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STATE OF VERMONT DEPARTMENT OF HIGHWAYS



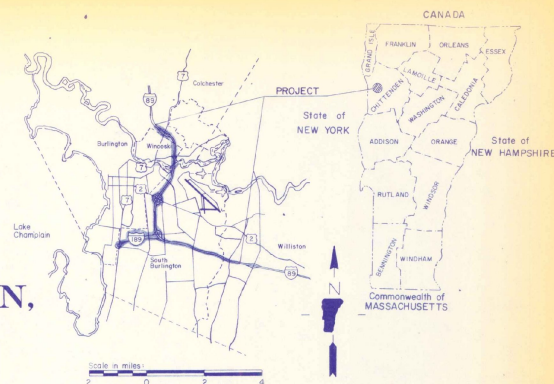
PAVEMENT OVERLAY

PROPOSED IMPROVEMENT TOWNS OF WILLISTON, SOUTH BURLINGTON, BURLINGTON, WINOOSKI, & COLCHESTER COUNTY OF CHITTENDEN INTERSTATE ROUTES I-89 & I-189

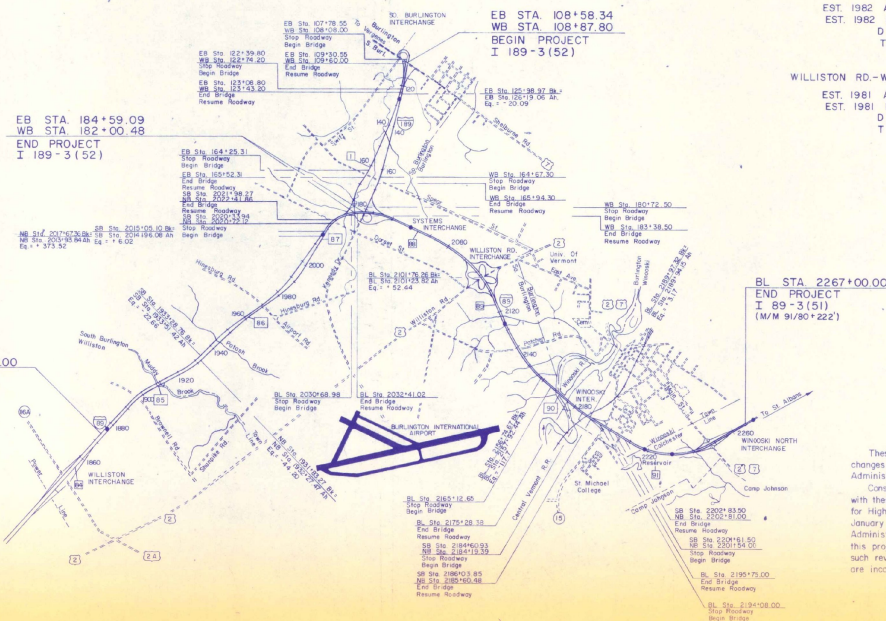
MONTPELIER - ST. ALBANS ROAD

I 89-3 (51)
BEGINNING AT A POINT APPROXIMATELY 0.633 MILES
EASTERLY OF THE WILLISTON - SOUTH BURLINGTON
TOWN LINE AND EXTENDING IN A NORTHERLY
DIRECTION 7.442 MILES.
LENGTH OF ROADWAY 37,505.94 FEET 7.103 MILES
LENGTH OF BRIDGES 1,788.31 FEET 0.339 MILES
LENGTH OF PROJECT 39,294.25 FEET 7.442 MILES

I 89-3 (52)
BEGINNING AT A POINT APPROXIMATELY 72.21 FEET
WESTERLY OF THE BURLINGTON - SOUTH BURLINGTON
TOWN LINE AND EXTENDING IN A EASTERLY
DIRECTION 1.410 MILES.
LENGTH OF ROADWAY 7,114.47 FEET 1.347 MILES
LENGTH OF BRIDGES 332.20 FEET 0.063 MILES
LENGTH OF PROJECT 7,446.67 FEET 1.410 MILES



NOTE: REFER TO SHEET 3 FOR DETAILS OF
AREAS OF SPECIAL TREATMENT.



