STATE OF VERMONT

AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT

STATEWIDE CRACK SEALING

SOUTHERN REGION

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES THE ROUTING AND SEALING OF CRACKS IN BITUMINOUS CONCRETE PAVEMENT ON EXISTING STATE HIGHWAYS AND THE APPROPRIATE TRAFFIC CONTROL.

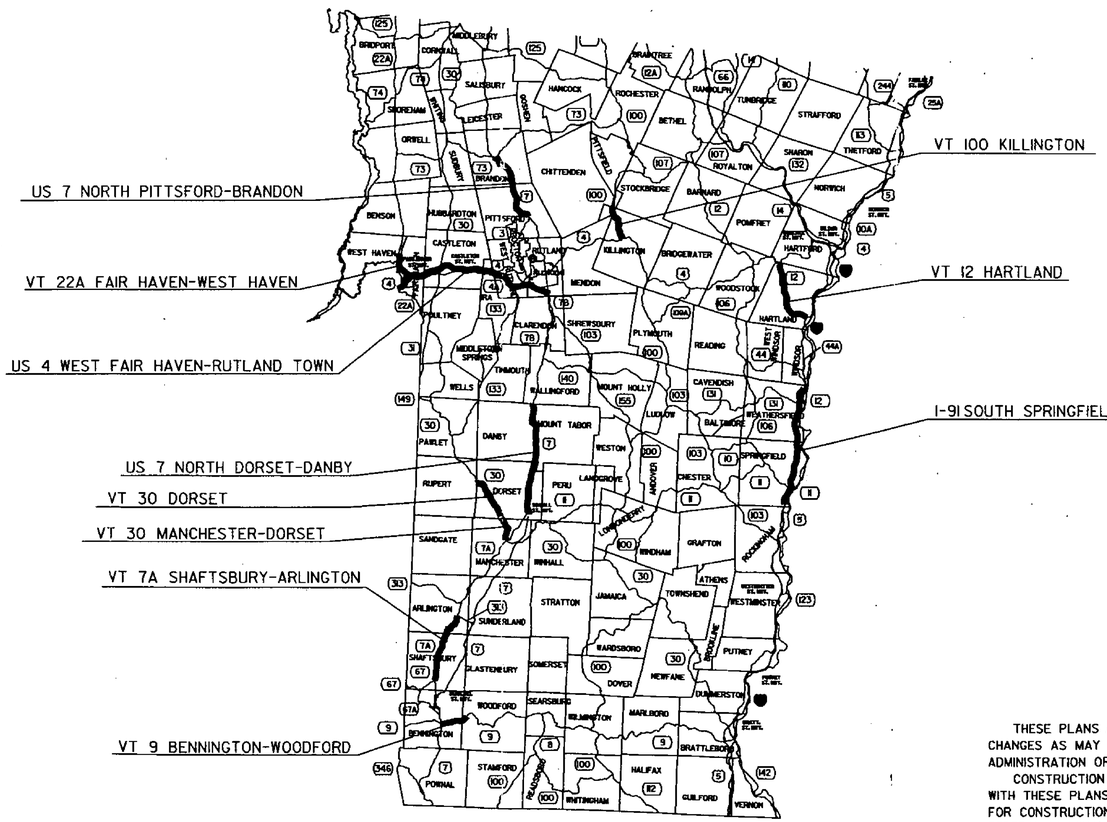
INDEX OF SHEETS

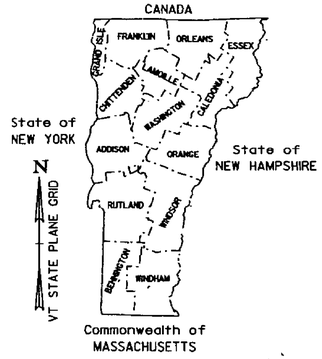
STANDARDS

E-100M	CONSTRUCTION APPROACH SIGNS	06/13/97
E-101M	CONSTRUCTION SIGN DETAIL	06/13/97
E-102AM	CONSTRUCTION SIGN DETAIL	06/13/97
E-102M	CONSTRUCTION SIGN DETAIL	06/13/97
E-103M	MAINLINE TRAFFIC CONTROL, DIVIDED HIGHWAY ONE LANE CLOSED	06/13/97
E-105M	TRAFFIC CONTROL FOR CONSTRUCTION VEHICLE U-TURNS ON DIVIDED HIGHWAY	06/13/97
E-106M	TRAFFIC CONTROL MISCELLANEOUS DETAILS	06/13/97
E-110M	MAJOR MAINTENANCE OPERATION LANE CLOSURE	06/13/97
E-111M	TRAFFIC SIGNS, TYPICAL MINOR MAINTENANCE OPERATION APPROACH SIGNS	06/13/97

CONTRACT PLANS

THESE PLANS DO NOT REFLECT CHANGES MADE ON THE PROJECT.





Acorn Coatings Corp.
Contractor

Signature

President
Title

Director of Finance and Administration
or Duly Authorized Agent

8/19/02
Date

CONVENTIONAL SIGNS

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

DATUM
VERTICAL
HORIZONTAL

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIR. OF PROJECT DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

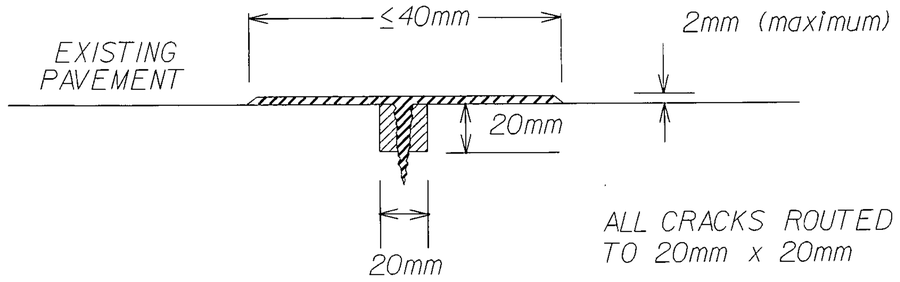
Metric

APPROVED _____ DATE 8/5/02
DIRECTOR OF PROJECT DEVELOPMENT

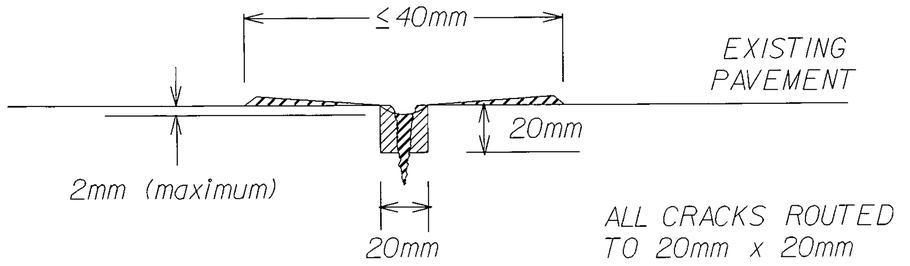
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR

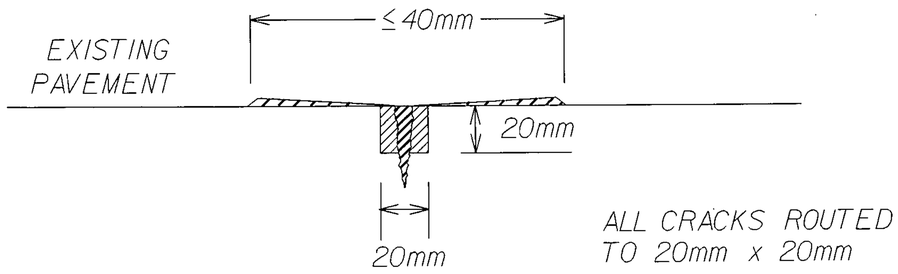
PROJECT STATEWIDE
STP CRAK(17)
SHEET 1 OF 5 SHEETS



MAXIMUM FILL DEPTH



MINIMUM FILL DEPTH



TARGET FLUSH FILL

NOTES

1. A STRIKE OFF FLUSH FILL TECHNIQUE WILL BE USED FOR MATERIAL APPLICATION. STRIKE OFF MAY BE ACCOMPLISHED WITH A SHOE.
2. ALL CRACKS WILL BE ROUTED TO 20mm BY 20mm PRIOR TO SEALING. ROUTED CRACKS SHALL BE SEALED WITHIN THE SAME WORKDAY.
3. CRACKS THAT ARE TO BE ROUTED AND SEALED SHOULD HAVE WIDTHS NO LESS THAN 3mm AND NO GREATER THAN 20mm UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
4. LIMITS OF WORK SHOWN ON PLANS, BEGIN AND END M.M., MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO ACCOUNT FOR CONDITIONS IN THE FIELD.
5. AMBIENT TEMPERATURE RANGE: 5°C TO 40°C.
6. PAVEMENT TEMPERATURE RANGE: 10°C TO 60°C
7. RELATIVE HUMIDITY SHOULD BE LESS THAN 80 PERCENT.
8. PAVEMENT SURFACE AND CRACKS MUST BE CLEAN AND DRY PRIOR TO APPLICATION.
9. TEMPERATURE OF SEALANT ±3°C FROM MANUFACTURER'S SPECIFIED TEMPERATURE APPLICATION.
10. BACKFLUSHING OF HOSE AND APPLICATOR WAND IS NECESSARY ANYTIME THE APPLICATION OF SEALANT HAS BEEN DELAYED FOR A PERIOD GREATER THAN 15 MINUTES.
11. THE DISTANCE BETWEEN APPLICATOR AND SQUEEGEE SHOULD BE LESS THAN 1 METER, BUT IN NO CASE SHOULD IT BE GREATER THAN 2 METERS.
12. THE TIME DELAY BETWEEN THE HOT AIR LANCE TREATMENT AND THE APPLICATION OF THE SEALANT SHOULD BE LESS THAN TWO MINUTES, BUT IN NO CASE GREATER THAN FIVE MINUTES.
13. THE ACCEPTABLE SEALANT THICKNESS SHALL BE IN THE RANGE OF + 2mm ABOVE SURFACE TO - 2mm BELOW SURFACE. THICKNESSES ABOVE THE SURFACE GREATER THAN 2mm AND RECESSES GREATER THAN 2mm BELOW THE SURFACE SHALL BE REMOVED, REPAIRED AND REPLACED.
14. THE MANUFACTURER'S RECOMMENDATIONS ON CURING OF MATERIAL WILL BE SUPPLIED IN ADVANCE OF ACTIVITIES. THE CURE TIMES MAY BE SHORTENED OR EXTENDED TO MEET CONDITION IN THE FIELD AS DIRECTED BY THE ENGINEER.
15. ANY MATERIAL HEATED ABOVE THE MANUFACTURERS RECOMMENDED MAXIMUM WILL NOT BE USED ON PROJECT.

	PROJECT: STATEWIDE	PROJECT NO.: STP CRAK(17)
CRACKFILL TYPICAL	DESIGN FILE NAME: /pave/01k240/pk240.dgn IPARM FILE NAME: pk240typ.i SURVEYED BY: SQUAD LEADER: K. LOCKE	PLOT DATE: 25-JUN-2002 SURVEY DATE: DRAWN BY: K. LOCKE SHEET: 2 OF 5

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

				ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
				79000	79000	KG	BITUMINOUS CRACK FILLING	417.10	EST
				200	200	HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST
				1450	1450	HR	FLAGGERS	630.15	EST
				1	1	LS	MOBILIZATION	635.10	EST
				2	2	EA	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	EST

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME :
STATEWIDE

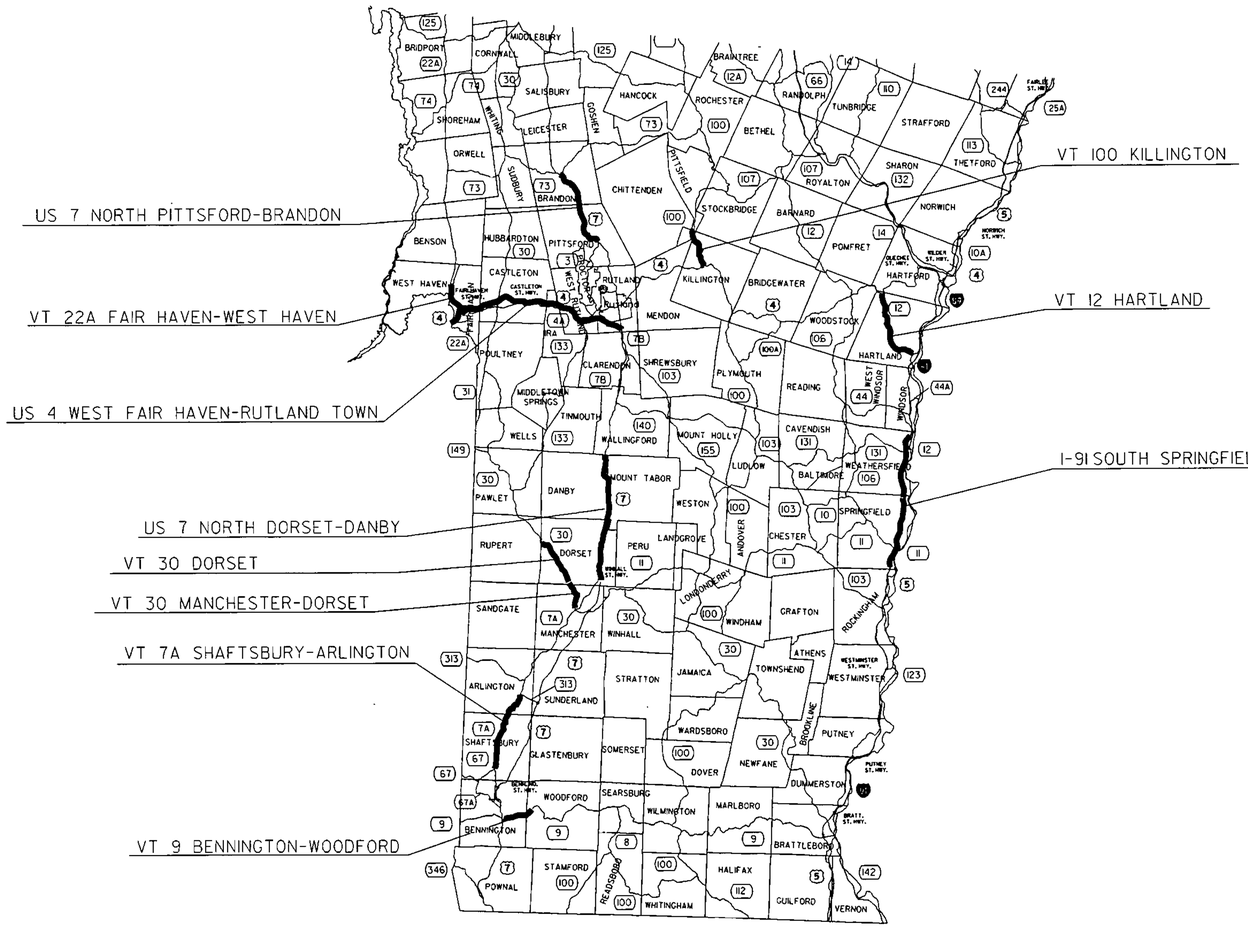
PROJECT NO.:
STP CRAK(17)

