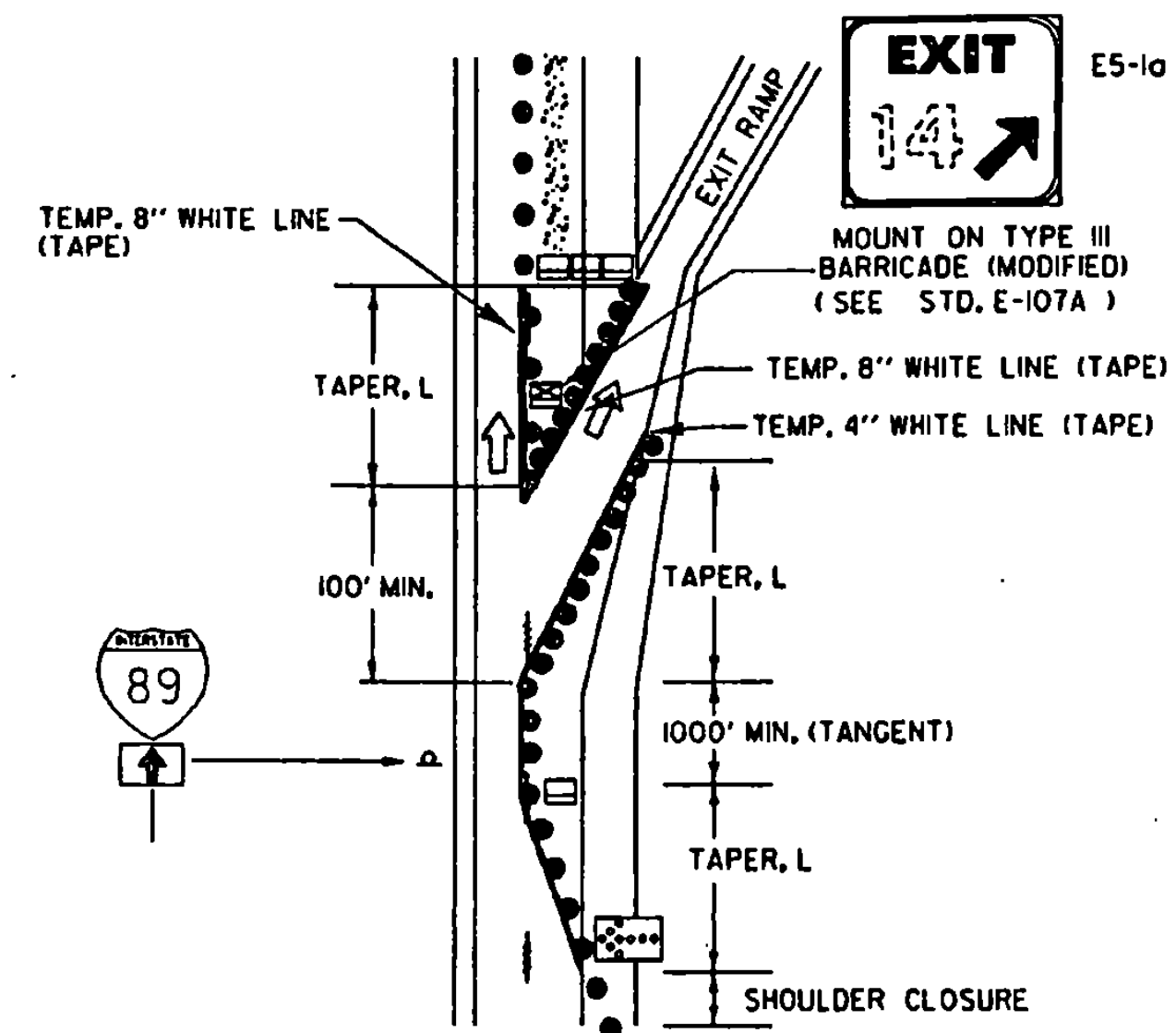
APPROVED
Stanley D. MacArthur
DIRECTOR OF ENGINEERING
Dave Larson
TRAFFIC AND SAFETY ENGINEER

TRAFFIC CONTROL FOR CONSTRUCTION VEHICLE U-TURNS ON DIVIDED HIGHWAY

OTHER STDS. E-100 E-102 E-107A E-142
REQUIRED: E-101 E-102A E-121



STANDARD E-105



NOT TO SCALE

MAINLINE LANE CLOSURE AT AN EXIT RAMP

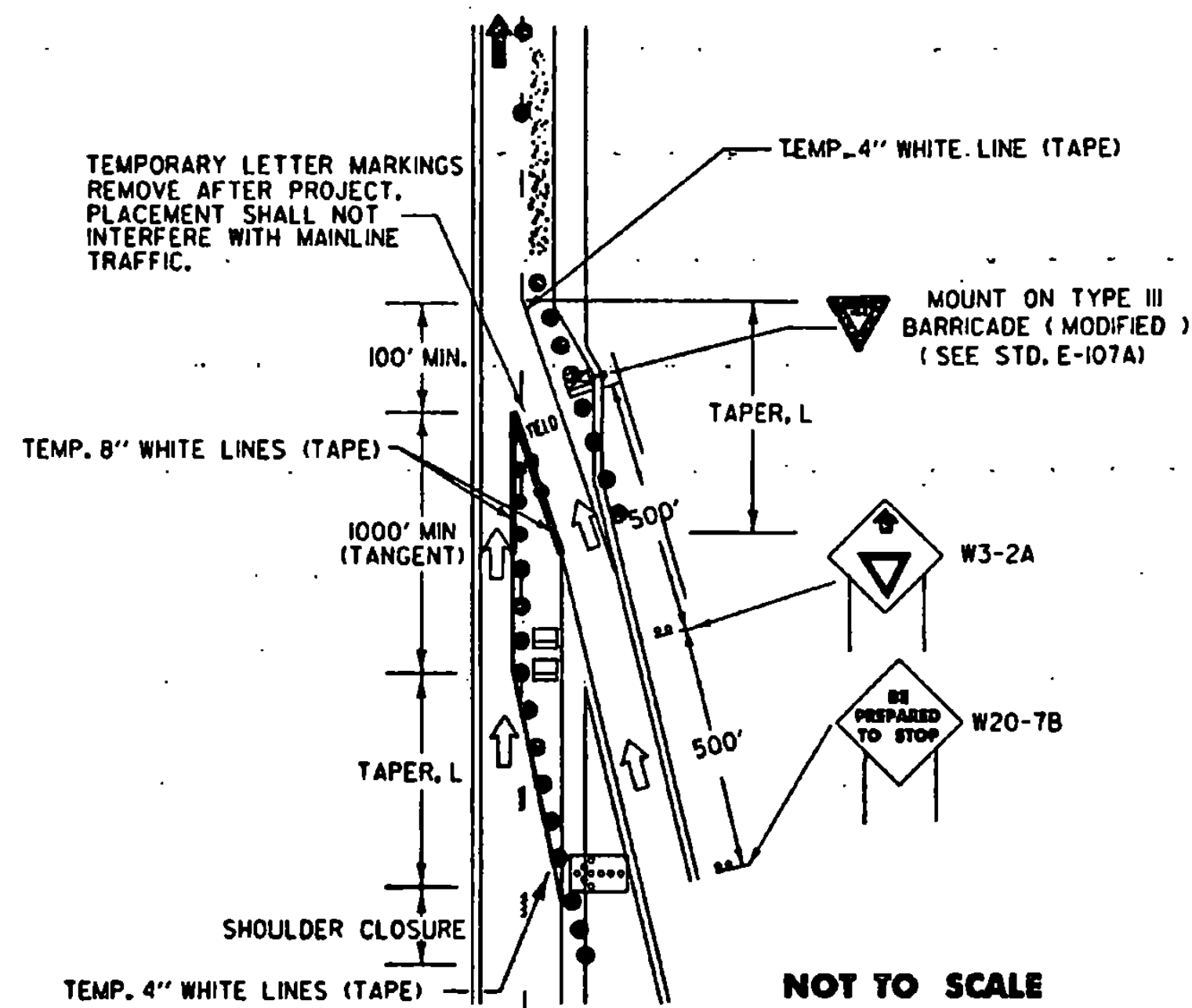
THIS DETAIL SHALL BE USED WHEN THE WORK ZONE BEGINS AT THE GORE OR THE MAINLINE LANE CLOSURE DRUM PLACEMENT INTERFERES WITH THE EXIT RAMP.

NOTES:

- 1) ALL SIGNS SHALL BE MOUNTED ON FIXED POSTS (YIELDING TYPE) UNLESS OTHERWISE NOTED.
- 2) CHANNELIZING DEVICES SHALL BE PLACED AS FOLLOWS:
TAPERS - DEVICES SHALL BE SPACED A MAXIMUM OF "S" (THE SPEED LIMIT IN FEET) APART.
TANGENT - DEVICES SHALL BE SPACED 2 X "S" (THE SPEED LIMIT IN FEET) APART.
- 3) ALL DISTANCES ARE DESIRABLE MINIMUMS FIELD CONDITIONS SHALL CONTROL THE ACTUAL PLACEMENT.
- 4) TAPER RATES ARE BASED ON THE POSTED MAINLINE AND EXIT SPEEDS.
- 5) TEMPORARY PAVEMENT MARKINGS ARE REQUIRED WHEN THE LAYOUT IS TO BE IN EFFECT FOR THREE DAYS OR MORE.
- 6) LANE CLOSURES AND TAPER LENGTHS, L, AS DETAILED ON STANDARD E-103.
- 7) EXIT SIGN SHALL BE MOUNTED A MINIMUM OF 3' ABOVE THE GROUND AND HIGH ENOUGH TO BE SEEN ABOVE CHANNELIZING DEVICES.

LEGEND

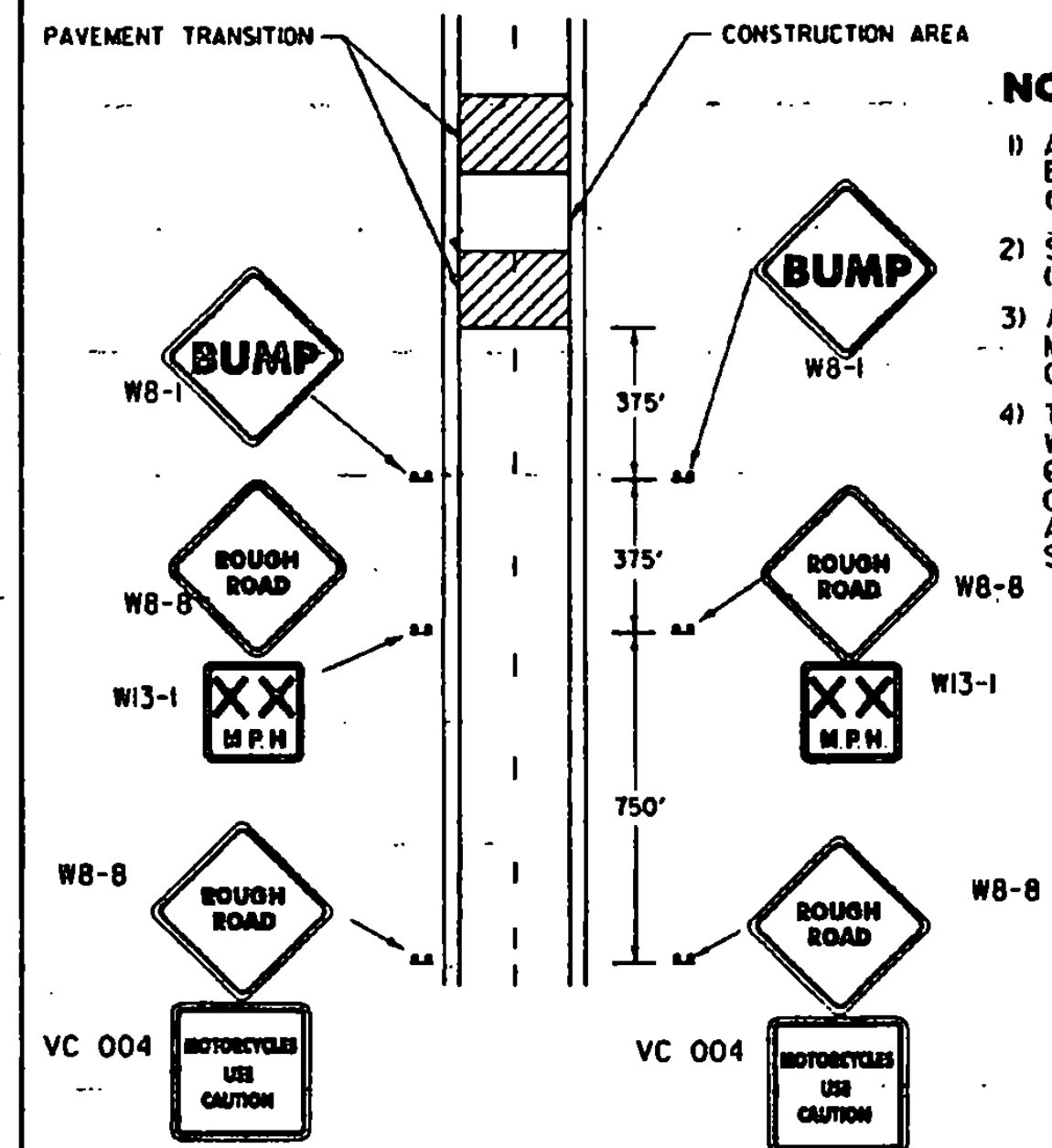
- REFL. 28" CONES
- REFL. PLASTIC DRUMS
- PAVEMENT MARKING REMOVAL
- ↑ INDICATES TRAFFIC FLOW
- ▨ WORK AREA
- ▭ FLASHING ARROW PANEL
- TYPE III BARRICADES
- ▣ TYPE III BARRICADES (MOD.)



NOT TO SCALE

MAINLINE LANE CLOSURE AT AN ENTRANCE RAMP

THIS DETAIL SHALL BE USED WHEN THE WORK ZONE BEGINS AT THE END OF THE ACCELERATION LANE OR THE MAINLINE LANE CLOSURE DRUM PLACEMENT INTERFERES WITH THE ON-RAMP TRAFFIC.
IF THE LENGTH OF THE ACCELERATION LANE IS NOT ADEQUATE, THE YIELD SIGN SHALL BE REPLACED WITH A STOP SIGN. IF A STOP SIGN IS USED, IT SHOULD BE ACCOMPANIED BY A STOP BAR.

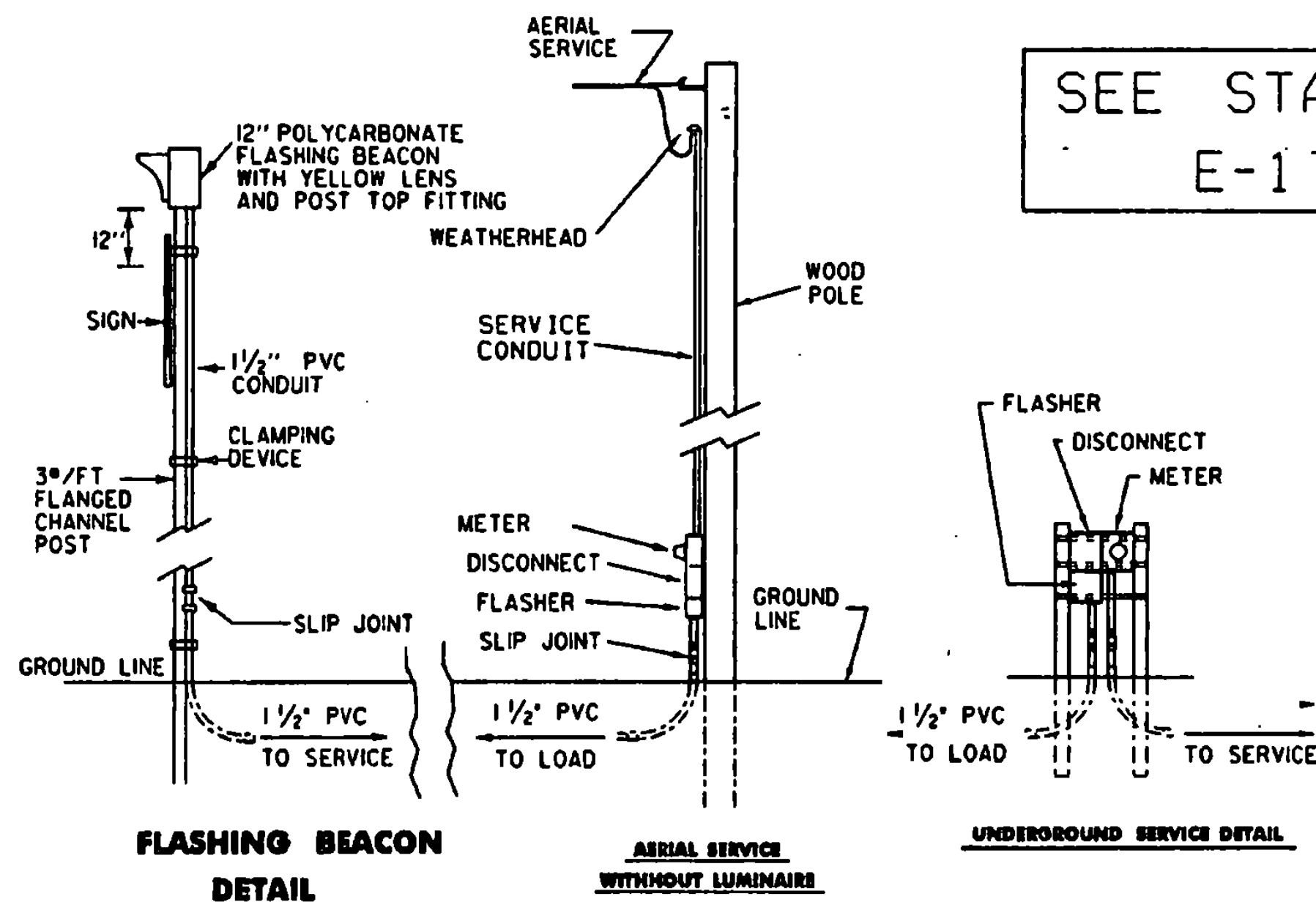


NOTES:

- 1) ADVISORY SPEED AS DETERMINED BY THE RESIDENT ENGINEER (40 M.P.H. MINIMUM RECOMMENDED) (YIELDING TYPE)
- 2) SIGNS MOUNTED ON FIXED POSTS. (YIELDING TYPE)
- 3) ALL DISTANCES ARE DESIRABLE MINIMUMS. FIELD CONDITIONS SHALL CONTROL THE ACTUAL PLACEMENT.
- 4) THE BUMP SIGN MAY BE ELIMINATED WHEN THERE IS NO BUMP. WHEN THE CONTRACTOR IS WORKING IN THE CONSTRUCTION AREA THE APPROPRIATE ADVANCED WARNING SIGN PACKAGE SHALL BE USED. SEE STD.E-103.

NOT TO SCALE

ADVANCED WARNING SIGN PACKAGE FOR COLD PLANED (SCARIFIED) SURFACES.

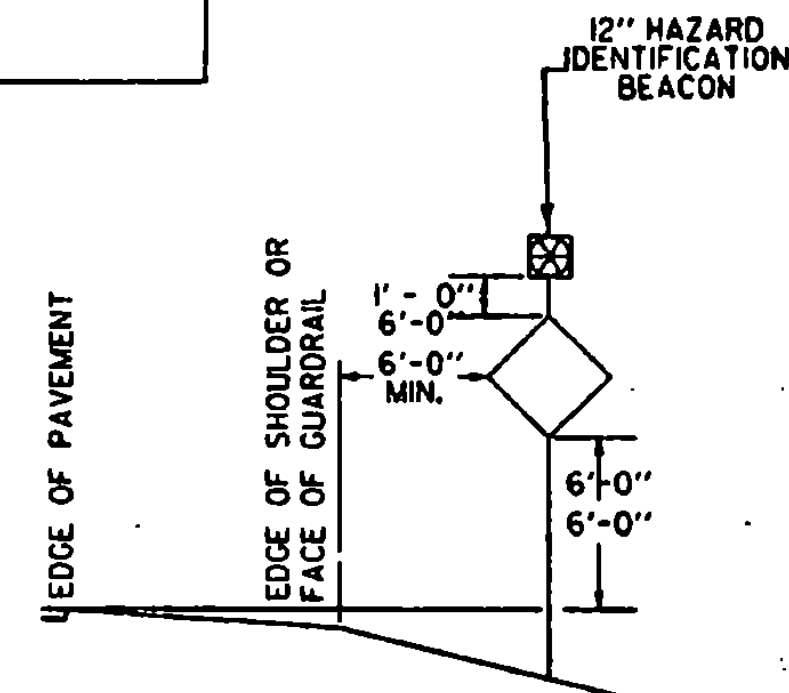


FLASHING BEACON DETAIL

AERIAL SERVICE WITHOUT LUMINAIRE

UNDERGROUND SERVICE DETAIL

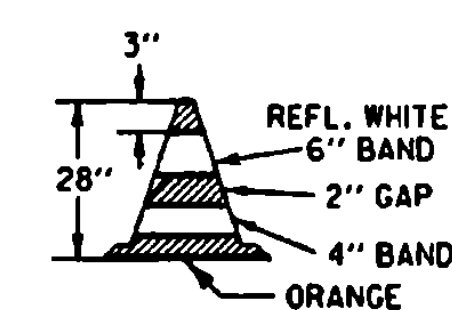
SEE STANDARD E-175



SIGN PLACEMENT DETAIL

NOTES:

- 1.) AT THE CONTRACTOR'S OPTION:
 - A. THE POWER SUPPLY MAY BE AERIAL OR UNDERGROUND (SEE DETAIL).
 - B. POWER FOR A FLASHING BEACON MAY BE COMBINED WITH POWER FOR A TRAFFIC SIGNAL OR THEY MAY HAVE SEPARATE POWER SOURCES.
 - C. THE FLASHER MAY BE INSTALLED ON A STANCHION NEAR THE SIGN, ON A UTILITY POLE (WITH UTILITY COMPANY APPROVAL) OR AT THE SAME LOCATION AS A TRAFFIC SIGNAL CONTROLLER.
- 2.) THE FLASHER UNIT SHALL BE ONE CIRCUIT AND INCLUDE A RADIO INTERFERENCE FILTER.
- 3.) BATTERY OPERATED FLASHERS WILL NOT BE ALLOWED.
- 4.) BOTTOM OF THE BEACON SHALL BE A MIN. OF 8'-0" AND A MAX. OF 12'-0" ABOVE THE EDGE OF THE PAVEMENT.
- 5.) FOR URBAN AREA PLACEMENT SEE STD. E-121.

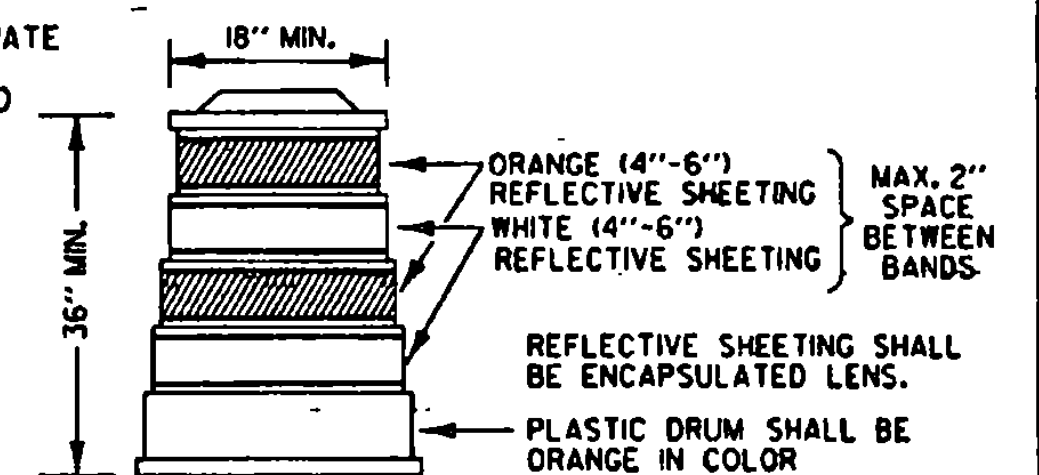


NOTES:

- 1.) 28" CONES SHALL BE USED ON ROADWAYS WITH SPEED LIMITS OF 35 MPH OR MORE AND ON ALL ROADWAYS DURING HOURS OF DARKNESS.
- 2.) CONES MAY BE WEIGHTED TO PREVENT OVERTURNING, HOWEVER THE WEIGHTS SHALL NOT PRESENT A HAZARD IF THE CONE IS STRUCK.
- 3.) REFLECTIVE SHEETING SHALL BE ENCAPSULATED LENS.

28" REFLECTORIZED CONE

SAND BAGS OR AN APPROPRIATE BALLASTING DEVICE, WHICH DOES NOT PRESENT A HAZARD TO THE IMPACTING VEHICLE OR BECOME A PROJECTILE UPON IMPACT, SHALL BE USED TO WEIGHT DRUMS.



REFLECTORIZED PLASTIC DRUM

OTHER STDS. REQUIRED:	E-101 E-102	E-102A E-103	E-107A E-136	E-150 E-175
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REVISIONS AND CORRECTIONS

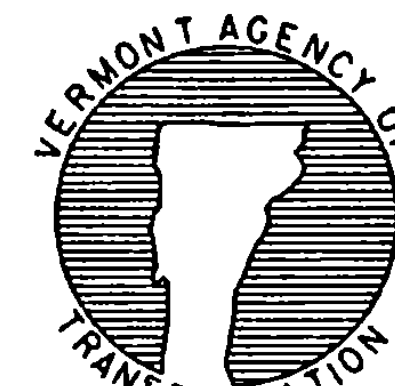
- APR 12, 1988 - DATE OF ORIGINAL ISSUE
- JAN 23, 1989 - REVISED EXIT SIGN - CLARIFIED EXIT TAPER
- SEPT 20, 1993 - REVISED RAMP CLOSURES, FLASHING BEACON DETAILS AND MOVED TYPE III BARRICADE (MOD) TO STDE-107A
- AUG 08, 1995 - REVISED BEACON SIZE

APPROVED

Stanley D. Theobald
DIRECTOR OF ENGINEERING

David A. Ross
TRAFFIC AND SAFETY ENGINEER

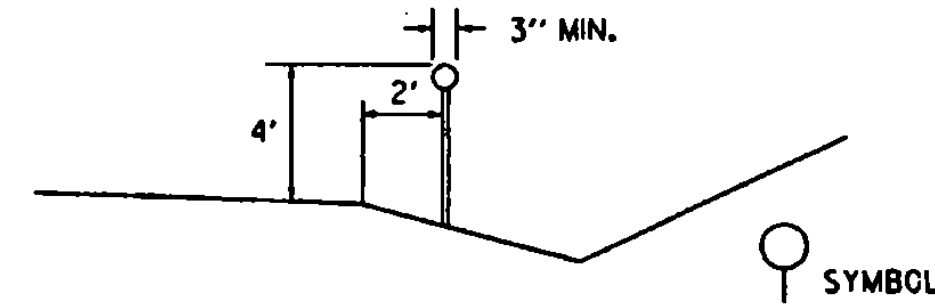
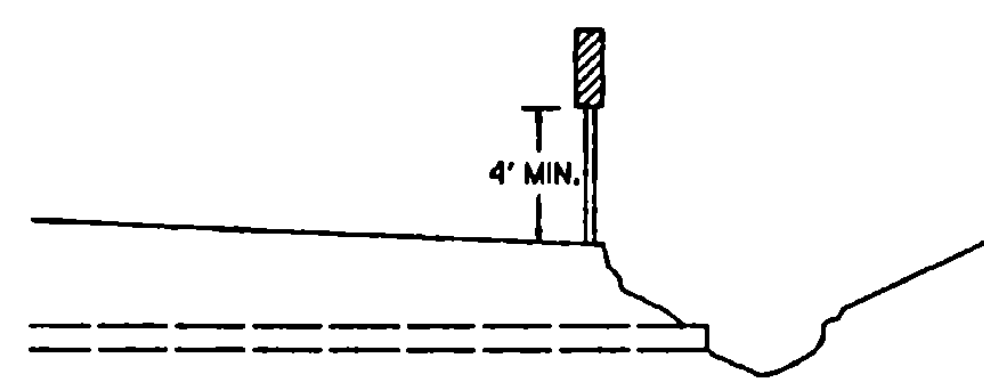
**TRAFFIC CONTROL
MISCELLANEOUS DETAILS**



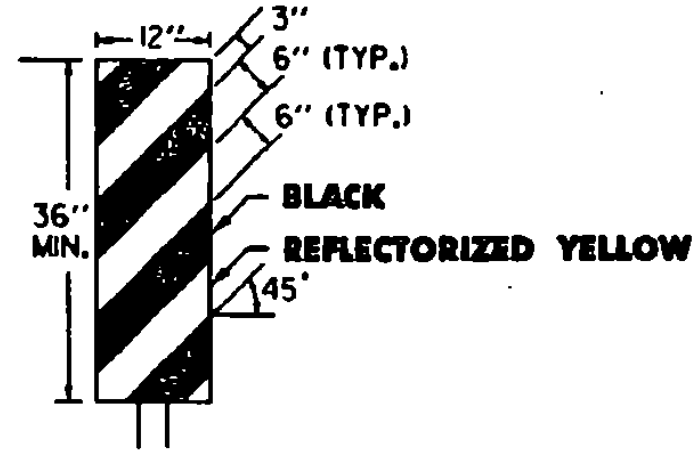
**STANDARD
E-106**

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION, FHWA FINAL APPROVAL PENDING.

/trf/std/stdel06.dgn ; stdel06.l

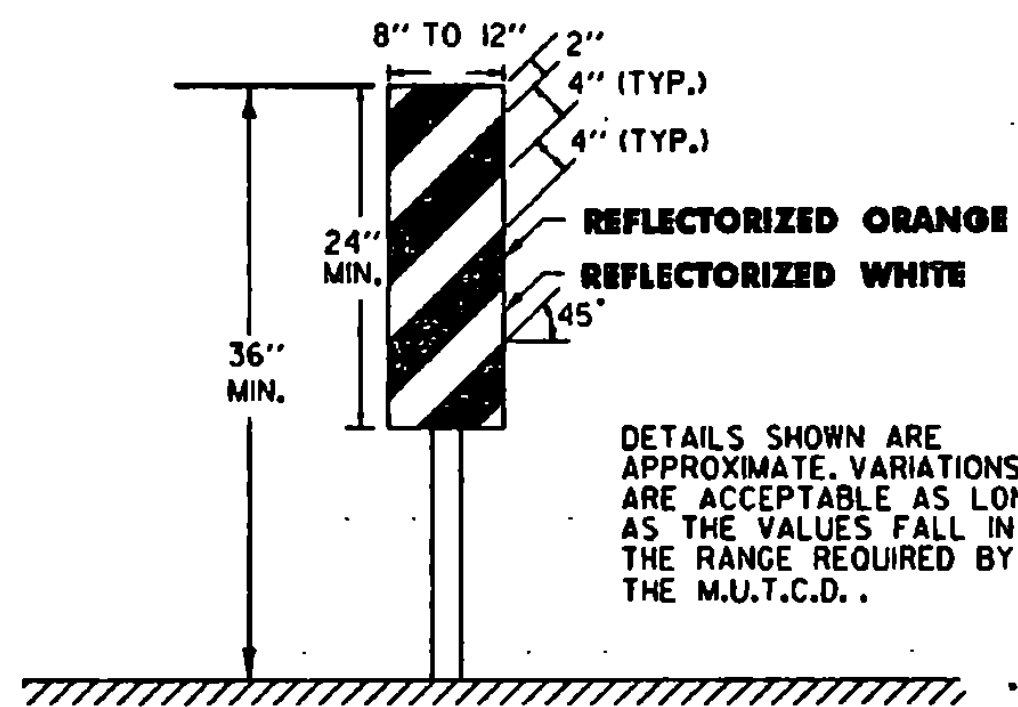


DELINEATOR TYPICAL
 DELINEATORS SHALL BE REFLECTORIZED WHITE IN COLOR. THEY SHALL HAVE A MINIMUM OF 7 SQUARE INCHES. THEY MAY BE ROUND, SQUARE, OR OBLONG.



OBJECT MARKER TYPICAL

OBJECT MARKERS ARE USED TO MARK OBSTRUCTIONS WITHIN OR ADJACENT TO THE ROADWAY. 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, AND ABRUPT CHANGES IN THE ROADWAY ALIGNMENT MAY MAKE IT UNDESIRABLE FOR A DRIVER TO LEAVE THE ROADWAY. THE INSIDE EDGE OF THE OBJECT MARKER SHALL BE IN LINE WITH THE INNER EDGE OF THE OBSTRUCTION, WHENEVER POSSIBLE. OBJECT MARKERS SHALL HAVE ALTERNATING BLACK AND REFLECTORIZED YELLOW STRIPES (SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS).

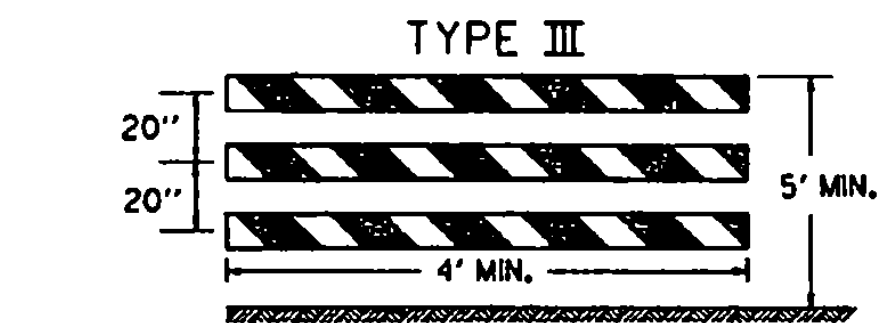
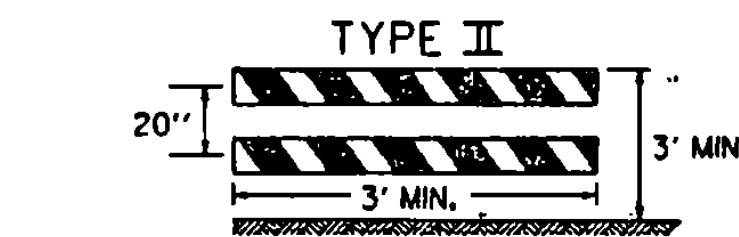
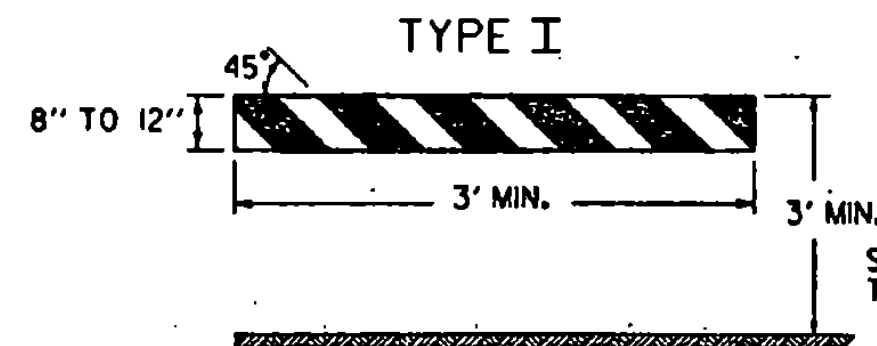


VERTICAL PANEL

VERTICAL PANELS SHALL HAVE ALTERNATING ORANGE AND WHITE REFLECTORIZED STRIPES (SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS). THESE DEVICES MAY BE USED FOR TRAFFIC SEPARATION, CHANNELIZING OR BARRICADING WHERE SPACE IS AT A MINIMUM.

DELINEATOR, VERTICAL PANEL AND OBJECT MARKER DETAILS FOR CONSTRUCTION AREAS WHERE TRAFFIC IS MAINTAINED

ALL SIGN PLACEMENT DISTANCES ARE DESIRABLE SPECIFICATIONS. FIELD CONDITIONS SHALL CONTROL THE ACTUAL PLACEMENT. PROJECT CONSTRUCTION APPROACH SIGNING PLACEMENT SHALL TAKE INTO CONSIDERATION SPACING REQUIREMENTS FOR THE DETOUR SIGN LAYOUT REQUIREMENTS.



BARRICADE CHARACTERISTICS			
	I	II	III
WIDTH OF RAIL	8" MIN. 12" MAX.	8" MIN. 12" MAX.	8" MIN. 12" MAX.
LENGTH OF RAIL	3' MIN.	3' MIN.	4' MIN.
WIDTH OF STRIPES	6"	6"	6"
HEIGHT	3' MIN.	3' MIN.	5' MIN.
TYPE OF FRAME	SEE E-107A	SEE E-107A	SEE E-107A
FLEXIBILITY	PORTABLE	PORTABLE	PORTABLE
ANGLE OF STRIPE	45°	45°	45°
COLOR OF STRIPES	ORANGE AND ORANGE AND WHITE	ORANGE AND ORANGE AND WHITE	ORANGE AND ORANGE AND WHITE

A TYPE III (MODIFIED) BARRICADE SHALL CONSIST OF TYPE II RAILS MOUNTED ON A BREAKAWAY BARRICADE AS SHOWN ON STANDARD SHEET E-107A.