CONVENTIONAL SIGNS

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



TRAFFIC DATA I 89-3 (51)		TRAFFIC DATA I 89-3 (52)	
WILLISTON - SYSTEMS INTERCHANGE	SYSTEMS - WILLISTON RD. INTERCHANGE	WILLISTON RD. - WINOOSKI INTERCHANGE	WINOOSKI - WINOOSKI RD. INTERCHANGE
EST. 1982 ADT 16,250 VPD	EST. 1981 ADT 25,350 VPD	EST. 1981 ADT 26,350 VPD	EST. 1981 ADT 10,700 VPD
EST. 1982 DHV 2,250 VPH	EST. 1981 DHV 2,800 VPH	EST. 1981 DHV 2,820 VPH	EST. 1981 DHV 1,650 VPH
D 55 %	D 52 %	D 52 %	D 59 %
T 9 %	T 10 %	T 10 %	T 10 %

SO BURLINGTON - SYSTEMS INTERCHANGE
EST. 1981 ADT 25,150 VPD
EST. 1981 DHV 2,800 VPH
D 57 %
T 8 %

These plans are subject to such engineering changes as may be required by the Federal Highway Administration or the Chief Engineer.
Construction is to be carried on in accordance with these plans and the Standard Specifications for Highway and Bridge Construction dated January 3, 1972 as approved by the Federal Highway Administration on December 28, 1971 for use on this project, including all subsequent revisions and such revised specifications and special provisions as are incorporated in these plans.

SUBMITTED BY ORDER OF THE STATE HIGHWAY BOARD
APPROVED: *E. B. Stickney* DATE: 5/9/74
CHIEF ENGINEER
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED: _____ DATE: _____
DIVISION ENGINEER
PROJECT: I 89-3 (51)
SHEET 1 OF 25 SHEETS

NOTE: REFER TO SHEET 3 FOR DETAILS OF AREAS OF SPECIAL TREATMENT.

TYPICAL SECTIONS

2" BITUMINOUS CONCRETE PAVEMENT OVERLAY, ITEM 406.25, WEARING COURSE TYPE III (1 1/4" FOR TOTAL THICKNESS)
W/ TRUING COURSE - 1/2" AVERAGE DEPTH, ITEM 406.25.
FOR SHOULDER COMPOSITION, SEE SKETCH LOWER RIGHT.

BITUMINOUS SURFACE TREATMENT TYPE III, 404.40.

3/4" OPEN GRADED ASPHALT FRICTION COURSE, ITEM 409.25
1 1/4" BITUMINOUS CONCRETE PAVEMENT, ITEM 406.25

RUBBERIZED SLURRY SEAL (SEE SCHEDULE AT UPPER LEFT FOR AREAS OF THIS TREATMENT).

ASPHALT EMULSION FOR SLURRY SEAL, ITEM 405.10
AGGREGATE FOR SLURRY SEAL, ITEM 405.15, (26" WIDTH)
VULCANIZED RUBBER SHREDS, ITEM 405.20