DESIGN FILE NAME: /pave/01k240/pk240.dgn
IPARM FILE NAME: pk240qs.i
SURVEYED BY:
SQUAD LEADER: K. LOCKE

PLOT DATE: 25-JUN-2002
SURVEY DATE:
DRAWN BY: K. LOCKE
SHEET: 3 OF 5

SOUTHERN REGION

Metric



	PROJECT: STATEWIDE	PROJECT NO.: STP CRAK(17)
CRACKFILL LOCATION LAYOUT	DESIGN FILE NAME: /pave/01k240/pk240.dgn IPARM FILE NAME: pk240101.i SURVEYED BY: SQUAD LEADER: K. LOCKE	PLOT DATE: 25-JUN-2002 SURVEY DATE: DRAWN BY: K. LOCKE SHEET: 4 OF 5

Metric

CRACK FILLING TO BE PERFORMED AT THE FOLLOWING LOCATIONS.

LOCATION MAY BE ADJUSTED BY THE RESIDENT ENGINEER TO ACCOUNT FOR FIELD CONDITIONS.

ROAD	TOWN BEGINNING	MM BEGINNING	TOWN END	MM ENDING	LENGTH KILOMETERS	LANE LENGTH KILOMETERS	DISTRICT
I 91 S	SPRINGFIELD	41.300	WEATHERSFIELD	51.500	16.415	32.830	2
US 4 W	FAIR HAVEN	0.010	RUTLAND TOWN	2.438	30.271	60.542	3
US 7 N	DORSET	1.745	DANBY	2.472	18.713	37.426	1
US 7 N	PITTSFORD	2.762	BRANDON	3.357	13.174	26.347	3
VT 7A	SHAFTSBURY	1.156	ARLINGTON	2.765	13.685	27.370	1
VT 9	BENNINGTON	5.901	WOODFORD	1.250	3.569	7.138	1
VT 12	HARTLAND	0.599	HARTLAND	7.704	11.434	22.868	4
VT 22A	FAIR HAVEN	2.234	WEST HAVEN	1.360	5.723	11.446	3
VT 30	MANCHESTER	0.163	DORSET	0.293	4.691	9.382	1
VT 30	DORSET	0.293	DORSET	5.224	7.935	15.870	1
VT 100	KILLINGTON	0.000	KILLINGTON	3.250	5.230	10.460	3
			TOTAL (KILOMETERS)		130.840	261.680	

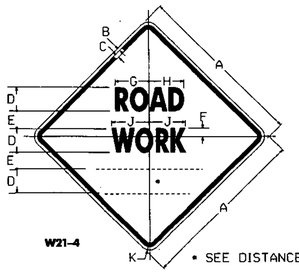
CRACK FILL LOCATION DETAIL

PROJECT: STATEWIDE

PROJECT NO.: STP CRAK(17)

DESIGN FILE NAME: /pave/01k240/pk240.dgn
IPARM FILE NAME: pk240det.i
SURVEYED BY:
SQUAD LEADER: K. LOCKE

PLOT DATE: 25-JUN-2002
SURVEY DATE:
DRAWN BY: K. LOCKE
SHEET: 5 OF 5



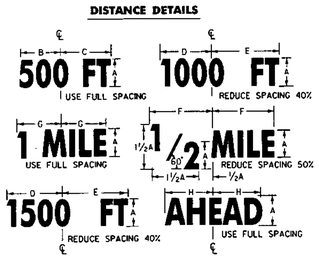
W21-4

* SEE DISTANCE DETAILS

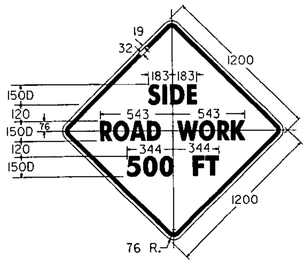
COLORS
TEXT AND BORDER - BLACK (NON-REFL.)
BACKGROUND - ORANGE (REFL.)

SIGN	DIMENSIONS (mm)									
	A	B	C	D	E	F	G	H	J	K
MIN.	750	13	19	1000	73	67	171	178	183	48
STD.	900	16	22	1250	89	83	213	225	229	57
SPECIAL	1200	19	32	1750	121	114	297	316	321	76

DISTANCE DETAILS

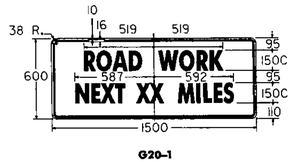


DIMENSIONS (mm)							
A	B	C	D	E	F	G	H
150C	264	267	286	305	318	232	267
175C	305	310	333	356	370	270	311
125D	259	275	295	286	286	241	276
150D	310	329	324	343	343	300	333
175D	362	384	378	400	400	332	394
200D	413	438	432	457	457	365	443



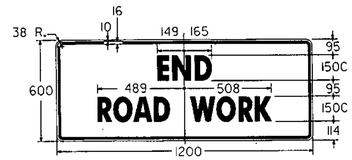
VC-839

OR **LEFT** - 451
RIGHT - 559
500 FT - 375
FT - 205



G20-1

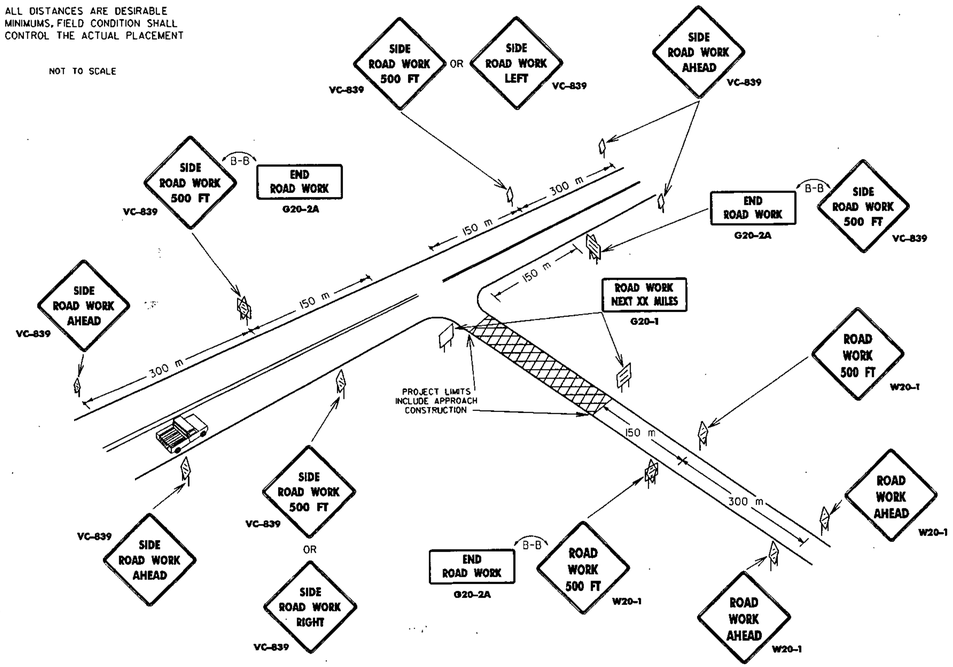
THIS SIGN TO BE USED WHEN PROJECT LENGTH EXCEEDS 3 km OR AS REQUESTED BY THE RESIDENT ENGINEER. SHOW MILEAGE TO NEAREST "1/4 MILE" USING FRACTIONS, NOT DECIMALS. HAND LETTERING OF MILEAGE WILL NOT BE ALLOWED.



G20-2A

ALL DISTANCES ARE DESIRABLE MINIMUMS, FIELD CONDITION SHALL CONTROL THE ACTUAL PLACEMENT

NOT TO SCALE



SIDE ROAD CONSTRUCTION APPROACH SIGNING (TO BE USED WHEN CONSTRUCTION IS UP TO 300m FROM THE INTERSECTION)

NOTES

THE SIGNS SHOWN ON THIS SHEET ARE INTENDED FOR USE IN PROVIDING ADVANCE WARNING AND INFORMATION ON CONSTRUCTION PROJECTS OVER WHICH TRAFFIC WILL BE MAINTAINED. WHEN ADDITIONAL APPROACH SIGNS OR OTHER TYPES OF ADVANCE SIGNING OR CONTROL ARE NECESSARY, THE PLANS AND/OR THE SPECIFICATIONS FOR THAT PROJECT WILL GIVE THE DETAILS OF THE SIGNS AND DEVICES REQUIRED. FOR ON-PROJECT CONSTRUCTION SIGNS, REFER TO APPROPRIATE STANDARD SHEETS.

APPLICATION OF STANDARDS

SINCE IT IS NOT POSSIBLE TO PRESCRIBE DETAILED STANDARDS OF APPLICATION FOR ALL OF THE SITUATIONS THAT MAY CONCEIVABLY ARISE ON A CONSTRUCTION PROJECT, REFERENCE SHALL BE MADE TO THE ''MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES'' FOR THE PRINCIPLES, PROCEDURES, AND STANDARDS THAT WILL BE REQUIRED IN CONNECTION WITH ADVANCED WARNING AND ON-PROJECT CONSTRUCTION SIGNS AND BARRICADES. THE SIGNS SHOWN IN E-101M AND E-102M REPRESENT A SAMPLE OF THOSE MORE COMMONLY USED.

LOCATION

THE SIGNS SHALL BE LOCATED AS DETAILED ON THIS SHEET OR AS OTHERWISE SHOWN ON THE PLANS. THEY SHALL APPEAR AT EACH END OF THE HIGHWAY UNDER CONSTRUCTION AND ON ALL INTERSECTING PUBLIC HIGHWAYS. THE EXACT PLACEMENT OF ANY SIGN WILL DEPEND UPON THE ALIGNMENT INTENDED TO INDICATE THE SEQUENCE TO BE FOLLOWED, AND THE APPROXIMATE SPACING TO BE OBSERVED. THE ENGINEER SHALL DETERMINE THE EXACT LOCATIONS.

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 TRAFIC CONTROL DEVICES ADOPTED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMIN..

MATERIALS

THE SIGN BASE MATERIAL USED FOR THE SIGNS ON THIS SHEET MAY BE ANY OF THE FOLLOWING, WITH MINIMUM THICKNESS AS NOTED.

FLAT SHEET ALUMINUM	3.18 mm
HIGH DENSITY OVERLAYED PLYWOOD	13mm, 16mm OR 19mm
GALVANIZED SHEET STEEL	2.77 mm

REFLECTORIZATION

ALL REFLECTORIZED MATERIAL SHALL CONSIST OF TYPE IIB OR TYPE III SHEETING.

COLORS

THE COLORS SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICALS AND APPROVED BY THE U.S. DEEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION. COLORS SHOWN ON THIS SHEET CONSIST OF BLACK TEXT AND BORDER ON A REFLECTORIZED ORANGE BACKGROUND.

INSTALLATION

THE SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES. DURING PERIODS OF INACTIVITY, OR UPON COMPLETION OF THE WORK, SIGNS MAY BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER ON POSTS SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST 2100 mm ABOVE THE EDGE OF PAVEMENT, AND THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST 1800 mm OUTSIDE THE SHOULDER POINT, 1200 mm OUTSIDE GUARD RAIL, OR 600 mm OUTSIDE CURBING OR SIDEWALK. THE INSTALLATION OF SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER. IN URBAN AREAS, THE BOTTOM OF THE SIGN SHALL BE AT LEAST 2100 mm ABOVE THE SIDEWALK.

MAINTENANCE

SIGNS SHALL BE MAINTAINED IN A CLEAN AND LEGIBLE CONDITION SATISFACTORY TO THE ENGINEER. THEY SHALL BE COMPLETELY VISIBLE TO APPROACHING TRAFFIC AT ALL TIMES. THEY SHALL BE KEPT PLUMB AND LEVEL, AND ALWAYS PRESENT A NEAT APPEARANCE. DAMAGED, DEFACED, OR DIRTY SIGNS SHALL BE REPAIRED, CLEANED OR REPLACED AS ORDERED BY THE ENGINEER.

GENERAL

THE COST OF FURNISHING, INSTALLING, MAINTAINING AND REMOVING ALL CONSTRUCTION APPROACH SIGNS WILL BE CONSIDERED SUBSIDIARY WORK PERTAINING TO THE PROJECT AS A WHOLE AND SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR VARIOUS ITEMS INVOLVED IN THE CONTRACT. DURING ALL PHASES OF CONSTRUCTION THE REQUIREMENTS SET FORTH IN THE ''MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES'' SHALL BE MET. WHEN THE PROJECT IS CLOSED DOWN FOR TEMPORARY PERIODS THE SIGNS SHALL BE COVERED IN A WORKMANLIKE MANNER.