BARRICADE CHARACTERISTICS

DETOUR DESIGN SPEED (M.P.H.)	MINIMUM RADIUS (FT.) ^a				
	0.00 ^b	0.02	0.04	0.06	0.08
20	160	140	130	120	110
25	245	220	200	185	170
30	375	335	305	275	255
35	510	455	410	375	340
40	715	630	575	510	470
50	1190	1045	955	850	765

a. PER AASHTO REQUIREMENTS
 b. 0.00 SUPERELEVATION SHOULD BE AVOIDED IF POSSIBLE

BARRICADES

APPLICATION NOTES

TYPE I BARRICADES SHALL BE USED ON CONVENTIONAL ROADS OR URBAN STREETS AND ARTERIALS TO MARK A SPECIFIC HAZARD.
 TYPE II BARRICADES SHALL BE USED ON EXPRESSWAYS AND FREEWAYS, SERVING THE SAME FUNCTIONS AS TYPE I BARRICADES.
 TYPE III BARRICADES (SEE STD. E-107A) SHALL ONLY BE USED WHEN A ROAD SECTION OR LANE IS CLOSED TO TRAFFIC AND ARE TO BE ERECTED AT THE POINT OF CLOSURE.

MATERIALS

THE BARRICADES SHOWN ON THIS SHEET SHOULD BE OF LIGHTWEIGHT MATERIAL. IF WOOD IS USED THE FOLLOWING CONDITIONS SHALL APPLY:
 1. WOODEN BARRICADES (TYPE 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 M.P.H. ARE EXPECTED UNLESS INSTALLED FOR PEDESTRIAN CONTROL BEHIND APPROVED POSITIVE BARRIERS.
 B) MAY BE USED WHERE OPERATING SPEEDS OF 20 M.P.H. OR LESS ARE EXPECTED.
 2. TYPE III WOODEN BARRICADES SHALL NOT BE USED.

COLORS

THE BARRICADE PANELS SHOWN ON THIS SHEET SHALL HAVE AN ALTERNATING REFLECTORIZED WHITE AND ORANGE STRIPES. 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. THE BARRICADE COMPONENTS SHALL BE WHITE UNLESS UNPAINTED METAL OR ALUMINUM IS USED.

REFLECTORIZATION

THE REFLECTIVE SHEETING ON BARRICADE PANELS SHALL BE TYPE III.

LOCATION

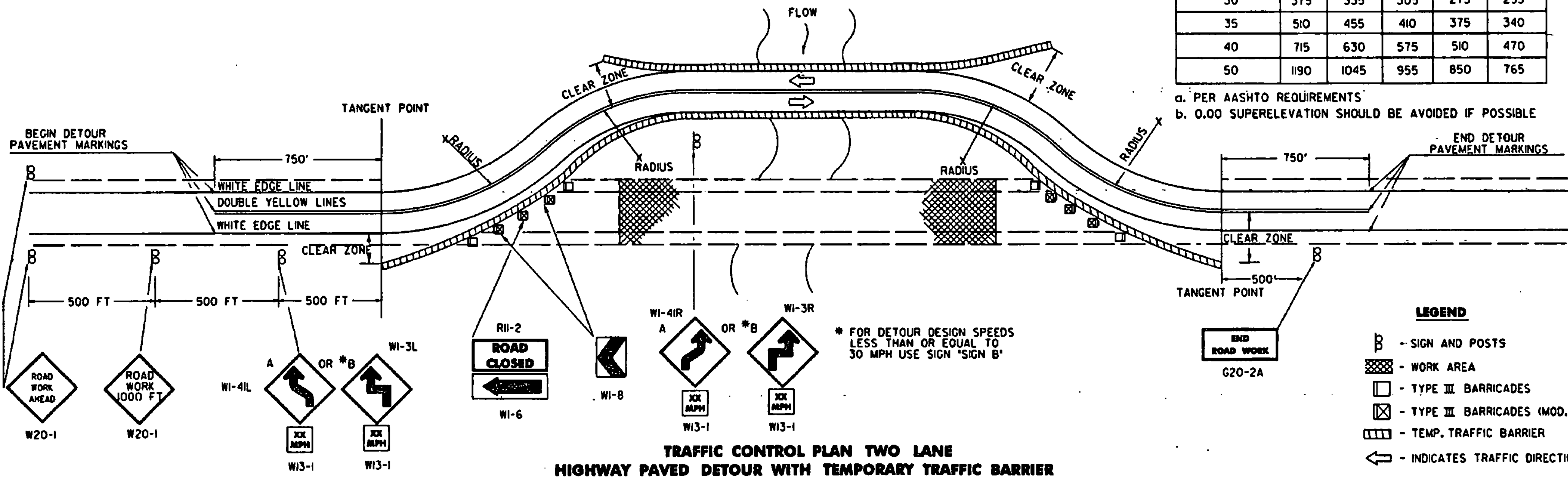
THE BARRICADES SHOWN ON THIS SHEET WILL BE LOCATED BY THE RESIDENT ENGINEER IN THE FIELD OR AS SHOWN ON THE PLANS. THE LOCATION OF THE BARRICADES SHALL FOLLOW THE PROCEDURES SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", OR AS OTHERWISE NOTED.

MAINTENANCE

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

DETOUR NOTES

- 1.) SIGNS AND DELINEATION SHOWN FOR ONE DIRECTION OF TRAFFIC ONLY.
- 2.) THE CONTRACTOR IS RESPONSIBLE FOR PAVEMENT MARKING AND SHALL REMOVE ANY CONFLICTING OR CONFUSING EXISTING MARKINGS.
- 3.) ADDITIONAL SIGNING MAY BE REQUIRED AT THE DISCRETION OF THE RESIDENT ENGINEER.
- 4.) UNPAVED DETOURS REQUIRE PAVEMENT MARKINGS FOR TRANSITIONS FROM EXISTING PAVEMENT.
- 5.) THE NUMBER OF CHANNELIZING DEVICES, BARRICADES AND OTHER TRAFFIC CONTROL DEVICES SHOWN ON THIS SHEET ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED SHALL BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR CURVE, ETC.).
- 6.) AASHTO CLEAR ZONE REQUIREMENTS SHOULD BE MET. IF NOT THEN AN APPROVED ENERGY ABSORPTION ATTENUATOR SUITABLE FOR THE TEMPORARY TRAFFIC BARRIER USED AND FOR THE DESIGN SPEED SHALL BE INSTALLED PER THE CURRENT AASHTO ROADSIDE DESIGN GUIDE.
- 7.) THE DETOUR DESIGN SPEED SHOULD BE NO LESS THAN 10 M.P.H. BELOW THE POSTED SPEED LIMIT, UNLESS PHYSICAL RESTRICTIONS PREVENT THIS.
- 8.) SEE STANDARD SHEETS E-100, E-101 AND E-102 FOR SIGN DETAIL AND MATERIAL REQUIREMENTS.
- 9.) IF THE USE OF TEMPORARY TRAFFIC BARRIER IS NOT REQUIRED, THEN REFLECTORIZED PLASTIC DRUMS SHALL BE USED.



TRAFFIC CONTROL PLAN TWO LANE HIGHWAY PAVED DETOUR WITH TEMPORARY TRAFFIC BARRIER

REVISIONS AND CORRECTIONS

SEPT. 10, 1987 - DATE OF ORIGINAL ISSUE
 APRIL 29, 1988 - FHWA REVIEW COMMENTS
 SEPT. 20, 1993 - NEW RADIUS CHART, BARRICADE ALIGNMENT AND USE OF TEMPORARY TRAFFIC BARRIER
 AUG. 08, 1995 - REVISED SIGNING PER MUTCD

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

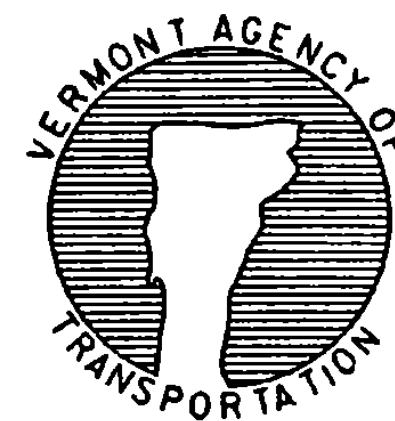
APPROVED

Stephen D. McAllen
 DIRECTOR OF ENGINEERING

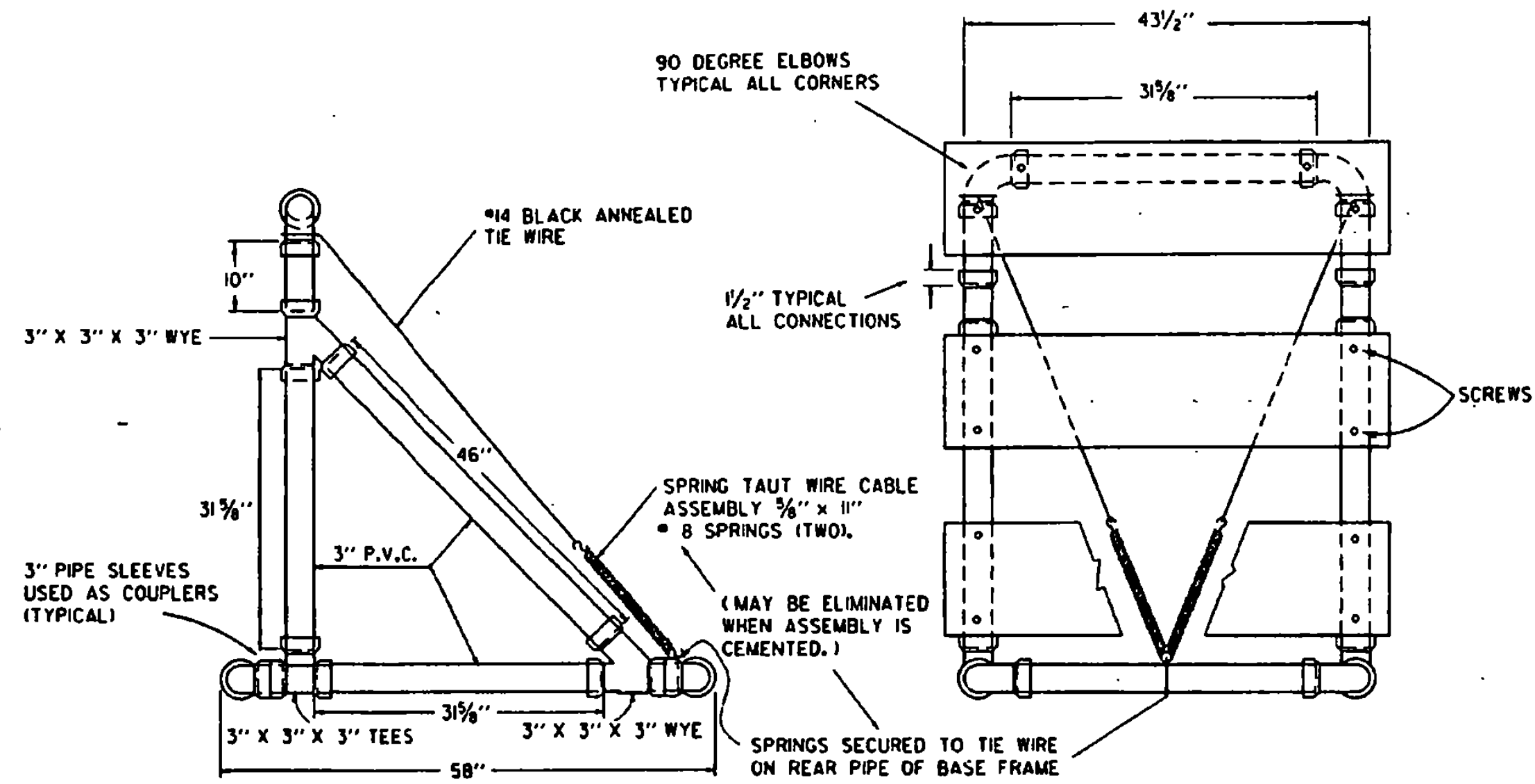
Dan A. Ross
 TRAFFIC AND SAFETY ENGINEER

DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS

OTHER STDS. REQUIRED: E-100 E-101 E-102 E-102a E-107a



STANDARD E-107

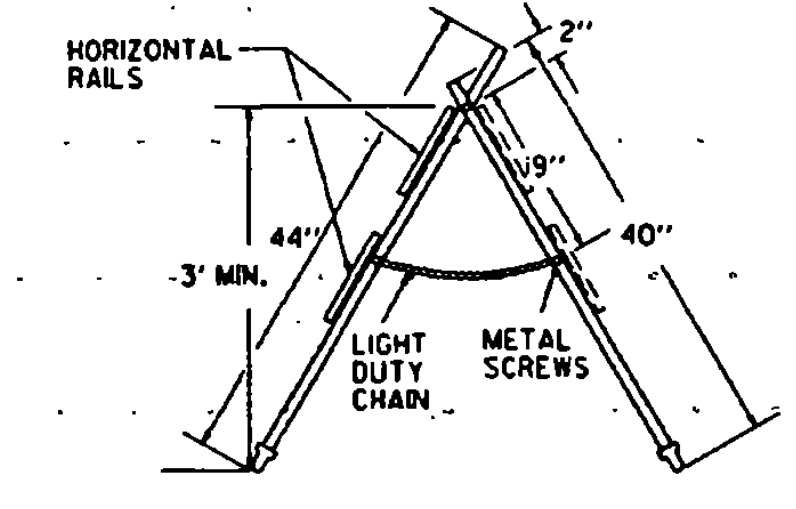


**SIDE VIEW
TYPE III BARRICADE**

**FRONT VIEW
TYPE III BARRICADE**

- MATERIALS FOR TYPE I AND II BARRICADES**
- 20' - 1" PVC
 - 4 - 1" PVC 90° ELBOWS
 - 30" - 1/2" ID THINWALL PVC CONDUIT
 - 36" - 1/4" STEEL ROD
 - 4 - 1" WASHERS
 - 24" - LIGHT DUTY CHAIN
 - 1/2" - #14 PAN HEAD METAL SCREWS (AS REQUIRED)
 - 2 - 3/4" COTTER PINS
 - 2' OR 4' - 8" OR 12" X 36" X 0.025" BARRICADE RAILS (AS REQUIRED)

- MATERIALS FOR TYPE III BARRICADES**
- 30 LF - 3" I.D. PVC PIPE
 - 6 - 3" 90° ELBOWS
 - 2 - 3" TEES
 - 4 - 3" WYES
 - 3 - 8" OR 12" X 48" X 0.025" BARRICADE RAILS
 - 2 - 5/8" X 11" #8 SPRING (IF ASSEMBLY IS NOT CEMENTED)
 - 12 - 1" #14 PAN HEAD METAL SCREWS (IF ASSEMBLY IS NOT CEMENTED)
 - 15 LF - #14 BLACK ANNEALED TIE WIRE (IF ASSEMBLY IS NOT CEMENTED)



MATERIALS

THE PIPE, WYES, TEES AND ELBOWS USED TO CONSTRUCT BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 2241 FOR P.V.C. 1120 OR 1220 SDR-21, PRESSURE RATING 200 PSI. THE WYES, TEES AND ELBOWS SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 2466, TYPE II, GRADE B. ALL JOINTS SHALL BE SHIP-FIT AND MAY BE LIGHTLY CEMENTED. THE BARRICADE RAILS SHALL BE FABRICATED FROM 0.025" ANODIZED ALUMINUM AND SHALL HAVE REFLECTORIZED ALTERNATING ORANGE AND WHITE STRIPES (SLOPING DOWNWARD AT AN

MAINTENANCE

BARRICADES SHALL BE MAINTAINED IN CLEAN AND LEGIBLE CONDITIONS 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. THE P.V.C. PIPE AND FITTINGS SHALL BE WHITE IN COLOR. AT LEAST TWO (2) HOLES SHALL BE DRILLED (3/8" DIAM.) IN EACH SECTION OF PIPE AND FITTINGS IF THE ASSEMBLY IS NOT CEMENTED.

WHICH WILL NOT CONSTITUTE A HAZARD IF THE BARRICADE IS HIT, THESE SHALL BE PLACED ONLY ON THE FRONT AND REAR PIPES OF THE BASE FRAME

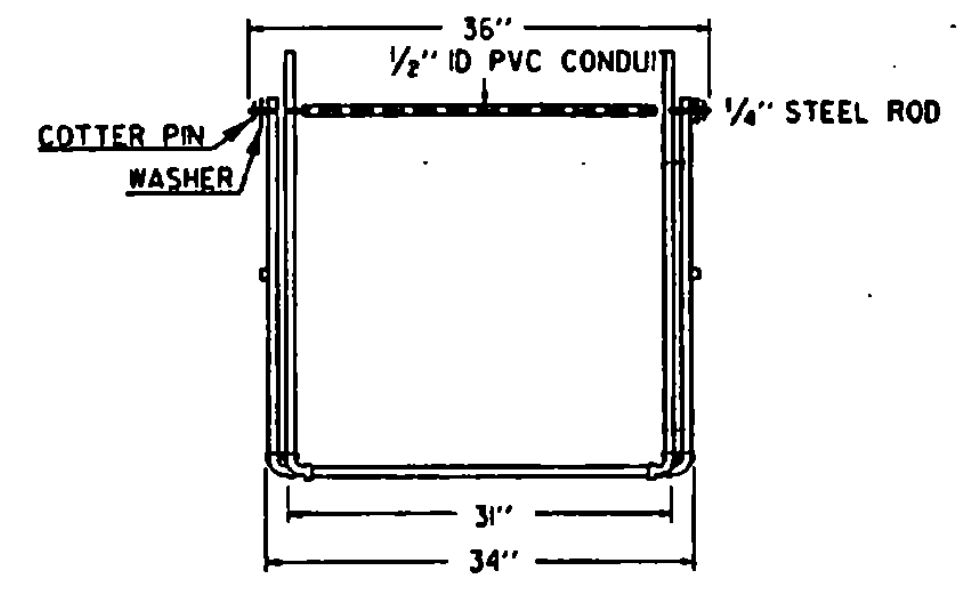
BE A HAZARD TO VEHICLES PASSING ON EITHER SIDE. GLUED JOINTS MAY PROVIDE ADDITIONAL STABILITY TO THE INSTALLATION.

TYPE I BARRICADES SHALL UTILIZE ONE HORIZONTAL RAIL IN EACH DIRECTION.

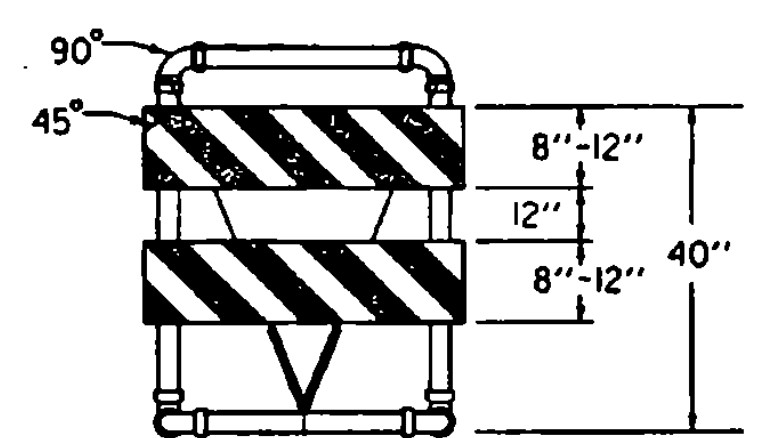
TYPE II BARRICADES SHALL BE A TYPE I BARRICADE WITH AN ADDITIONAL HORIZONTAL RAIL MOUNTED BELOW THE OTHER IN EACH DIRECTION.

TYPE III BARRICADES (MODIFIED) SHALL CONSIST OF THE BREAKAWAY 3" PVC DESIGN SHOWN ON THIS SHEET WITH THE TWO RAIL LAYOUT DETAILED ABOVE LEFT.

SEE STD E-107 FOR ADDITIONAL INFORMATION.



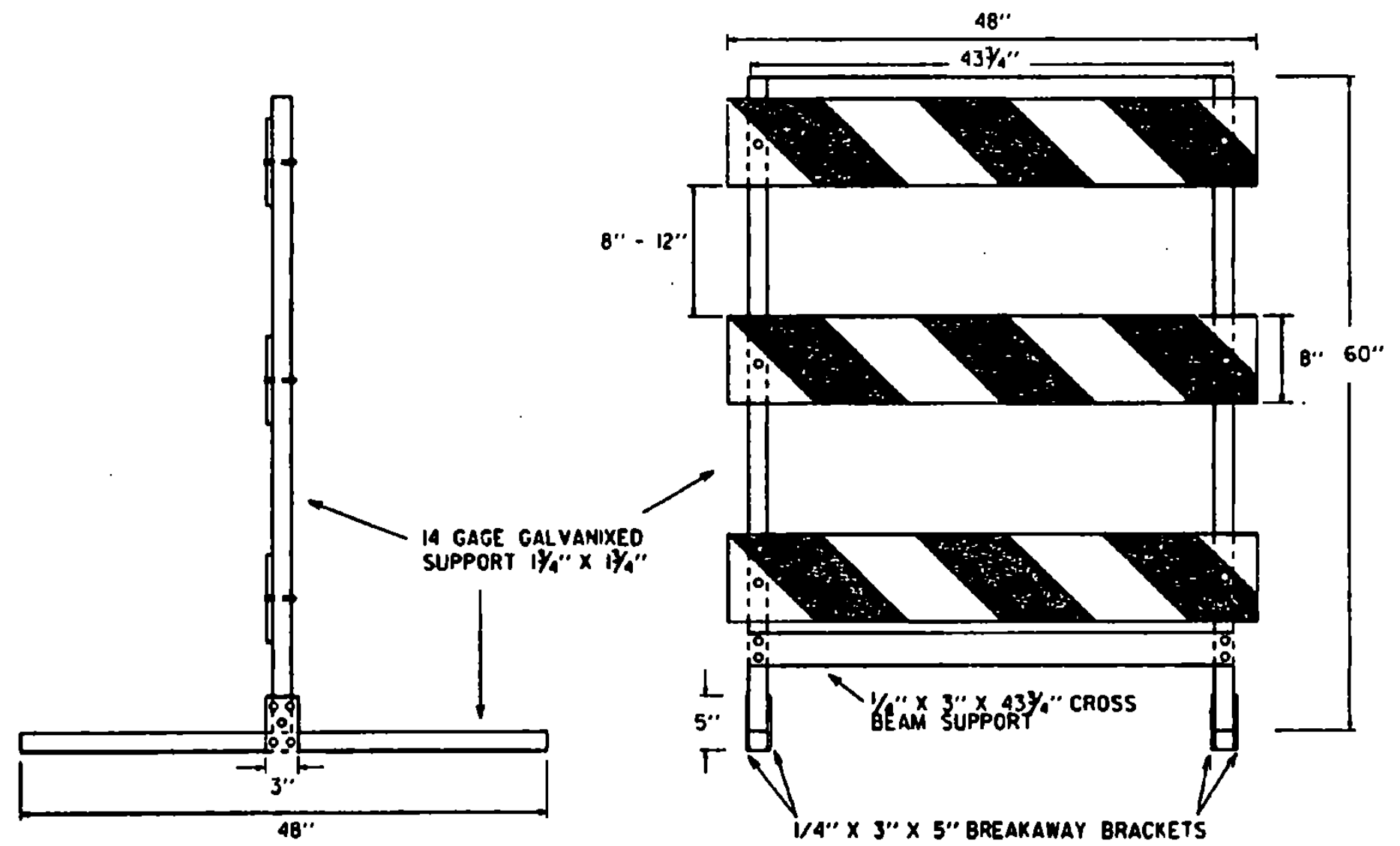
TYPE I AND TYPE II BARRICADE



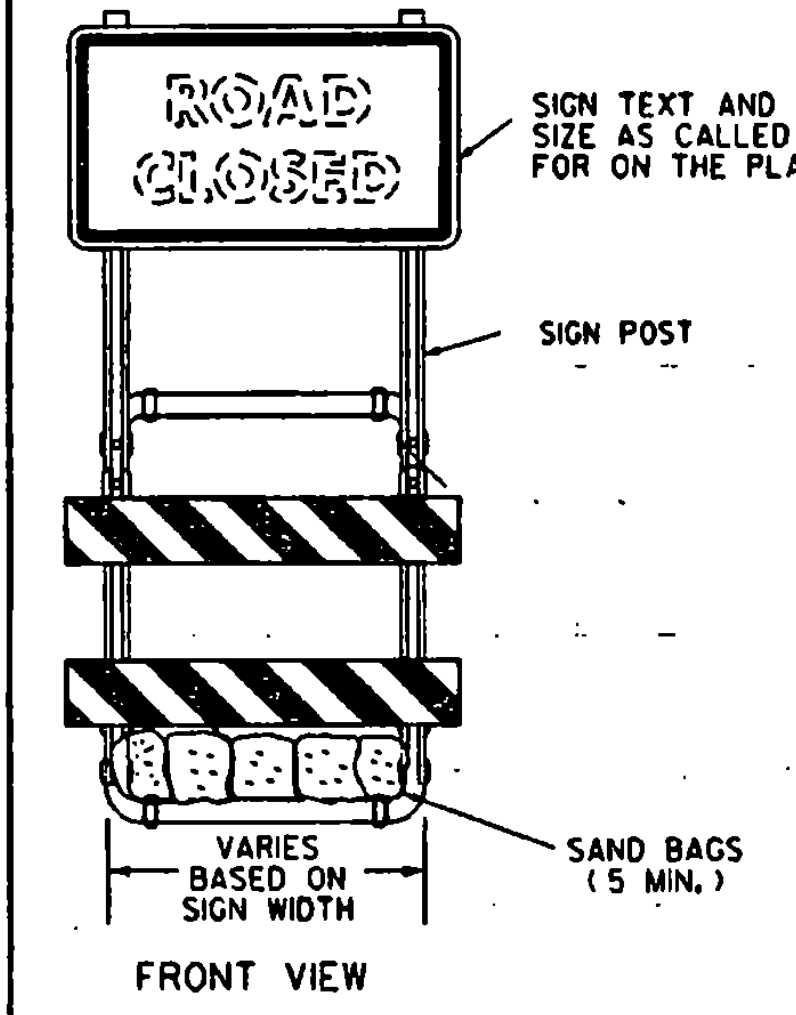
**TYPE III (MODIFIED) BARRICADE
(STRIPING IS SHOWN WITH TRAFFIC PASSING TO THE RIGHT)**

MATERIALS FOR METAL TYPE III BARRICADES

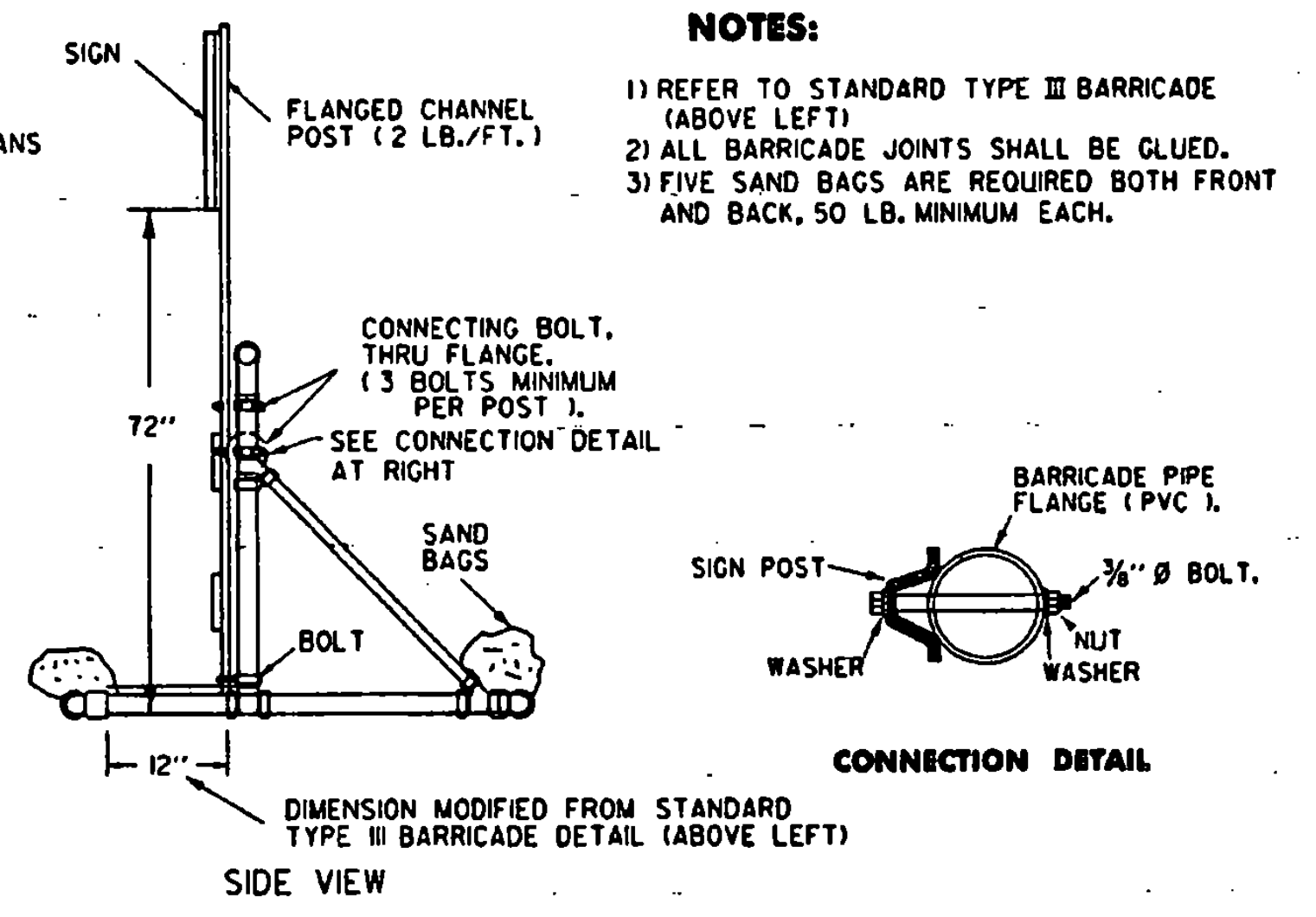
- PANELS (3):**
- 8' X 48" GALVANIZED STEEL... COVERED
 - 1 OR 2 SIDES WITH WHITE/ORANGE, DIAGONALLY STRIPED REFLECTIVE SHEETING
- VERTICAL SUPPORTS (2):** 14 GAGE GALVANIZED TUBING 1 3/4" X 1 3/4" X 60"
- HORIZONTAL SUPPORTS (2):** 14 GAGE GALVANIZED TUBING 1 3/4" X 1 3/4" X 48"
- CROSS BEAM SUPPORT (1):** COLD GALVANIZED STEEL 1/4" X 3" X 43 3/4"
- BREAKAWAY BRACKETS (4):** COLD GALVANIZED STEEL 1/4" X 3" X 5"
- FASTENERS:**
- 6 - SHEAR BOLTS WITH LOCK NUTS 1/4" D X 2 3/4"
 - 4 - FULCRUM BOLTS WITH LOCK NUTS 3/8" D X 2 3/4"
 - 4 - FASTENER BOLTS WITH LOCK NUTS 3/8" D X 2 3/4"
 - 6 - PANEL BOLTS WITH LOCK NUTS AND WASHERS 1/4" D X 2"
- ALL FASTENERS GALVANIZED STEEL.
ALL BOLTS HEX HEAD.



SIDE AND FRONT VIEW OF TYPE III METAL BARRICADE



**SIGN MOUNTING ON
TYPE III BARRICADE (MODIFIED)**



- NOTES:**
- 1) REFER TO STANDARD TYPE III BARRICADE (ABOVE LEFT)
 - 2) ALL BARRICADE JOINTS SHALL BE GLUED.
 - 3) FIVE SAND BAGS ARE REQUIRED BOTH FRONT AND BACK, 50 LB. MINIMUM EACH.