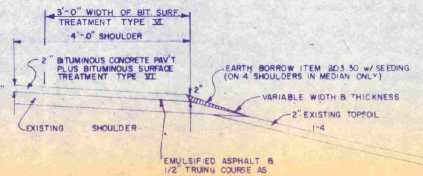
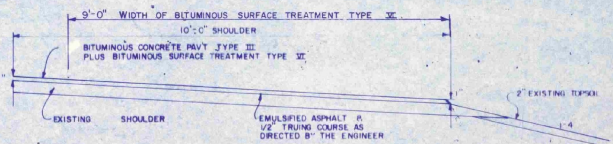
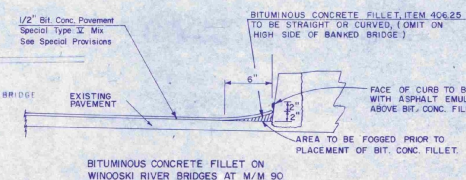
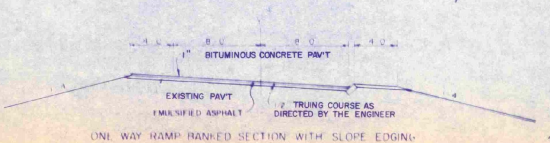
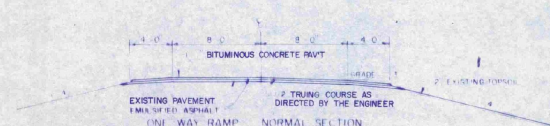
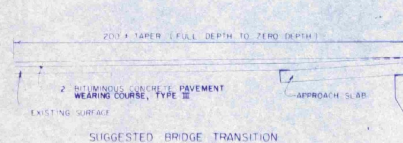
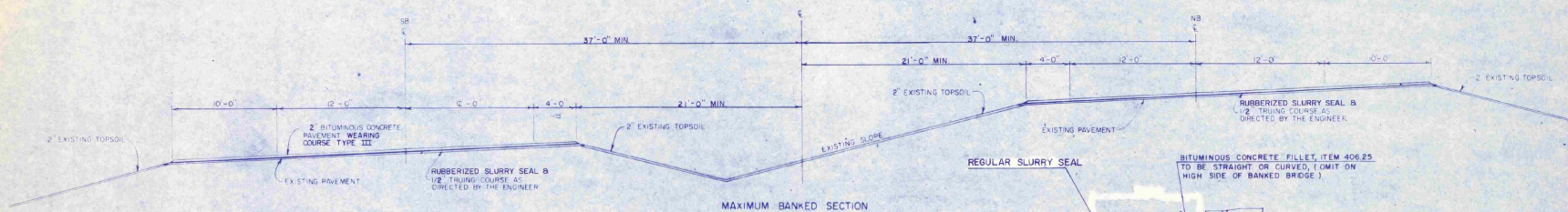
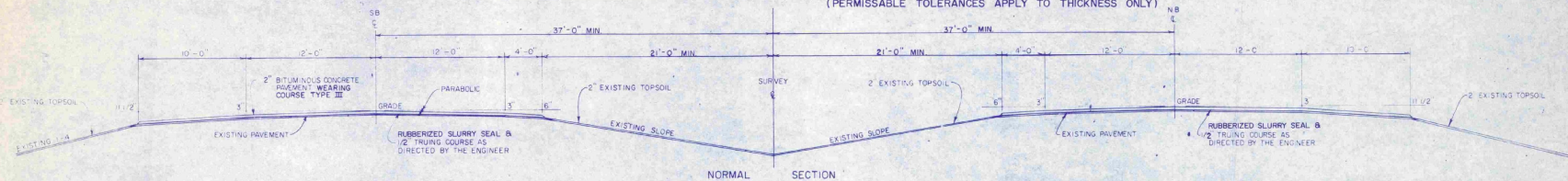
EMULSIFIED ASPHALT, ITEM 404.65

REGULAR SLURRY SEAL (BRIDGES ONLY - ALL BRIDGES EXCEPT WINOOSKI RIVER BRIDGE AT M/M 90)
ASPHALT EMULSION FOR SLURRY SEAL, ITEM 403.10
AGGREGATE FOR SLURRY SEAL, GENERAL, ITEM 403.12

(PERMISSABLE TOLERANCES APPLY TO THICKNESS ONLY)

SEEDING, ITEM 651.10				
% WT.	LBS/ACRE	NAME	PURITY%	GERM%
41.67	25	CREeping RED FESCUE	98	85
25.00	15	ALFALFA	99	85
8.33	5	RED TOP	92	85
16.67	10	PERENNIAL RYE GRASS	95	90
8.33	5	BIRDFOOT TREFOIL (VAR EMPIRE)	98	80
100.00	60 LBS PER ACRE			

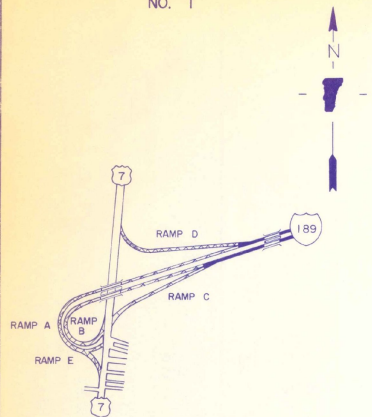
THE SEED MIXTURE SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE FROM ALL NOXIOUS WEED SEED.



BURLINGTON-50 BURLINGTON
WILLISTON-COLCHESTER

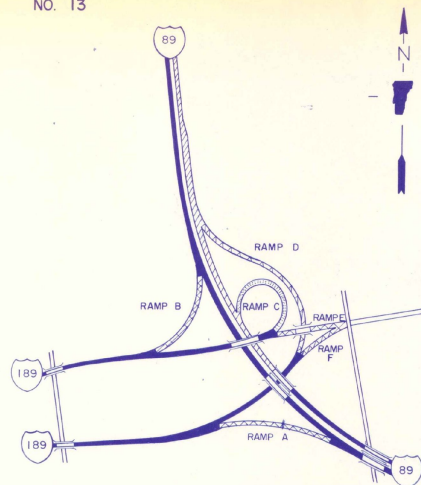
SURVEYED BY _____ DATE _____
DRAWN BY _____ DATE _____
TRACED BY _____ DATE _____
OVERLAY _____
PROJ. 1 (80-3(12))
NO. 89-3(51)
SHEET 2 OF 25