SIGN COVERS

SIGN COVERS SHALL CONSIST OF A PANEL PAINTED FLAT BLACK. THE SAME SIZE AS THE SIGN IT COVERS. THE PANEL SHALL BE OF WOOD, PLYWOOD, HARDBOARD OR ANY MATERIAL SATISFACTORY TO THE ENGINEER. NO MATERIAL WILL BE APPROVED THAT WILL DETERIORATE BY EXPOSURE TO THE WEATHER DURING THE PROJECT. MOUNTING OF THE PANEL SHALL BE DONE IN SUCH A WAY AS NOT TO DAMAGE THE SIGN FACE MATERIAL. CONTRACTORS SHALL COORDINATE THEIR SIGNING ACTIVITIES WITH OTHER CONTRACTORS WITHIN THE PROJECT LIMITS, AS DIRECTED BY THE REGIONAL CONSTRUCTION ENGINEER.

SIGN POSTS

WHERE CONSTRUCTION SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARD RAIL OR OTHER APPROVED TRAFFIC BARRIERS, THE POSTS ON WHICH THE SIGNS ARE MOUNTED SHALL BE YIELDING METAL POSTS AS DESIGNATED IN THE E SERIES OF STANDARD DRAWINGS OR YIELDING WOODEN POSTS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
WOODEN POSTS ARE ACCEPTABLE FOR USE WITH CONSTRUCTION SIGNS. THESE POSTS SHALL HAVE A UNIFORM CROSS-SECTION AND SHALL BE MADE FROM GRADE 2, AIR-DRIED SOUTHERN YELLOW PINE OR ANOTHER EQUIVELANT SOFTWOOD. AN ACCEPTABLE EQUIVELANT SOFTWOOD SHALL HAVE AN EXTREME FIBER IN BENDING "Fb" DESIGN VALUE NOT TO EXCEED 9700 kPa AND HORIZONTAL SHEAR "Fv" DESIGN VALUE NOT TO EXCEED 620 kPa. SPECIFICATION "DESIGN VALUES FOR WOOD CONSTRUCTION" AND RELATED SUPPLEMENT, DATED 1986.

AS ESTABLISHED BY THE NATIONAL FOREST PRODUCTS ASSOCIATION IN THEIR NATIONAL DESIGN THE FOLLOWING ARE CONSIDERED TO BE ACCEPTABLE WOODEN POSTS:

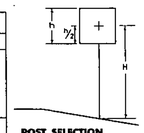
1. 100 X 100 (ACTUAL DIMENSIONS ARE 90 X 90)
   A) ACCEPTABLE FOR SINGLE OR DUAL POSTS INSTALLATION WITH NO MODIFICATIONS.
2. 100 X 150 (ACTUAL DIMENSIONS ARE 90 X 140)
   A) ACCEPTABLE FOR SINGLE POST INSTALLATIONS ONLY WHEN MODIFIED BY DRILLING TWO 38 mm DIAMETER HOLES, ONE AT 100 mm AND THE OTHER 460 mm ABOVE THE GROUND LINE AND PERPENDICULAR TO THE ROADWAY CENTERLINE.
3. 150 X 150 (ACTUAL DIMENSIONS ARE 140 X 140)
   A) ACCEPTABLE FOR SINGLE POST INSTALLATIONS ONLY WHEN MODIFIED BY DRILLING TWO 51 mm DIAMETER HOLES, ONE AT 100 mm AND THE OTHER AT 460 mm ABOVE THE GROUND LINE AND PERPENDICULAR TO ROADWAY CENTERLINE.
4. 150 X 200 (ACTUAL DIMENSIONS ARE 140 X 190)
   A) ACCEPTABLE FOR SINGLE POST INSTALLATIONS ONLY WHEN MODIFIED BY DRILLING TWO 76 mm DIAMETER HOLES, ONE AT 100 mm AND THE OTHER AT 460 mm ABOVE THE GROUND LINE AND PERPENDICULAR TO THE ROADWAY CENTERLINE.

ADDITIONAL DESIGN CRITERIA:

THE LONGER DIMENSION OF THE POST(S), SUCH AS THE 150 mm DIMENSION OF THE 100 X 150 POST, SHALL BE PLACED PARALLEL TO THE ROADWAY CENTERLINE.
ALL WOODEN POSTS SHALL HAVE AN EMBEDMENT DEPTH OF 1200 mm.
NO CROSS-BRACING OR BACK-BRACING TO KEEP THE POSTS PLUMB WILL BE ALLOWED.
CONCRETE FOUNDATIONS COLLARS OR SOIL BEARING PLATES ARE NOT PERMITTED.
CONSTRUCTION SIGNS SHALL BE PLACED ON TWO OR MORE POSTS WHEN ANY OF THE FOLLOWING CONDITIONS GOVERN:

A) THE SIGN WIDTH (HORIZONTAL DIMENSIONS FOR DIAMOND SHAPED SIGNS) EXCEEDS 1050 mm.
B) THE EXPOSED SIGN AREA OF ANY SINGLE SIGN OR ASSEMBLY EXCEEDS 1.125 m².
C) THE Sv OF A SINGLE POST IS EXCEEDED. (SEE THE POST SELECTION CHART BELOW)

WOOD POST SELECTION CHART		
SIGN AREA (m^2) X HEIGHT (m) < Sv (SELECTION VALUE)		
POST SIZE	Sv	DESIGN CRITERIA:
100 X 100	1.54	WIND SPEED = 100km/h (10-YEAR
100 X 150	3.51	MEAN OCCURENCE INTERVAL)
150 X 150	5.17	WIND PRESSURE = 740 Pa
150 X 200	9.30	ALLOWABLE BENDING STRESS F_b = 9700 kPa



POST SELECTION CHART DETAIL

OTHER STDS. REQUIRED:

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

REVISIONS AND CORRECTIONS
FEB 2, 1998 - DATE OF ORIGINAL ISSUE

APPROVED

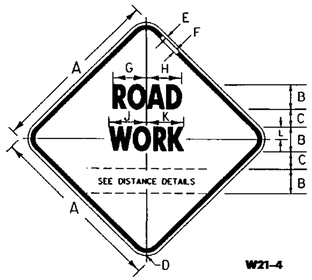
DIRECTOR OF PROJECT DEVELOPMENT

DIRECTOR OF CONSTRUCTION AND MAINTENANCE

SIDE ROAD CONSTRUCTION APPROACH SIGNS

VERMONT AGENCY OF TRANSPORTATION

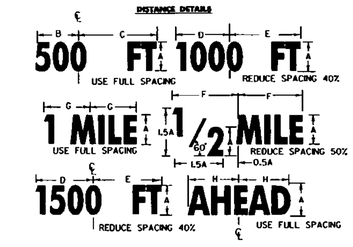
Metric STANDARD E-100AM

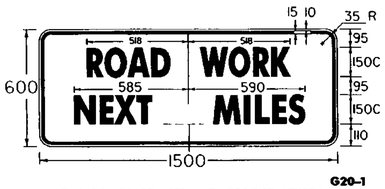


W21-4

	DIMENSIONS (mm)										
	A	B	C	D	E	F	G	H	J	K	L
STD.	1200	175C	120	75 R.	20	30	244	253	267	268	114
URBAN	900	125C	88	55 R.	15	20	173	180	189	192	82

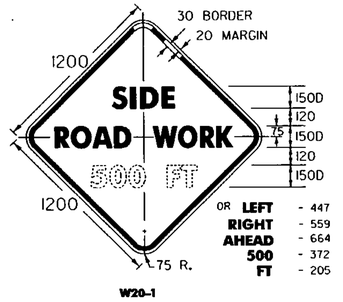
DISTANCE DETAILS





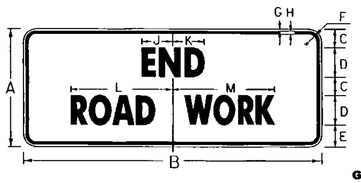
G20-1

THIS SIGN TO BE USED WHEN PROJECT LENGTH EXCEEDS 3 km OR AS REQUESTED BY THE RESIDENT ENGINEER. SHOW DISTANCE TO NEAREST "1/4 MILE" USING FRACTIONS, NOT DECIMALS. HAND LETTERING OF DISTANCE WILL NOT BE ALLOWED.



W20-1

	DIMENSIONS (mm)							
	A	B	C	D	E	F	G	H
125D	258	274	295	285	285	241	276
150C	263	266	285	304	317	232	267
175C	305	310	333	355	370	270	318
200D	412	438	432	457	457	365	443

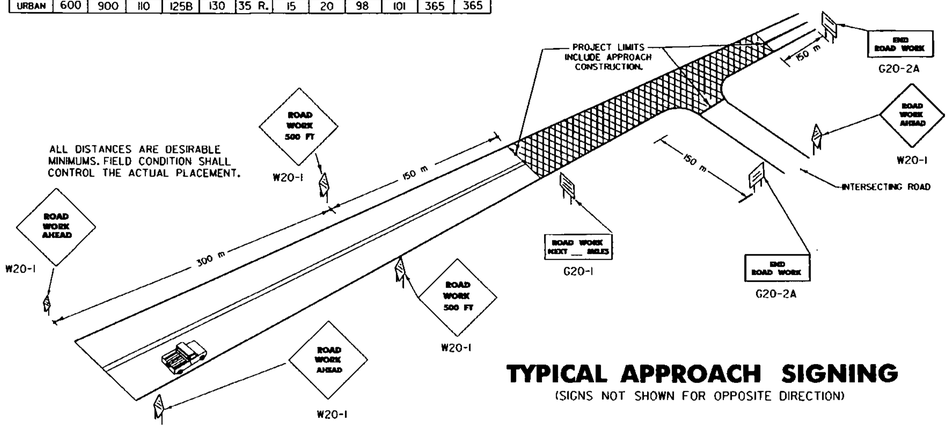


G20-2A

	DIMENSIONS (mm)										
	A	B	C	D	E	F	G	H	J	K	L	M
STD.	600	1500	95	150C	110	35 R.	10	15	148	152	517	518
URBAN	600	900	110	125B	130	35 R.	15	20	98	101	365	365

NOTE:

THE "END ROAD WORK" SIGN MAY BE PLACED BACK TO BACK WITH THE "ROAD WORK 500 FT." SIGN THAT WILL BE SET UP FOR CARS TRAVELING IN THE OPPOSITE DIRECTION.



TYPICAL APPROACH SIGNING

(SIGNS NOT SHOWN FOR OPPOSITE DIRECTION)

NOTES

THE SIGNS SHOWN ON THIS SHEET ARE INTENDED FOR USE IN PROVIDING ADVANCE WARNING AND INFORMATION ON CONSTRUCTION PROJECTS OVER WHICH TRAFFIC WILL BE MAINTAINED. WHERE ADDITIONAL APPROACH SIGNS OR OTHER TYPES OF ADVANCE SIGNING OR CONTROL ARE NECESSARY, THE PLANS AND/OR THE SPECIFICATIONS FOR THAT PROJECT WILL GIVE THE DETAILS OF THE SIGNS AND DEVICES REQUIRED. FOR ON-PROJECT CONSTRUCTION SIGNS, REFER TO APPROPRIATE STANDARD SHEETS.

APPLICATION OF STANDARDS

BECAUSE IT IS NOT POSSIBLE TO PRESCRIBE DETAILED STANDARDS OF APPLICATION FOR ALL OF THE SITUATIONS THAT MAY CONCEIVABLY ARISE ON A CONSTRUCTION PROJECT, REFERENCE SHALL BE MADE TO THE MUTCD FOR THE PRINCIPLES, PROCEDURES AND STANDARDS THAT WILL BE REQUIRED IN CONNECTION WITH ADVANCED WARNING AND ON-PROJECT CONSTRUCTION SIGNS AND BARRICADES. THE SIGNS SHOWN IN E-101M AND E-102M REPRESENT A SAMPLE OF THOSE MORE COMMONLY USED.

LOCATION

THE SIGNS SHALL BE LOCATED AS DETAILED ON THIS SHEET OR AS OTHERWISE SHOWN ON THE PLANS. THEY SHALL APPEAR AT EACH END OF THE HIGHWAY UNDER CONSTRUCTION AND ON ALL INTERSECTING PUBLIC HIGHWAYS. THE EXACT PLACEMENT OF ANY SIGN WILL DEPEND UPON THE ALIGNMENT INTENDED TO INDICATE THE SEQUENCE TO BE FOLLOWED AND THE APPROXIMATE SPACING TO BE OBSERVED. THE ENGINEER SHALL DETERMINE THE EXACT LOCATIONS.

DESIGN

THE DESIGN OF THE SIGNS SHALL CONFORM WITH THE DETAILS SHOWN ON THIS SHEET AND WITH THE STANDARDS PRESCRIBED IN THE MUTCD.

MATERIALS

THE SIGN BASE MATERIAL USED FOR THE SIGNS ON THIS SHEET MAY BE ANY OF THE FOLLOWING, WITH MINIMUM THICKNESS AS NOTED.

FLAT SHEET ALUMINUM	3.18 mm
HIGH DENSITY OVERLAYED PLYWOOD	13 mm, 16 mm OR 19 mm
GALVANIZED SHEET STEEL	2.77 mm

RETROREFLECTORIZATION

ALL REFLECTORIZED MATERIAL SHALL CONSIST OF TYPE IIB OR TYPE III SHEETING.

COLORS

THE COLORS SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY AASHTO AND APPROVED BY THE FHWA. COLORS SHOWN ON THIS SHEET CONSIST OF BLACK TEXT AND BORDER ON A REFLECTORIZED ORANGE BACKGROUND.