**OTHER STDS. E-107
REQUIRED:**

REVISIONS AND CORRECTIONS

SEPT. 10, 1987 - ADDED METAL TYPE III BARRICADE

SEPT. 20, 1993 - REVISED NOTES AND TYPE III (MOD.) BARRICADE DETAIL

AUG. 08, 1995 - ADDED METAL TYPE III BARRICADE

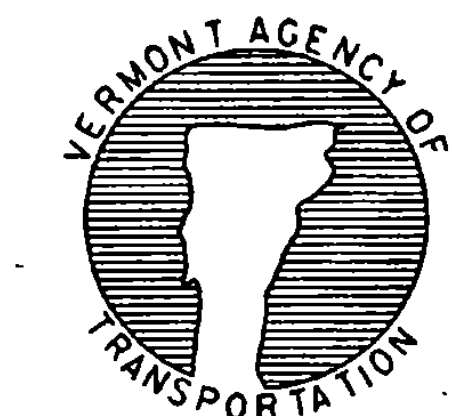
APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

APPROVED

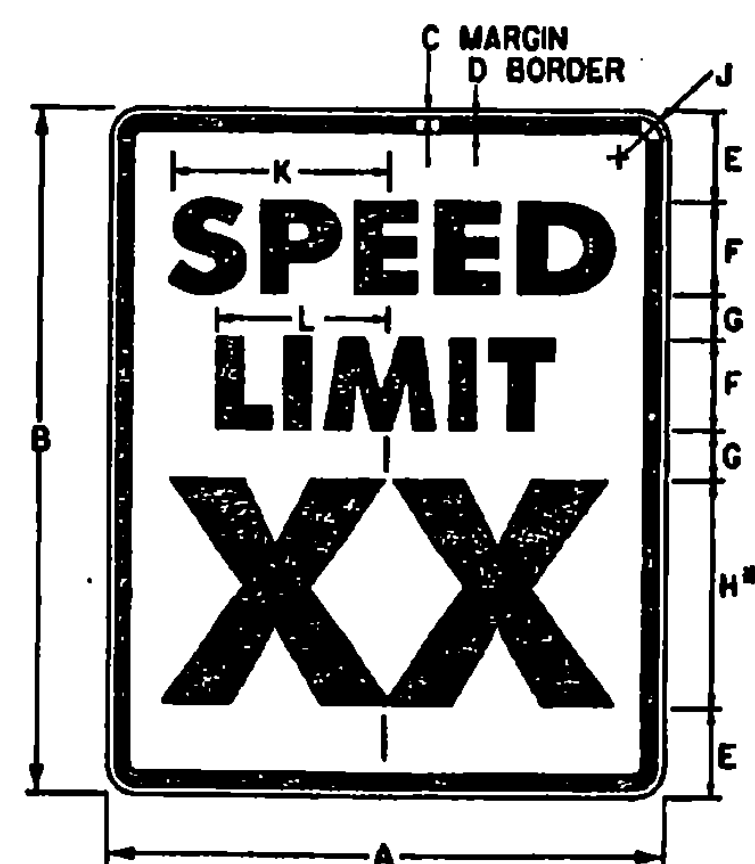
Samuel D. MacArthur
DIRECTOR OF ENGINEERING

David A. Ross
TRAFFIC AND SAFETY ENGINEER

**BREAKAWAY BARRICADE
DETAILS**

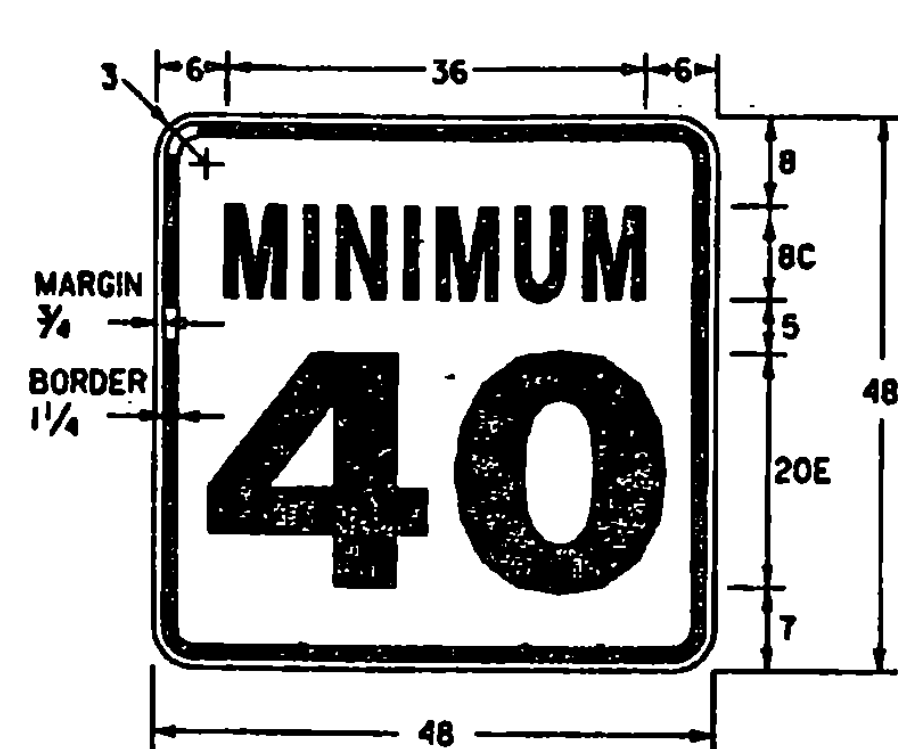


**STANDARD
E-107 A**

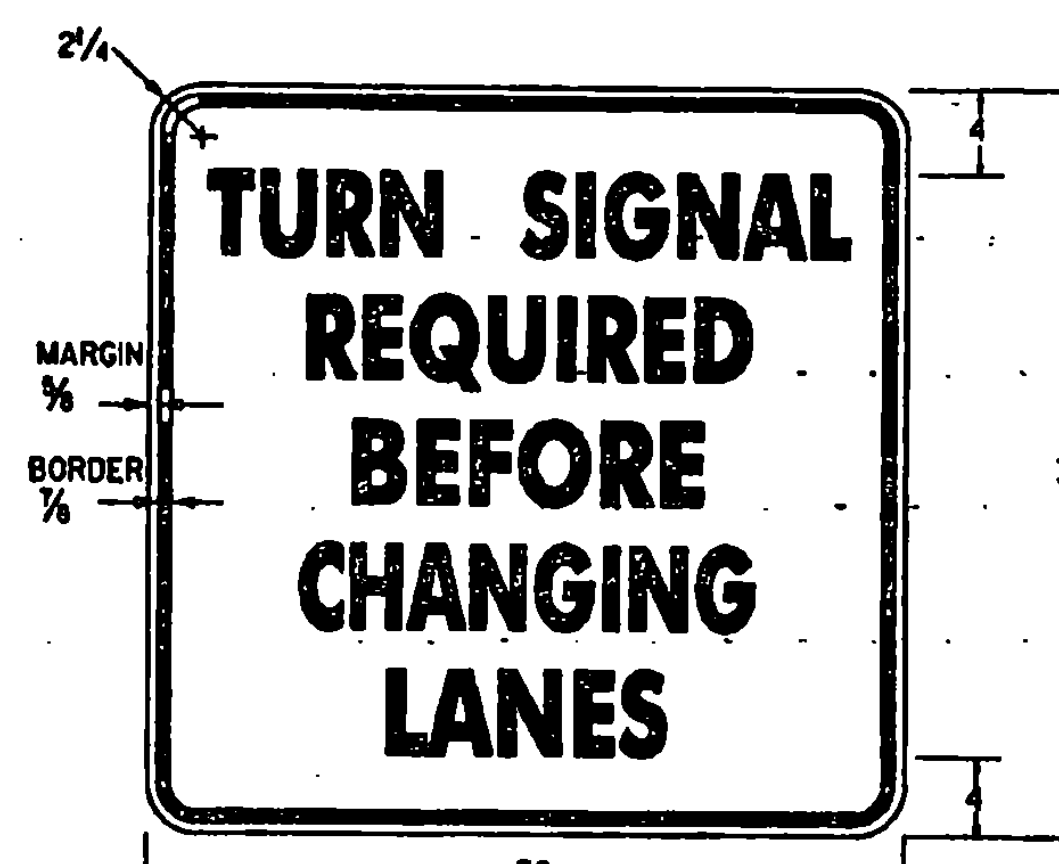


• OPTICALLY SPACE NUMERALS ABOUT VERTICAL CENTERLINE.
VB-141

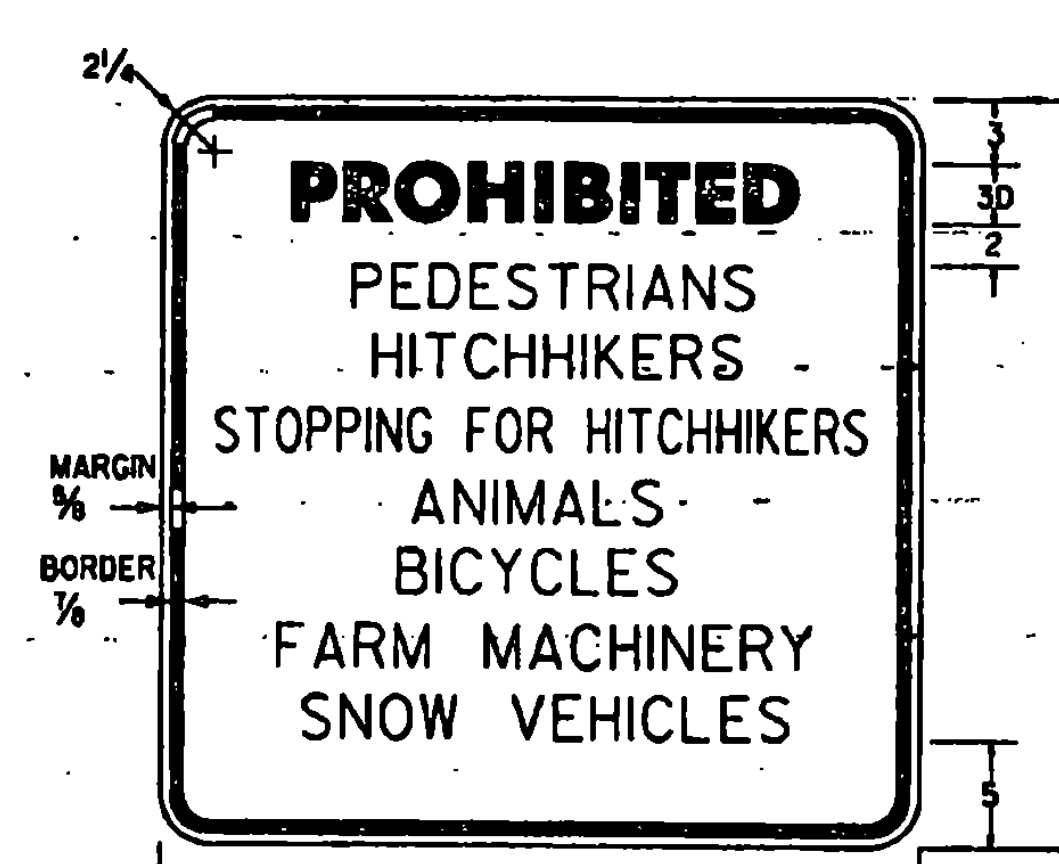
SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
MIN.	18	24	3/8	3/8	3	3E	2	8E	1/2	7 3/8	5 1/2
STD.	24	30	3/8	3/8	4	4E	2	10E	1/2	9 3/8	7 3/8
EXPWY.	36	48	3/8	3/8	6	6E	5	14E	2 1/4	14 3/8	11
FWY.	48	60	3/4	1/4	8	8E	4	20E	3	19 3/8	14 3/8



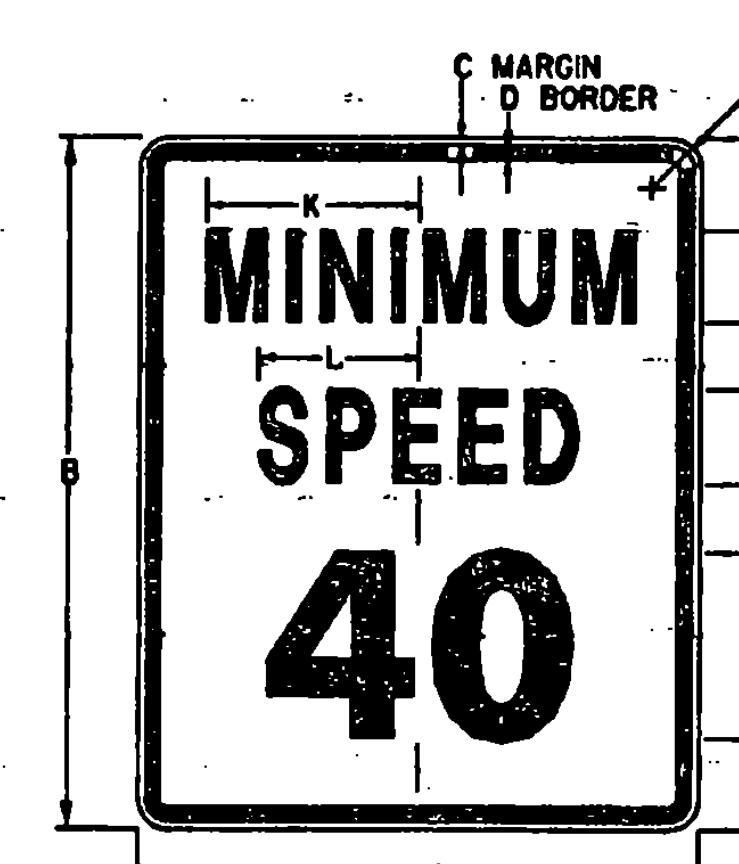
TO BE USED WITH "SPEED LIMIT 55" OR "65" FWY SIGN ONLY
VB-141



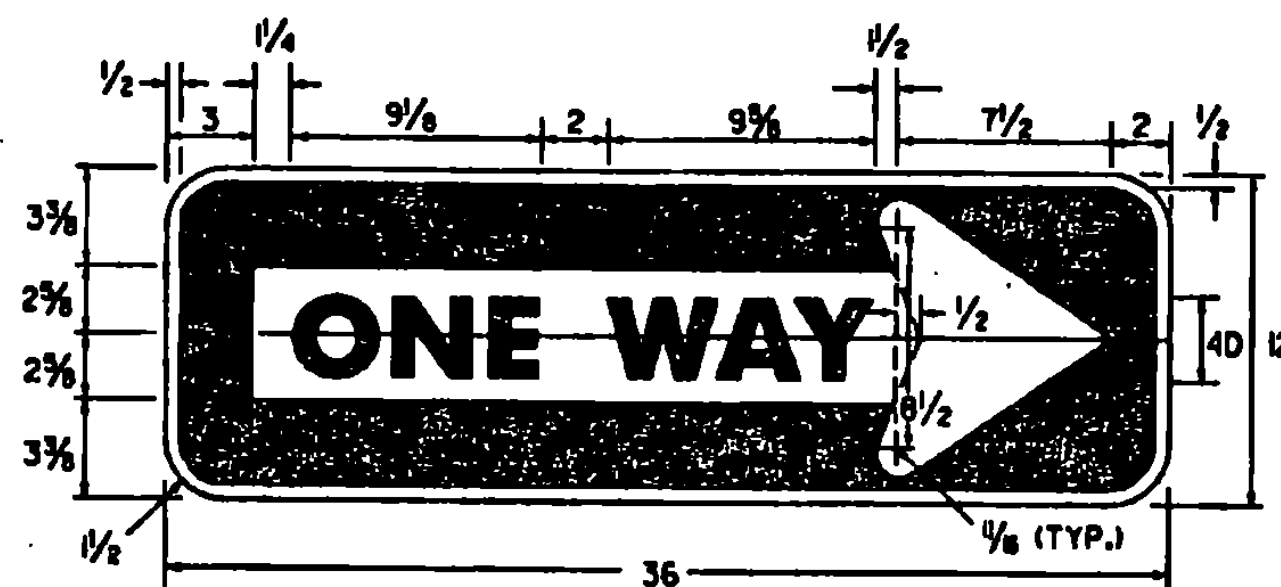
TEXT 4" C, SPACING 2"
VB-002



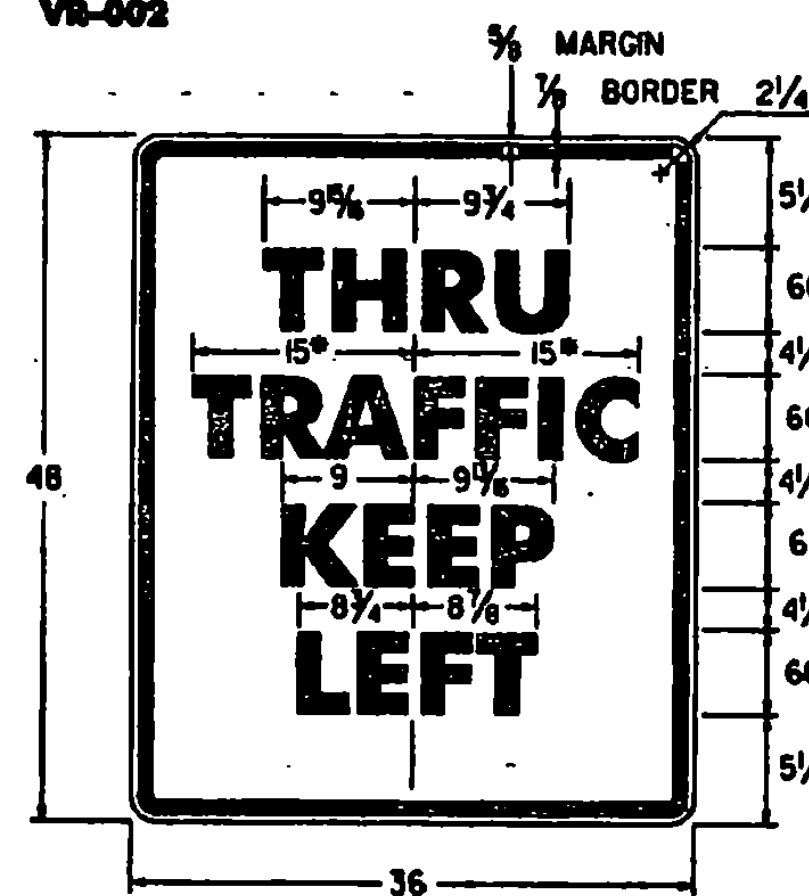
TEXT 2" C, SPACING 1/2", EXCEPT WHERE NOTED.
VB-046



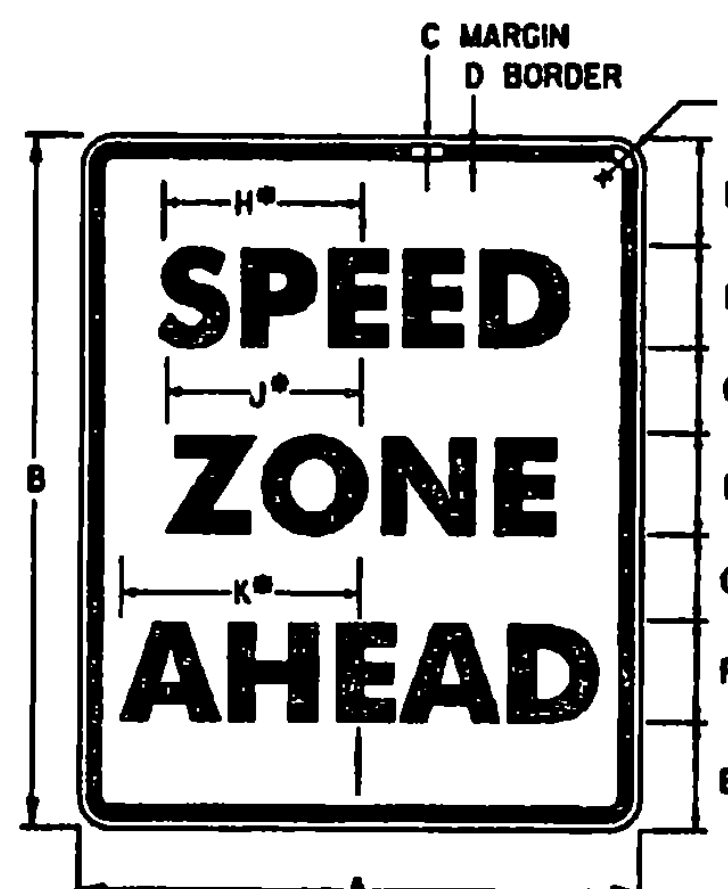
• OPTICALLY SPACE NUMERALS ABOUT VERTICAL CENTERLINE.
VB-141



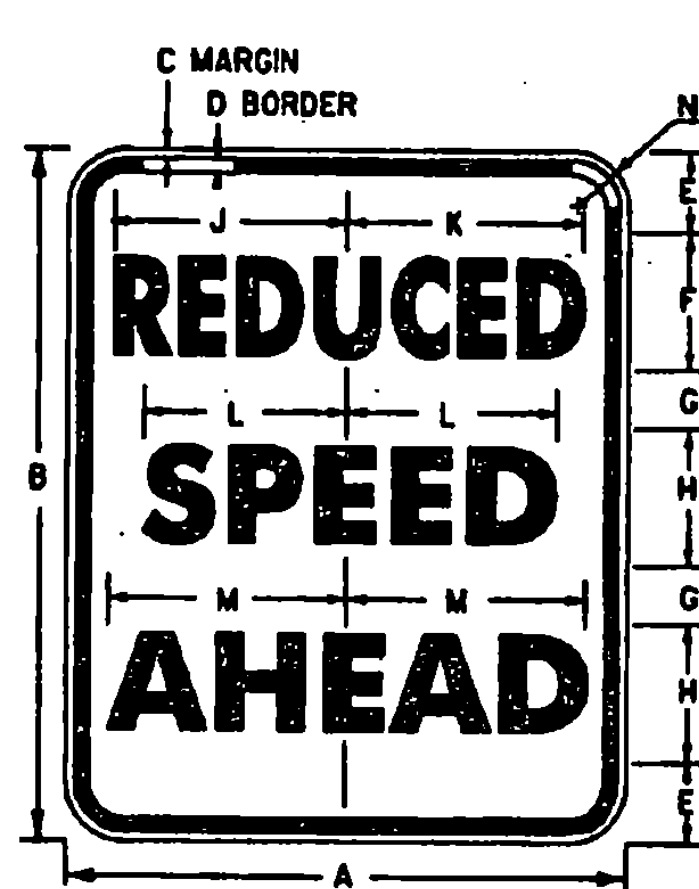
VB-18



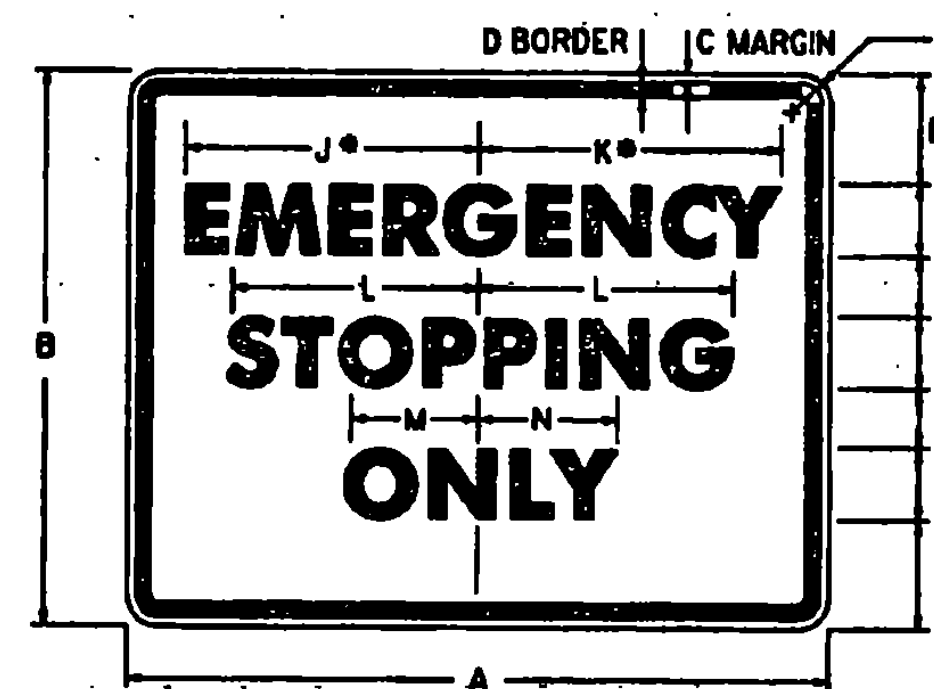
• REDUCE SPACING 25 %
VB-118L



• FOR STD SIZE, REDUCE SPACING 40 %
VB-36



VB-3A



• FOR FWY SIZE, REDUCE SPACING 50 %
VB-7

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

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

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
EXPWY.	30	24	3/8	3/8	3 1/2	4C	2 1/2	4D	12 1/2	13	12 3/4	6 3/8	7	1 1/2
FWY.	48	36	3/8	3/8	5	6D	4	6D	20 3/8	21 3/8	19 3/8	10 3/8	10 3/8	2 1/4

GENERAL:

1. ALL DIMENSIONS IN INCHES.

COLORS:

THE REGULATORY SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT ON REFLECTORIZED WHITE BACKGROUND, UNLESS OTHERWISE NOTED. 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 REGULATORY SIGNS SHOWN ON THIS SHEET MAY BE ANY OF THE FOLLOWING OF THE MINIMUM THICKNESS NOTED.

	18' X 24'	24' X 30'	30' X 24'
FLAT SHEET ALUMINUM	0.060"	0.080"	0.100"
HIGH DENSITY OVERLAIN PLYWOOD	1/2"	1/2"	5/8"
GALVANIZED FLAT SHEET STEEL	18 GAGE	16 GAGE	14 GAGE

THE REFLECTIVE MATERIAL FOR GROUND MOUNTED SIGNS SHALL BE AASHTO TYPE II OR III 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. HAND PAINTING MUST BE COMPARABLE IN QUALITY TO THE RESULTS OBTAINED BY SILK SCREENING.

SPECIFICATIONS:

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

TEXT DESIGN:

LETTERS, DIGITS, ARROWS, SPACING AND TEXT DIMENSIONS SHALL CONFORM WITH THE STANDARD ALPHABET FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS AND DESIGNS PRESCRIBED IN THE STANDARD HIGHWAY SIGNS AS SPECIFIED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

OTHER STDS.: NONE REQUIRED



STANDARD
E-142

REVISIONS AND CORRECTIONS

OCT. 30, 1987 - DATE OF ORIGINAL ISSUE
SEPT. 20, 1995 - ADDED AND DELETED SIGN DETAILS, ADDED SIGN ID NUMBERS, MINOR NOTE REVISIONS.

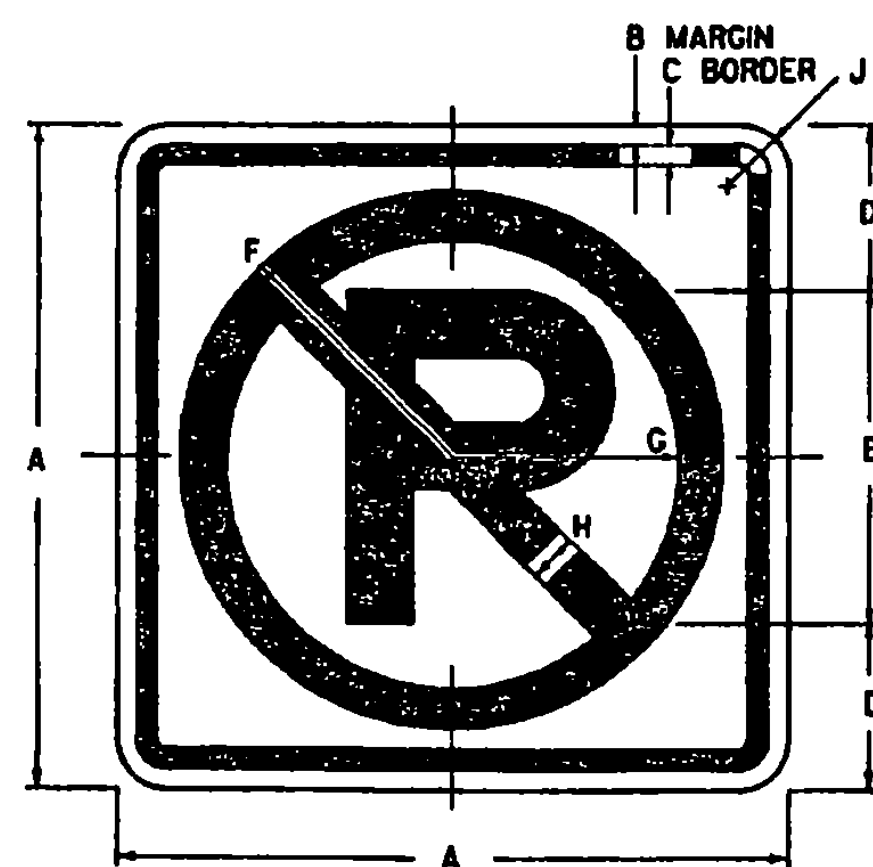
APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

APPROVED

Stephen J. McCall
DIRECTOR OF ENGINEERING

David A. Ross
TRAFFIC AND SAFETY ENGINEER

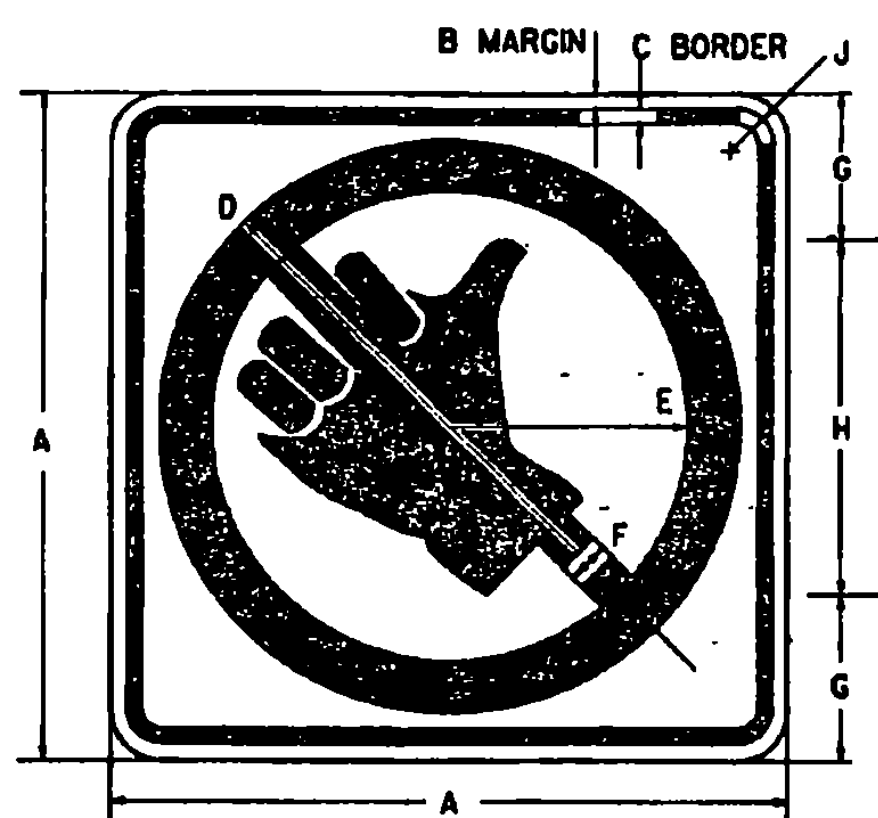
REGULATORY SIGN
DETAILS



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

R2-3A

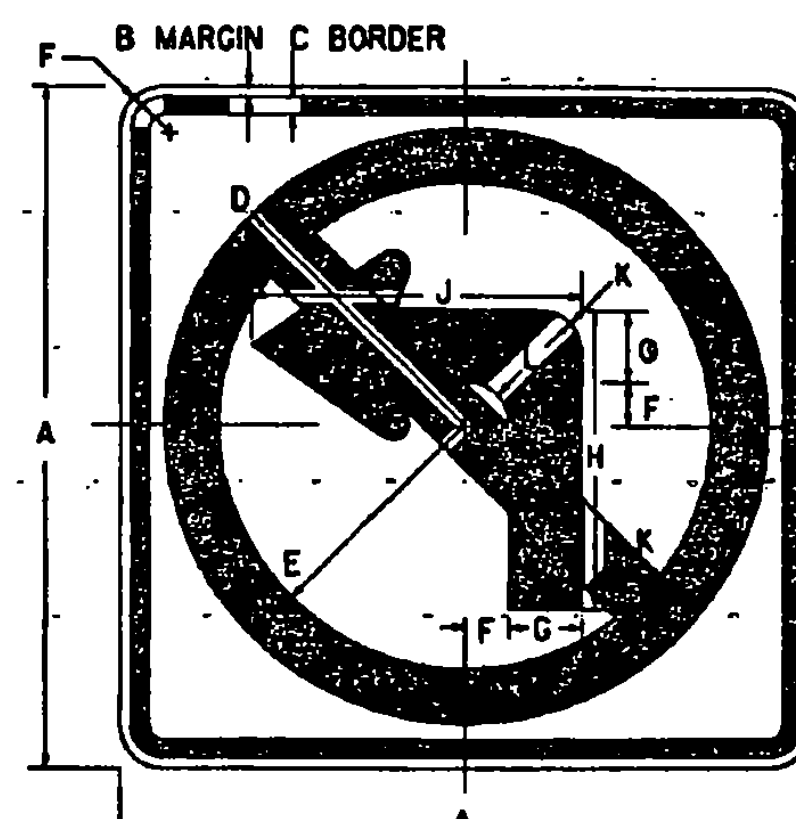
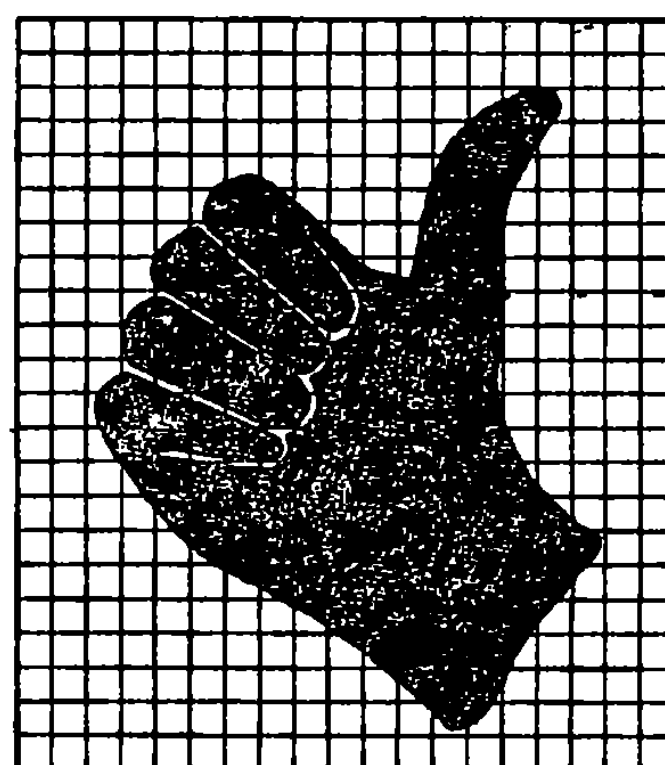
SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J		
URBAN MIN. AND STD.	12	3/8	3/8	3	6E(M)	4 7/8	3 3/8	1	1 1/2		
RURAL MIN. AND STD.	24	3/8	3/8	6	12E(M)	10 1/2	8 1/2	2	1 1/2		
EXPWY.	36	3/8	3/8	9	18E(M)	15 3/4	12 3/4	3	2 1/4		
FWY.	48	3/4	1/4	12	24E(M)	21	17	4	3		



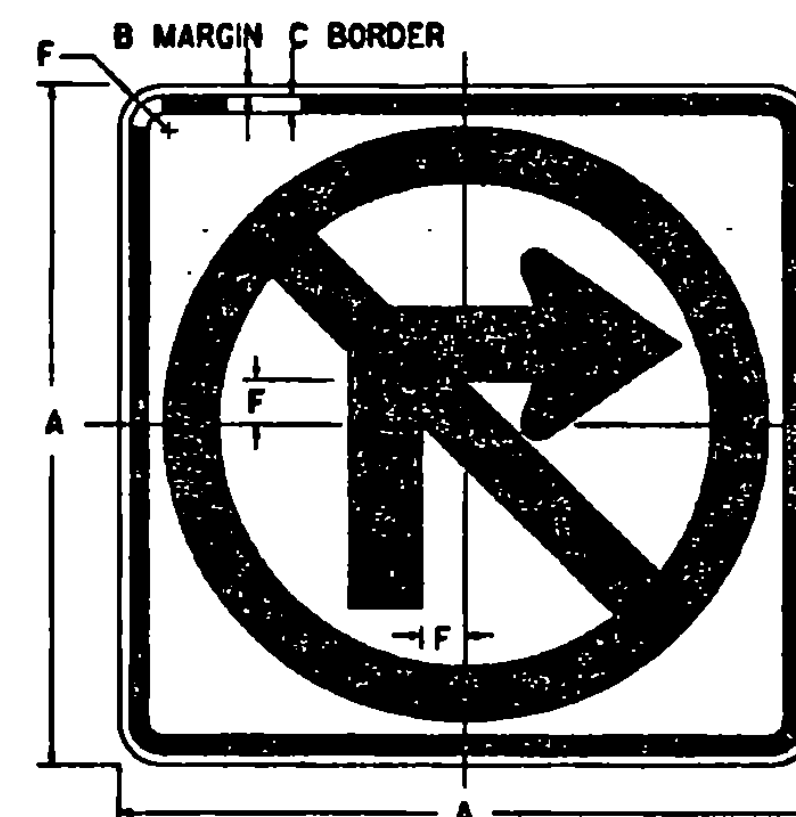
COLORS
 CIRCLE AND DIAGONAL - RED (REFL)
 SYMBOL AND BORDER - BLACK (NON - REFL)
 BACKGROUND - WHITE (REFL)

R2-4A

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



R2-2

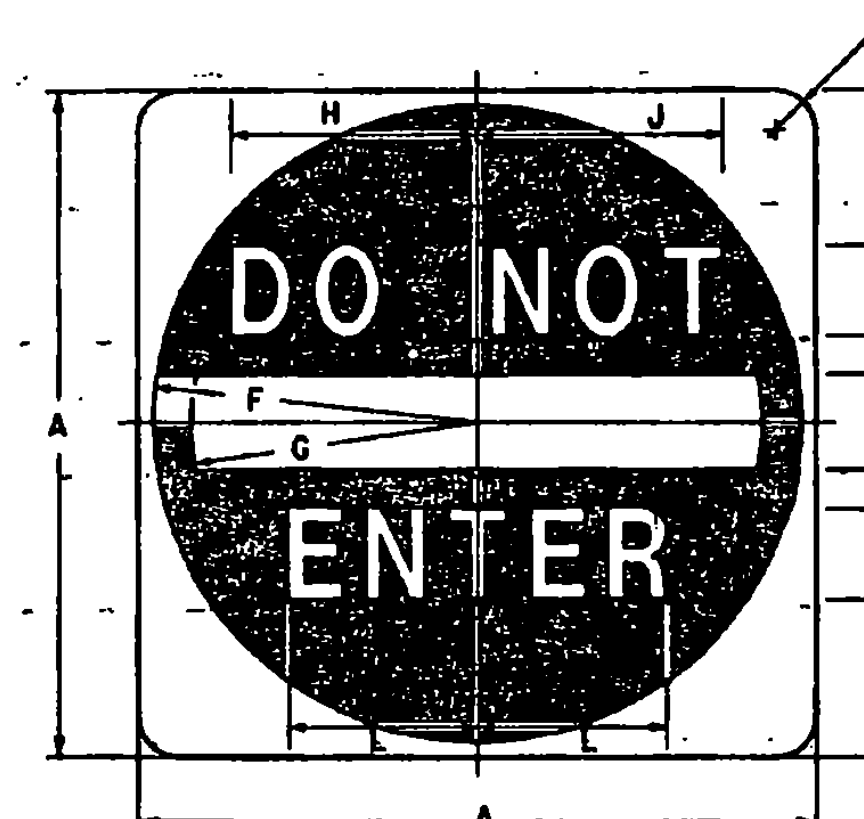


R2-1

NOTE 1
 USE SAME ARROW DETAIL FOR R2-1 AND R2-2

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

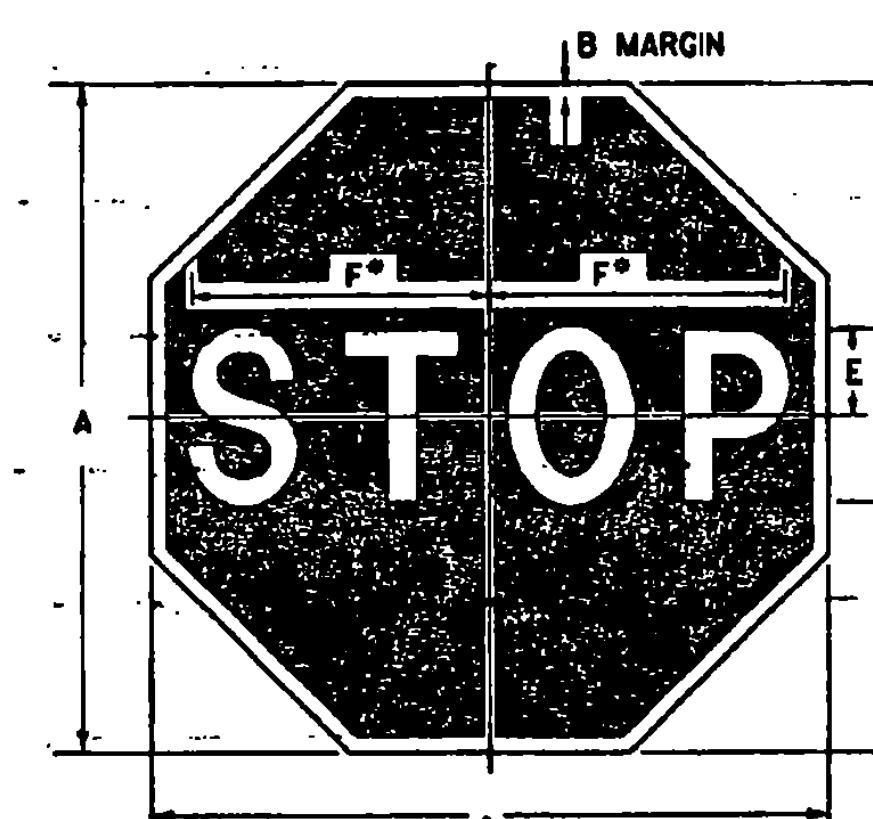
SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
MIN. AND STD.	24	3/8	3/8	10 1/4	8 3/8	1 1/2	2 1/2	10 1/2	1 1/2	2	1 1/2
SPECIAL	30	3/8	3/8	13 1/4	10 3/8	1 1/2	3 1/4	13 1/4	1 1/2	2 1/2	3/4
EXPWY.	36	3/8	3/8	15 3/4	12 3/8	2 1/4	3 3/4	15 3/4	1 1/2	3	3/4
SPECIAL	48	3/4	1/4	21	17	3	5	21	2 1/2	4	1