SOUTH BURLINGTON INTERCHANGE NO. 1



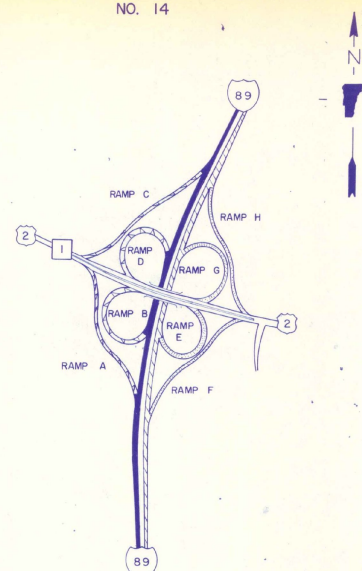
SLURRY SEAL & 2" OVERLAY
EMULSIFIED ASPHALT & 1" OVERLAY See typical sheet 2

SYSTEMS INTERCHANGE NO. 13

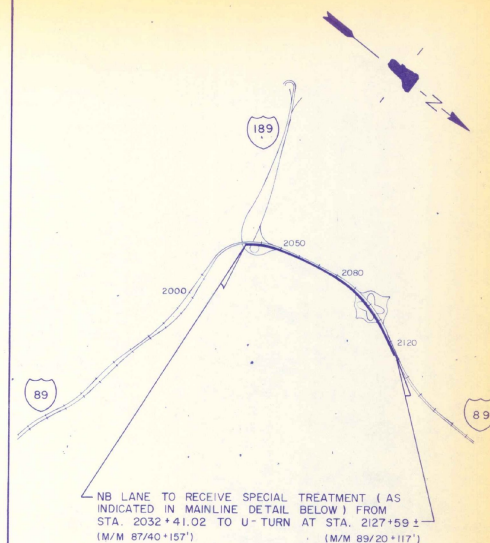


SLURRY SEAL & 2" OVERLAY
EMULSIFIED ASPHALT & 1" OVERLAY See typical sheet 2
SLURRY SEAL & 2" OVERLAY (See Mainline typical below)
EMULSIFIED ASPHALT & 1" OVERLAY (See Ramp typical below)

WILLISTON ROAD INTERCHANGE NO. 14

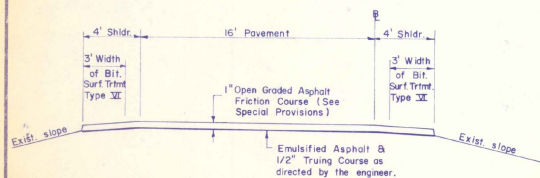


SLURRY SEAL & 2" OVERLAY
EMULSIFIED ASPHALT & 1" OVERLAY See typical sheet 2
SLURRY SEAL & 2" OVERLAY (See Mainline typical below)
EMULSIFIED ASPHALT & 1" OVERLAY (See Ramp typical below)



NOTES

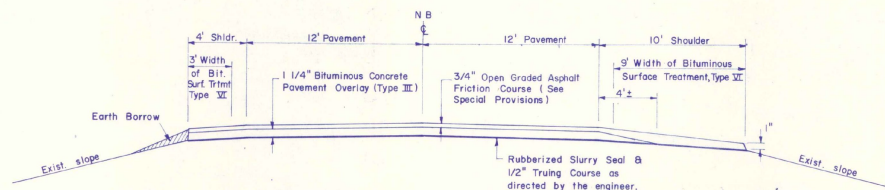
- 1) Portions of mainline and ramps not shown above are to be treated in accordance with details on sheet 2.
- 2) See Sheet 2 for seeding and general notes.



TYPICAL RAMP SECTION
SPECIAL TREATMENT AREA

Ramps E, F, G, & H Interchange 14
Ramp C Interchange 13

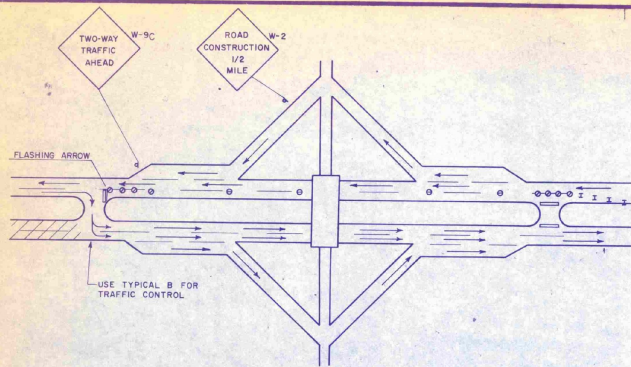
Note: Trueing course for all ramps will be Bituminous Concrete Pavement, Type III.