INSTALLATION

THE SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES. DURING PERIODS OF INACTIVITY, OR UPON COMPLETION OF THE WORK, SIGNS MAY BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER ON POSTS SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST 2100 mm ABOVE THE EDGE OF PAVEMENT. THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST 1800 mm OUTSIDE THE SHOULDER POINT, 1200 mm OUTSIDE GUARD RAIL, OR 600 mm OUTSIDE CURBING OR SIDEWALK. THE INSTALLATION OF SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER. IN URBAN AREAS, THE BOTTOM OF THE SIGN SHALL BE AT LEAST 2100 mm ABOVE THE SIDEWALK.

MAINTENANCE

SIGNS SHALL BE MAINTAINED IN A CLEAN AND LEGIBLE CONDITION SATISFACTORY TO THE ENGINEER. THEY SHALL BE COMPLETELY VISIBLE TO APPROACHING TRAFFIC AT ALL TIMES. THEY SHALL BE KEPT PLUMB AND LEVEL, AND ALWAYS PRESENT A NEAT APPEARANCE. DAMAGED, DEFACED OR DIRTY SIGNS SHALL BE REPAIRED, CLEANED OR REPLACED AS ORDERED BY THE ENGINEER.

NOTES CONT.

GENERAL

THE COST OF FURNISHING, INSTALLING, MAINTAINING AND REMOVING ALL CONSTRUCTION APPROACH SIGNS WILL BE CONSIDERED SUBSIDIARY WORK PERTAINING TO THE PROJECT AS A WHOLE AND SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR VARIOUS ITEMS INVOLVED IN THE CONTRACT. DURING ALL PHASES OF CONSTRUCTION, THE REQUIREMENTS SET FORTH IN THE MUTCD SHALL BE MET. WHEN THE PROJECT IS CLOSED DOWN FOR TEMPORARY PERIODS, THE SIGNS SHALL BE COVERED IN A WORKMANLIKE MANNER.

SIGN COVERS

SIGN COVERS SHALL CONSIST OF A PANEL PAINTED FLAT BLACK THAT IS THE SAME SIZE AS THE SIGN IT COVERS. THE PANEL SHALL BE OF WOOD, PLYWOOD, HARDBOARD OR ANY MATERIAL SATISFACTORY TO THE ENGINEER. NO MATERIAL WILL BE APPROVED THAT WILL DETERIORATE BY EXPOSURE TO THE WEATHER DURING THE PROJECT. MOUNTING OF THE PANEL SHALL BE DONE IN SUCH A WAY AS NOT TO DAMAGE THE SIGN FACE MATERIAL.

CONTRACTORS SHALL COORDINATE THEIR SIGNING ACTIVITIES WITH OTHER CONTRACTORS WITHIN THE PROJECT LIMITS, AS DIRECTED BY THE REGIONAL CONSTRUCTION ENGINEER.

SIGN POSTS

WHERE CONSTRUCTION SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARD RAIL OR OTHER APPROVED TRAFFIC BARRIERS, THE POSTS ON WHICH THE SIGNS ARE MOUNTED SHALL BE YIELDING METAL POSTS AS DESIGNATED IN THE E SERIES OF STANDARD DRAWINGS OR YIELDING WOODEN POSTS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

WOODEN POSTS ARE ACCEPTABLE FOR USE WITH CONSTRUCTION SIGNS. THESE POSTS SHALL HAVE A UNIFORM CROSS-SECTION AND SHALL BE MADE FROM GRADE 2, AIR-DRIED SOUTHERN YELLOW PINE OR ANOTHER EQUIVALENT SOFTWOOD. AN ACCEPTABLE EQUIVALENT SOFTWOOD SHALL HAVE AN EXTREME FIBER IN BENDING "Fb" DESIGN VALUE NOT TO EXCEED 9700 kPa AND HORIZONTAL SHEAR "Fv" DESIGN VALUE NOT TO EXCEED 620 kPa. SPECIFICATION, "DESIGN VALUES FOR WOOD CONSTRUCTION" AND RELATED SUPPLEMENT, LATEST EDITION.

AS ESTABLISHED BY THE NATIONAL FOREST PRODUCTS ASSOCIATION IN THEIR NATIONAL DESIGN, THE FOLLOWING ARE CONSIDERED TO BE ACCEPTABLE WOODEN POSTS:

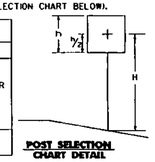
1. 100 X 100 (ACTUAL DIMENSIONS ARE 90 X 90)
   A) ACCEPTABLE FOR SINGLE OR DUAL POSTS INSTALLATION WITH NO MODIFICATIONS.
   B) ACCEPTABLE FOR THREE POSTS (OR MORE) INSTALLATION ONLY IF THERE ARE NO MORE THAN TWO POSTS IN A 2100 mm PATH.
2. 100 X 150 (ACTUAL DIMENSIONS ARE 90 X 140)
   A) ACCEPTABLE FOR SINGLE POST INSTALLATIONS ONLY IF MODIFIED BY DRILLING TWO 38-mm DIAMETER HOLES, ONE AT 100 mm AND THE OTHER 460 mm ABOVE THE GROUND LINE AND PERPENDICULAR TO THE ROADWAY CENTERLINE.
   B) ACCEPTABLE FOR MULTIPLE POSTS (TWO OR MORE) INSTALLATIONS ONLY IF MODIFIED AS ABOVE AND THE MINIMUM SPACING BETWEEN POSTS IS 2100 mm.
3. 150 X 150 (ACTUAL DIMENSIONS ARE 140 X 140)
   A) ACCEPTABLE FOR SINGLE POST INSTALLATIONS ONLY IF MODIFIED BY DRILLING TWO 51-mm DIAMETER HOLES, ONE AT 100 mm AND THE OTHER AT 460 mm ABOVE THE GROUND LINE AND PERPENDICULAR TO ROADWAY CENTERLINE.
   B) ACCEPTABLE FOR MULTIPLE POST INSTALLATIONS ONLY IF MODIFIED AS ABOVE AND THE MINIMUM SPACING BETWEEN POSTS IS 2100 mm.
4. 150 X 200 (ACTUAL DIMENSIONS ARE 140 X 190)
   A) ACCEPTABLE FOR SINGLE POST INSTALLATIONS ONLY IF MODIFIED BY DRILLING TWO 76-mm DIAMETER HOLES, ONE AT 100 mm AND THE OTHER AT 460 mm ABOVE THE GROUND LINE AND PERPENDICULAR TO THE ROADWAY CENTERLINE.
   B) ACCEPTABLE FOR MULTIPLE POST INSTALLATIONS ONLY IF MODIFIED AS ABOVE AND THE MINIMUM SPACING BETWEEN POSTS IS 2100 mm.

ADDITIONAL DESIGN CRITERIA:

THE LONGER DIMENSION OF THE POST(S), SUCH AS THE 150-mm DIMENSION OF THE 100 X 150 POST, SHALL BE PLACED PARALLEL TO THE ROADWAY CENTERLINE.
ALL WOODEN POSTS SHALL HAVE AN EMBEDMENT DEPTH OF 1200 mm.
NO CROSS-BRACING OR BACK-BRACING TO KEEP THE POSTS PLUMB WILL BE ALLOWED.
CONCRETE FOUNDATIONS, COLLARS, OR SOIL BEARING PLATES ARE NOT PERMITTED.
CONSTRUCTION SIGNS SHALL BE PLACED ON TWO OR MORE POSTS WHEN ANY OF THE FOLLOWING CONDITIONS GOVERN:

A) THE SIGN WIDTH (HORIZONTAL DIMENSIONS FOR DIAMOND SHAPED SIGNS) EXCEEDS 1050 mm.
B) THE EXPOSED SIGN AREA OF ANY SINGLE SIGN OR ASSEMBLY EXCEEDS 1.25 m^2.
C) THE Sv OF A SINGLE POST IS EXCEEDED. (SEE THE POST SELECTION CHART BELOW).

WOOD POST SELECTION CHART		
SIGN AREA (m^2) X HEIGHT (m) < Sv (SELECTION VALUE)		
POST SIZE	Sv	DESIGN CRITERIA:
100 X 100	1.54	WIND SPEED = 100 km/h (10-YEAR
100 X 150	3.51	MEAN OCCURENCE INTERVAL)
150 X 150	5.17	WIND PRESSURE = 740 Pa
150 X 200	9.30	ALLOWABLE BENDING STRESS F_b = 9700 kPa



POST SELECTION CHART DETAIL

OTHER STDS. REQUIRED:

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

REVISIONS AND CORRECTIONS

JUNE 13, 1997 - ORIGINAL APPROVAL DATE

APPROVED

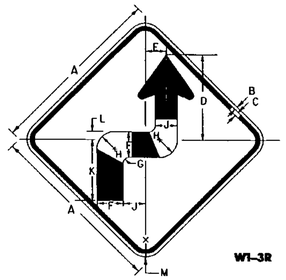
DIRECTOR OF ENGINEERING

DIRECTOR OF CONSTRUCTION AND MAINTENANCE

CONSTRUCTION APPROACH SIGNS

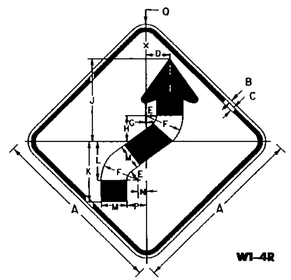
VERMONT AGENCY OF TRANSPORTATION

Metric STANDARD E-100M



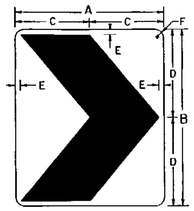
W1-3R

SIGN	DIMENSIONS (mm)											
	A	B	C	D	E	F	G	H	J	K	L	M
STD. & MIN.	900	15	20	435	105	130	30	90	110	310	40	55
SPECIAL	1200	20	30	580	140	175	40	120	150	415	55	75



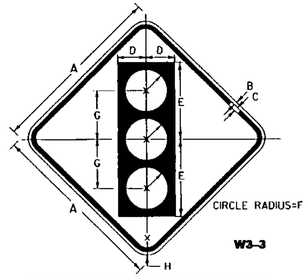
W1-4R

SIGN	DIMENSIONS (mm)														
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
STD. & MIN.	900	15	20	116	55	185	4	130	420	310	195	130	45	100	55
SPECIAL	1200	20	30	157	75	250	5.5	175	560	410	260	175	55	130	75



W1-8

SIGN	DIMENSIONS(mm)					
	A	B	C	D	E	F
STD.	450	600	225	300	20	35
SPECIAL	600	750	300	375	20	35
EXPWY.	750	900	375	450	25	45
FRWY.	900	1200	450	600	30	55



W3-3

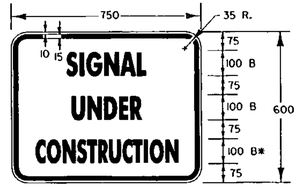
SIGN	DIMENSIONS (mm)							
	A	B	C	D	E	F	G	H
STD. & MIN.	900	15	20	145	395	105	250	55
SPECIAL	1200	20	30	190	500	125	315	75

CIRCLE RADIUS=F

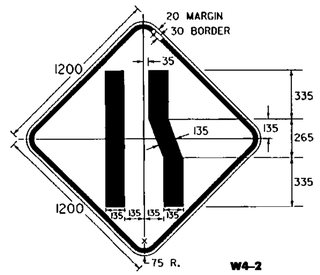
COLORS

SYMBOL & LEGEND - BLACK (NON-REFL)
BACKGROUND - ORANGE (REFL)

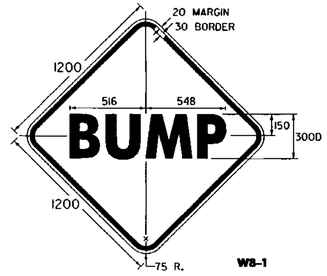
TOP CIRCLE RED (REFL)
MIDDLE CIRCLE YELLOW (REFL)
BOTTOM CIRCLE GREEN (REFL)



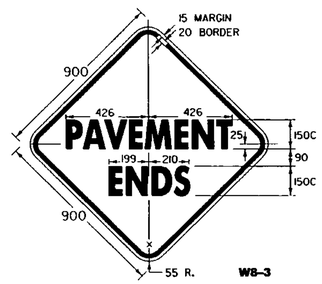
* REDUCE SPACING 50%



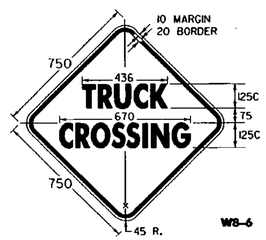
W4-2



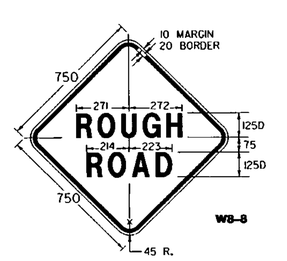
W8-1



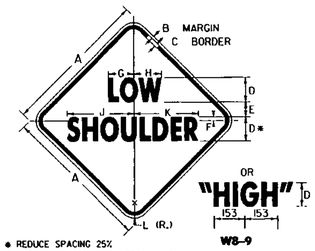
W8-3



W8-6



W8-8



W8-9

* REDUCE SPACING 25%

SIGN	DIMENSIONS(INCHES)									
	A	B	C	D	E	F	G	H	J	K	L
STD.	750	10	20	125C	75	20	131	143	348	331	45
FWY.	1200	20	30	200C	125	30	210	229	556	532	75

W8-9a

W8-11

* REDUCE SPACING 25%

W8-12

W20-5

NOTES

SEE STANDARD SHEET E-100M FOR NOTES AND TEXT DETAILS.

COLORS FOR SIGNS SHOWN ON THIS SHEET SHALL BE BLACK TEXT, BORDER AND SYMBOLS ON A REFLECTORIZED TYPE IIB OR TYPE III ORANGE BACKGROUND, UNLESS OTHERWISE NOTED.

SIGNS USED ONLY FOR DAYTIME MAINTENANCE OPERATIONS DO NOT NEED TO BE REFLECTORIZED; HOWEVER, THESE SIGNS SHALL BE LABELED "DAYTIME USE ONLY" ON THE BACK OF THE SIGN PANEL WITH 75-mm SERIES C LETTERS.