COLORS
 SYMBOL - RED (REFL)
 LEGEND AND BACKGROUND - WHITE (REFL)
 ENCAPSULATED LENS

R2-1

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

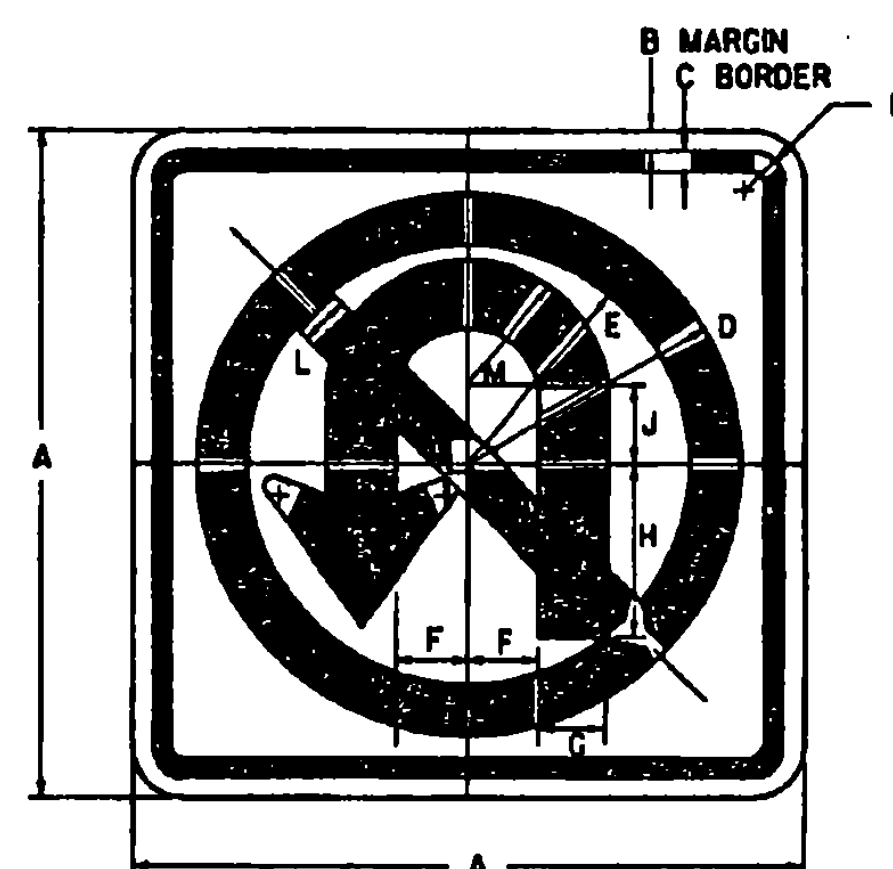


* REDUCE SPACING 40 %

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

R1-1

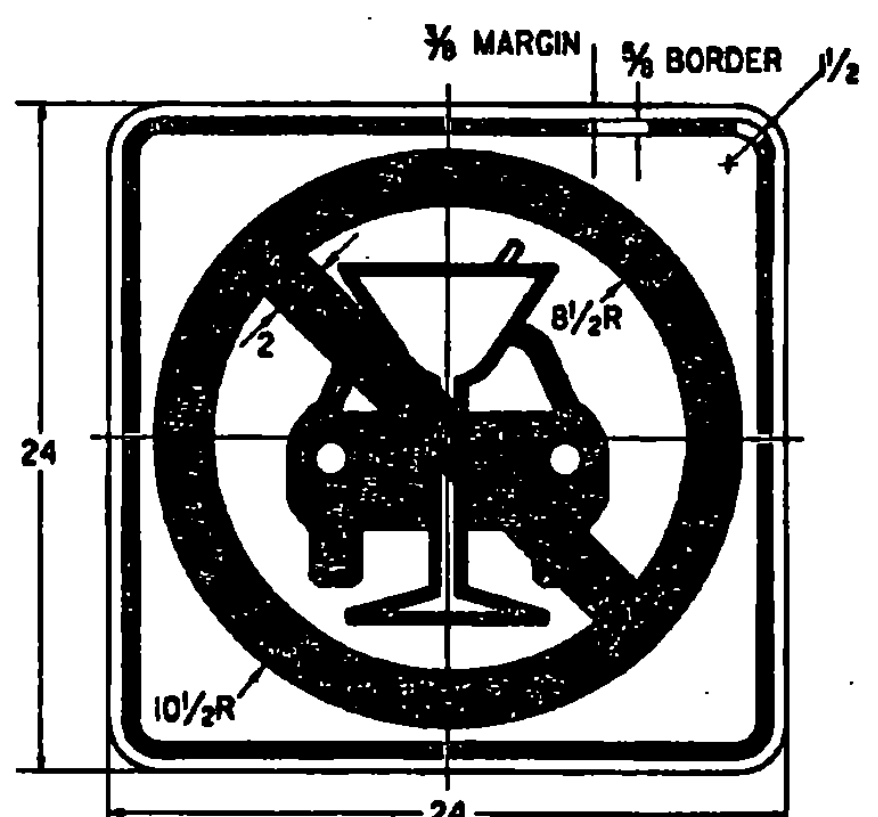
SIGN	DIMENSIONS (INCHES)					
	A	B	C	D	E	F
BIKE	18	3/8	6	6C	3	7 3/4
MIN.	24	3/8	8	8C	4	10
STD.	30	3/8	10	10C	5	12 1/2
EXPWY.	36	3/8	12	12C	6	15
SPECIAL	48	1/4	16	16C	8	20



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

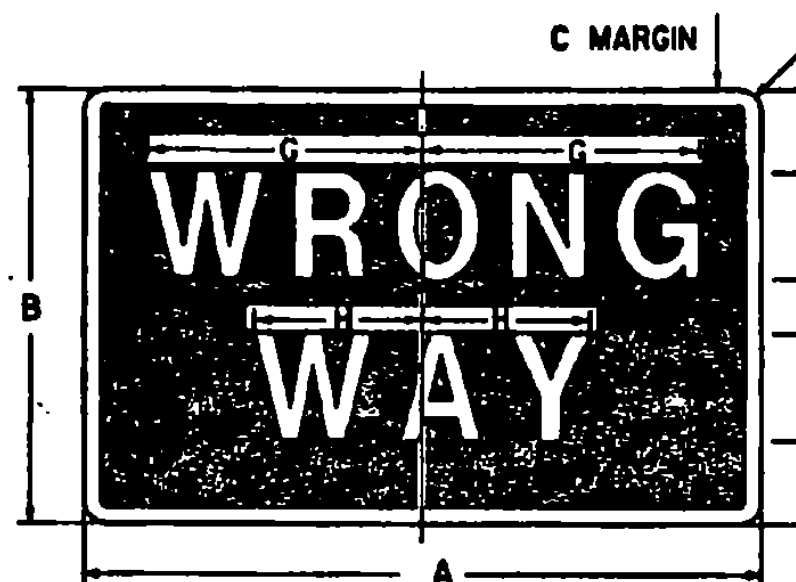
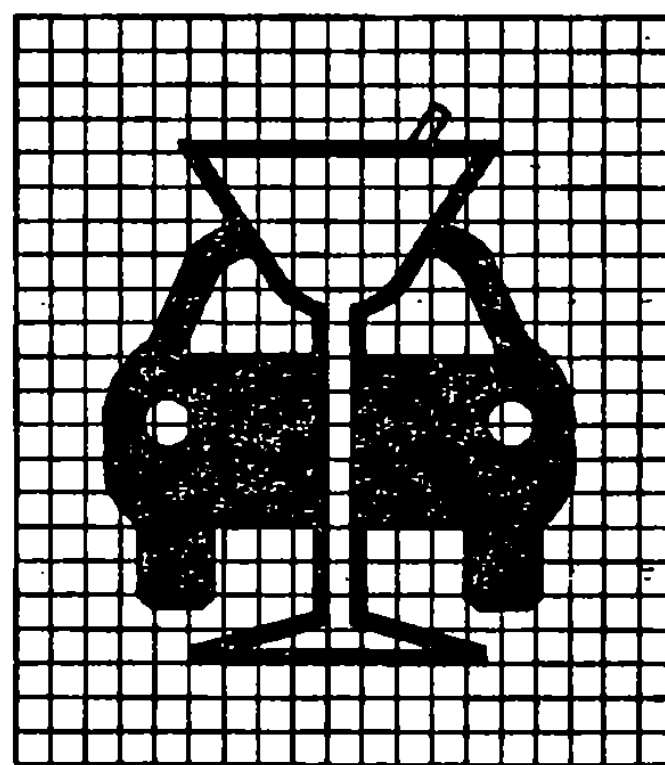
R2-4

SIGN	DIMENSIONS (INCHES)												
	A	B	C	D	E	F	G	H	J	K	L	M	
MIN. AND STD.	24	3/8	3/8	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 1/4	10 3/4	3 1/4	3 1/4	7 1/2	2 3/4	1 1/4	2 1/2	6 1/4	
EXPWY.	36	3/8	3/8	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	1/4	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)

VR-634



"WRONG WAY"
COLORS
 LEGEND - WHITE (REFL)
 BACKGROUND - RED (REFL)
 ENCAPSULATED LENS

SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J		
MIN.	30	18	3/8	3	5D	2	11 1/8	6 1/8	1 1/2		
STD.	36	24	3/4	4 1/2	6D	3	13 3/8	8 1/8	1 1/2		
SPECIAL	42	30	3/4	5	8D	4	17 1/4	10 3/8	1 1/2		

R2-1A

REVISIONS AND CORRECTIONS

OCT. 30, 1987 - DATE OF ORIGINAL ISSUE
 SEPT. 20, 1995 - ADDED AND DELETED SIGN DETAILS,
 ADDED SIGN ID NUMBERS, MINOR NOTE
 REVISIONS.

APPROVED FOR THIS PROJECT
 AND/OR DESIGN IMPLEMENTATION,
 FHWA FINAL APPROVAL PENDING.

APPROVED

Stephen D. MacArthur
 DIRECTOR OF ENGINEERING

David O. Penn
 TRAFFIC AND SAFETY ENGINEER

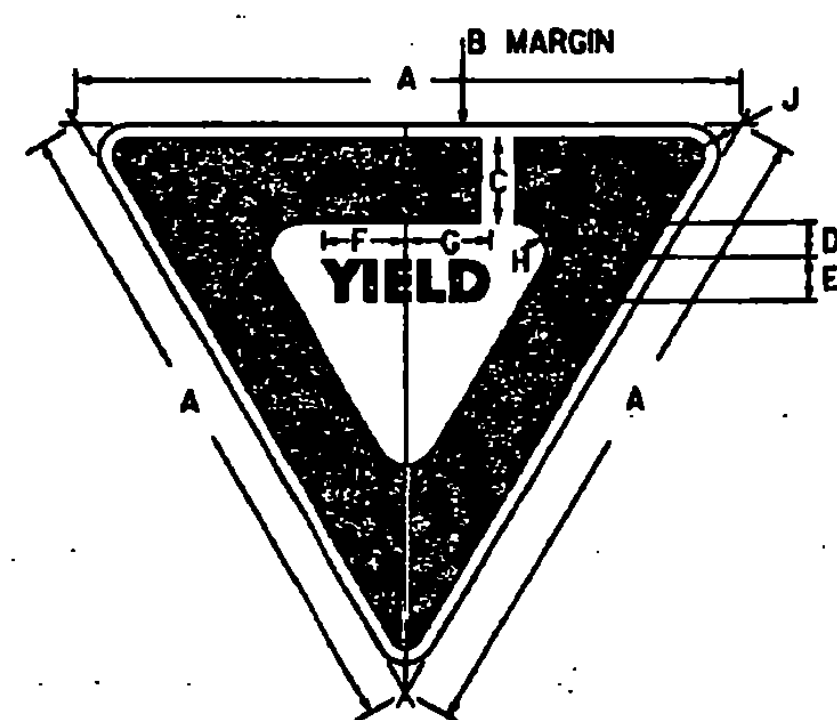
REGULATORY SIGN
 DETAILS

/traf/std/stdel43.dgn | stdel43.1

OTHER STDS.: E-144
 REQUIRED



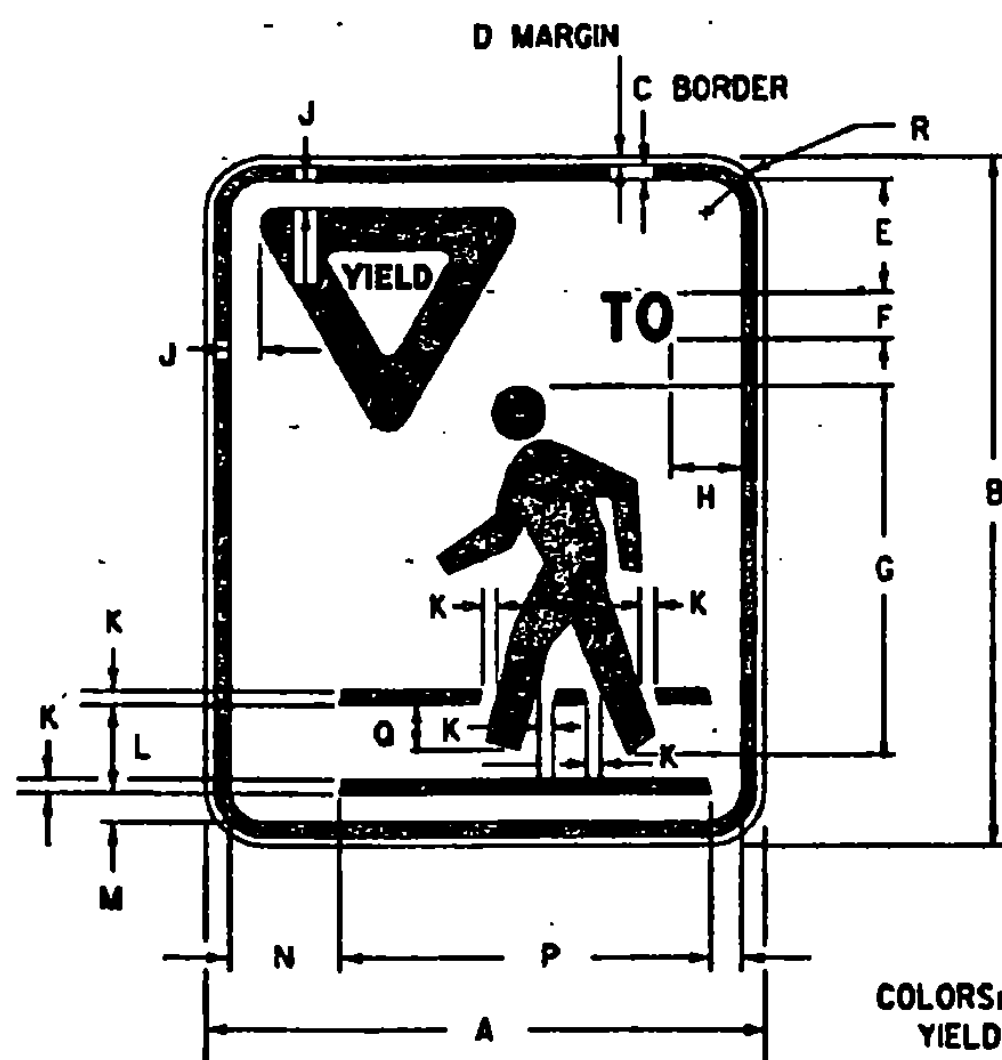
STANDARD
 E-143



COLORS
 LEGEND AND BORDER - RED (REFL.)
 BACKGROUND - WHITE (REFL.)
 ENCAPSULATED LENS

VR-002

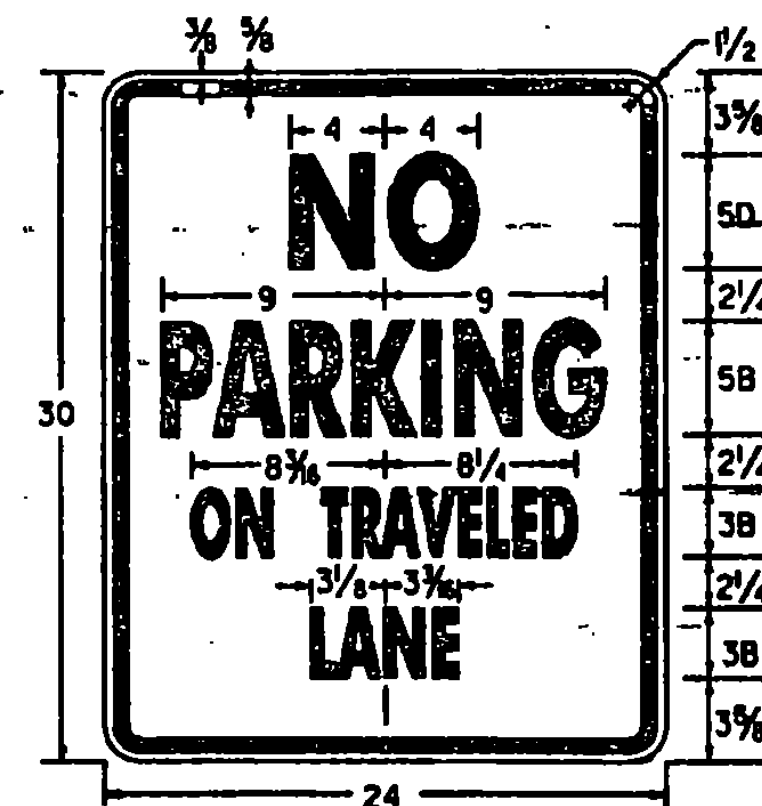
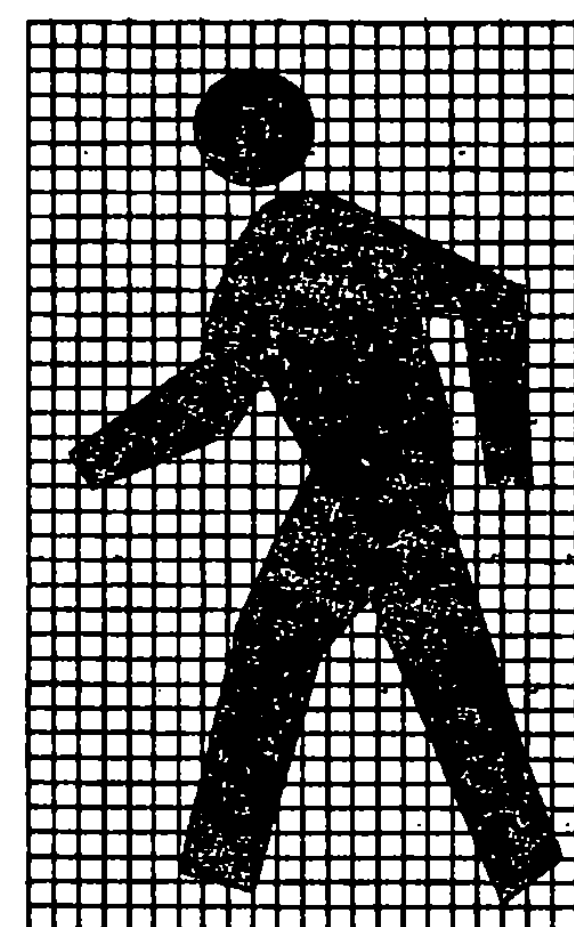
SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
BIKE	24	36	3/8	3/8	1 1/4	2C	3/4	3	3/8	1 1/2				
MIN.	30	3/8	4	1 1/4	2 1/2	3 3/8	3 3/8	3/8	1 1/2					
STD.	36	3/4	5	2	3C	4 1/8	4 1/8	1/4	2					
EXPWY.	48	1	6	2 1/4	4C	6 1/4	5 1/4	2	3					
SPECIAL	60	1 1/2	8	3 1/2	5C	7 1/2	7 1/4	2 1/2	4					



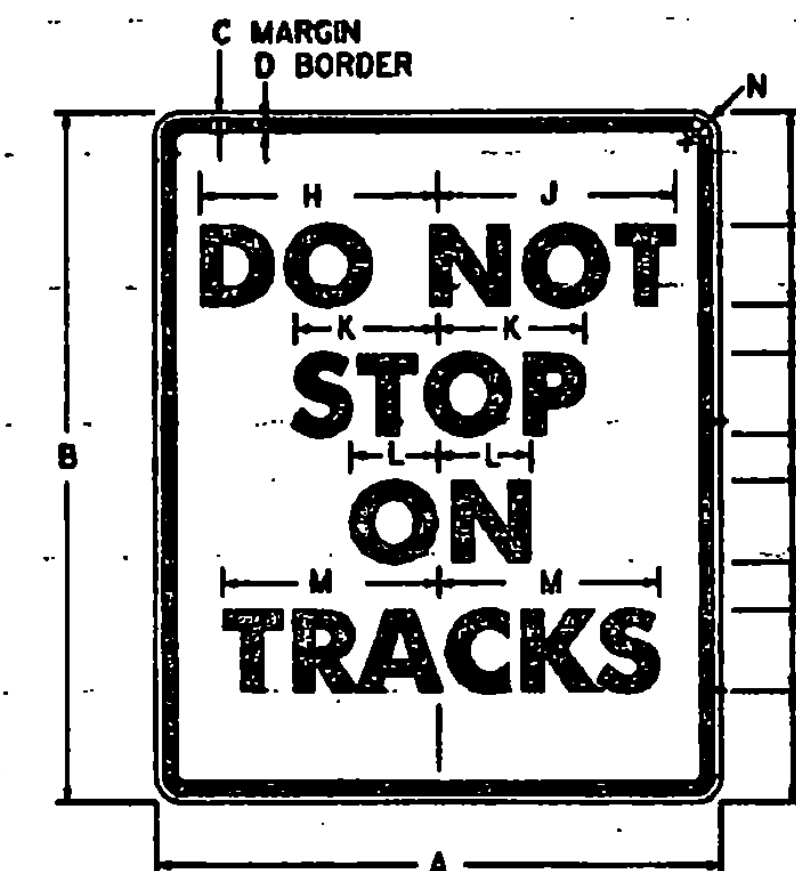
COLORS:
 YIELD TO PEDESTRIAN SIGNS HAVE A BLACK PEDESTRIAN SYMBOL, BLACK TEXT, A BLACK BORDER AND A REFLECTORIZED RED YIELD SYMBOL ON A REFLECTORIZED WHITE BACKGROUND

VR-004A

SIGN	DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	J	K	L	
STD.	24	30	5/8	5/8	5	20	2	2 1/4	3/8	3/8	3/4	
SIGN	M	N	P	Q	R	S	T	U	V	W	X	
STD.	1/4	3/4	16	2	1 1/2	2	3/4	1 1/4	1/8	1/8	1/8	D

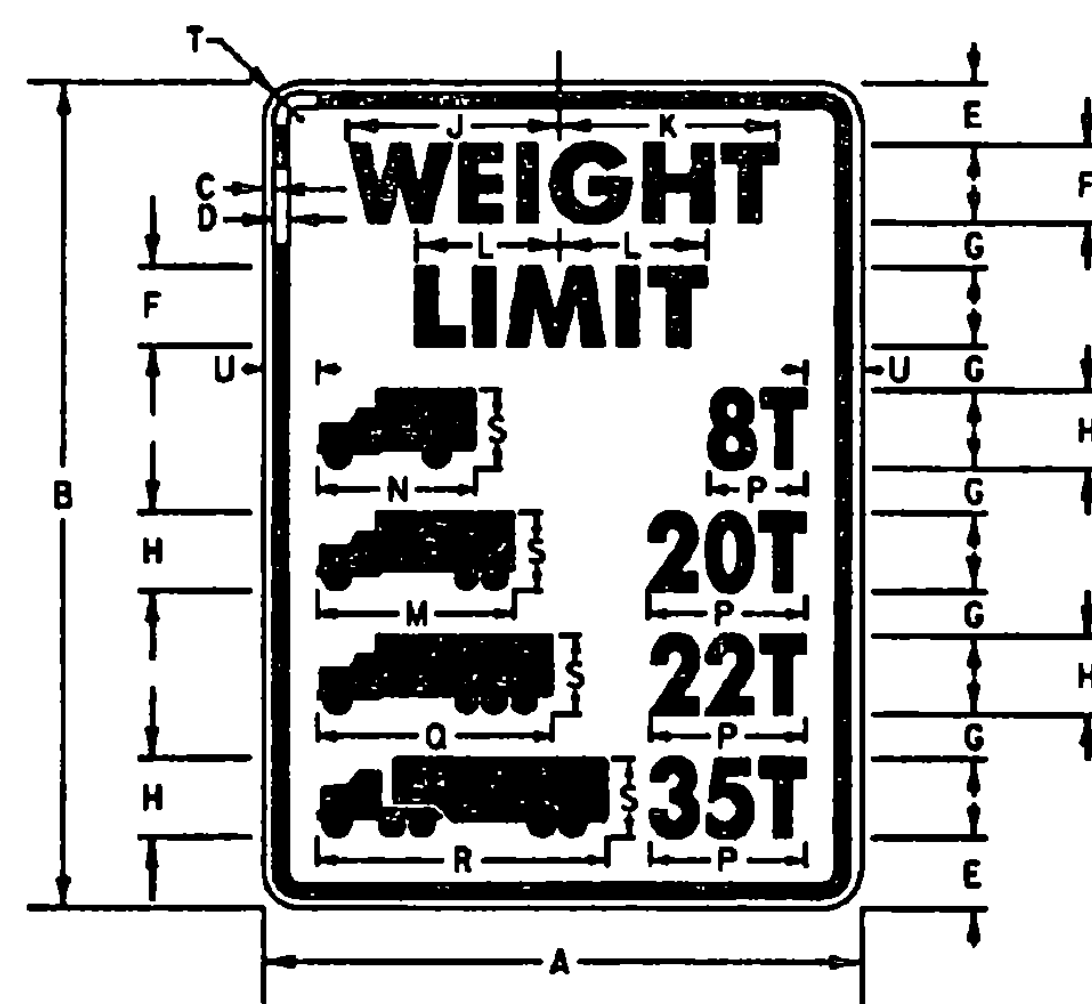


COLORS
 LEGEND - RED (REFL.)
 BACKGROUND - WHITE (REFL.)
VR - 020



VR-020

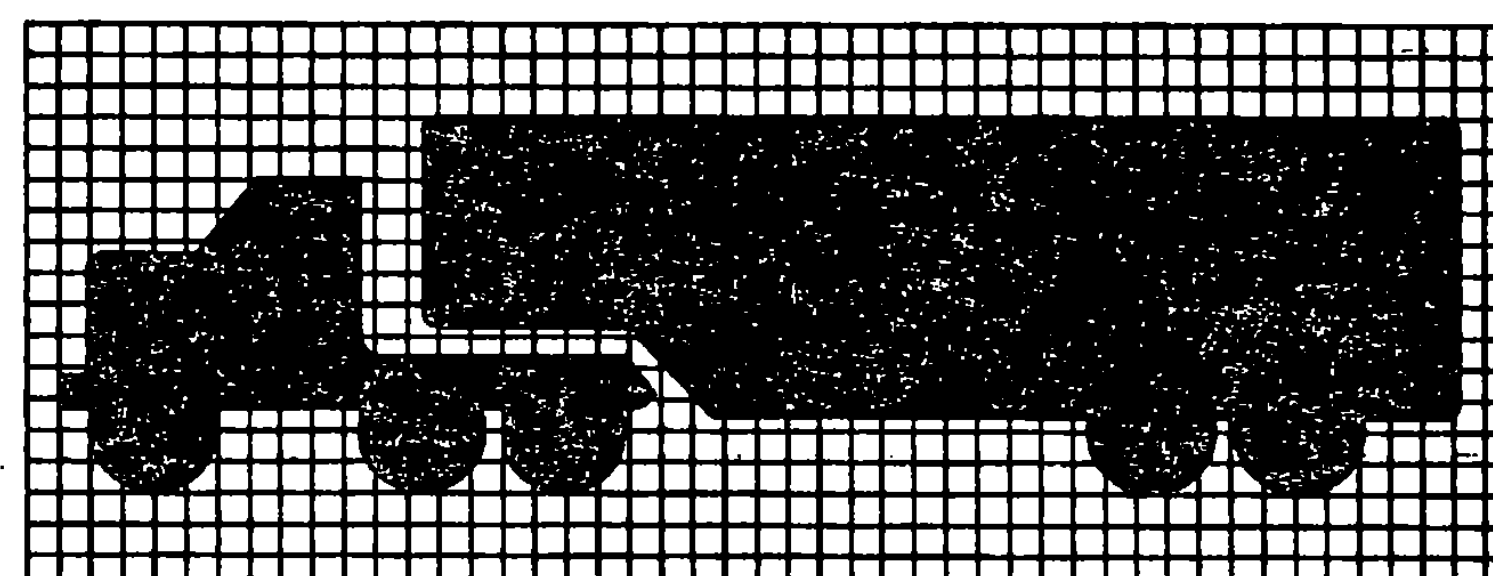
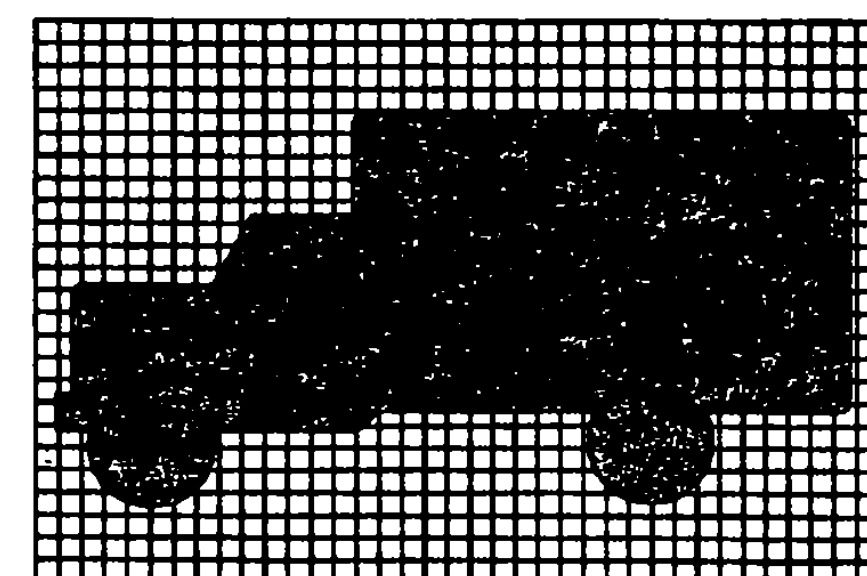
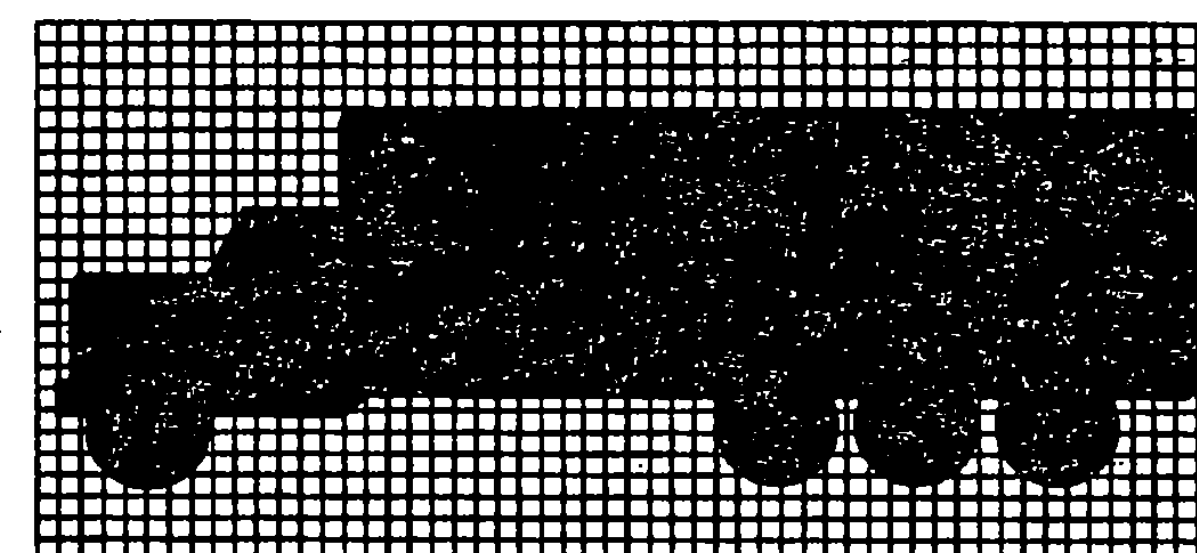
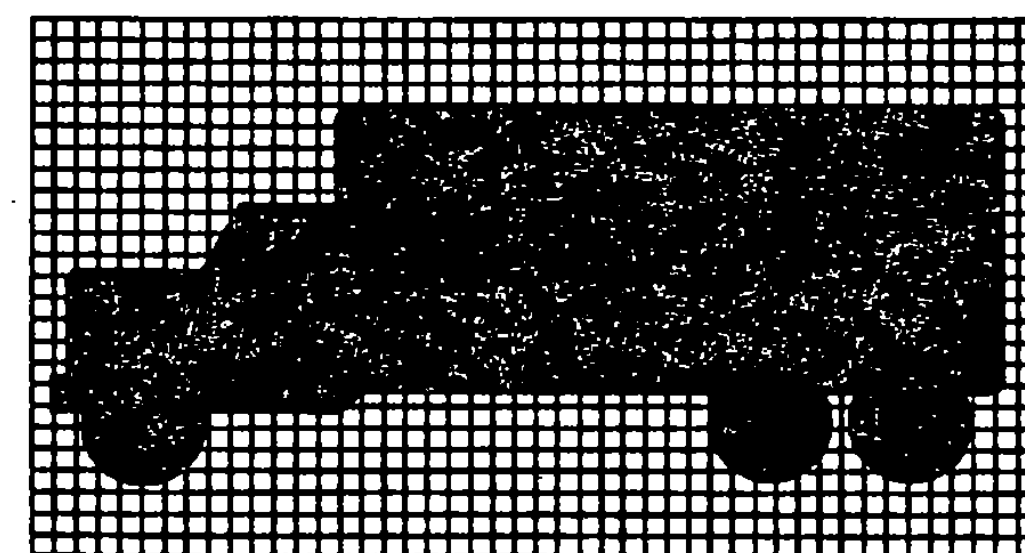
SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	
STD.	24	30	3/8	3/8	3 3/8	4D	2 1/4	9 1/4	9 3/8	6 3/8	3 1/2	10	1 1/2	
SPECIAL	36	48	5/8	5/8	6	6D	4	14	14 1/8	9 3/4	5 1/4	15	2 1/4	
SPECIAL	48	60	3/4	3/4	7 1/4	8D	4 1/2	18 1/2	19 1/4	13 1/8	7	20	3	



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

VR-015

SIGN	DIMENSIONS (INCHES)																			
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	
MIN.	24	36	3/8	3/8	2 3/4	3E	2 1/2	3C	7 1/8	8 3/8	5 3/4	7 1/4	6	var	9 1/2	11	3	1 1/2	2 1/2	
STD.	30	42	1/2	3/4	3 3/8	4E	2 1/4	4C	10 1/2	11 3/8	7 3/8	10	8	var	12	14 3/8	4	1 1/8	2 3/4	
EXPWY.	36	54	3/4	3/4	5E	3 1/4	5C	13 1/4	14	9 1/8	12 1/2	10	var	15	18 3/8	5	2 1/4	3		
FWY.	48	66	3/4	3/4	6E	4 1/2	6C	15 3/4	16 3/4	11 3/4	16	12	var	18	22	6	3	5		



GENERAL:

1. ALL DIMENSIONS IN INCHES.

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.

MATERIALS:

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

24" x 30"	3/8"	36" x 48"	5/8"
30" x 42"	3/8"	48" x 60"	5/8"
48" x 66"	3/8"	60" x 84"	5/8"

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

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

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 VERMONT STANDARD SPECIFICATIONS FOR 'TRAFFIC SIGNS.'

TEXT DESIGN:

LETTERS, DIGITS, ARROWS, SPACING AND TEXT DIMENSIONS SHALL CONFORM WITH THE 'STANDARD ALPHABET FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS' AND DESIGNS-PRESCRIBED IN THE STANDARD HIGHWAY SIGNS AS SPECIFIED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES ADOPTED BY THE U.S. DEPARTMENT OF TRANSPORTATION AND FEDERAL HIGHWAY ADMINISTRATION.