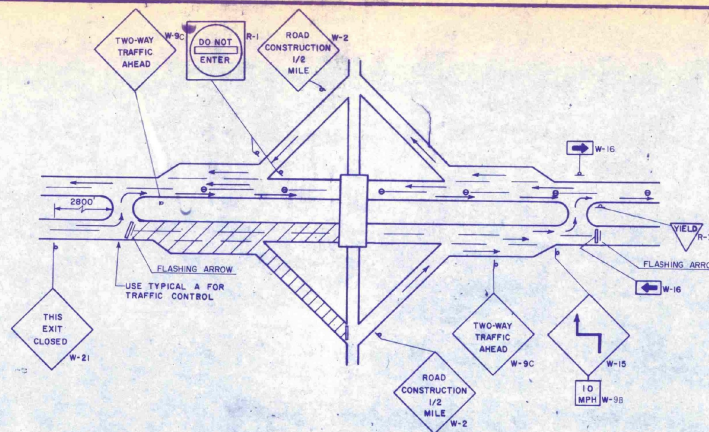
TYPICAL MAINLINE SECTION
SPECIAL TREATMENT AREA

DETAILS OF SPECIAL TREATMENT AREAS

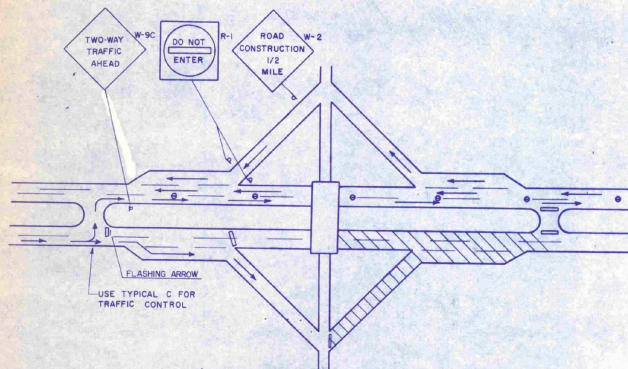
SURVEYED BY: DATE: 4/74
DRAWN BY: R.M.M. DATE: 4/74
TRACED BY: S.R.S. DATE: 4/74
BURLINGTON-SO. BURLINGTON
WILLISTON-COLCHESTER
PROJ. I NO. 189-3(52)
I 89-3(51)
SHEET 3 OF 25



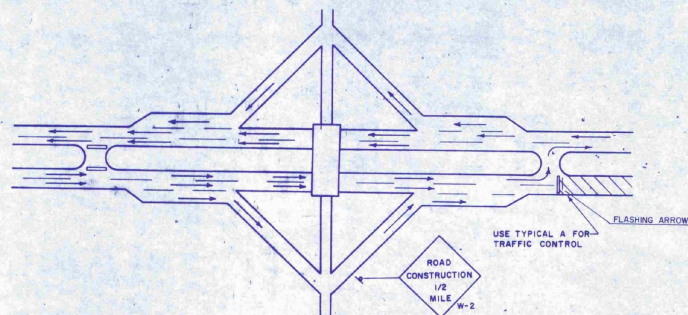
TYPICAL TRAFFIC PATTERN (1)
DURING WORK APPROACHING INTERCHANGE



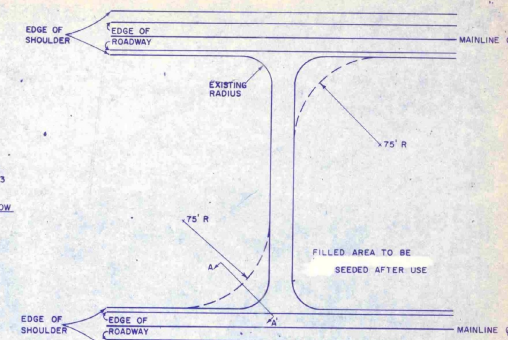
TYPICAL TRAFFIC PATTERN (2)
DURING WORK ON EXIT RAMP
(NO EXIT FOR TRAFFIC ON LANE UNDER CONSTRUCTION)