OTHER STDS. REQUIRED: E-100M

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

REVISIONS AND CORRECTIONS

JUNE 13, 1997 - ORIGINAL APPROVAL DATE

APPROVED

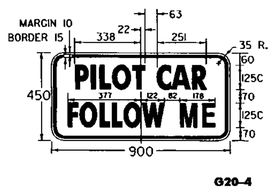
DIRECTOR OF ENGINEERING

DIRECTOR OF CONSTRUCTION AND MAINTENANCE

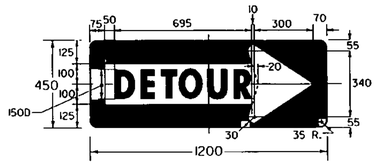
CONSTRUCTION SIGN DETAILS

VERMONT AGENCY OF TRANSPORTATION

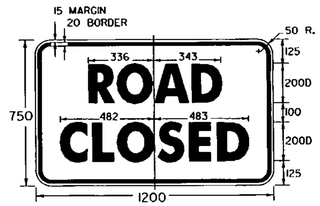
VTrans Metric STANDARD E-101M



G20-4

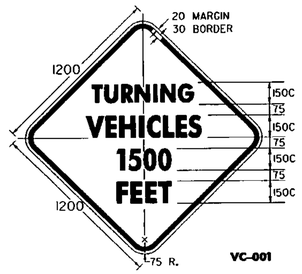


M4-10(R)

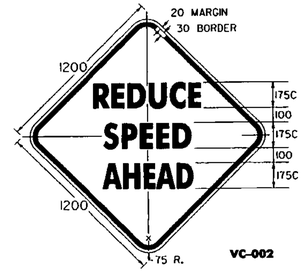


COLORS:
BLACK TEXT AND BORDER
WHITE REFLECTORIZED BACKGROUND

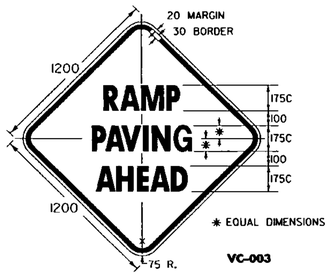
R11-2



VC-001

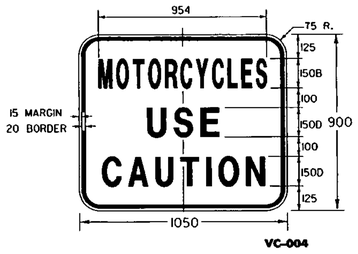


VC-002

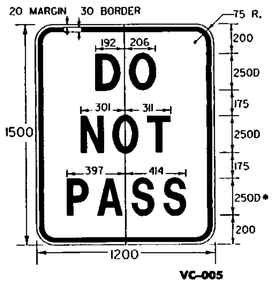


* EQUAL DIMENSIONS

VC-003

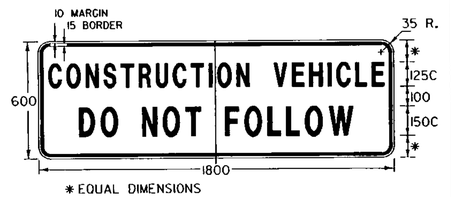


VC-004



VC-005

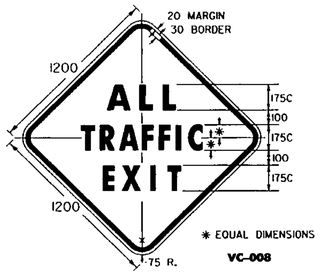
* REDUCE SPACING BY 40%



* EQUAL DIMENSIONS

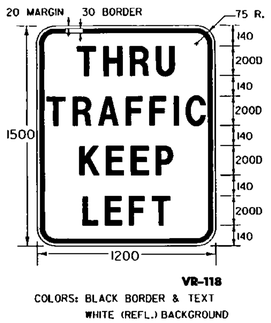
IT IS SUGGESTED THAT THIS SIGN BE DESIGNED TO FOLD, (DOWN OR ACROSS), OR BE COVERED, OR BE REMOVED WHEN NOT IN USE. THE SIGN SHOULD ALSO BE MOUNTED AS TO NOT INTERFERE WITH THE VISIBILITY OF DIRECTIONAL OR TAIL LIGHTS AS REQUIRED BY LAW.

VC-007



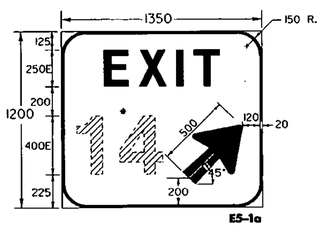
* EQUAL DIMENSIONS

VC-008



VR-118

COLORS: BLACK BORDER & TEXT
WHITE (REFL.) BACKGROUND



E5-1a

* EXIT NUMBER AS PER PLANS
OPTICALLY SPACED

COLORS:
BACKGROUND - GREEN (REFL.)
BORDER, ARROW AND LEGEND - WHITE (REFL.)

NOTES

SEE STANDARD SHEET E-100M FOR NOTES AND TEXT DETAILS.

COLORS FOR SIGNS SHOWN ON THIS SHEET SHALL BE BLACK TEXT, BORDER AND SYMBOLS SHALL BE ON A REFLECTORIZED ORANGE BACKGROUND OF TYPE IIB OR TYPE III REFLECTIVE SHEETING, UNLESS OTHERWISE NOTED.

SIGNS USED ONLY FOR DAYTIME MAINTENANCE OPERATIONS DO NOT NEED TO BE REFLECTORIZED. HOWEVER, THESE SIGNS SHALL BE LABELED "DAYTIME USE ONLY" ON THE BACK OF THE SIGN PANEL WITH 75-mm SERIES C LETTERS.

OTHER STDS. REQUIRED: E-100M

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

REVISIONS AND CORRECTIONS

JUNE 13, 1997 - ORIGINAL APPROVAL DATE

APPROVED

DIRECTOR OF ENGINEERING

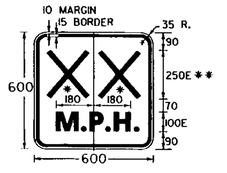
DIRECTOR OF CONSTRUCTION AND MAINTENANCE

CONSTRUCTION SIGN DETAILS

VERMONT AGENCY OF TRANSPORTATION

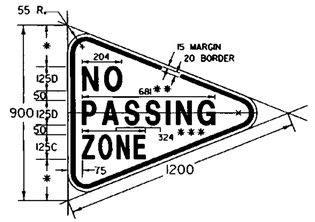
VAOT Metric STANDARD E-102AM

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



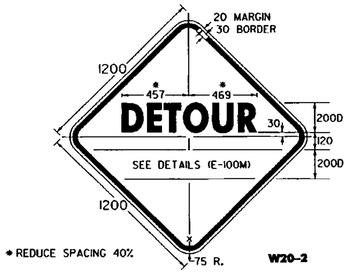
"XX" DENOTES ADVISORY SPEED AS SHOWN ON THE PLANS

W13-1



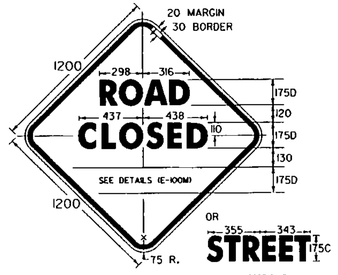
* EQUAL DIMENSIONS
** REDUCE SPACING 20%
*** REDUCE SPACING 35%

W14-3

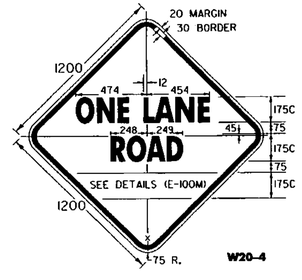


* REDUCE SPACING 40%

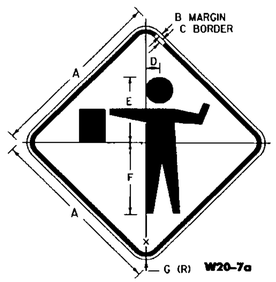
W20-2



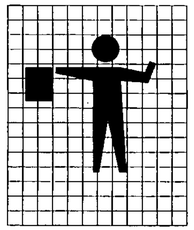
W20-3

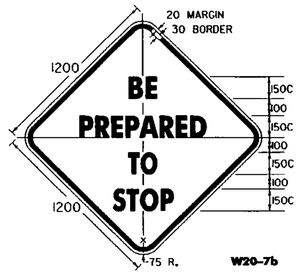


W20-4

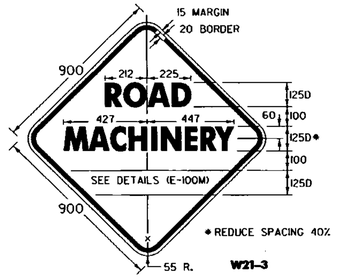


W20-7a



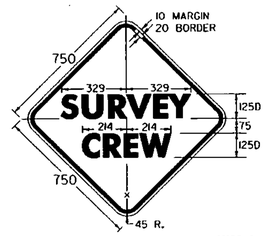


W20-7b

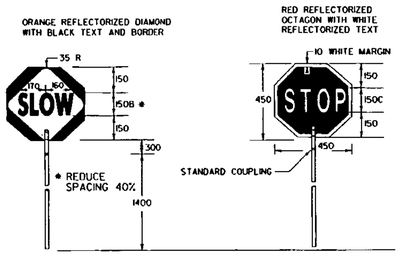


* REDUCE SPACING 40%

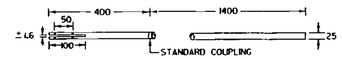
W21-3



W21-6



SIGN DETAIL

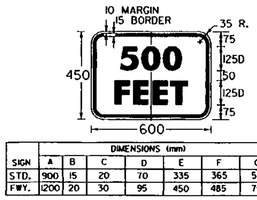


STAFF DETAIL

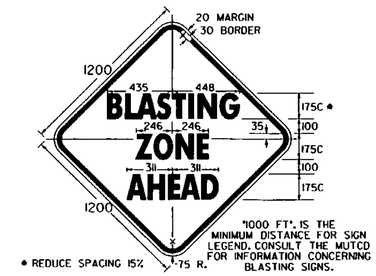
MATERIALS
THE SIGN MATERIALS SHALL BE 1.6-mm ALUMINUM WITH COLORS AS INDICATED ON DETAILS.
THE STAFF SHALL BE DN21 TO DN35 RIGID ALUMINUM CONDUIT/TUBING WITH A WALL THICKNESS OF 3.18 mm, OR DN27 TO DN41 RIGID PVC CONDUIT/TUBING WITH A 3.18-mm WALL THICKNESS.

MOUNTING
THE STAFF SHALL BE MOUNTED WITH EITHER TWO M6 x 1 ALUMINUM BOLTS OR TWO M6 ALUMINUM RIVETS.

SIGN PADDLE FOR FLAGPERSON



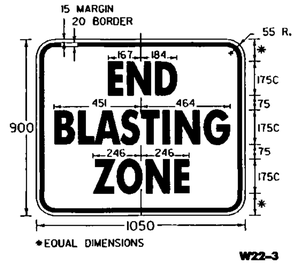
SIGN	DIMENSIONS (mm)						
	A	B	C	D	E	F	G
STD.	900	15	20	70	335	365	55
FWY.	1200	20	30	95	450	485	75



* REDUCE SPACING 15%

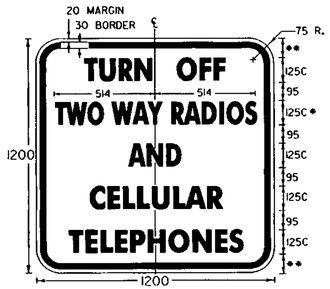
"1000 FT". IS THE MINIMUM DISTANCE FOR SIGN LEGEND. CONSULT THE MUTCD FOR INFORMATION CONCERNING BLASTING SIGNS.

W22-1



* EQUAL DIMENSIONS

W22-3



* REDUCE SPACING 50%
** EQUAL DIMENSIONS

VW22-1

NOTES

SEE STANDARD SHEET E-100M FOR NOTES AND TEXT DETAILS

COLORS FOR SIGNS SHOWN ON THIS SHEET SHALL BE BLACK TEXT. BORDER AND SYMBOLS SHALL BE ON A REFLECTORIZED ORANGE BACKGROUND OF TYPE IIB OR TYPE III REFLECTIVE SHEETING, UNLESS OTHERWISE NOTED.

SIGNS USED ONLY FOR DAYTIME MAINTENANCE OPERATIONS DO NOT NEED TO BE REFLECTORIZED, HOWEVER, THESE SIGNS SHALL BE LABELED "DAYTIME USE ONLY" ON THE BACK OF THE SIGN PANEL WITH 75-mm SERIES C LETTERS.

OTHER STDS. E-100M REQUIRED:

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

REVISIONS AND CORRECTIONS

JUNE 13, 1997 - ORIGINAL APPROVAL DATE

APPROVED

DIRECTOR OF ENGINEERING

DIRECTOR OF CONSTRUCTION AND MAINTENANCE

CONSTRUCTION SIGN DETAILS

VERMONT AGENCY OF TRANSPORTATION

VAOT Metric STANDARD E-102M

TRAVEL LANE REQUIREMENTS

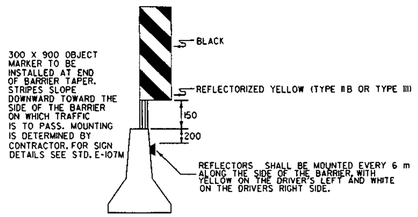
BARRIER SHALL BE PLACED AS CLOSE AS POSSIBLE TO THE CENTERLINE TO ALLOW THE TRAFFIC TO USE THE NORMAL LANE WIDTH.

EDGELINES SHALL BE REMOVED AND NEW TEMPORARY TAPE EDGELINES APPLIED. THE DRIVER'S LEFT EDGELINE SHALL BE A MINIMUM OF 300 mm, (600 mm IS DESIRABLE) FROM BARRIER. TRAVEL LANE SHALL BE 3.6 m WIDE.