OTHER STDS.: NONE REQUIRED

REVISIONS AND CORRECTIONS
 SEPT. 20, 1995 - DATE OF ORIGINAL ISSUE

APPROVED

Spencer D. Newell
 DIRECTOR OF ENGINEERING

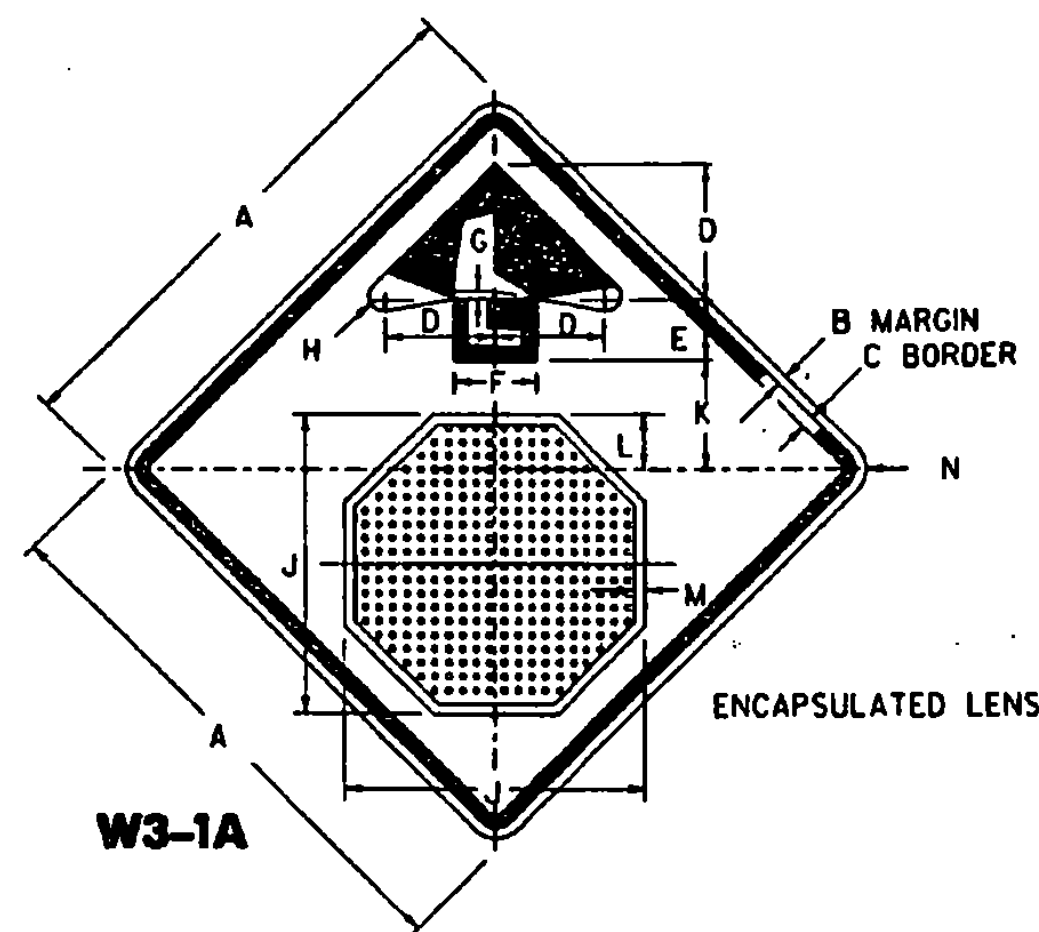
David A. Ben
 TRAFFIC AND SAFETY ENGINEER

APPROVED FOR THIS PROJECT
 AND/OR DESIGN IMPLEMENTATION
 FHWA FINAL APPROVAL PENDING.

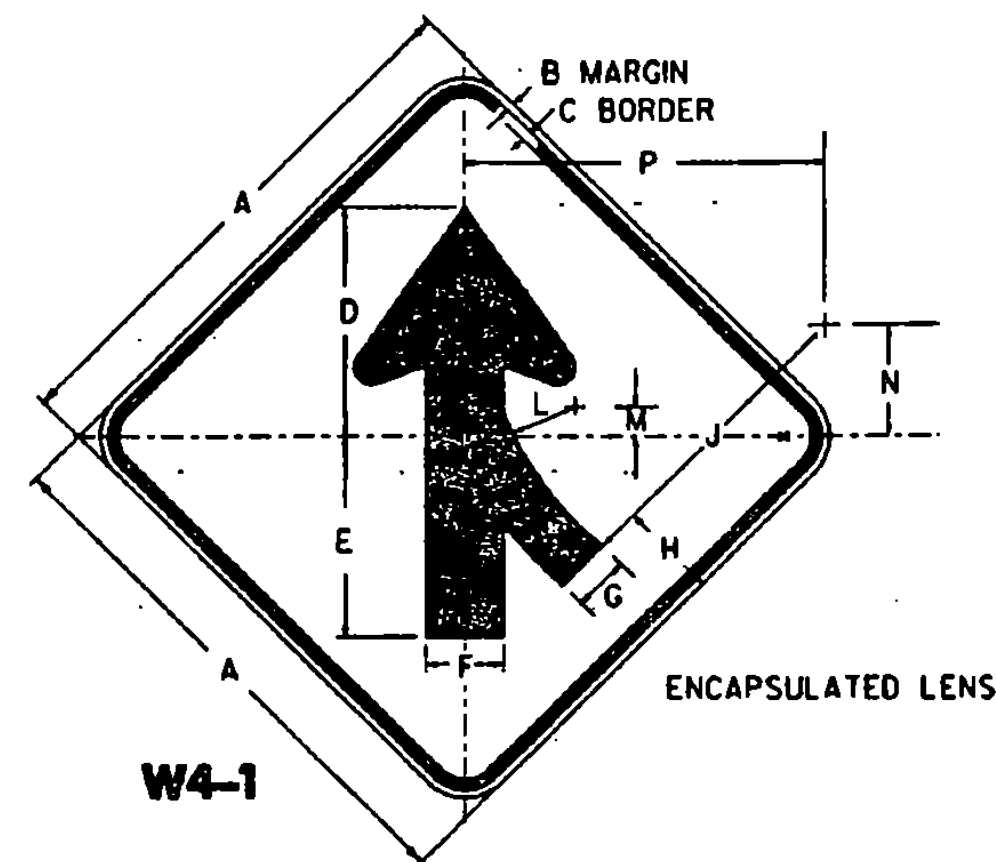
REGULATORY SIGN
 DETAILS



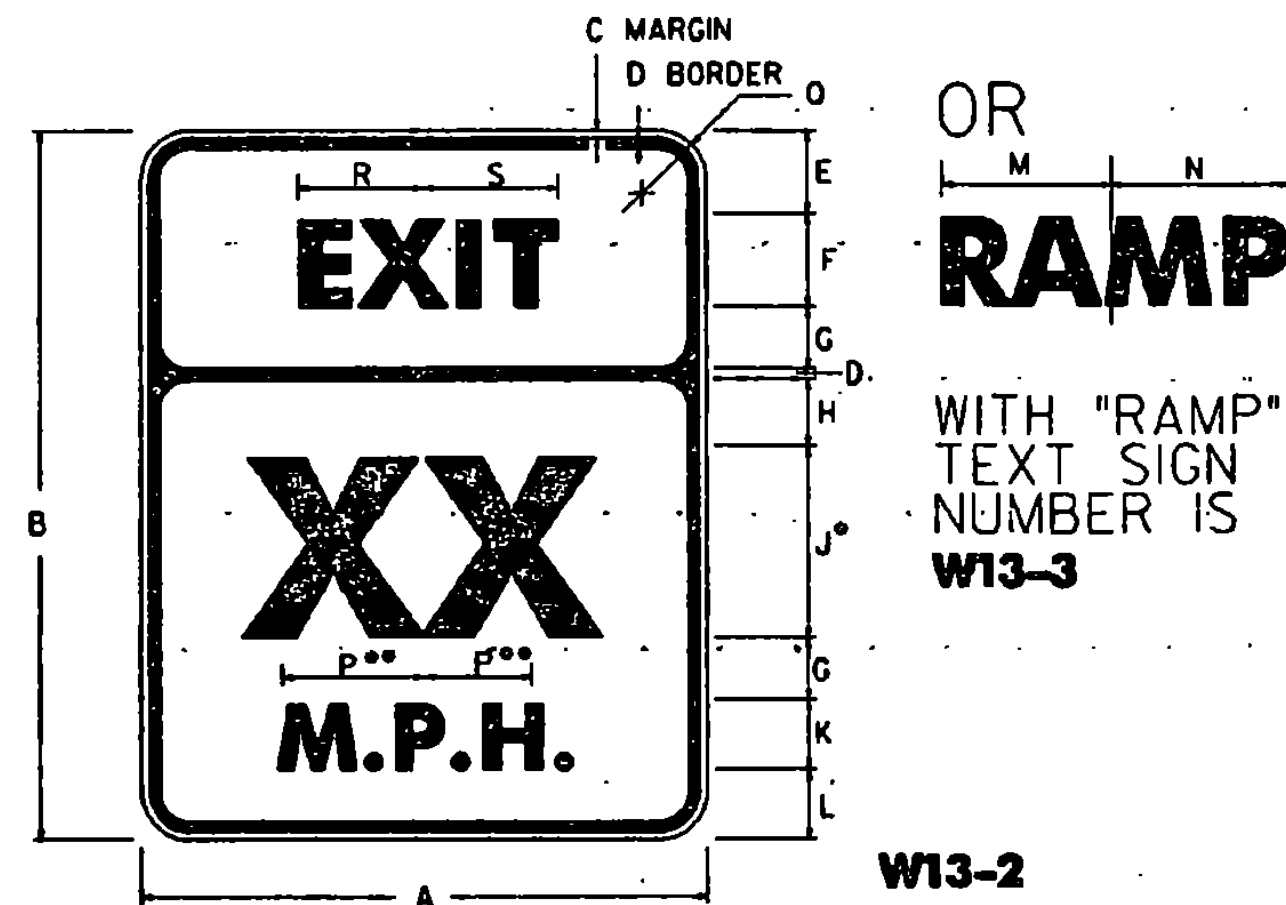
STANDARD
 E-146



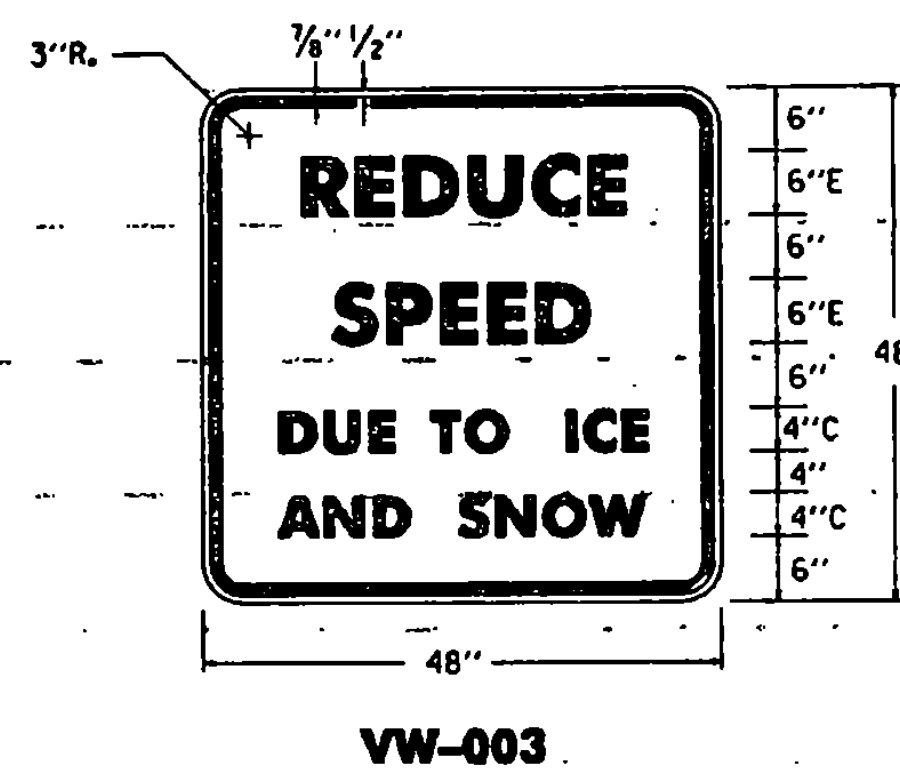
W3-1A



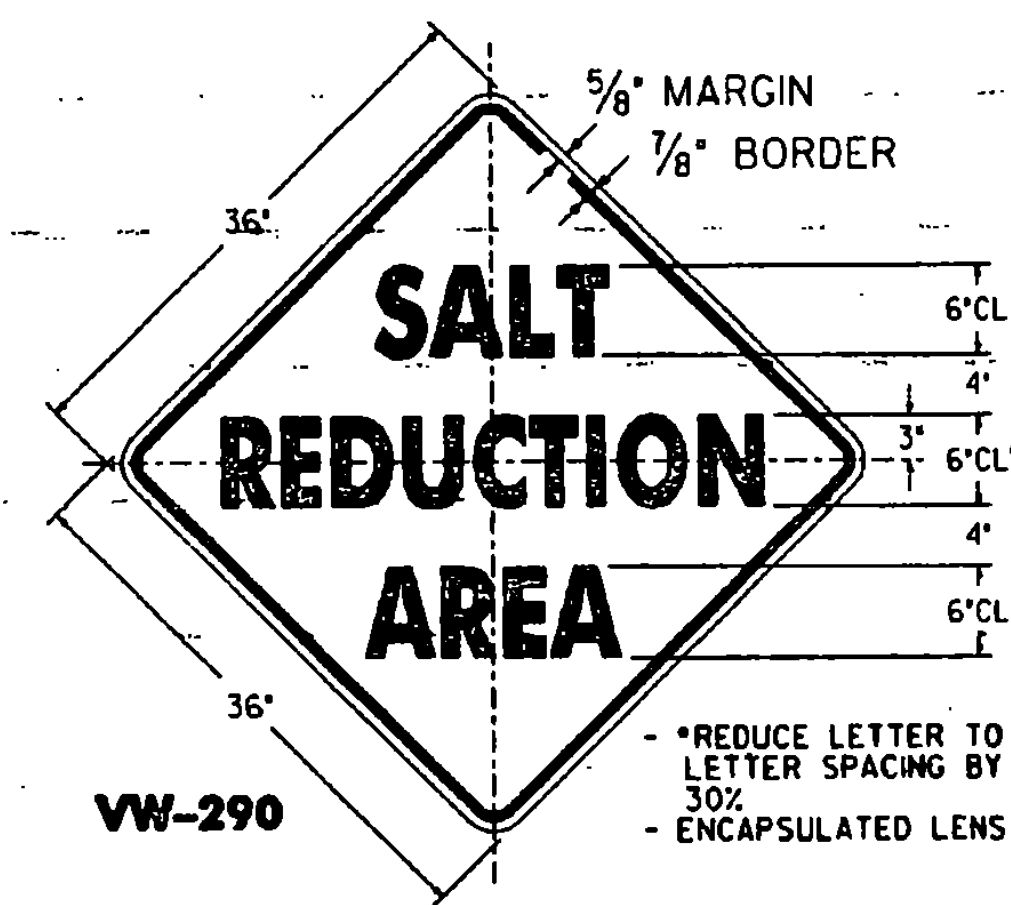
W4-1



W13-2



VW-003



VW-290

COLORS

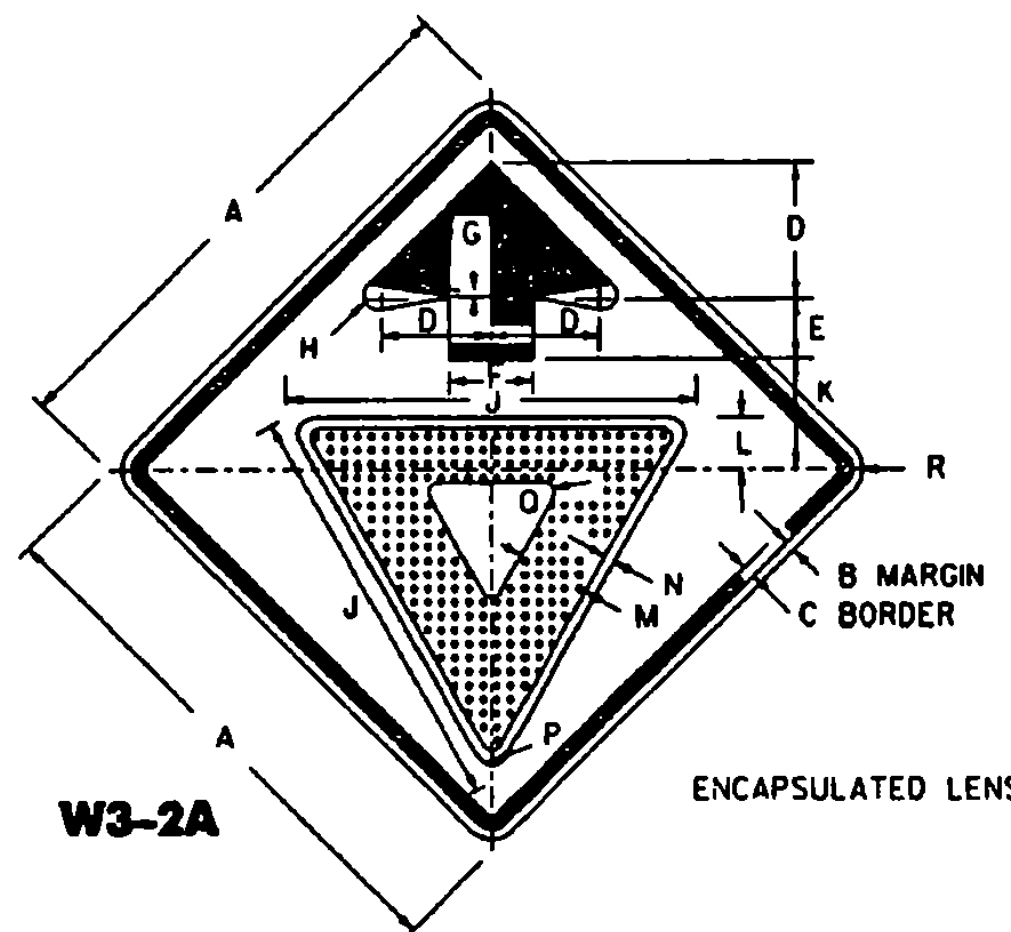
BORDER AND ARROW - BLACK (NON-REFL)
SYMBOL - WHITE BORDER ON RED BACKGROUND (REFL)

SIGN	DIMENSIONS (INCHES)												
	A	B	C	D	E	F	G	H	J	K	L	M	N
MIN.	30	1/2	3/4	7/2	3 3/4	5	3/8	3/8	15 3/4	8 1/4	2 1/2	1/2	1 1/8
STD.	36	3/8	3/8	9	4 1/2	6	3/4	3/8	19	7 1/4	3 1/2	3/8	2 1/4
SPECIAL	48	3/4	1/4	12	6	8	1	1/2	25 1/4	10	4 1/2	3/4	3

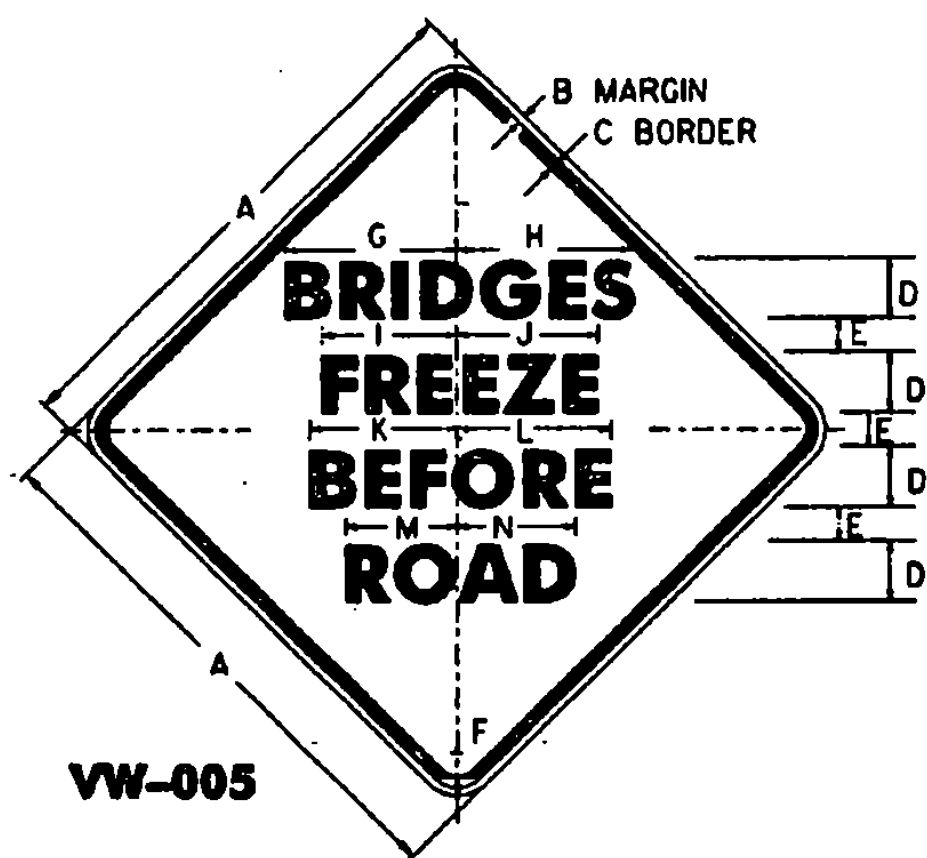
SIGN	DIMENSIONS (INCHES)															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P		
MIN.	24	3/8	3/8	10 1/4	8 1/4	3 1/2	2 1/8	4 1/8	22 1/4	7 1/2	6 3/8	2 3/8	10 3/8	22 3/8		
STD.	30	1/2	3/4	13	11	4 3/8	3	5 1/4	28	17 1/8	8	3	13	27 1/8		
EXPWY.	36	3/8	3/8	15 3/4	13 1/4	5 1/4	3 3/8	6 3/8	33 3/8	2 1/4	9 3/8	4	15 3/8	33 3/8		
FWY.	48	3/4	1/4	20 1/4	17 1/4	7	4 3/8	8 3/8	45	3	12 3/8	5 1/4	20 3/8	44 3/8		

* OPTICALLY SPACE NUMBERS ABOUT VERTICAL CENTERLINE
** INCREASE SPACING 100%
- THE 'RAMP' SPEED SIGN IS USED ON RAMP LEADING FROM ONE FREEWAY TO ANOTHER AND THE 'EXIT' SPEED SIGN IS USED ON NORMAL EXITS.

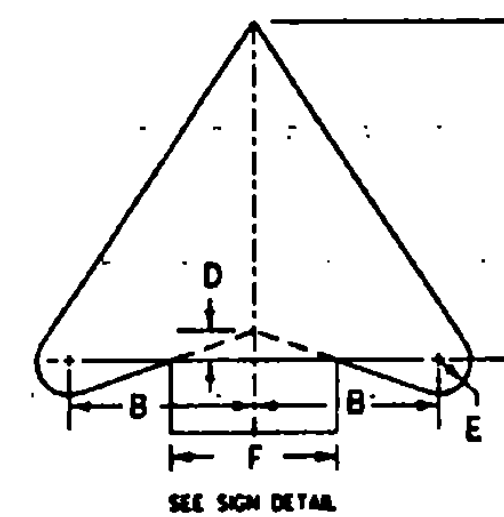
SIGN	DIMENSIONS (INCHES)																
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	
MIN. & STD.	24	30	3/8	3/8	3 1/2	4E	2 1/2	2 1/8	8E	3E	3	8 1/4	8 1/2	5 3/4	1 1/2	6 1/8	6 3/8
EXPWY.	36	48	3/8	3/8	6	6E	4	5 1/4	12E	4E	6	12 3/8	12 3/4	7 1/4	2 1/4	9 1/4	9 1/2
FWY.	48	60	3/4	1/4	7	8E	5	5 3/4	16E	6E	6	16 1/2	17	10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



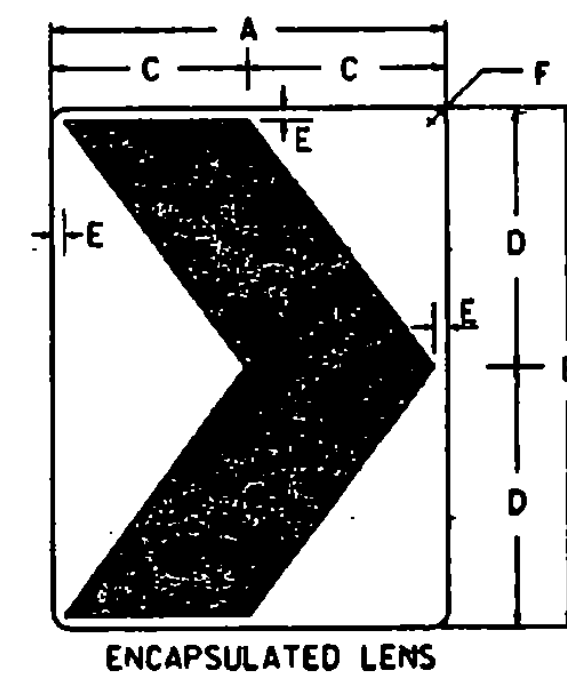
W3-2A



VW-005



SEE SIGN DETAIL



ENCAPSULATED LENS

W1-8

COLORS

BORDER AND ARROW - BLACK (NON-REFL)
SYMBOL - RED BORDER ON WHITE BACKGROUND (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	3/8	3/8	25	6 1/4	3	3 3/8	1/2	1 1/4	3/8	1 3/8	
STD.	36	3/8	3/8	9	4 1/2	6	3/4	3/8	28	7 1/2	3 3/8	3 3/8	3/8	1 3/8	3/4	2 1/4	
SPECIAL	48	3/4	1/4	12	6	8	1	1/2	38	10	4 1/2	5	3/4	1 1/8	1	3	

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
MIN. AND STD.	36	3/8	3/8	5C	2	2	1 1/2	1 1/2	9 3/8	9 3/8	10 1/4	10 1/4	6 3/8	6 3/8
FWY./EXP.	48	3/4	1/4	6C	3	3	13 1/2	13 1/2	10 3/8	10 3/8	12 1/4	12 1/4	8 3/8	8 3/8

ARROW HEAD	DIMENSIONS (INCHES)				
	SIZE	B	C	D	E
MIN. AND STD.	24x24	4	7 1/8	3/8	1 1/16
SPECIAL	30x30	5	8 3/8	1/8	3/8
EXPWY.	36x36	6	10 3/8	3/8	1 1/16
SPECIAL	48x48	8	14 3/8	1/16	1 3/8

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

COLORS

ALL THE WARNING SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT AND SYMBOLS ON REFLECTORIZED YELLOW BACKGROUND EXCEPT AS OTHERWISE NOTED. 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.

24" x 24"	24" x 30"	36" x 36"	48" x 48"
12" x 18"	30" x 30"	36" x 48"	48" x 60"
18" x 24"	30" x 36"	36" x 48"	48" x 60"
FLAT SHEET ALUMINUM	0.060"	0.080"	0.100"
HIGH DENSITY OVERLAID PLYWOOD	1/8"	1/4"	3/8"
GALVANIZED FLAT SHEET STEEL	18 GAGE	16 GAGE	14 GAGE

THE TEXT, BORDER, AND SYMBOL SHALL BE LETTERING FILM, SILK SCREENED OR HAND PAINTED. WHEN HAND PAINTED, POOR WORKMANSHIP SHALL BE CAUSE FOR REJECTION. ENCAPSULATED LENS REFLECTIVE SHEETING SHALL BE USED FOR THE SIGN BACKGROUND WHERE NOTED.

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.

SPECIFICATIONS

WARNING SIGNS SHALL MEET THE VERMONT STANDARD SPECIFICATIONS FOR "TRAFFIC SIGNS".

OTHER STDS. REQUIRED:

REVISIONS AND CORRECTIONS

OCT. 30, 1987 - DATE OF ORIGINAL ISSUE
AUG. 08, 1995 - ADDED SIGN DETAIL AND I.D. NUMBER FOR EACH DETAIL

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

APPROVED

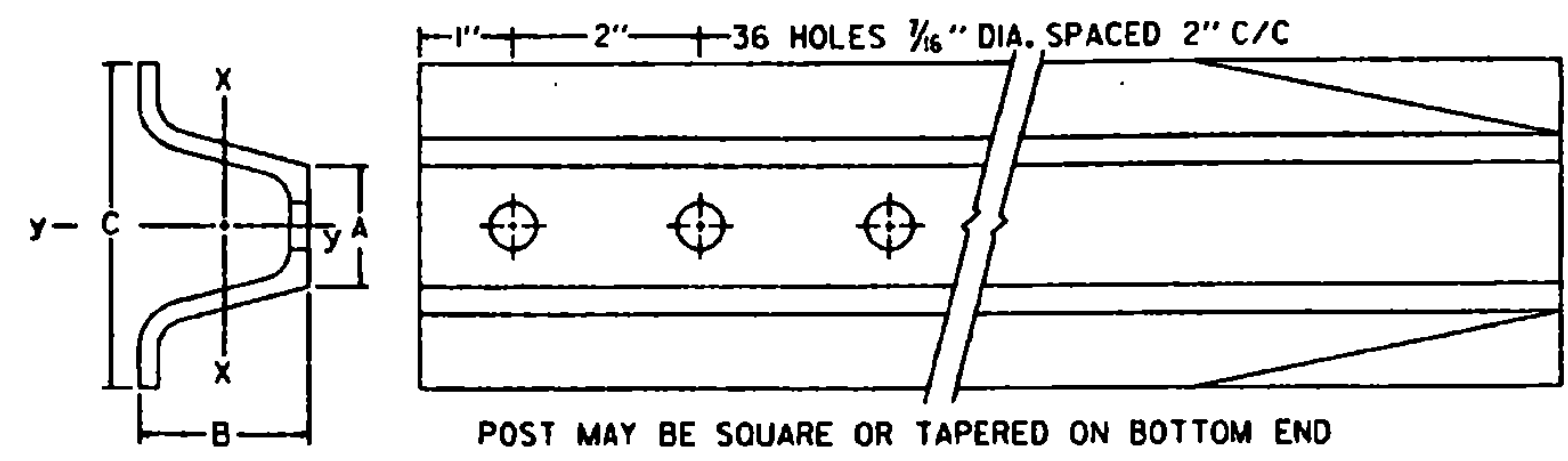
Stephen D. Theobald
DIRECTOR OF ENGINEERING

David A. Ross
TRAFFIC AND SAFETY ENGINEER

WARNING SIGN
DETAILS

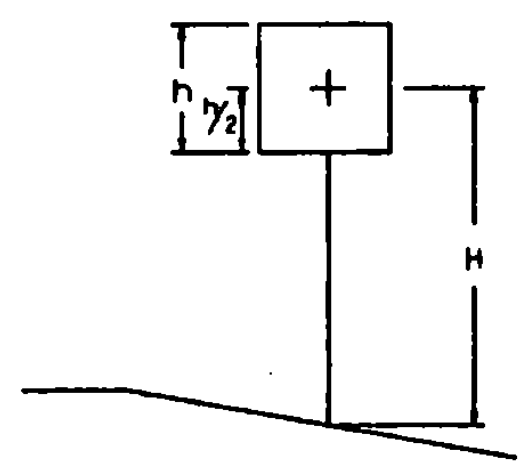


STANDARD
E-150



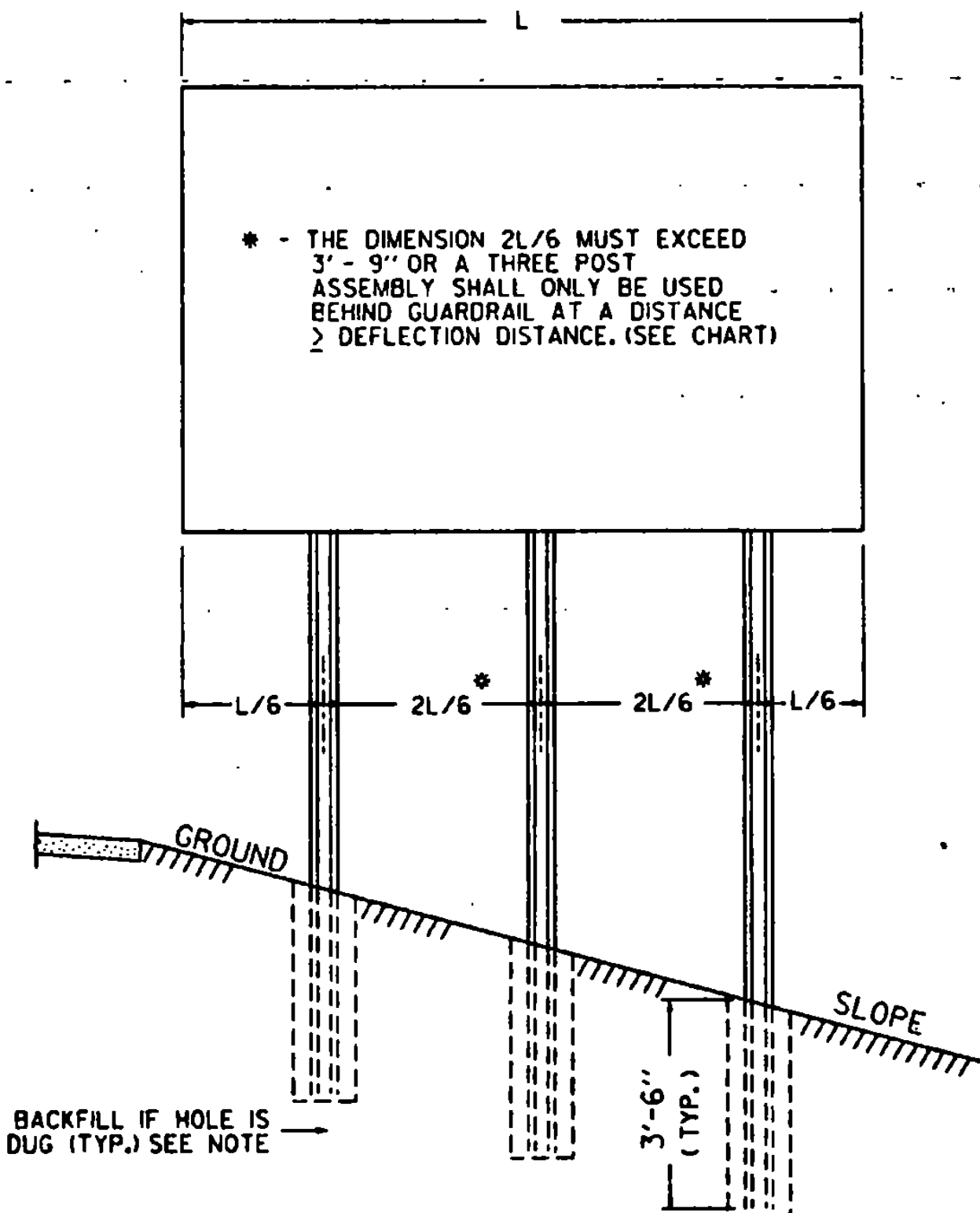
POST SIZE (LB./FT.)	DIMENSIONS			SECTION MODULUS, X-X
	A	B	C	
2	1 1/2"	1 3/4"	3 1/8"	0.225 IN. ³
3	1 5/8"	1 7/8"	3 1/2"	0.403 IN. ³

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



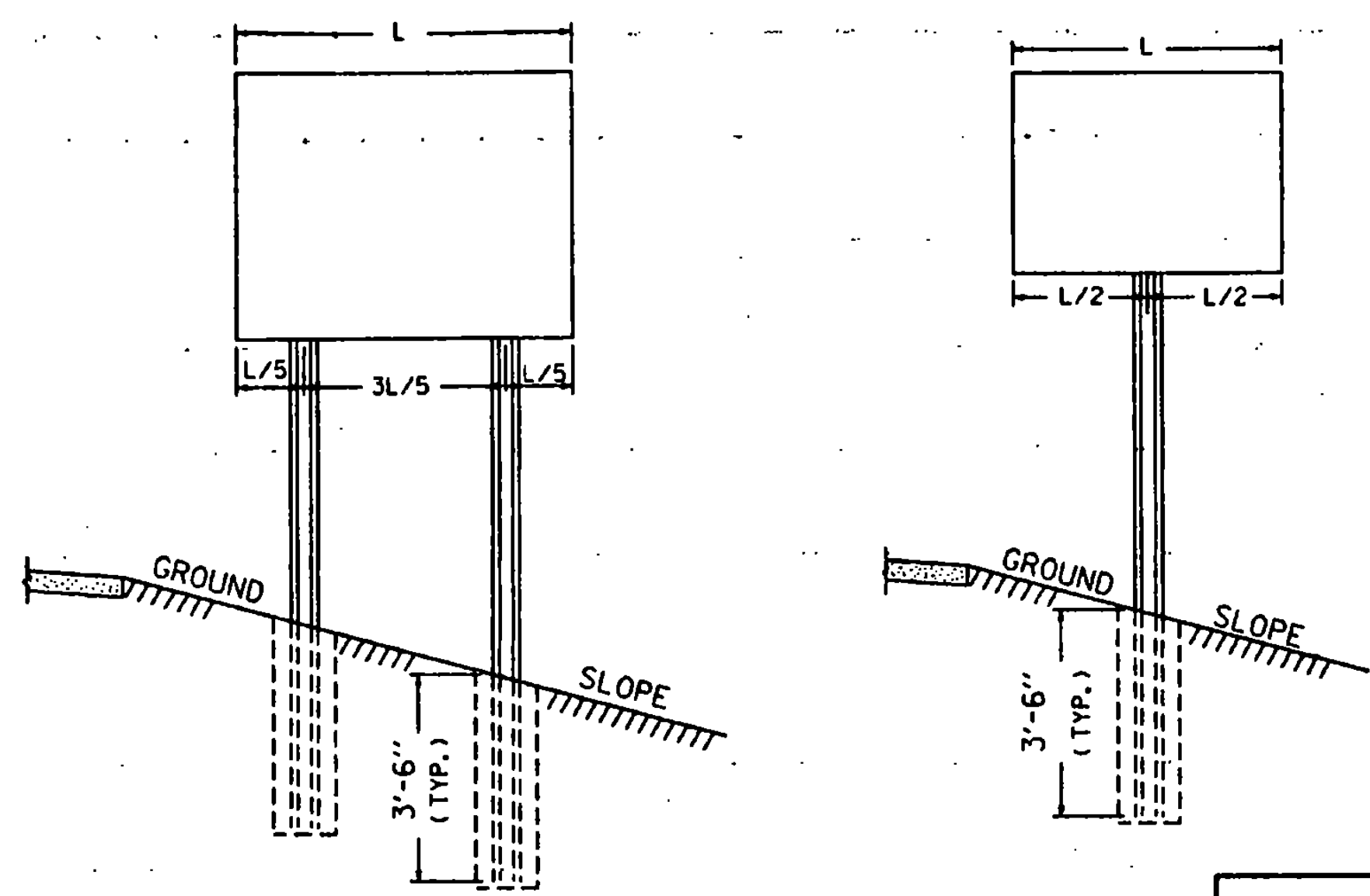
POST SELECTION CHART		
SIGN AREA (FT ²) x H (FT) ≤ SV (SELECTION VALUE)		
POST SIZE	Sv	DESIGN CRITERIA
2 LB./FT. (ONE POST INSTALLATION)	32	WIND SPEED = 60 MPH (10-YEAR MEAN RECURRENCE INTERVAL) WIND PRESSURE = 13 PSF STEEL MIN YIELD Fy = 50,000 PSI ALLOWABLE STRESS = (1.4) 0.60 Fy
2 LB./FT. (TWO POST INSTALLATION)	62	
3 LB./FT.	107	

SINGULAR 2 LB./FT. POSTS SHALL ONLY TO BE USED IN URBAN AREAS.