THE TEMPORARY TAPE PAVEMENT MARKINGS SHALL BE OF A TYPE WHICH CAN BE COMPLETELY REMOVED AFTER THE PROJECT IS COMPLETED WITHOUT SCARRING OR MARKING THE PAVEMENT SURFACE. PAYMENT FOR THE TAPE MARKINGS SHALL BE UNDER THE APPROPRIATE ITEM NUMBERS.

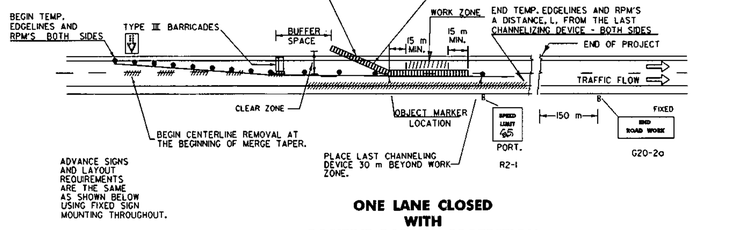
PAVEMENT MARKING REMOVALS SHALL BE PAID UNDER THE APPROPRIATE ITEM NUMBER. TEMPORARY TAPE REMOVAL IS NOT PAID UNDER THE REMOVAL ITEM, IT IS SUBSIDIARY TO THE TAPE ITEM.

THE RAISED PAVEMENT MARKERS (RPM'S) SHALL BE OF A TYPE WHICH CAN BE EASILY REMOVED AND THEY SHALL BE PLACED TO THE OUTSIDE OF THE TEMPORARY TAPE PAVEMENT MARKINGS. THE RPM'S SHALL BE SPACED AT 6 m. THE RPM'S ARE TO BE PAID UNDER THE ITEM TEMPORARY RAISED PAVEMENT MARKINGS, IF RPM'S ARE INCLUDED AS AN INTEGRAL PART OF THE TEMPORARY TAPE PAVEMENT MARKINGS, THEN THE COST OF THE RAISED MARKERS SHALL BE CONSIDERED A PART OF THE TEMPORARY PAVEMENT MARKING ITEM AND SEPERATE RPM'S SHALL NOT BE REQUIRED.



"CONCRETE MEDIAN BARRIER" PROVIDE A MINIMUM TAPER RATE (SEE TABLE ON STD. E-106M) WITH A MINIMUM OF 15 m OF TANGENT SECTION ON EACH END OF THE WORK ZONE. THE END OF THE BARRIER FACING APPROACHING TRAFFIC SHALL MEET THE FOLLOWING REQUIREMENT; WHERE NO GUARDRAIL IS PRESENT, USE THE CLEAR ZONE MEASURED FROM THE EDGE OF TRAVELED WAY. IF GUARDRAIL IS PRESENT, THEN CONCRETE BARRIER CAN BE TAPERED TO A DISTANCE BEYOND THE DEFLECTION DISTANCE OF THE GUARDRAIL. IF AN OFFSET EQUAL TO THE CLEAR-ZONE DISTANCE IS NOT ATTAINABLE OR THE BARRIER CANNOT BE LOCATED TO A DISTANCE BEYOND THE DEFLECTION DISTANCE OF THE GUARDRAIL, THEN A CRASH ATTENUATOR DESIGNED FOR THE REGULATORY SPEED LIMIT OF THE ROADWAY SHALL BE PROVIDED.

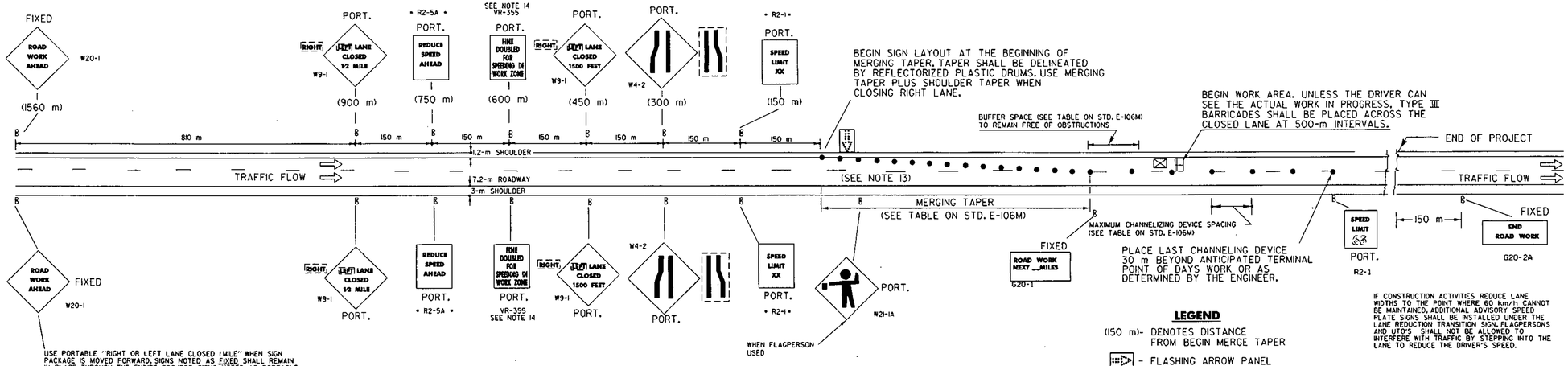
IF THE BARRIER IS PLACED SUCH THAT THE TEMPORARY TAPE CAN BE PLACED OVER THE EXISTING DASHED LINE, THEN THE EDGELINES DO NOT NEED TO BE TAPERED BEFORE THE BARRIER AND THE DASHED MARKINGS DO NOT NEED TO BE REMOVED IN THE TANGENT SECTION.
IF THE BARRIER IS PLACED SUCH THAT COVERING THE DASHED LINES WITH THE TEMPORARY TAPE EDGELINE IS NOT POSSIBLE THEN THE EDGELINES SHALL BE TAPERED A LENGTH, L , BOTH IN ADVANCE AND BEYOND THE BARRIER PLACED ON TANGENT.



ONE LANE CLOSED WITH POSITIVE BARRIER PROTECTION

NOTES

1. WHEN CONSTRUCTION EQUIPMENT IS WORKING AT OR NEAR THE EXIT OR ENTRANCE RAMPS, FLAGPERSONS OR UNIFORMED TRAFFIC CONTROL OFFICERS (UTO'S) SHOULD BE USED TO ASSIST IN CONTROLLING TRAFFIC. SEE STD. E-106M FOR TRAFFIC CONTROL DETAILS.
2. 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-100M FOR REQUIREMENTS.
3. CONTRACTOR SHALL HAVE CHANNELIZING DEVICES AND SIGNS FOR LEFT SIDE CLOSURE AND RIGHT SIDE CLOSURE ON PROJECT BEFORE STARTING PROJECT.
4. EXISTING SPEED LIMIT SIGNS SHALL BE COVERED WHEN REDUCED SPEED SIGNS ARE POSTED.
5. CHANNELIZING DEVICES OTHER THAN REFLECTORIZED PLASTIC DRUMS WILL BE ALLOWED ALONG TANGENT SECTIONS AS LONG AS THEY CONFORM TO THE MUTCD AND ARE APPROVED BY THE RESIDENT ENGINEER. THE TYPE OF DEVICE SHALL BE CONSISTENT THROUGHOUT THE TANGENT SECTION.
6. THE "SPEED LIMIT XX" AND OTHER RELATED SIGNS SHALL BE REMOVED OR COVERED WHEN WORK IS NOT IN PROGRESS AND ROADWAY IS NOT RESTRICTED.
7. "REDUCED SPEED AHEAD" SIGNS MAY BE USED IN LIEU OF "SPEED ZONE AHEAD".
8. FOR RELATIVELY SHORT TERM PROJECTS WITH NO OFFICIAL SPEED ZONE ENACTMENT, THE SPEED LIMIT AND REDUCED SPEED LIMIT SIGNS CAN BE SUBSTITUTED WITH ADVISORY SPEED PLAQUES MOUNTED AS SUPPLEMENTAL SIGNS ON OTHER WARNING SIGNS.
9. ALL FIXED SIGNS SHALL BE MOUNTED ON YIELDING STEEL, ALUMINUM OR WOOD SUPPORTS AS SHOWN ON APPROPRIATE STANDARD SHEETS.
10. PORTABLE SIGNS SHALL BE KEPT LEVEL WHERE PLACED ON THE EDGE OF ROADWAY AND ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. PAYMENT SUBSIDIARY TO OTHER ITEMS. WHERE PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACES SHALL BE PLACED ABOVE THE TOP OF THE GUARDRAIL.
11. WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.
12. THE NUMBER OF CHANNELIZING DEVICES, TYPE III BARRICADES AND OTHER TRAFFIC CONTROL DEVICES SHOWN ON THIS SHEET ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR CURVE, ETC.)
13. FOR ANY LONG TERM CLOSURE (GREATER THAN 3 DAYS), EXISTING CENTERLINE SHALL BE COVERED WITH BLACK TAPE OR REMOVED AND TEMPORARY EDGELINES PLACED AS SHOWN WITH POSITIVE BARRIER.
14. ONLY USE IF TEMPORARY SPEED LIMIT FORM HAS BEEN FILED



LEGEND

(150 m)- DENOTES DISTANCE FROM BEGIN MERGE TAPER
- FLASHING ARROW PANEL
- REFLECTORIZED PLASTIC DRUM
- PAVEMENT MARKING REMOVAL
- CONCRETE MEDIAN BARRIER
- TYPE III BARRICADE
- TRUCK/TRAILER MOUNTED ATTENUATOR (OPTIONAL)