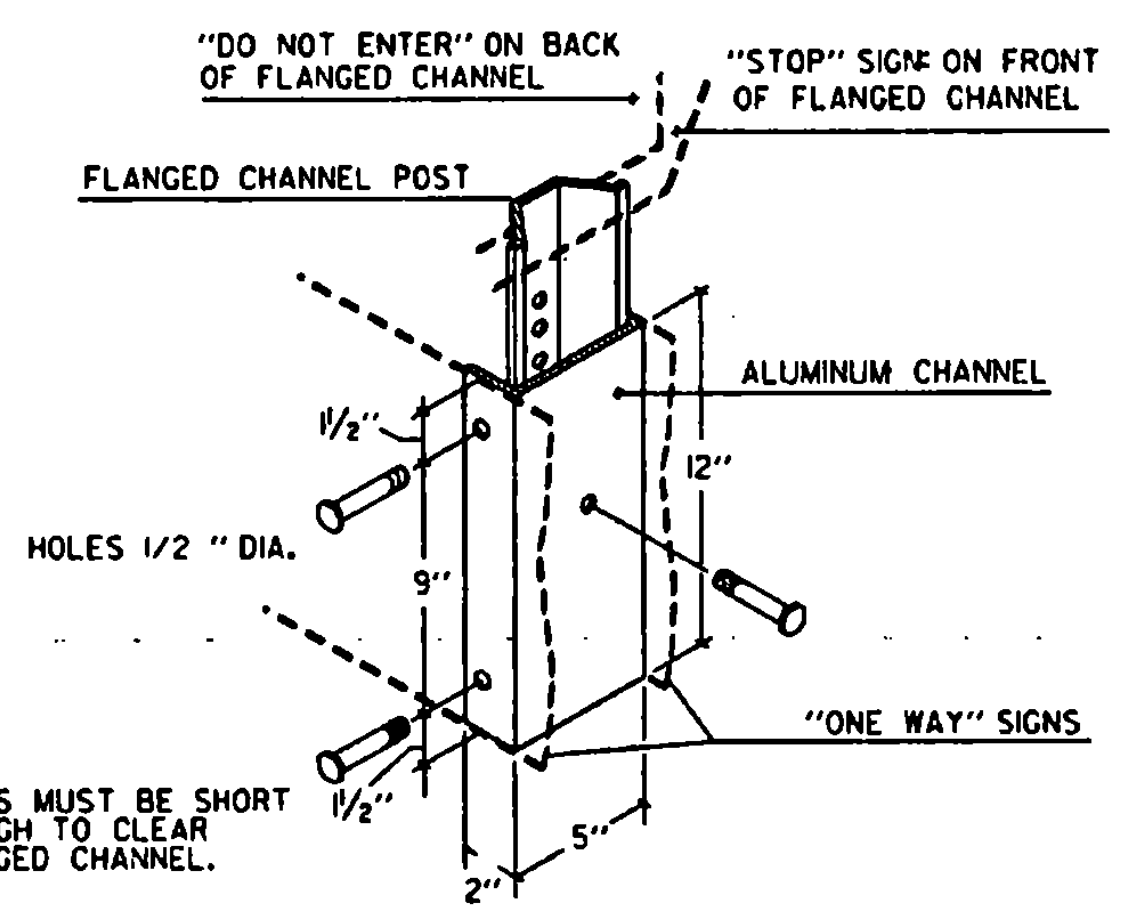


MULTI-POST INSTALLATIONS

WHEN SIGN POSTS ARE INSTALLED WITH A POST SPACING OF LESS THAN 8 FEET, POST SIZES MUST BE SELECTED TO INSURE THAT WHEN ACTING TOGETHER THE POSTS DO NOT CREATE A HAZARD. REFER TO V.A.O.T. SIGN POST DESIGN GUIDELINE FOR ADDITIONAL DETAILS.



POST SPACING DETAILS



DETAIL OF TYPE "A" OR "B" MOUNTING BRACKET. SEE STANDARD E-120 FOR CLEARANCES.

GUARDRAIL DEFLECTION CHART (PER AASHTO - ROADSIDE DESIGN GUIDE - 1988)		
TYPE	GR POST SPACING	DEFLECTION
THREE CABLE W/STEEL POSTS	16' - 0"	12'
W/WOODEN POSTS	12' - 6"	12'
W-BEAM W/WEAK POST	12' - 6"	7'
W/STRONG POST	6' - 3"	3'
BOX BEAM	6' - 0"	5'
THREE BEAM W/WEAK POST	12' - 6"	4'
W/STRONG POST	6' - 3"	2'

THIS CHART LISTS THE THEORETICAL DEFLECTION DISTANCE UPON IMPACT OF VARIOUS GUARDRAIL WITH DIFFERENT TYPES AND SPACING OF POSTS.

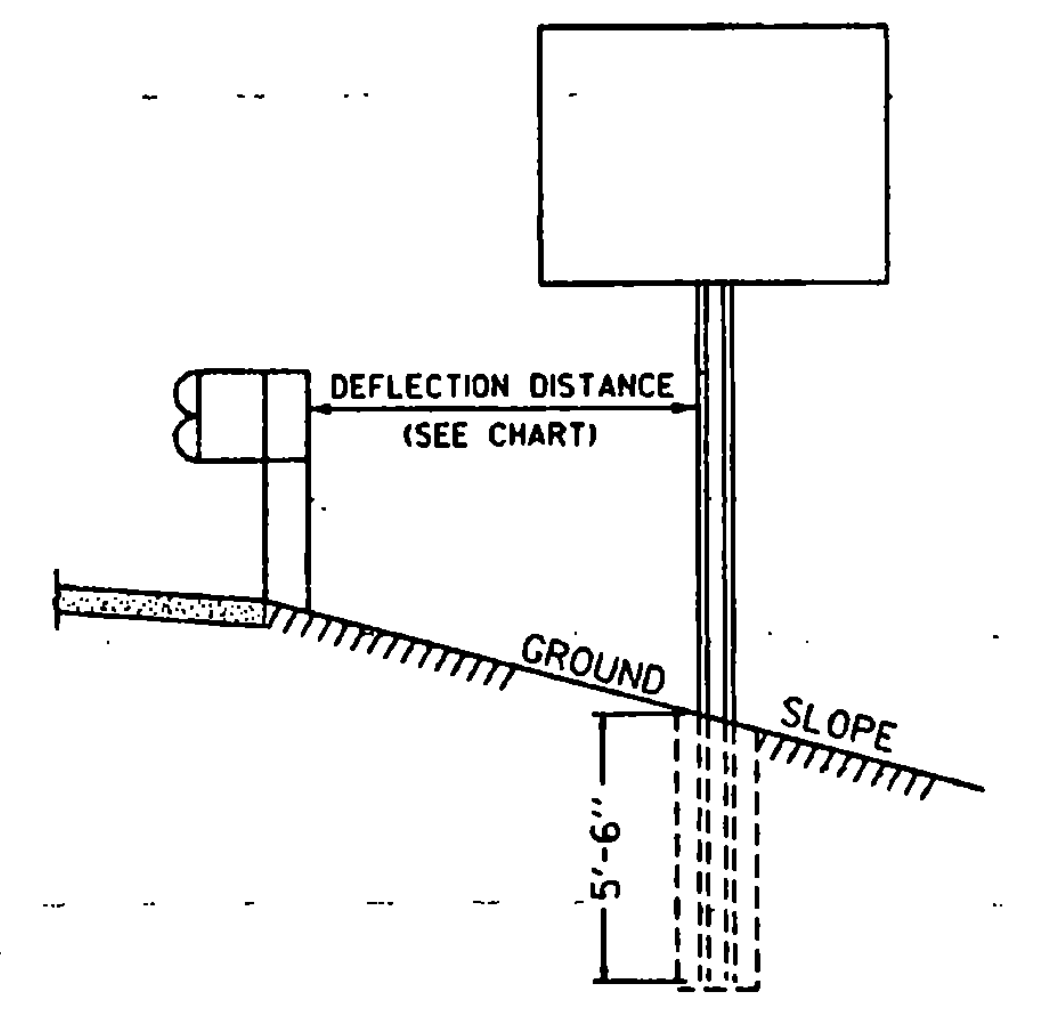
GENERAL NOTES

CONSTRUCTION METHODS - POSTS MAY BE DRIVEN OR SET IN A DUG HOLE AND BACKFILLED. IF DRIVEN, A DRIVING CAP SHALL BE USED. THE DUG HOLE INSTALLATION SHALL BE USED IN AREAS OF POOR SOIL CONDITIONS OR AS DIRECTED BY THE RESIDENT ENGINEER. BACKFILL SHALL BE COMPACTED AS DIRECTED BY THE RESIDENT ENGINEER.

IN AREAS WHERE LEDGE ROCK IS ENCOUNTERED, POSTS WILL BE SET IN A HOLE WITH 2" CLEARANCE AND GROUTED WITH TYPE 4 MORTAR 24" BELOW THE SURFACE OF THE SOLID ROCK, UNLESS THE POSTS PENETRATE THE GROUND A MINIMUM OF 3'-6". THE PORTION OF THE POST IN CONTACT WITH THE MORTAR SHALL BE COATED WITH AN APPROVED COATING.

SIGN CLEARANCES - HORIZONTAL AND VERTICAL SIGN CLEARANCES SHALL BE SHOWN ON THE PLANS OR THE APPROPRIATE STD. SHEETS.

SINGLE POST INSTALLATIONS SHALL BE LIMITED TO A SIGN AREA OF 12-1/2 SQ. FT. OR LESS.



WHEN USING FLANGED CHANNEL POSTS ON STEEP SLOPES (ON 2 OR STEEPER FULL SLOPES BEHIND GUARDRAIL), ADD 2" EMBEDMENT TO THE POST LENGTH TO GIVE THE ASSEMBLY MORE STABILITY. HOWEVER IF SIGN POST IS LOCATED INSIDE THE DEFLECTION DISTANCE, THE SIGN POST SHALL BE SET AT A DEPTH OF 3' - 6".

OTHER STDS. REQUIRED:

REVISIONS AND CORRECTIONS

- SEP. 10, 1987 - DATE OF ORIGINAL ISSUE
- MAR. 01, 1988 - FHWA REVIEW COMMENTS
- OCT. 21, 1992 - ADDED DETAILS, REVISED NOTES & REVISED TITLE BLOCK
- AUG. 18, 1995 - DELETION OF 2.5 #/FT. POST AND TWO-RAIL ALUMINUM. ADDED ADDITIONAL NOTE.

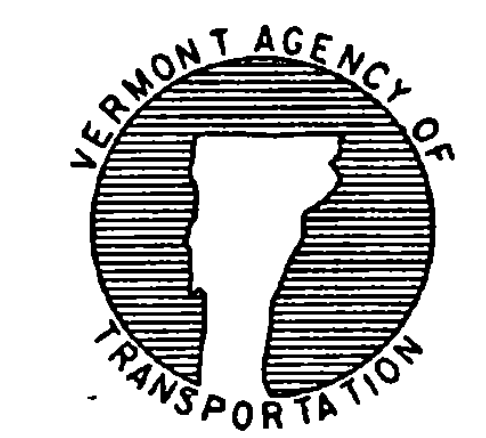
APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

APPROVED

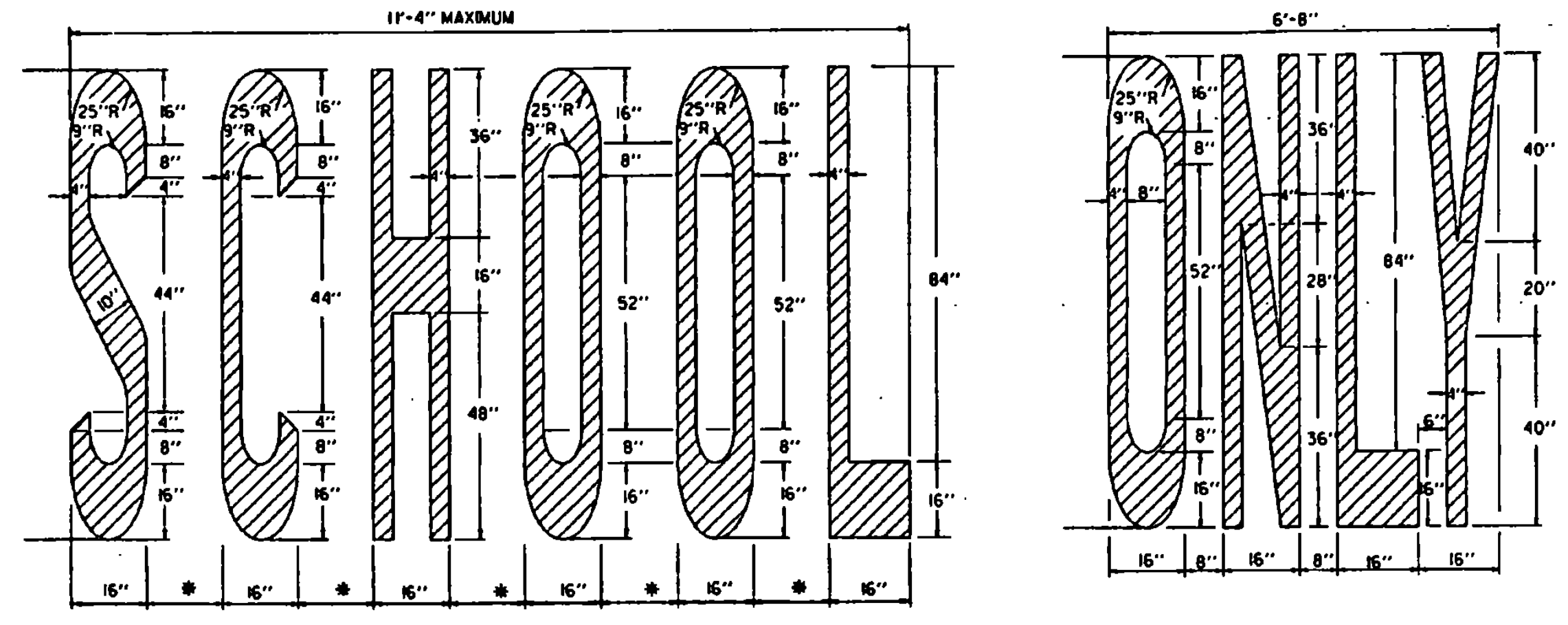
Scott A. McArthur
DIRECTOR OF ENGINEERING

Daniel J. Des
TRAFFIC AND SAFETY ENGINEER

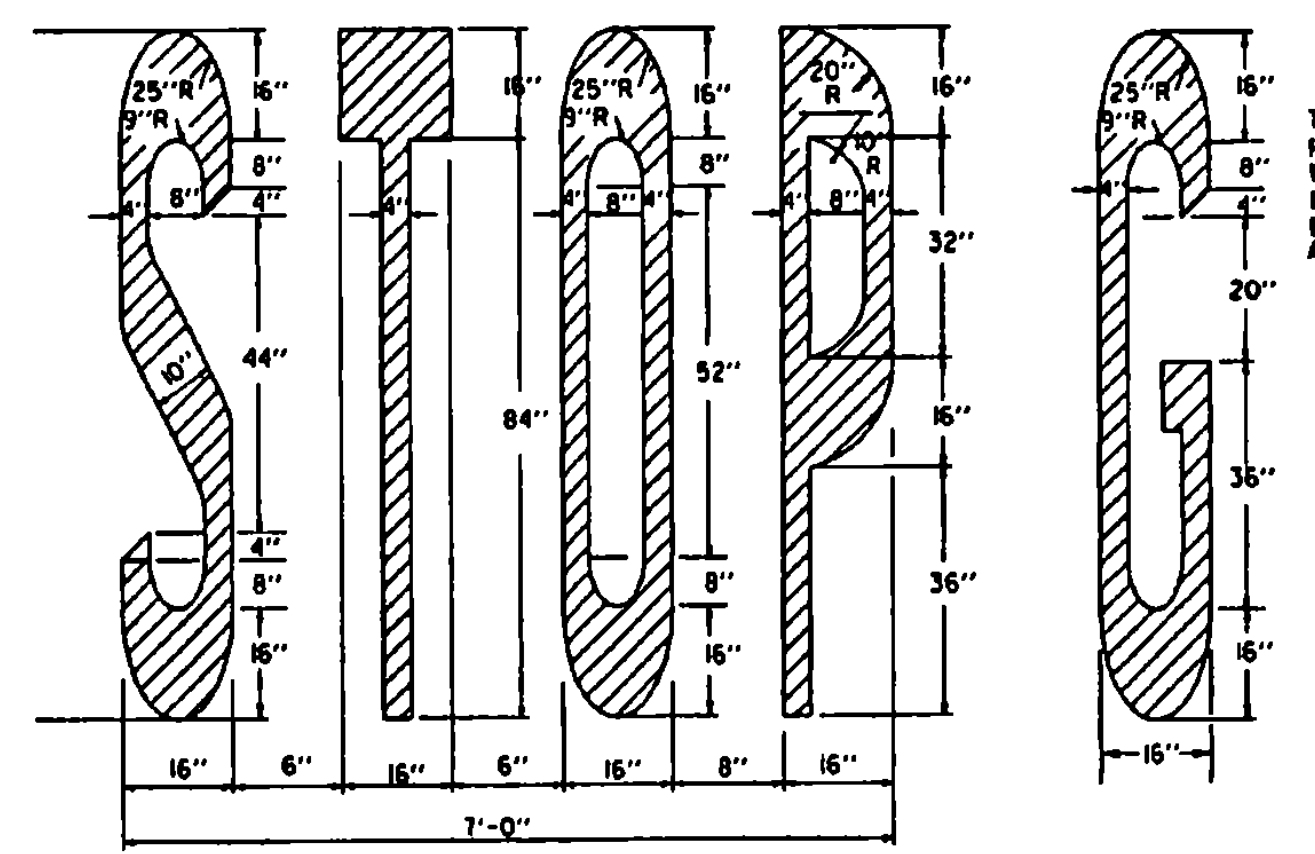
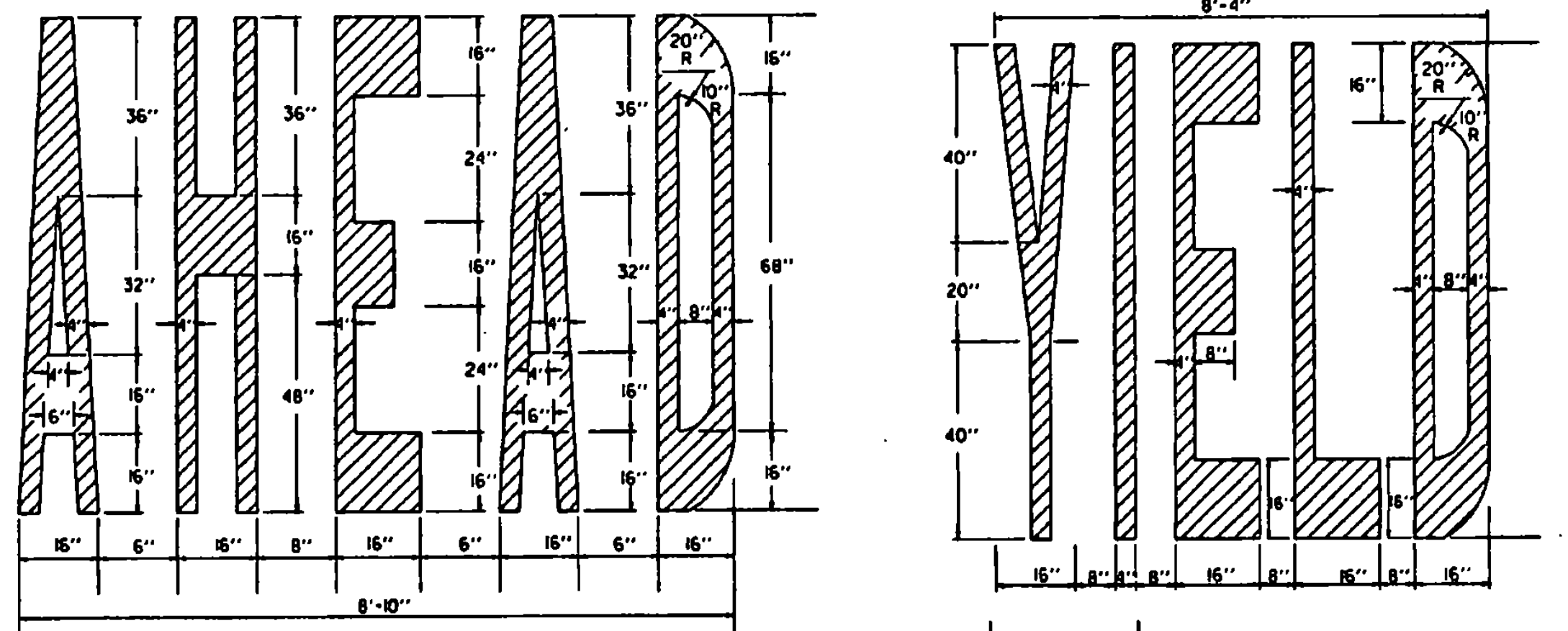
FLANGED CHANNEL STEEL SIGN POST



STANDARD E-160

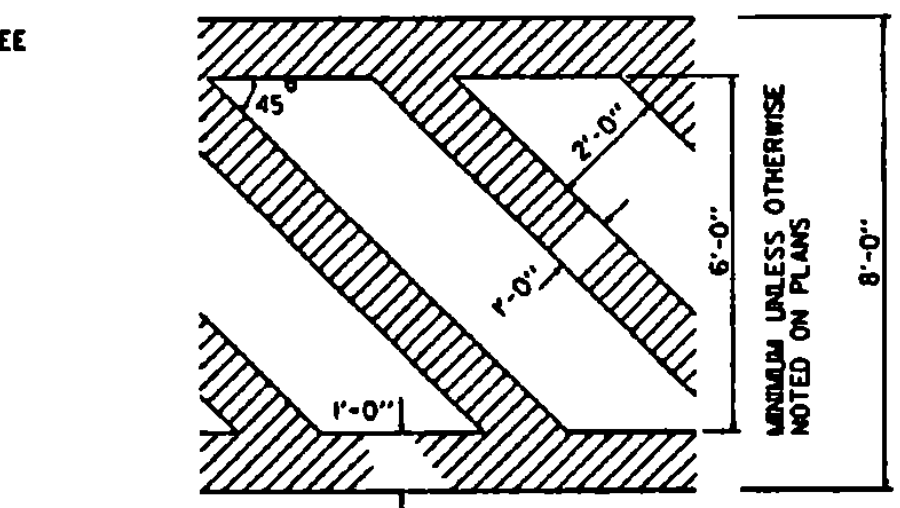


* (4"-8") - ADJUST TO AVAILABLE PAVEMENT WIDTH



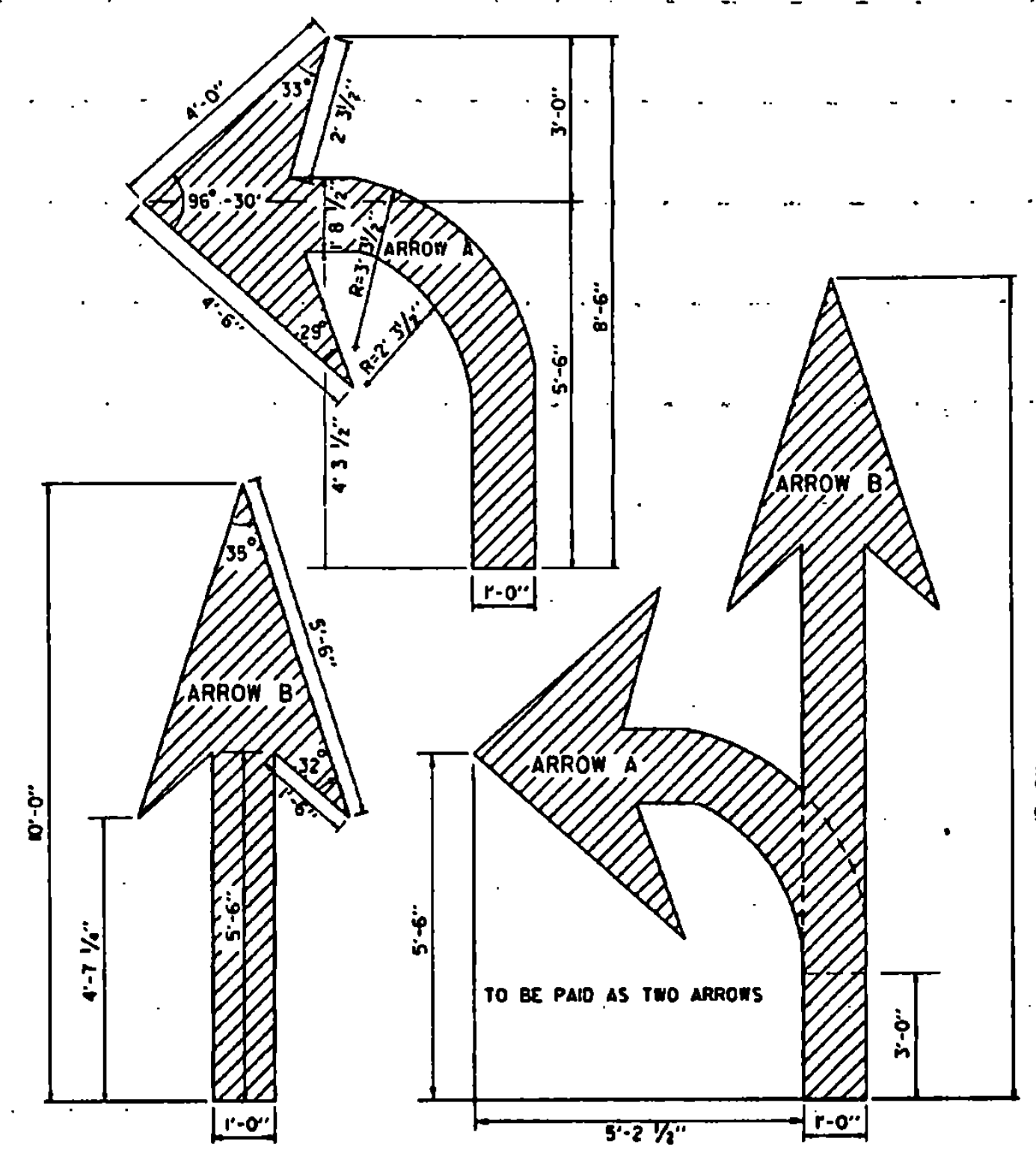
SIGNAL
6" LETTER SPACING

THE LETTER "O" PERTAINS TO THE WORD "SIGNAL". FOR OTHER LETTERS, SEE ABOVE.

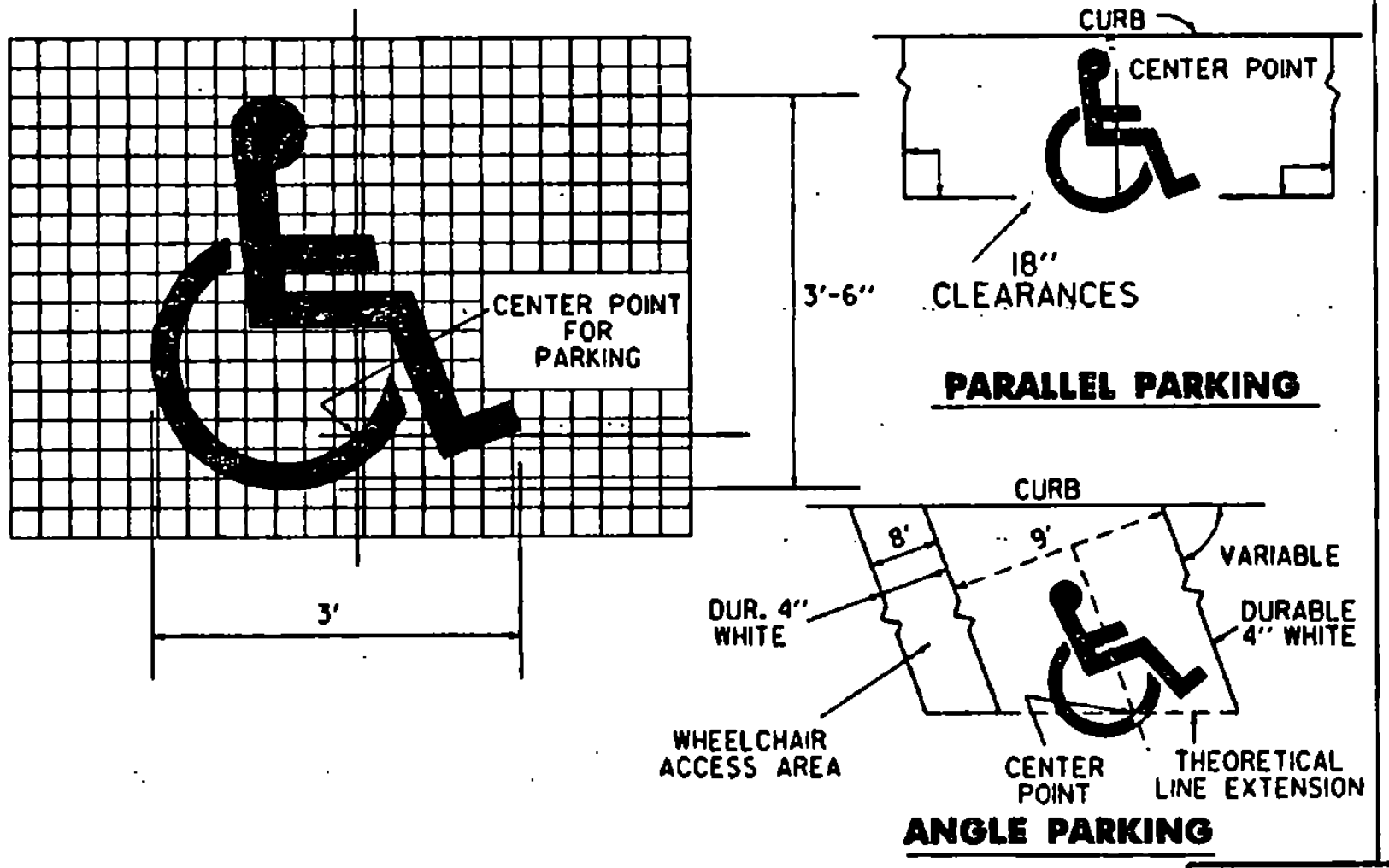


ARROWS AND WORD MARKINGS THAT CONFORM TO THE DIMENSIONS SHOWN ON THIS SHEET OR AS DETAILED IN THE BOOKLET ENTITLED "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (CURRENT EDITION) PREPARED BY THE FEDERAL HIGHWAY ADMINISTRATION WILL BE ACCEPTABLE.

LETTER IN WORD MARKING AND CROSSWALK DETAILS



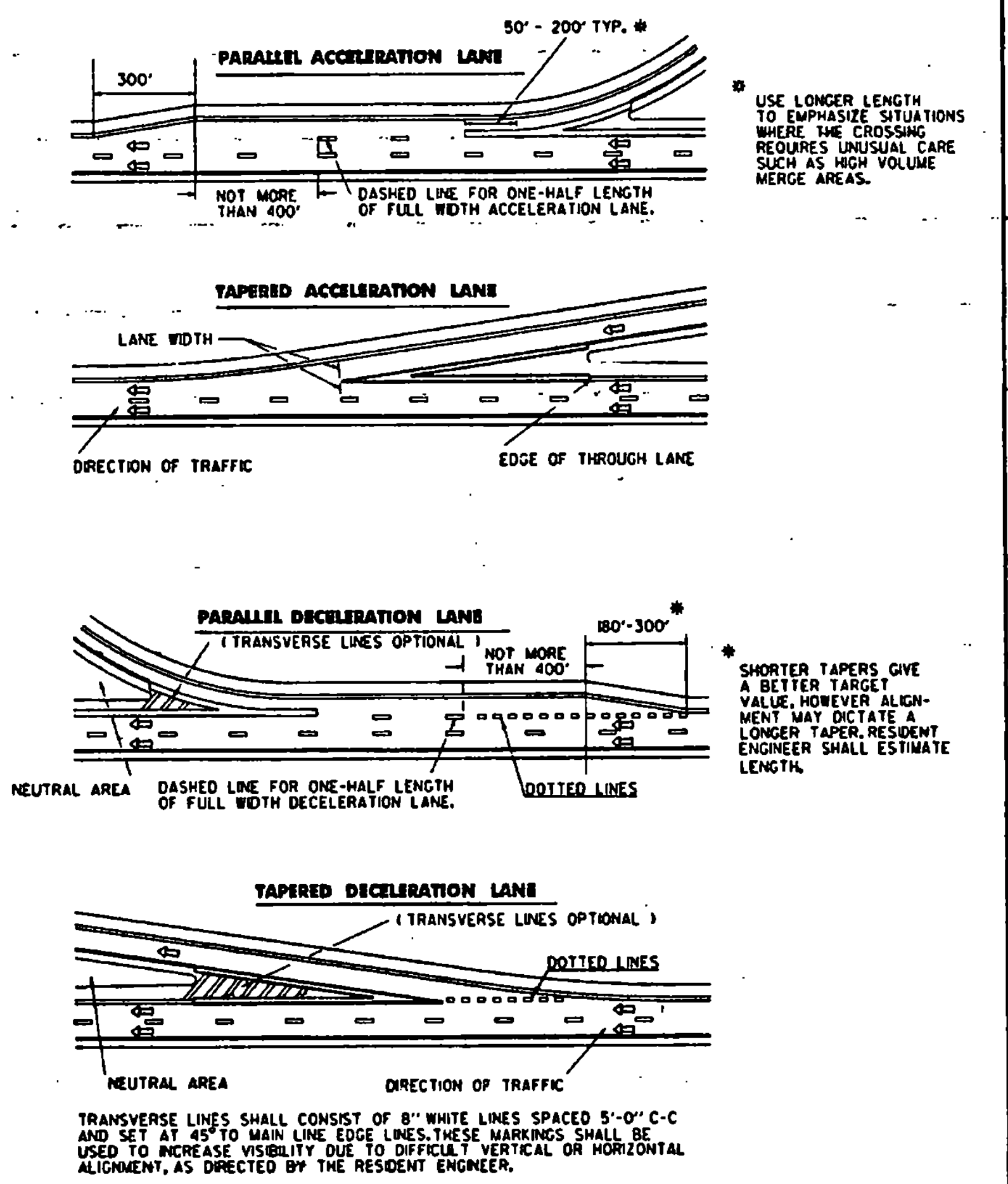
ARROW DETAILS



HANDICAPPED PAVEMENT MARKING DETAILS

THIS SHEET IS NOT TO SCALE

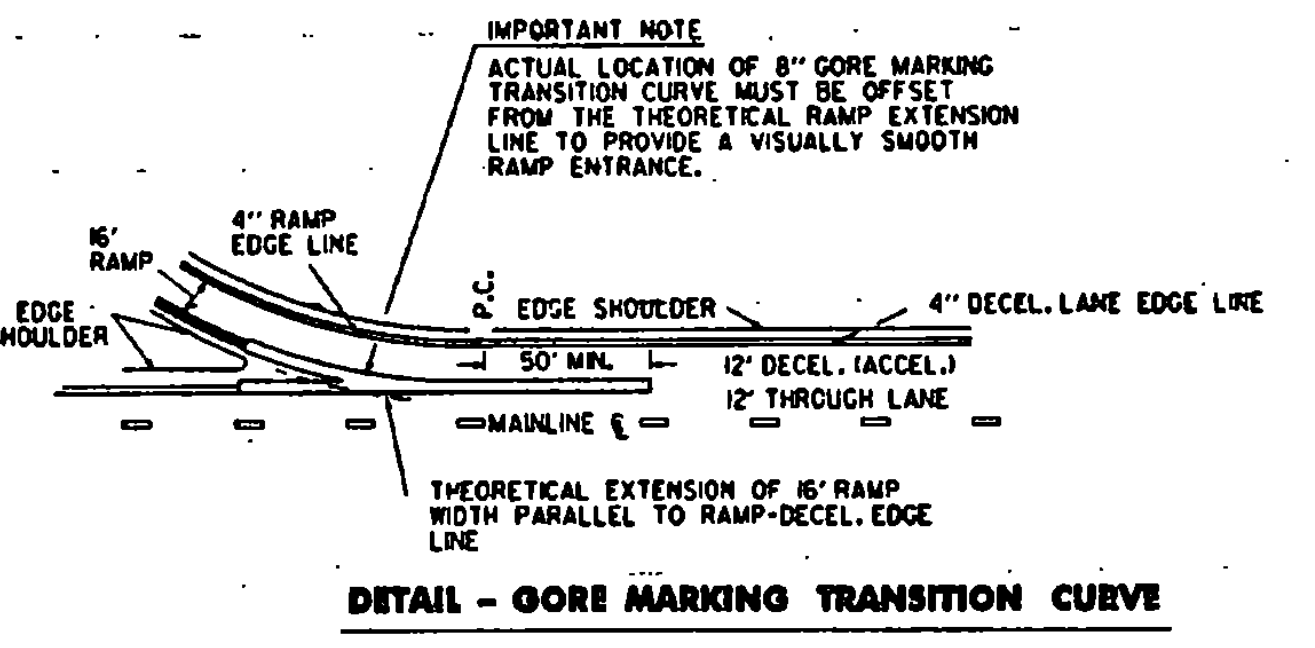
OTHER STDS. REQUIRED



USE LONGER LENGTH TO EMPHASIZE SITUATIONS WHERE THE CROSSING REQUIRES UNUSUAL CARE SUCH AS HIGH VOLUME MERGE AREAS.