OTHER STDS. REQUIRED: E-100M, E-101M, E-102M, E-102AM, E-106M, E-107AM

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

REVISIONS AND CORRECTIONS

JUNE 13, 1997 - ORIGINAL APPROVAL DATE
SEPT. 24, 1998 - ADDED THE FINE SIGN VR-355

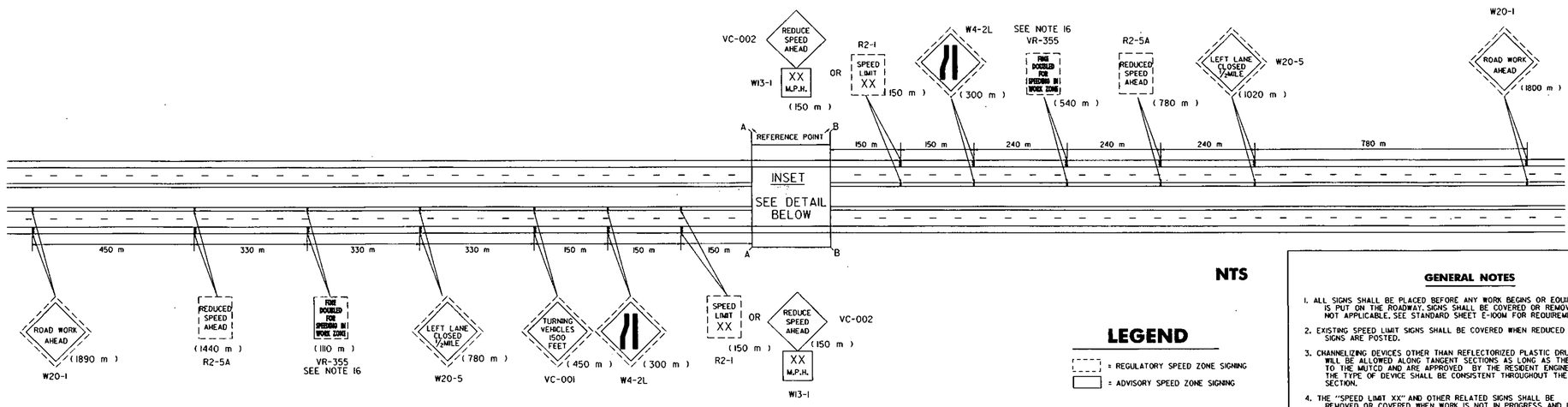
APPROVED

DIRECTOR OF PROJECT DEVELOPMENT

MAINLINE TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED

VERMONT AGENCY OF TRANSPORTATION

VAOT Metric STANDARD E-103M



NTS

LEGEND

= REGULATORY SPEED ZONE SIGNING

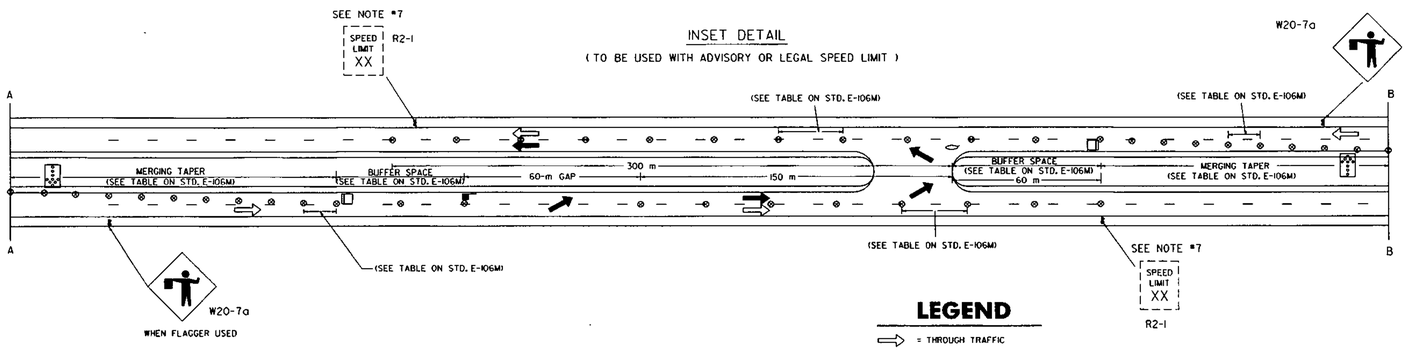
= ADVISORY SPEED ZONE SIGNING

GENERAL NOTES

1. 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-100M FOR REQUIREMENTS.
2. EXISTING SPEED LIMIT SIGNS SHALL BE COVERED WHEN REDUCED SPEED SIGNS ARE POSTED.
3. CHANNELIZING DEVICES OTHER THAN REFLECTORIZED PLASTIC DRUMS WILL BE ALLOWED ALONG TANGENT SECTIONS AS LONG AS THEY CONFORM TO THE MUTCD AND ARE APPROVED BY THE RESIDENT ENGINEER. THE TYPE OF DEVICE SHALL BE CONSISTENT THROUGHOUT THE TANGENT SECTION.
4. THE "SPEED LIMIT XX" AND OTHER RELATED SIGNS SHALL BE REMOVED OR COVERED WHEN WORK IS NOT IN PROGRESS AND ROADWAY IS NOT RESTRICTED.
5. "SPEED ZONE AHEAD" SIGNS MAY BE USED IN LIEU OF "REDUCED SPEED AHEAD".
6. FOR RELATIVELY SHORT TERM PROJECTS WITH NO OFFICIAL REGULATORY SPEED ZONE ENACTMENT, ADVISORY SPEED PLAQUES MOUNTED AS SUPPLEMENTAL SIGNS ON OTHER WARNING SIGNS MAY BE USED.
7. 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.
8. ALL FIXED SIGNS SHALL BE MOUNTED ON YIELDING STEEL, ALUMINUM OR WOOD SUPPORTS AS SHOWN ON STANDARD SHEETS E-100M AND E-121M.
9. 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.
10. WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.
11. WHEN SIGNING FOR THIS OPERATION INTERFERES WITH THAT FOR WORK ON THE MAINLINE, THE RESIDENT ENGINEER SHALL ESTABLISH THE APPROPRIATE SIGN REQUIREMENTS.
12. THE CHOICE OF USING FLAGGERS OR UNIFORMED OFFICERS IS AT THE DISCRETION OF THE ENGINEER.
13. THE FLASHING ARROW PANELS SHALL BE LOCATED AS NEAR TO THE FRONT OF THE TAPER AS POSSIBLE WHILE STILL REMAINING INSIDE THE CHANNELIZING DEVICES.
14. MERGING TAPERS SHOULD BE DESIGNED FOR THE SPEED LIMIT OF THE ROADWAY PRIOR TO CONSTRUCTION.
15. 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.
16. ONLY USE IF TEMPORARY SPEED LIMIT FORM HAS BEEN FILED.

INSET DETAIL

(TO BE USED WITH ADVISORY OR LEGAL SPEED LIMIT)



LEGEND

= THROUGH TRAFFIC

= CONSTRUCTION VEHICLES

= CHANNELIZING DEVICE

= FLASHING ARROW PANEL

= FLAGGER

= UNIFORMED TRAFFIC OFFICER

= TYPE III BARRICADE

NTS

OTHER STDS. REQUIRED: E-100M E-101M E-102M E-102AM E-106M E-107AM E-121M E-142M

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

REVISIONS AND CORRECTIONS

JUNE 13, 1997 - ORIGINAL APPROVAL DATE
SEPT. 24, 1998 - ADDED THE FINE SIGN VR-355
APRIL 1, 1999 - ADDED NOTE 16

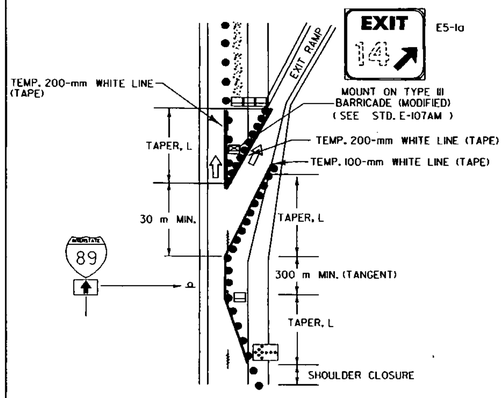
APPROVED

DIRECTOR OF PROJECT DEVELOPMENT

TRAFFIC CONTROL FOR CONSTRUCTION VEHICLE U-TURNS ON DIVIDED HIGHWAY

VERMONT AGENCY OF TRANSPORTATION

VAOT Metric STANDARD E-105 M



NOT TO SCALE

MAINLINE LANE CLOSURE AT AN EXIT RAMP

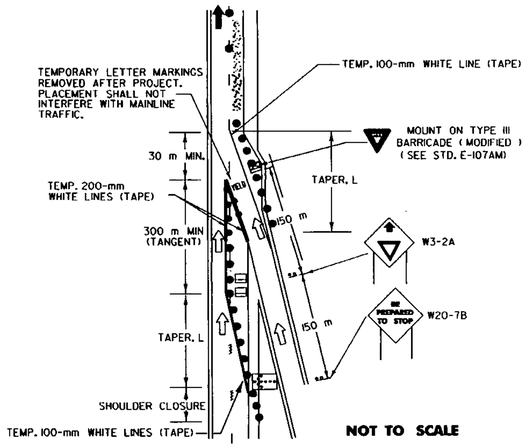
THIS DETAIL SHALL BE USED WHEN THE WORK ZONE BEGINS AT THE GORE OR THE MAINLINE LANE CLOSURE DRUM PLACEMENT INTERFERES WITH THE EXIT RAMP.

NOTES:

1) ALL SIGNS SHALL BE MOUNTED ON FIXED POSTS (YIELDING TYPE) UNLESS OTHERWISE NOTED.
2) CHANNELIZING DEVICES SHALL BE PLACED IN ACCORDANCE WITH THE TABLE ON THIS SHEET.
3) ALL DISTANCES ARE DESIRABLE MINIMUMS FIELD CONDITIONS SHALL CONTROL THE ACTUAL PLACEMENT.
4) TAPER RATES ARE BASED ON THE POSTED MAILINE 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 SHALL BE AS DETAILED ON STANDARD E-103M.
7) EXIT SIGN SHALL BE MOUNTED A MINIMUM OF 900 mm ABOVE THE GROUND AND HIGH ENOUGH TO BE SEEN ABOVE CHANNELIZING DEVICES.

LEGEND

- REFL. 700-mm CONES
- REFL. PLASTIC DRUMS
- PAVEMENT MARKING REMOVAL
- INDICATES TRAFFIC FLOW
- WORK AREA
- FLASHING ARROW PANEL
- TYPE III BARRICADES
- TYPE III BARRICADES (MOD.)

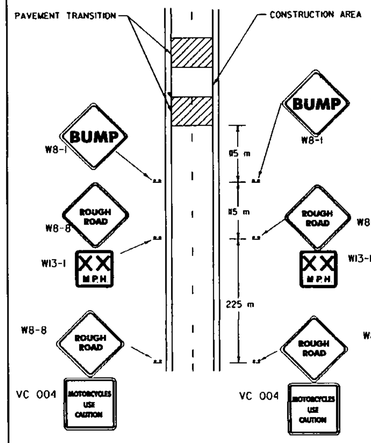


NOT TO SCALE

MAINLINE LANE CLOSURE AT AN ENTRANCE RAMP

THIS DETAIL SHALL BE USED WHERE 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.

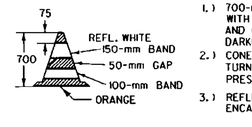


NOTES:

1) ADVISORY SPEED AS DETERMINED BY THE RESIDENT ENGINEER (40 MPH MINIMUM RECOMMENDED)
2) SIGNS MOUNTED ON FIXED POSTS (YIELDING TYPE).
3) ALL DISTANCES ARE DESIRABLE MINIMUMS. FIELD CONDITION SHALL CONTROL THE ACTUAL PLACEMENT.
4) THE BUMP SIGN MAY BE ELIMINATED WHERE 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-103M.

NOT TO SCALE

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

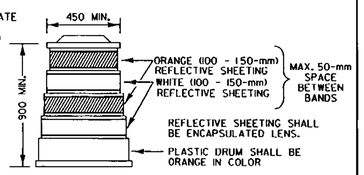


NOTES:

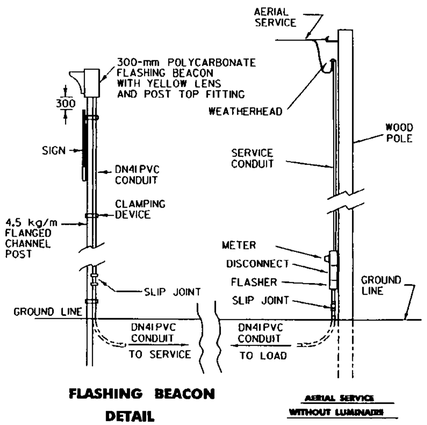
1.) 700-mm CONES SHALL BE USED ON ROADWAYS WITH POSTED SPEED LIMITS OF 35 MPH OR MORE AND ON ALL ROADWAYS DURING HOURS OF DARKNESS.
2.) CONES MAY BE LOADED TO PREVENT OVER-TURNING, HOWEVER THE LOAD SHALL NOT PRESENT A HAZARD IF THE CONE IS STRUCK.
3.) REFLECTIVE SHEETING SHALL BE ENCAPSULATED LENS.

700-mm 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 LOAD DRUMS.



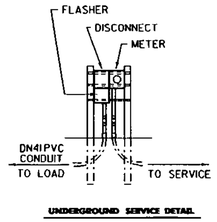
REFLECTORIZED PLASTIC DRUM



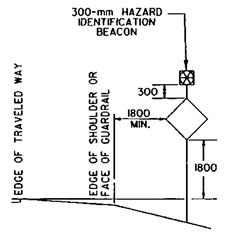
FLASHING BEACON DETAIL

AERIAL SERVICE WITHOUT LUMINAIRE

SEE STANDARD E-175M



UNDERGROUND SERVICE DETAIL



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 2400 mm AND A MAX. OF 3600 mm ABOVE THE EDGE OF THE TRAVELED WAY.
5.) FOR URBAN AREA PLACEMENT SEE STD. E-121M.

CHANNELIZING DEVICES

TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATION:

- L = 0.6WS FOR DESIGN SPEEDS OF 70 km/h OR GREATER
- L = WS²/155 FOR DESIGN SPEEDS OF 60 km/h OR LESS

WHERE: L = MINIMUM LENGTH OF TAPER IN METERS
W = WIDTH OF OFFSET (USUALLY LANE WIDTH) IN METERS
S = DESIGN SPEED IN KILOMETERS PER HOUR

POSTED SPEED OR 85th PERCENTILE (mph)	DESIGN SPEED (km/h)	TAPER LENGTHS (m)			TANGENT SECTION LENGTHS (L/2) (m)	MINIMUM BUFFER SPACE LENGTH (m)	MAXIMUM CHANNELIZING DEVICE SPACING (m)		BARRIER FLARE RATE (MIN)
		MERGING 3.6-m LANE (L)	SHIFTING W=4.8 m (L/2)	SHOULDER W=3 m (L/3)			TAPER	ALONG LANE LINE & WORK ZONE	
≤40	60	90	55	25	45	50	11	22	1:9
45	70	160	100	40	80	65	13	26	1:9
50	80	180	115	50	90	85	15	30	1:11
55	90	200	130	55	100	100	17	34	1:13
60 & 65	100	220	145	60	110	135	19	38	1:13
70	110	240	160	65	120	170	21	42	1:13

OTHER STDS. REQUIRED: E-101M E-102M E-102AM E-103M E-107AM E-136M E-150M E-175M

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

REVISIONS AND CORRECTIONS

JUNE 13, 1997 - ORIGINAL APPROVAL DATE

APPROVED

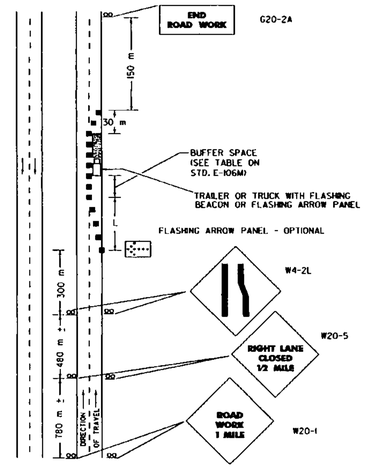
DIRECTOR OF ENGINEERING

DIRECTOR OF CONSTRUCTION AND MAINTENANCE

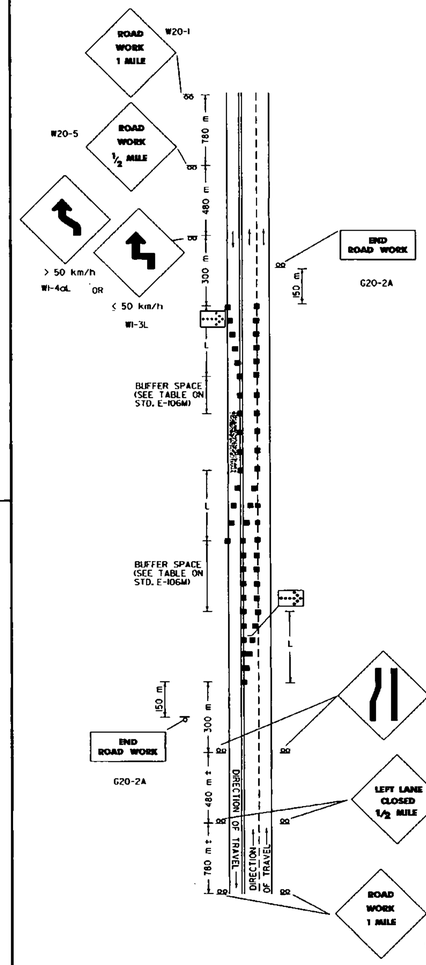
TRAFFIC CONTROL MISCELLANEOUS DETAILS

VERMONT AGENCY OF TRANSPORTATION

Metric STANDARD E-106 M

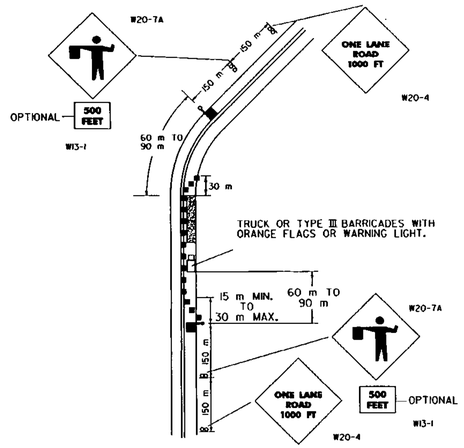


TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF ROADWAY IS CLOSED. NTS



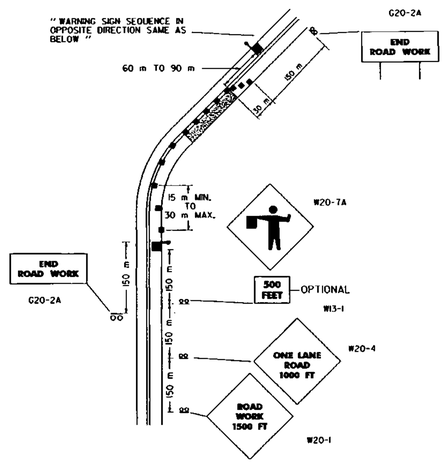
TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATION OF SHORT DURATION ON A 3 LANE ROADWAY WHERE CENTER LANE IS USED FOR OPPOSING TRAFFIC

NTS



TYPICAL APPLICATIONS - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 2-LANE ROADWAY WHERE FLAGGING IS PROVIDED

NTS



TYPICAL APPLICATIONS - TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.