SHORTER TAPERS GIVE A BETTER TARGET VALUE, HOWEVER ALIGNMENT MAY DICTATE A LONGER TAPER. RESIDENT ENGINEER SHALL ESTIMATE LENGTH.

- LEGEND**
- 4" WHITE LINES
 - 4" YELLOW LINES
 - 8" CHANNELIZATION WHITE LINES
 - 4" WHITE DOTTED LINES (2" SOLID - 4" GAP)
 - DIRECTION OF TRAFFIC FLOW



DETAIL - CORE MARKING TRANSITION CURVE

REVISIONS AND CORRECTIONS

SEPT. 10, 1987 - DATE OF ORIGINAL ISSUE

JAN. 23, 1989 - ADDED DOTTED LINES, "SIGNAL" DIMENSIONS, CLARIFIED LETTER HEIGHT.

AUG. 18, 1995 - MISC. NOTE CHANGES

APPROVED

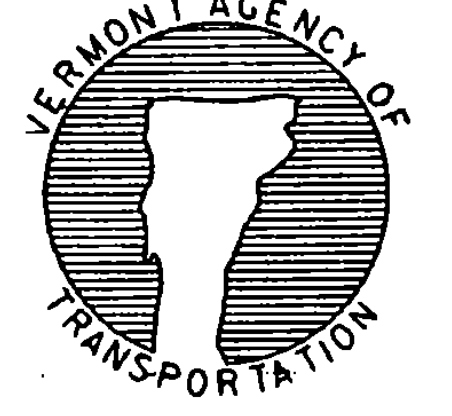
Thomas J. McCall
DIRECTOR OF ENGINEERING

Sean Ross
TRAFFIC AND SAFETY ENGINEER

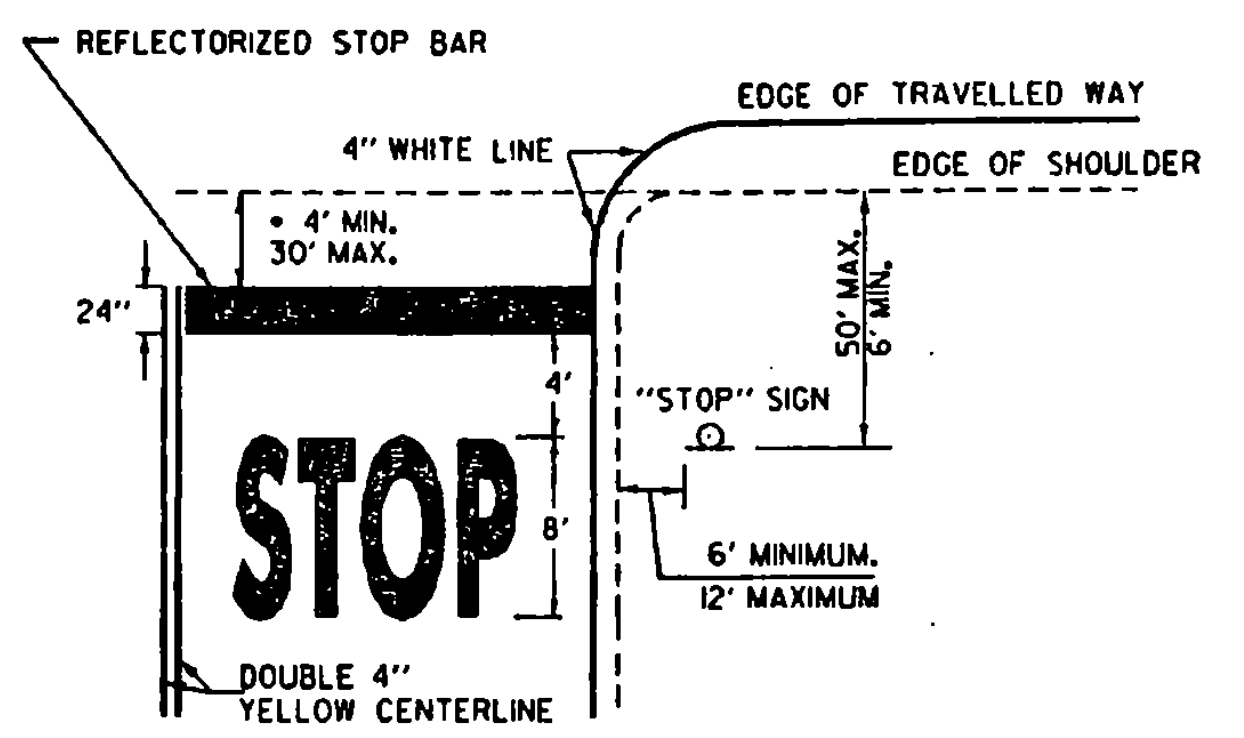
APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION, FHWA FINAL APPROVAL PENDING.

PAVEMENT MARKING DETAILS

/traf/std/stdel9l.dgn/stdel9l.l

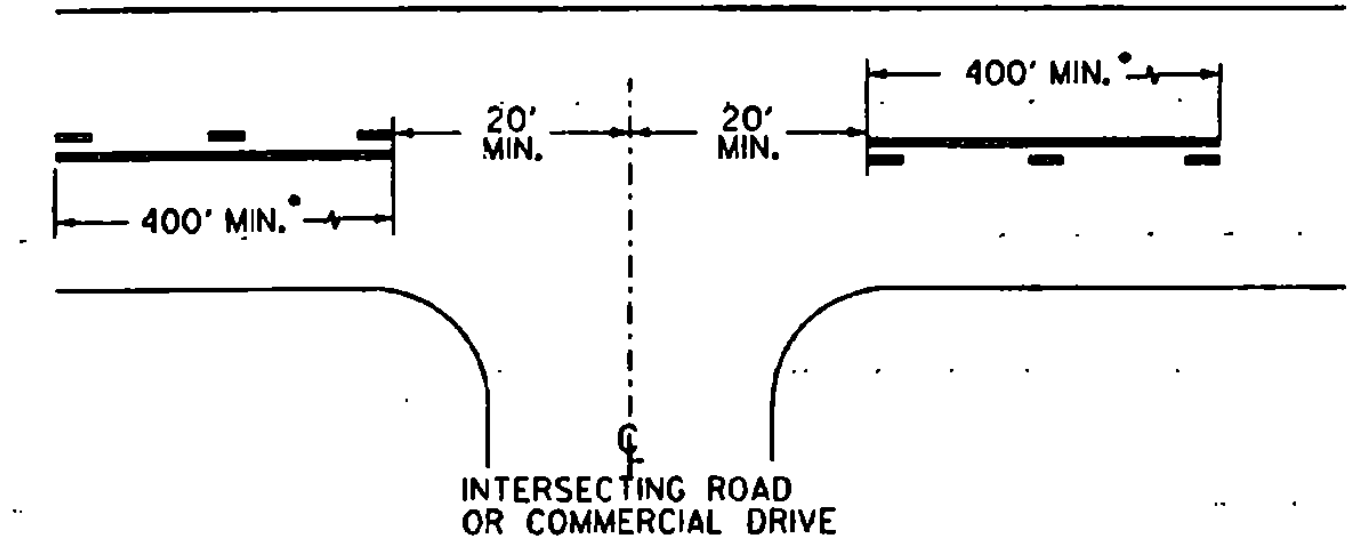


STANDARD E-191



• THE "DESIRED STOPPING POINT" IS THE LOCATION BASED ON SITE CONDITIONS THAT BEST ALLOWS THE STOPPED VEHICLE TO VIEW THE APPROACHING TRAFFIC.

STOP BAR LAYOUT



• THE SOLID LINE SHALL BE PAIRED WITH EITHER A SOLID OR DASHED LINE DEPENDING ON SIGHT DISTANCE AVAILABILITY IN THE OPPOSING DIRECTION. ADJUSTMENTS TO THE 40 FOOT CENTERLINE OPENING MAY BE MADE TO ACCOMMODATE SKEWED INTERSECTIONS.

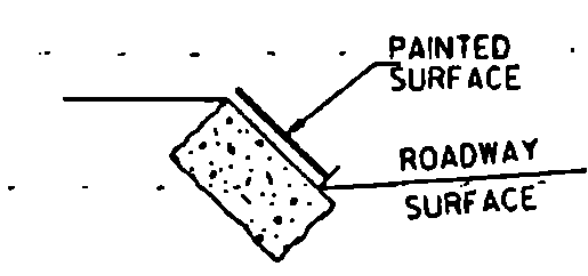
CENTERLINE BREAKS:

A. AT ALL STATE HIGHWAYS AND TOWN HIGHWAYS, INCLUDING CLASS 4 T.H.'S. THAT HAVE STOP AND LEGAL LOAD LIMIT SIGNS INSTALLED

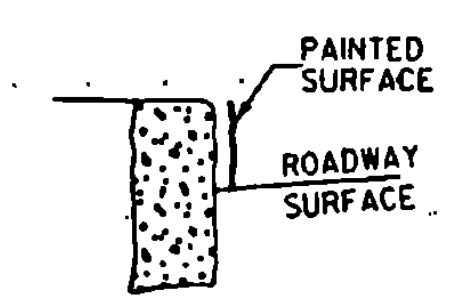
B. COMMERCIAL DRIVES:

1. WHERE A SEPARATE TURN LANE EXISTS ON THE MAIN LINE (LT. OR RT.)
2. SIGNIFICANT TRAFFIC VOLUMES EXISTS.
3. IF MOTORISTS NEED ASSISTANCE TO DEFINE ENTRANCE POINTS.

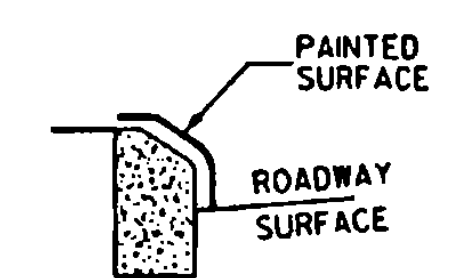
CENTERLINE LAYOUT



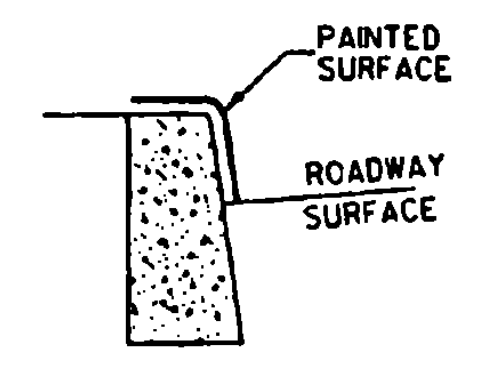
GRANITE SLOPE EDGING



VERTICAL GRANITE CURB

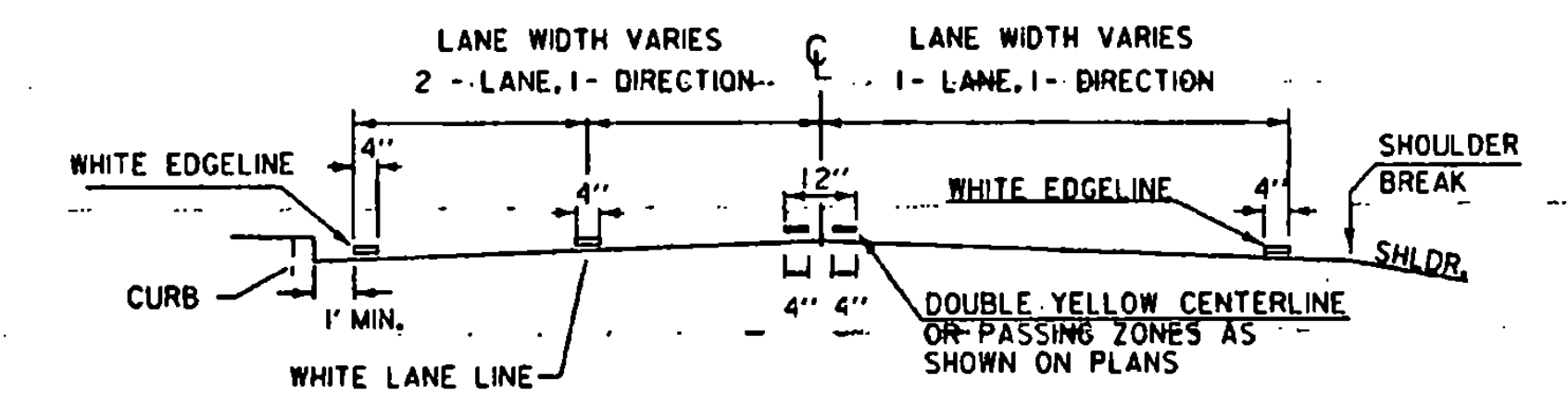


TYPE A (CONCRETE)

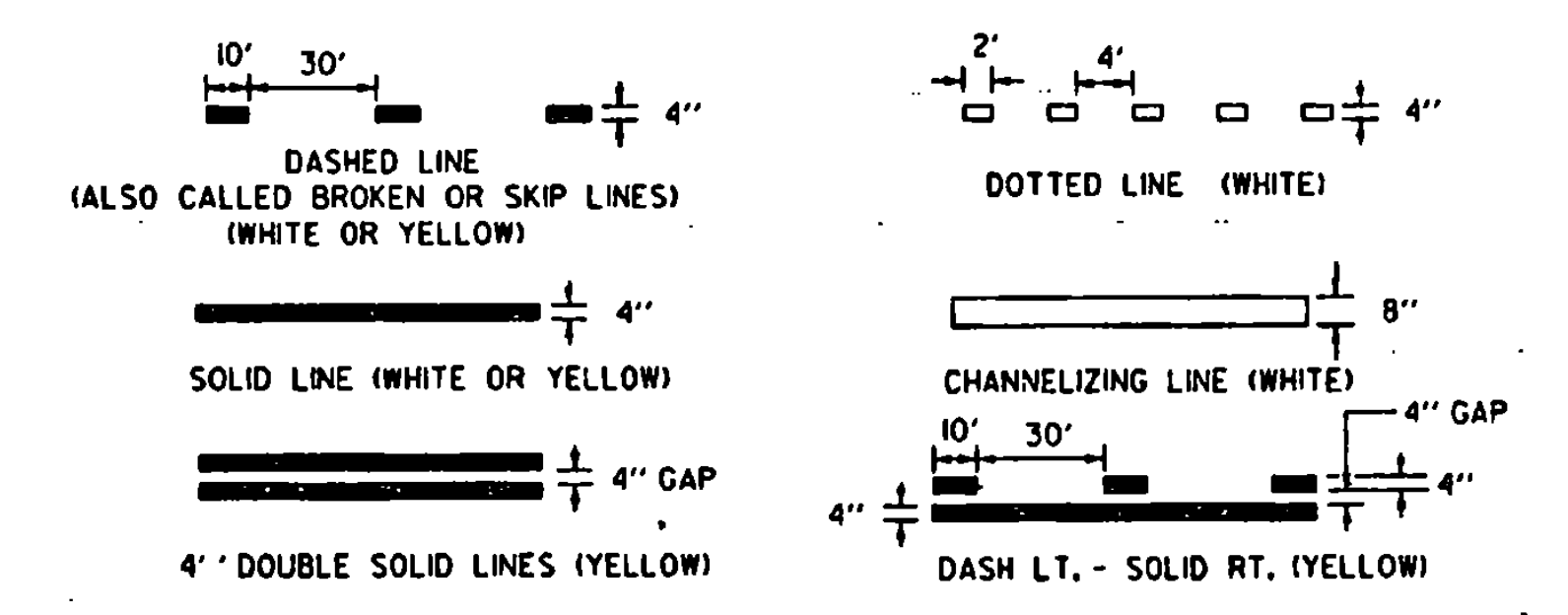


TYPE B (CONCRETE)

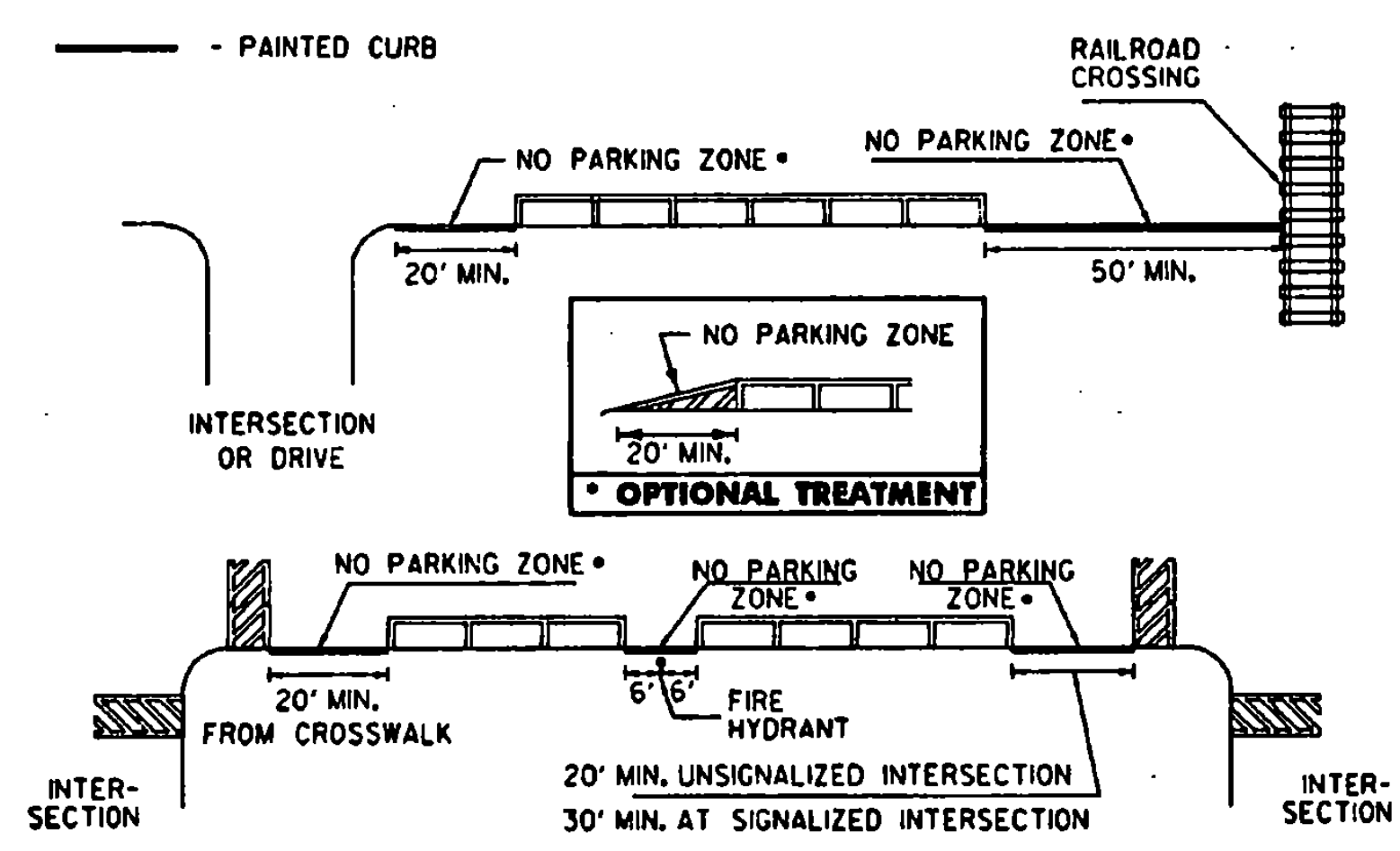
PAINTED CURB



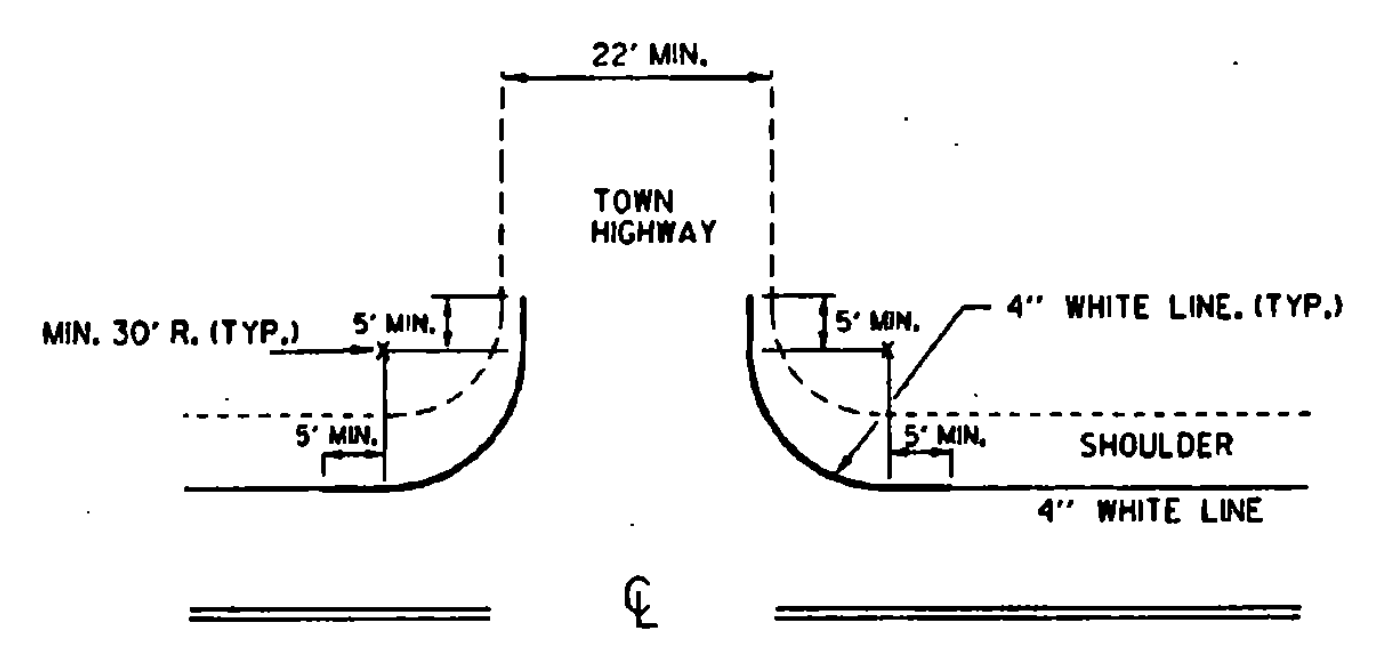
PAVEMENT MARKING PLACEMENT DETAIL



PAVEMENT MARKING LINE DETAILS



NO PARKING LAYOUT DETAILS

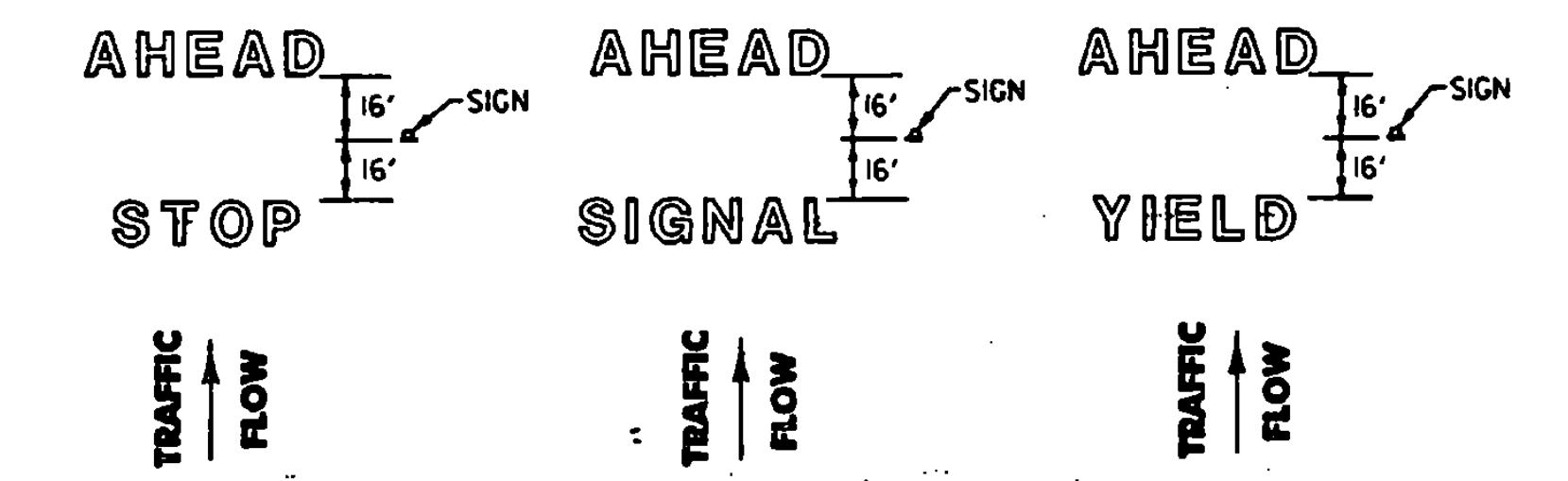


EDGE LINE LAYOUTS

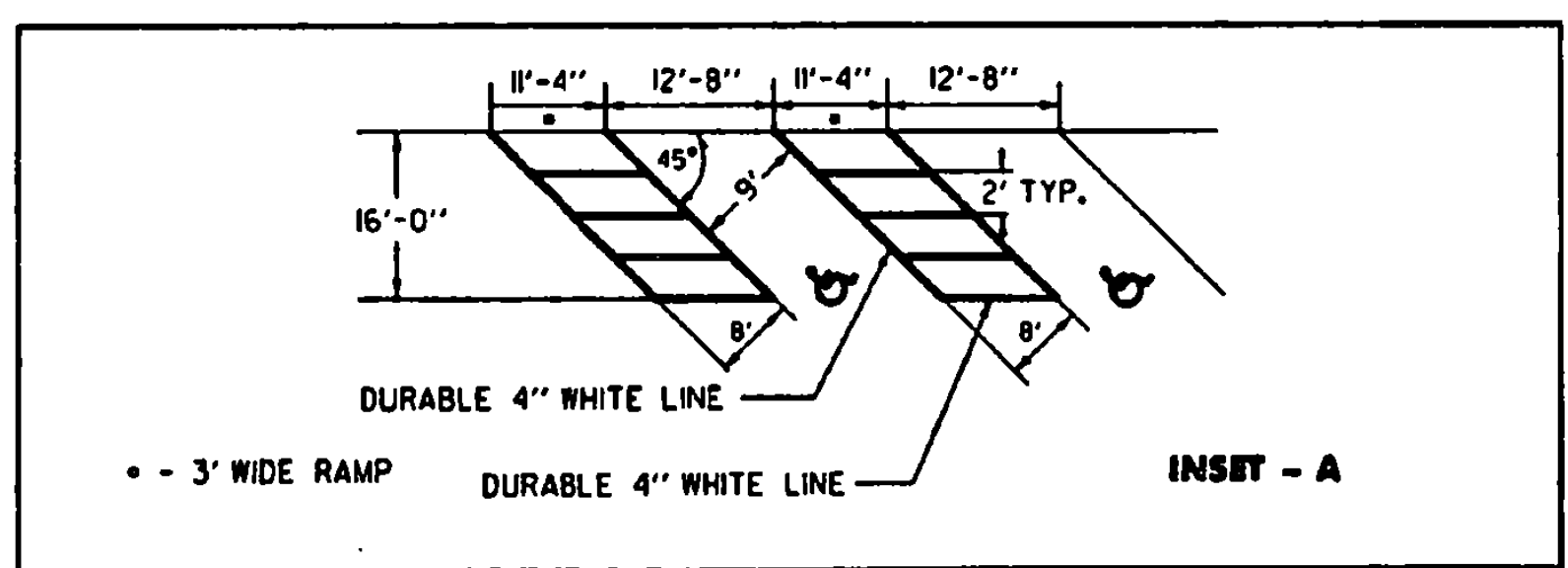
EDGE LINES SHALL BE APPLIED TO ALL STATE HIGHWAYS AND SHOULD BE MAINTAINED AT A CONSTANT DISTANCE FROM THE CENTERLINE UNLESS PAVEMENT WIDTH INCREASES TO ALLOW WIDER LANES.

APPLY EDGE LINE AS DETAILED ON ALL PAVED CLASS 1 & CLASS 2 TOWN HIGHWAYS AND ANY CLASS 3 TOWN HIGHWAY 22 FEET OR MORE IN WIDTH.

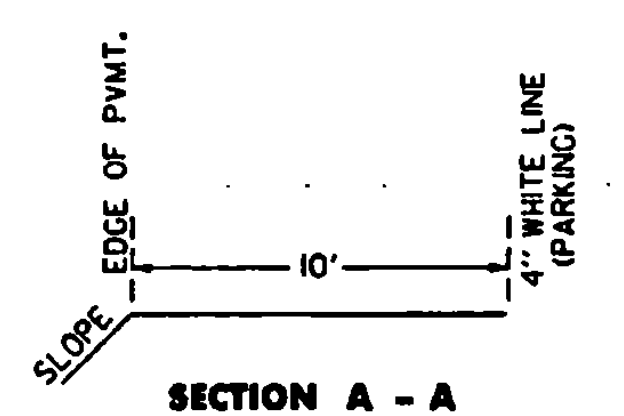
IF MIN. 30 FOOT RADIUS CANNOT BE OBTAINED, OR THE TOWN HIGHWAY IS NOT PAVED, BREAK THE EDGE LINE USING AN 80 FOOT GAP AT INTERSECTION.



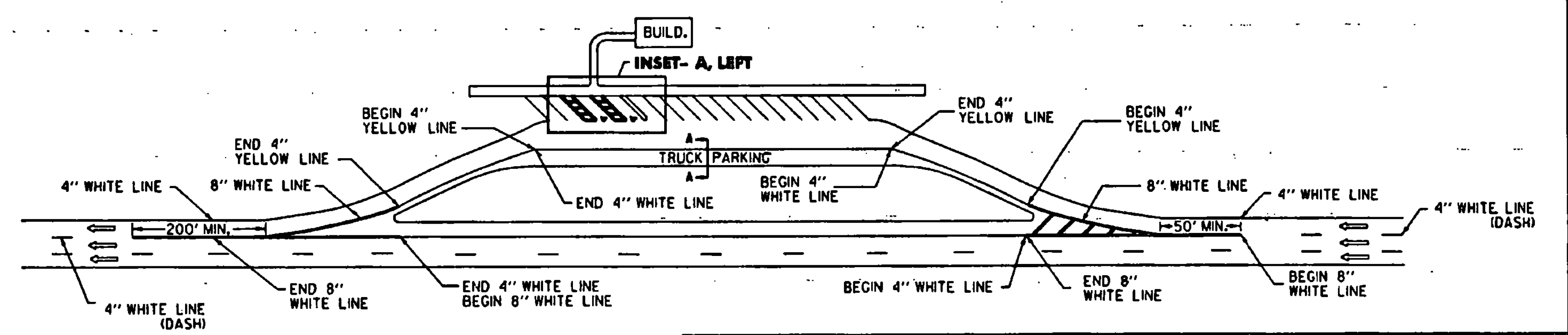
LETTER IN WORD MARKING SPACING DETAIL
NOTE: SINGLE WORDS CENTERED ON SIGN 1e: SCHOOL OR YIELD



NOTE:
SEE STANDARD SHEET E-191 FOR HANDICAP SYMBOL POSITIONING AND DETAIL.