NTS

NOTES

REFLECTORIZATION

ALL SIGNS USED DURING THE HOURS OF DARKNESS SHALL BE REFLECTORIZED (TYPE II OR III). CONES USED FOR TRAFFIC CONTROL AT NIGHT SHALL COMPLY WITH STANDARD E-106M.

COLORS

THE WARNING SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT, BORDER, AND SYMBOLS ON AN ORANGE BACKGROUND. THE TEXT AND BORDERS MAY BE SCREENED, LETTERING FILM, OR HAND PAINTED. THE ORANGE SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY AASHTO AND APPROVED BY FHWA.

TEXT DESIGN

LETTERS, DIGITS, ARROWS, SPACING AND TEXT DIMENSIONS SHALL CONFORM WITH THE FHWA'S "STANDARD ALPHABETS FOR HIGHWAY SIGNS" AS REFERENCED IN THE MUTCD.

SPECIFICATIONS

WARNING SIGNS SHALL MEET THE VAOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

SIGN BASE MATERIAL

THE SIGN BASE MATERIAL USED FOR THE WARNING SIGNS ON THIS SHEET MAY BE OF ANY OF THE FOLLOWING, WITH MINIMUM THICKNESS AS NOTED:

FLAT STEEL OR ALUMINUM	3.18 mm
HIGH DENSITY OVERLAYED PLYWOOD	15 mm, 16 mm, OR 19 mm
GALVANIZED SHEET STEEL	2.77 mm

1. SIGNS WITH "ROAD WORK 1500 FT." AND "END ROAD WORK" TEXT SHALL BE USED WHEN THE WORK IS NOT COMPLETE AND A HAZARD REMAINS OVERNIGHT.
2. THE FLAGPERSON SHALL USE THE SIGN PADDLE DETAILED ON STANDARD SHEET E-102M.
3. ALL SIGNS SHALL BE COVERED OR REMOVED AT THE END OF THE WORKING DAY UNLESS REQUIRED FOR THE PROTECTION AND SAFETY OF THE TRAVELING PUBLIC.
4. INSTALLATION: SIGNS AND BARRICADES SHALL BE IN PLACE PRIOR TO THE START OF THE MAINTENANCE OPERATION TO WHICH THEY APPLY AND SHALL BE REMOVED PROMPTLY WHEN THE NEED NO LONGER EXISTS. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER ON YIELDING WOOD OR METAL POSTS SET SECURELY IN THE GROUND (IN ACCORDANCE WITH STD. E-12M), OR ON PORTABLE SUPPORTS WHEN APPROPRIATE. THE INSTALLATION OF SIGNS AND BARRICADES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
5. ALTHOUGH LISTED AS A MAINTENANCE OPERATION STANDARD SIGN SHEET, THE APPROACH SIGNS SHOWN SHALL BE USED BY CONTRACTORS WHEN WORKING WITHIN OR OUTSIDE PROJECT LIMITS.
6. ALL DISTANCES ARE DESIRABLE SPECIFICATIONS. FIELD CONDITIONS SHALL CONTROL THE ACTUAL PLACEMENT.
7. SEE STD. E-106M FOR TAPER LENGTHS.
8. THE LOCATION OF CHANNELIZING DEVICES SHALL BE BASED ON THE CRITERIA SHOWN ON SHEET E-106M.
9. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK THE FLAGPERSON STATIONS AT NIGHT AS NEEDED.
10. AT SHORT WORK ZONES WHERE ADEQUATE SIGHT DISTANCE IS AVAILABLE FOR THE SAFE HANDLING OF TRAFFIC ONE FLAGGER MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
11. CHANNELIZING DEVICES SHALL BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
12. THE NUMBER OF CHANNELIZING 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.).

LEGEND:

FLAGPERSON	WORK AREA
CHANNELIZING DEVICES (CONES OR DRUMS)	SIGN & POSTS
FLASHING ARROW PANEL	TYPE III BARRICADES

OTHER STDS. REQUIRED: E-100M E-102M E-101M E-106M

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

REVISIONS AND CORRECTIONS

JUNE 13, 1997 - ORIGINAL APPROVAL DATE

APPROVED

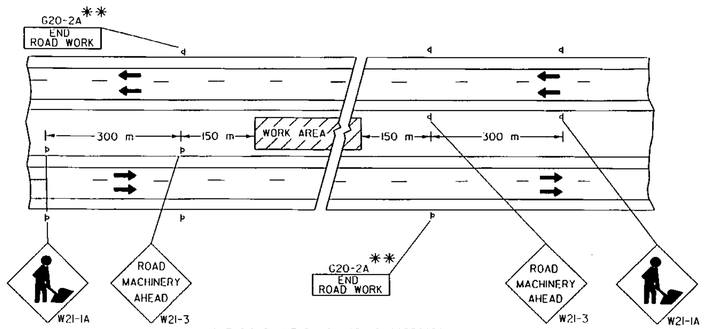
DIRECTOR OF ENGINEERING

DIRECTOR OF CONSTRUCTION AND MAINTENANCE

MAJOR MAINTENANCE OPERATION LANE CLOSURE

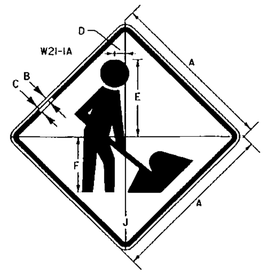
VERMONT AGENCY OF TRANSPORTATION

VAOT Metric STANDARD E-110M

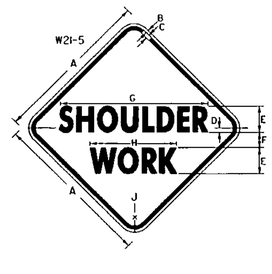


MOVE SIGNS AHEAD AS WORK PROGRESSES.

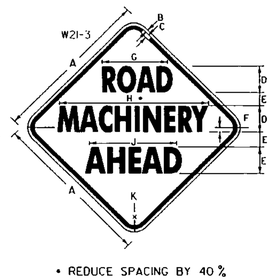
4 – LANE HIGHWAY
MEDIAN MAINTENANCE



SIGN	DIMENSIONS (mm)						
	A	B	C	D	E	F	J
2 LANE	900	15	20	55	420	300	55
4 LANE	1200	20	30	75	560	400	75

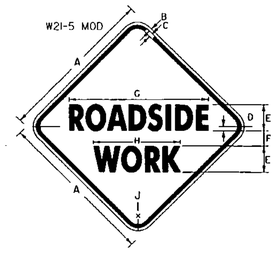


SIGN	DIMENSIONS (mm)								
	A	B	C	D	E	F	G	H	J
2 LANE	900	15	20	25	250	85	866	456	55
4 LANE	1200	20	30	25	750	100	1015	535	75

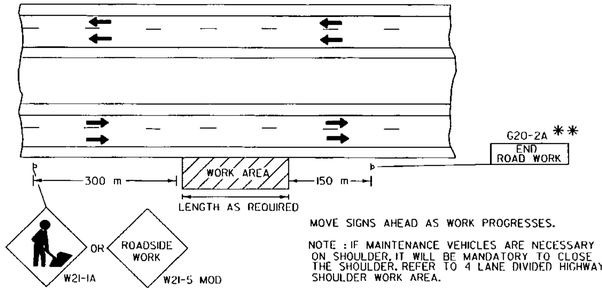


• REDUCE SPACING BY 40 %

SIGN	DIMENSIONS (mm)									
	A	B	C	D	E	F	G	H	J	K
2 LANE	900	15	20	1250	100	60	437	874	553	55
4 LANE	1200	20	30	1750	125	85	613	1228	776	75



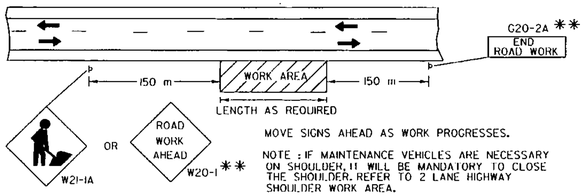
SIGN	DIMENSIONS (mm)							
	A	B	C	D	E	F	G	H	J
2 LANE	900	15	20	10	1250	85	818	456	55
4 LANE	1200	20	30	25	1750	100	948	535	75



MOVE SIGNS AHEAD AS WORK PROGRESSES.

NOTE : IF MAINTENANCE VEHICLES ARE NECESSARY ON SHOULDER, IT WILL BE MANDATORY TO CLOSE THE SHOULDER. REFER TO 4 LANE DIVIDED HIGHWAY SHOULDER WORK AREA.

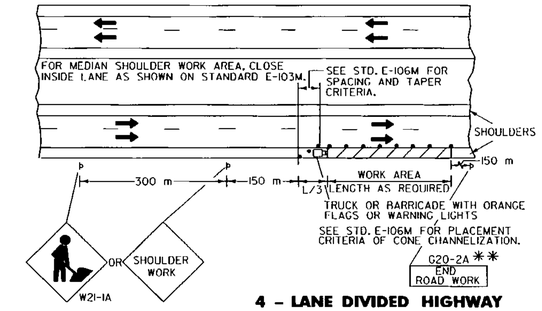
4 – LANE HIGHWAY
MAINTENANCE OUTSIDE SHOULDER



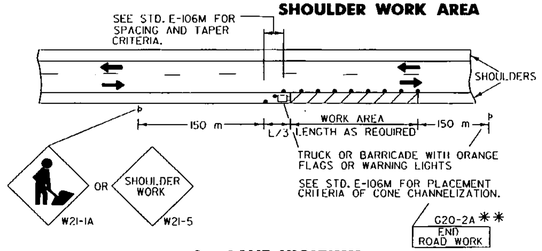
MOVE SIGNS AHEAD AS WORK PROGRESSES.

NOTE : IF MAINTENANCE VEHICLES ARE NECESSARY ON SHOULDER, IT WILL BE MANDATORY TO CLOSE THE SHOULDER. REFER TO 2 LANE HIGHWAY SHOULDER WORK AREA.

2 – LANE HIGHWAY
MAINTENANCE OUTSIDE SHOULDER



4 – LANE DIVIDED HIGHWAY
SHOULDER WORK AREA



2 – LANE HIGHWAY
SHOULDER WORK AREA

** SEE STD. E-100M FOR "ROAD WORK" AND "END ROAD WORK" SIGN DIMENSIONS.

NOTES:

REFLECTORIZATION:
ALL REFLECTIVE MATERIAL SHALL CONSIST OF ENCAPSULATED LENS REFLECTIVE SHEETING. THE TEXT AND BORDERS MAY BE SCREENED. LETTERING FILM OR HAND PAINTED.

COLORS:
THE WARNING SIGNS SHOWN ON THIS SHEET SHALL HAVE A BLACK TEXT AND BORDER ON A REFLECTORIZED ORANGE BACKGROUND. THE ORANGE SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY AASHTO AND APPROVED BY FHWA.

TEXT DESIGN:
LETTERS, SPACING AND TEXT DIMENSIONS SHALL CONFORM TO THE LATEST VERSION OF FHWA'S "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS".

SPECIFICATIONS:
WARNING SIGNS SHALL MEET THE STANDARD STATE SPECIFICATIONS FOR SIGNS AS PRESCRIBED IN THE VAOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

SIGN BASE MATERIAL:
THE SIGN BASE MATERIAL USED FOR THE WARNING SIGNS SHOWN ON THIS SHEET MAY BE OF ANY OF THE FOLLOWING, WITH MINIMUM THICKNESS AS NOTED:

	900X900	1200X1200
(1) FLAT SHEET ALUMINUM	2.54 mm	3.18 mm
(2) HIGH DENSITY OVERLAYED PLYWOOD	16 mm	19 mm
(3) GALVANIZED SHEET STEEL	2.01mm	2.77 mm

OTHER STDS. REQUIRED: **E-100M E-106M E-103M**

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

REVISIONS AND CORRECTIONS

JUNE 13, 1997 - ORIGINAL APPROVAL DATE
FEBRUARY 17, 1998 - NUMBER CHANGE FROM E-10M TO E-111M

APPROVED

DIRECTOR OF PROJECT DEVELOPMENT

DIRECTOR OF CONSTRUCTION AND MAINTENANCE

TRAFFIC SIGNS
TYPICAL MINOR MAINTENANCE OPERATION APPROACH SIGNS

VERMONT AGENCY OF TRANSPORTATION

NOT Metric

STANDARD
E-111M