TRUCK PARKING DETAIL



REST AREA PARKING DETAILS

THIS SHEET IS NOT TO SCALE

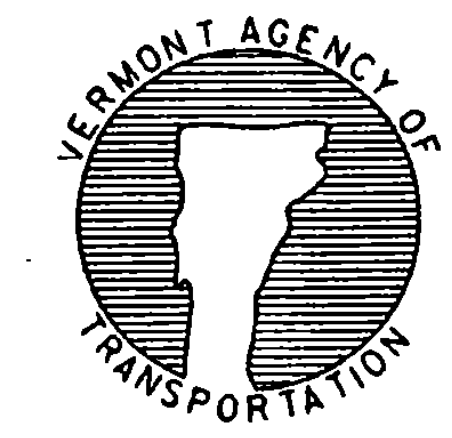
OTHER STDS. E - 191, E - 192 REQUIRED

REVISIONS AND CORRECTIONS
AUG. 18, 1995 - DATE OF ORIGINAL ISSUE

APPROVED
Scott D. MacCallister
DIRECTOR OF ENGINEERING

Dwight Ross
TRAFFIC AND SAFETY ENGINEER

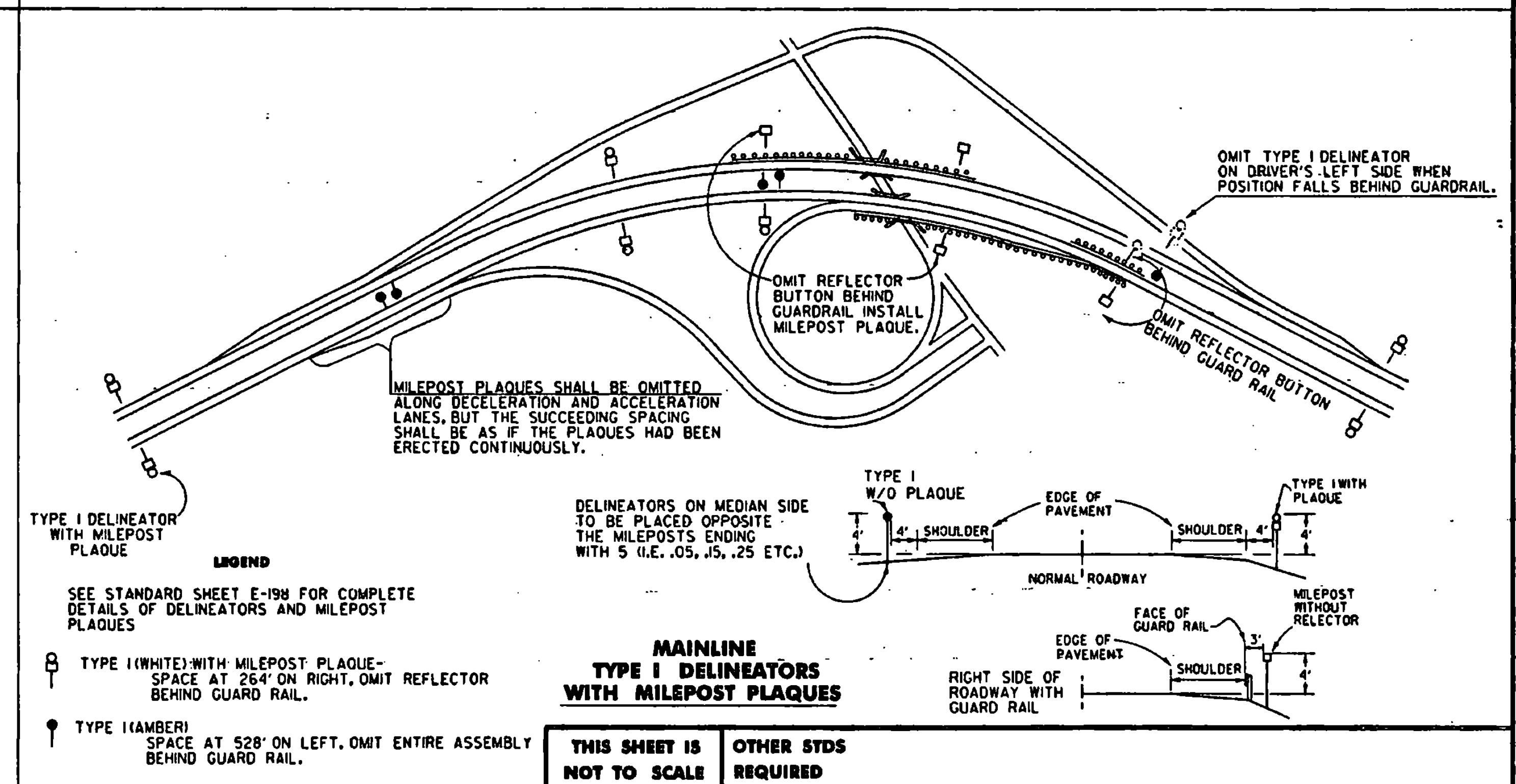
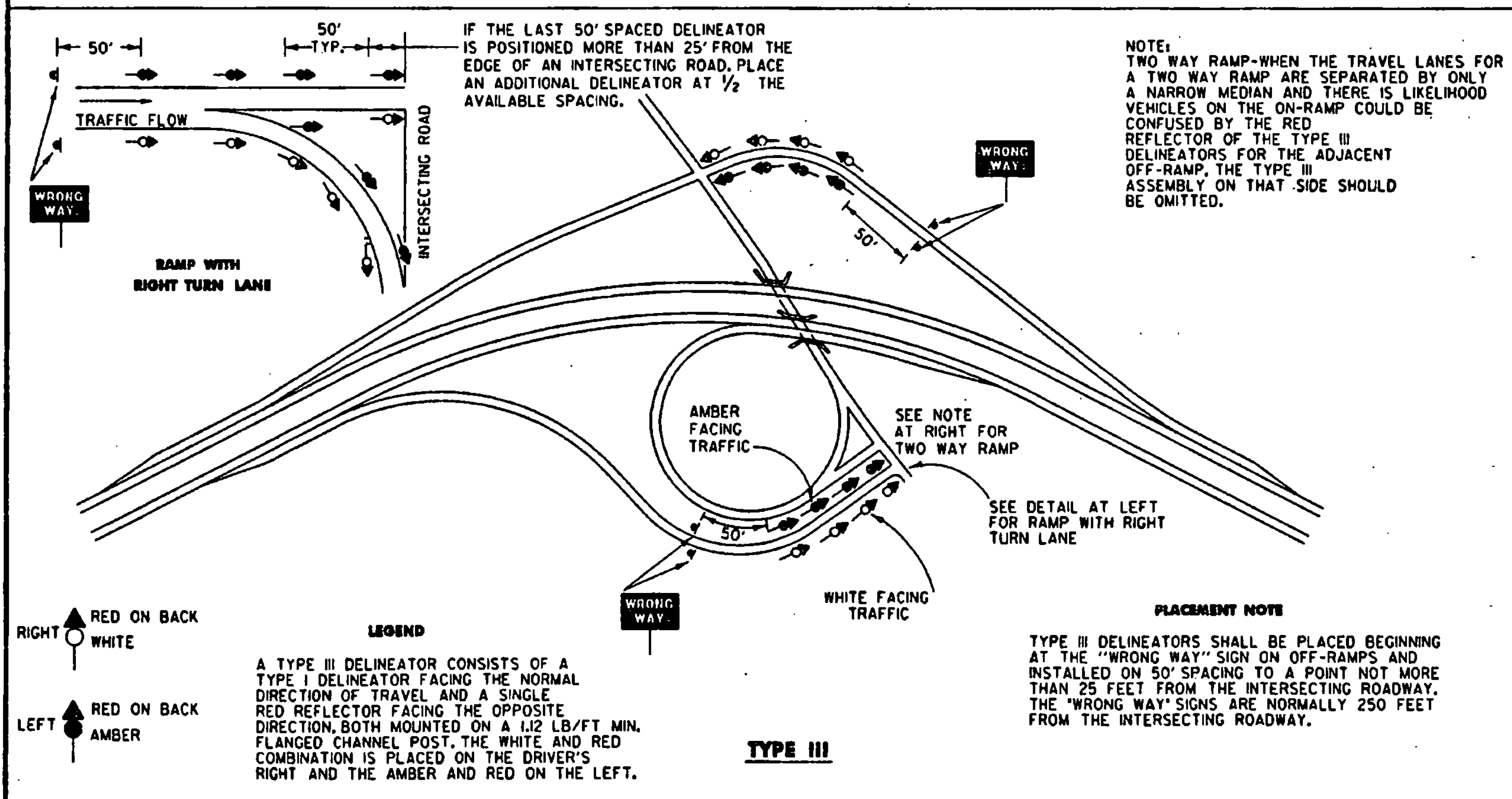
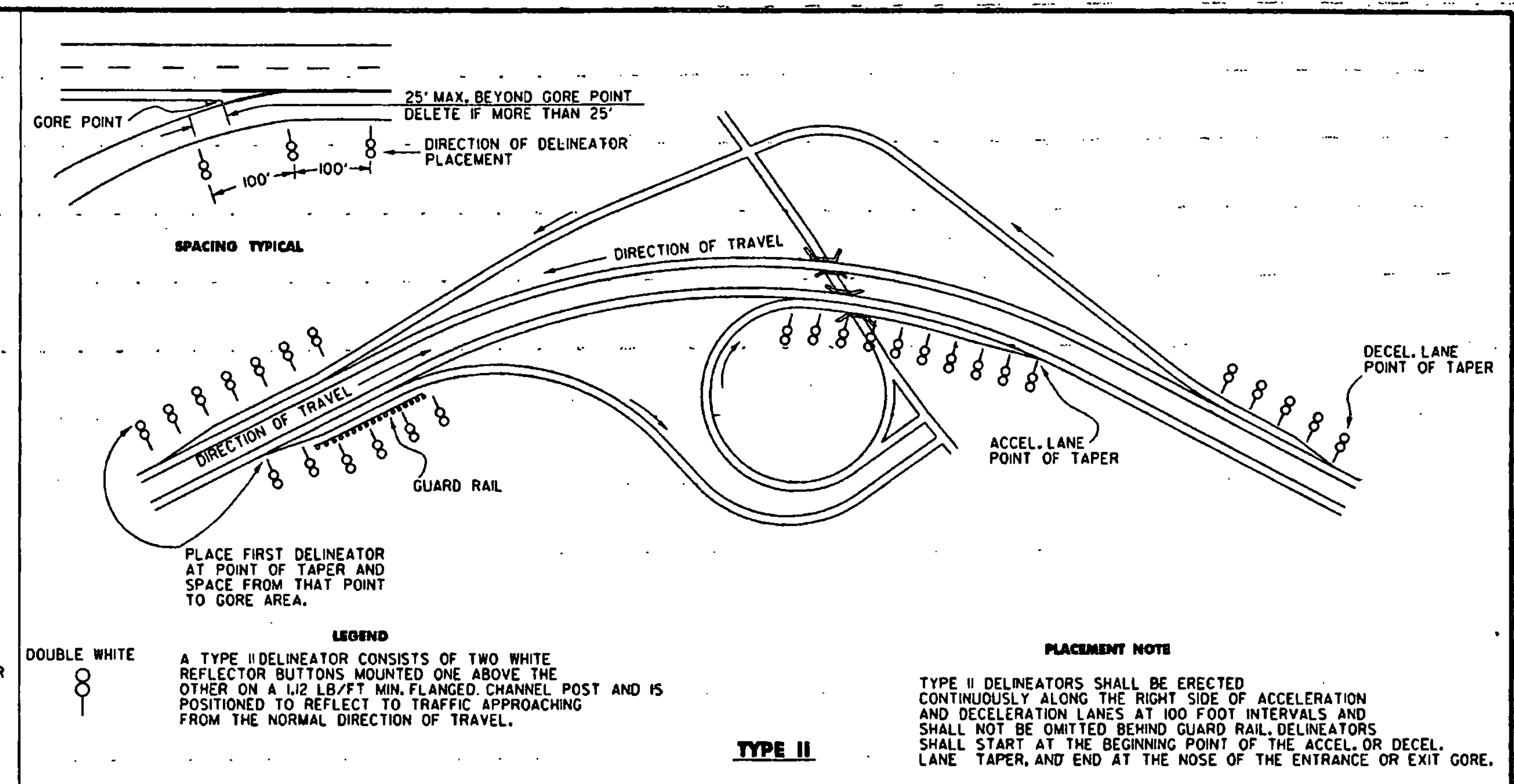
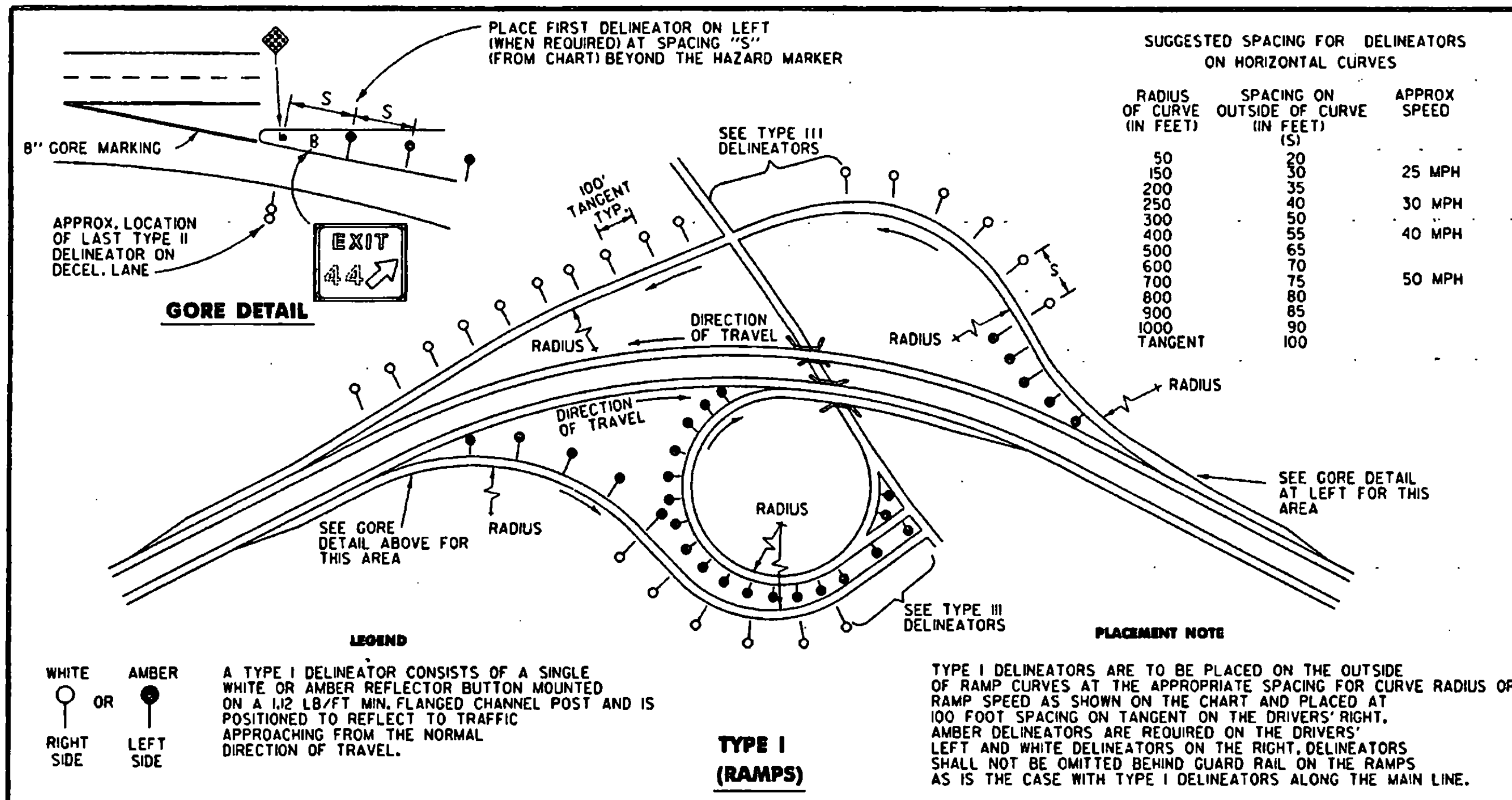
PAVEMENT MARKING DETAILS



STANDARD E-193

/traf/std/stdel93.dgn/stdel93.1

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.



REVISIONS AND CORRECTIONS

JAN. 23, 1989 - DATE OF ORIGINAL ISSUE
AUG. 18, 1995 - REVISED NOTES

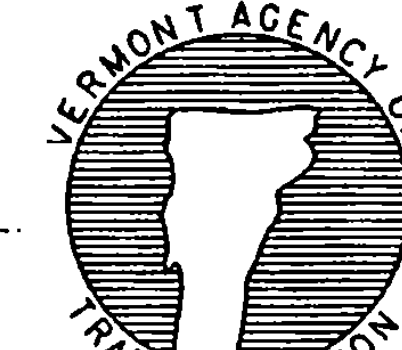
APPROVED

James D. McArthur
DIRECTOR OF ENGINEERING

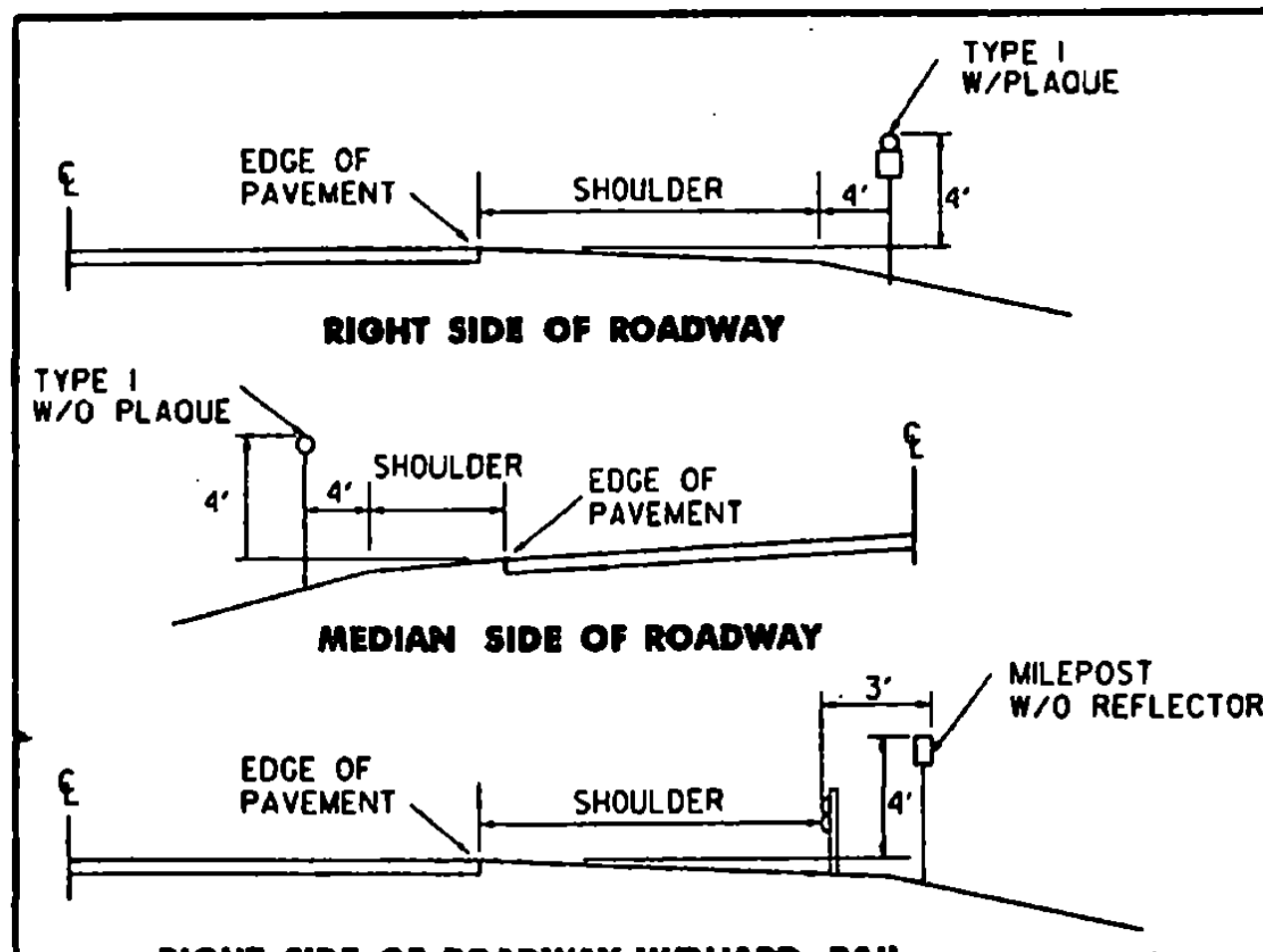
Debra Ross
TRAFFIC AND SAFETY ENGINEER

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

DELINEATOR PLACEMENT
TYPICAL



STANDARD
E-197



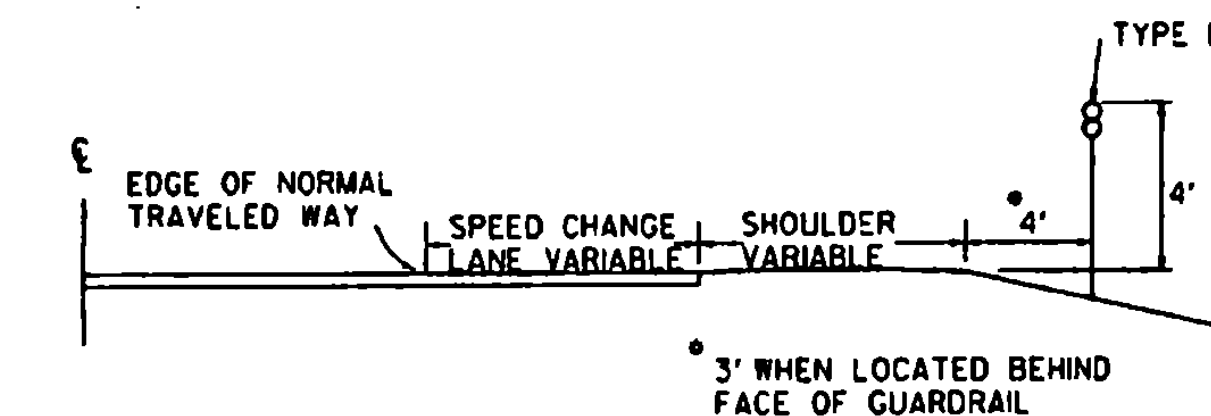
TYPICAL PLACEMENT OF TYPE I DELINEATORS AND MILEPOSTS ON DIVIDED HIGHWAY

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

THE TYPE I DELINEATORS WITH OR WITHOUT MILEPOST PLAQUES 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 DIVIDED HIGHWAYS."

TYPE I AMBER DELINEATORS WITHOUT MILEPOST PLAQUES SHALL BE ERECTED CONTINUOUSLY ALONG THE LEFT OR MEDIAN SIDE ON THE DIVIDED HIGHWAYS EXCEPT BEHIND GUARD RAIL, 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. TYPE I DELINEATORS WITHOUT MILEPOST PLAQUE SHALL BE INSTALLED ON INTERSTATE RAMPS AS SHOWN ON THE PLANS.



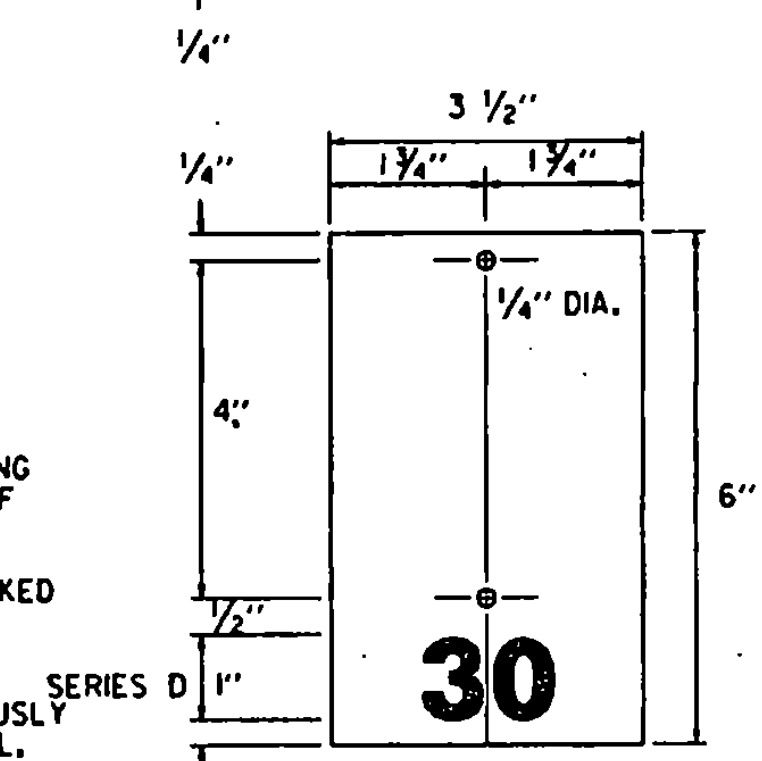
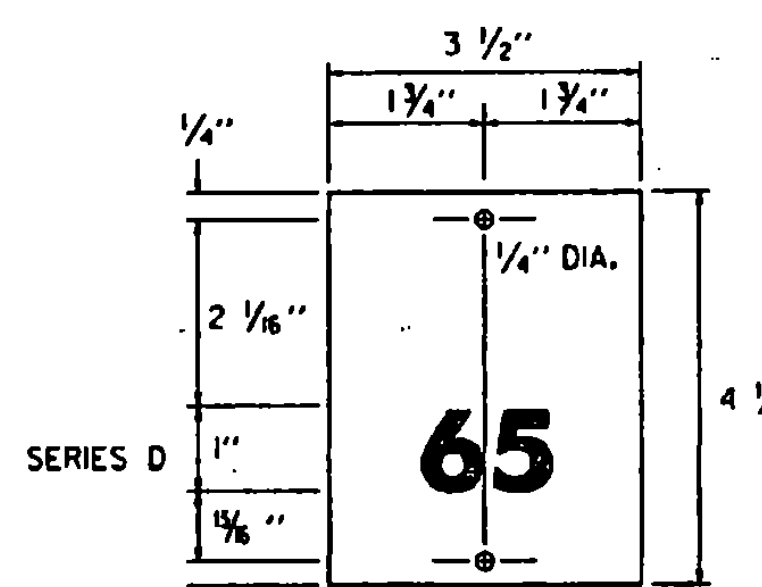
TYPICAL PLACEMENT OF TYPE II DELINEATORS ON SPEED CHANGE LANES

TYPE II DELINEATORS SHALL BE ERECTED CONTINUOUSLY ALONG THE RIGHT SIDE OF THE DECELERATION AND ACCELERATION LANES AT 100' INTERVALS INCLUDING GUARDRAIL SECTIONS 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 DIVIDED HIGHWAY AND BE MOUNTED ON BOTH SIDES OF THE ROAD AS SHOWN ON THE PLANS.

MILEPOST PLAQUE "A" (THE NUMERALS ON PART "A" INDICATE THE MILE.)

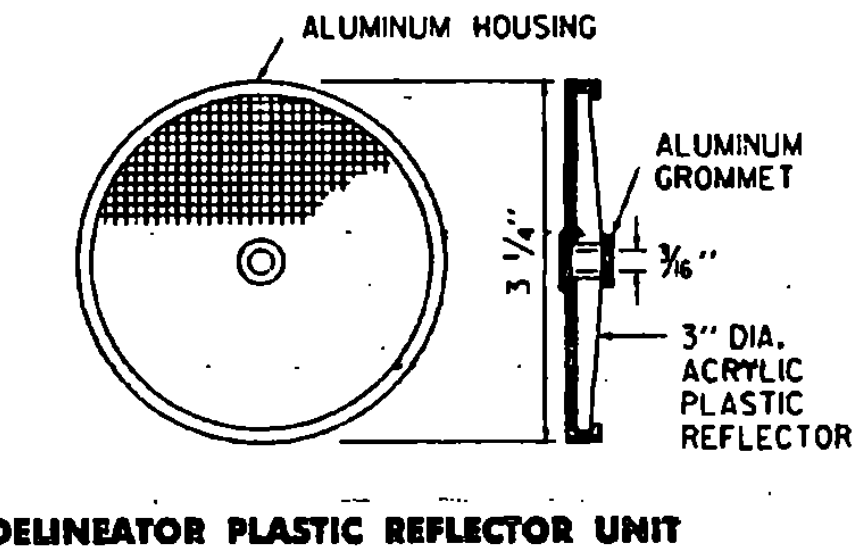
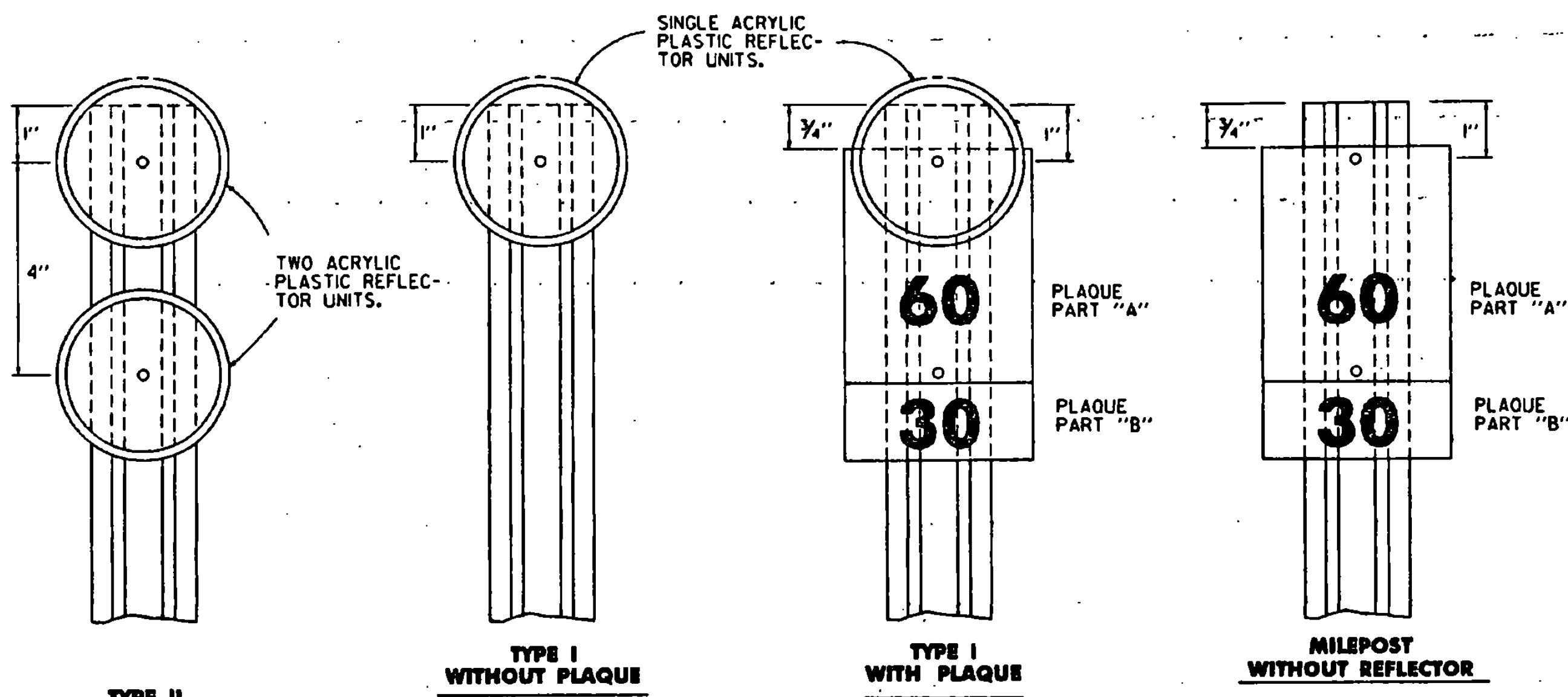


MILEPOST PLAQUE PART "B" (THE NUMERAL ON PART "B" INDICATES IN FIVE ONE-HUNDRETHS OF A MILE BETWEEN MILE INCREMENTS.)

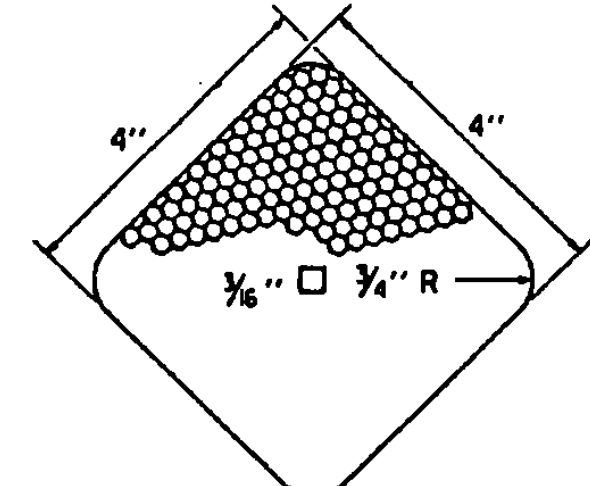
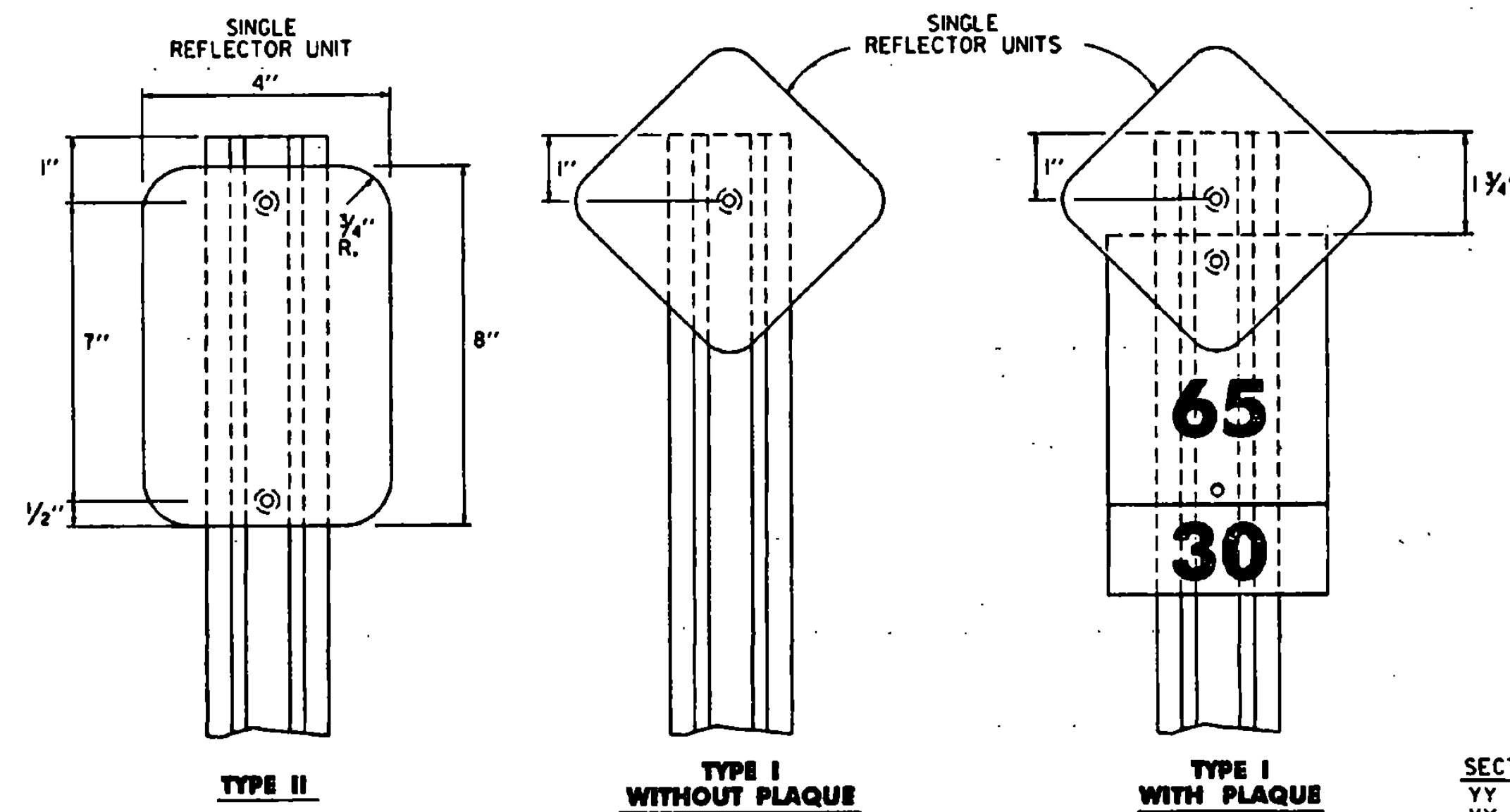
NOTES

- 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 RAMPS AS INDICATED ON THE PLANS.
- 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."
- FOR MOUNTING DELINEATORS AND MILEPOSTS ON BRIDGES, SEE STANDARD E-199.
- DELINEATOR POSTS SHALL HAVE A MINIMUM EMBEDMENT OF 2' IN THE GROUND.

DELINEATORS WITH ACRYLIC PLASTIC REFLECTORS



DELINEATOR PLASTIC REFLECTOR UNIT

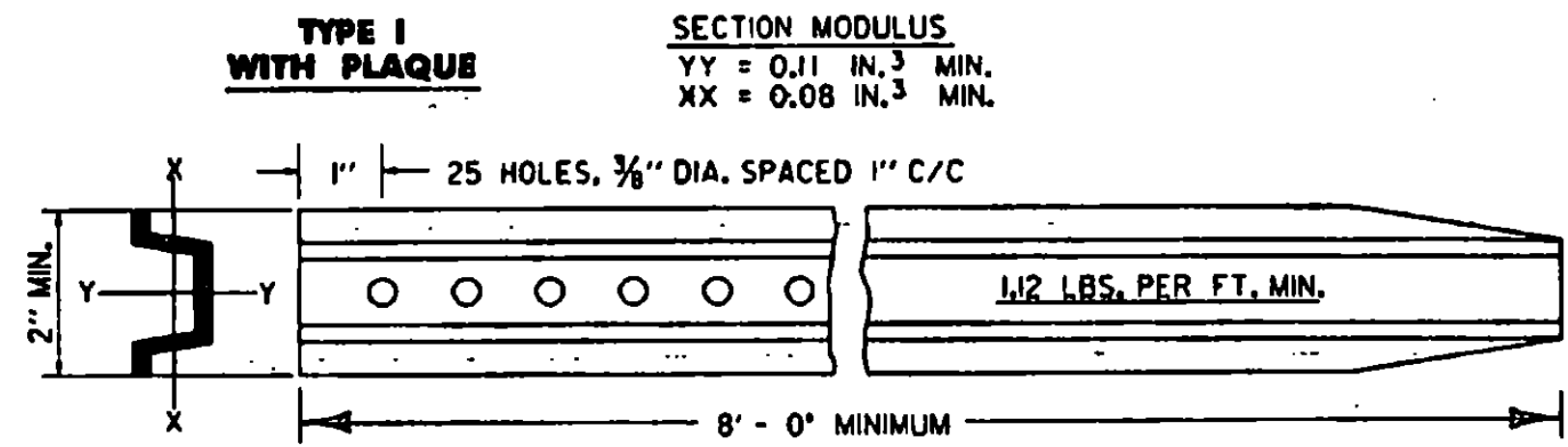


DELINEATOR REFLECTIVE SHEETING UNIT

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

DELINEATORS WITH REFLECTIVE SHEETING

MILEPOST PLAQUES WITH OR A WITHOUT REFLECTOR UNIT SHALL BE MOUNTED ON THE POST WITH TWO OR THREE 3/8" DIA. BY 1 1/2" LONG ALUMINUM BOLTS WITH 1/2" DIA. ALUMINUM VANDAL RESISTANT NUTS, OR 3/8" DIA. BY 1 1/2" LONG VANDAL RESISTANT FASTENERS.



SECTION MODULUS
YY = 0.11 IN.³ MIN.
XX = 0.08 IN.³ MIN.

NOT TO SCALE

OTHER STDS. REQUIRED:

REVISIONS AND CORRECTIONS
SEPT. 10, 1987 - DATE OF ORIGINAL ISSUE
AUG. 18, 1995 - MINOR NOTE REVISIONS

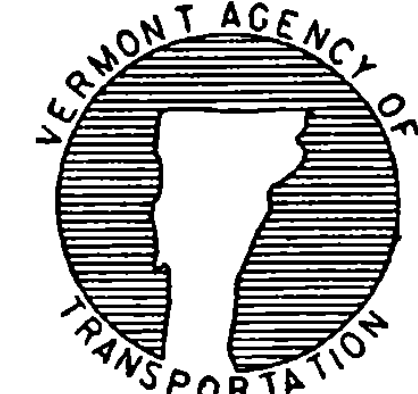
APPROVED

Stephen D. McArthur
DIRECTOR OF ENGINEERING

Paulo Pass
TRAFFIC AND SAFETY ENGINEER

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

**FREEWAY - EXPRESSWAY
DELINEATORS AND MILEPOSTS**



**STANDARD
E-198**