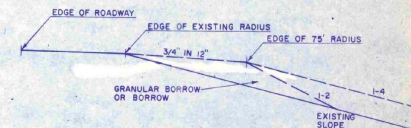
TYPICAL TRAFFIC PATTERN (3)
DURING WORK ON ENTRANCE RAMP
(NO ENTRANCE TO LANE UNDER CONSTRUCTION)



TYPICAL TRAFFIC PATTERN (4)
FOR WORK BEYOND INTERCHANGE



MODIFICATION OF EXISTING U-TURN



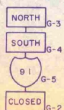
SECTION A-A

NOTES:

1. The traffic signs called for are the minimum required for proper traffic control. Additional signs or modifications in placement may be necessary because of unusual conditions at certain locations.
2. Refer to Std. Sheets E4.8.7 for design information of signs, and barricades.
3. Diagrams are for work on N.B. lane. Invert for work on S.B.
4. U turns to be used or modified shall be designated by the paving engineer.



THIS SIGN IS TO BE PLACED ON THE POST SUPPORTING THE EXISTING SIGN READING "NEXT EXIT () MILES", APPROXIMATELY ONE MILE IN ADVANCE OF THE INTERCHANGE BEFORE THE INTERCHANGE UNDER CONSTRUCTION, WHEN TYPICAL TRAFFIC PATTERN (2) IS IN EFFECT.



THIS ASSEMBLY, DISPLAYING NORTH OR SOUTH AS APPLICABLE, SHALL BE USED WHEN TYPICAL TRAFFIC PATTERN 3 IS IN EFFECT. IT SHALL BE ERECTED ON THE APPROPRIATE ACCESS ROAD NEAR A JUNCTION WITH A STATE HIGHWAY OR OTHER LOCATION DIRECTED BY THE ENGINEER.

- CONES AT 300 FOOT SPACINGS
- CONES AT 100 FOOT SPACINGS
- CONES AT 10 FOOT SPACINGS
- x TYPE I BARRICADE
- ≡ TYPE III BARRICADE
- q FLAGMAN
- /// CURRENT WORK AREA

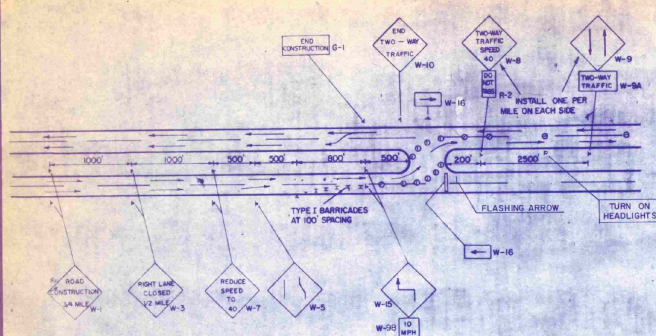
TRAFFIC CONTROL FOR INTERCHANGE AREAS

REFER TO SHEET 6 OF 25 FOR TYPICALS A, B, & C

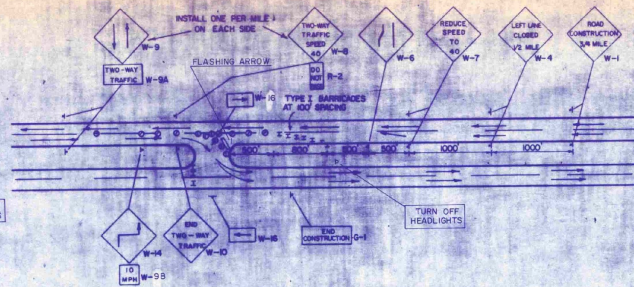
TRAFFIC PLAN
LOCATION SHEET

BURLINGTON-SO. BURLINGTON
WILLISTON-COLCHESTER

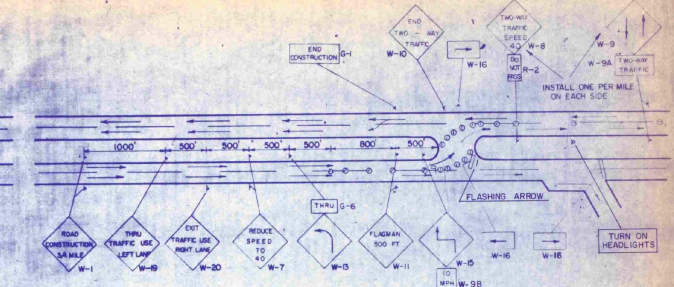
SURVEYED BY	DATE
DRAWN BY	DATE
TRACED BY	DATE 3/73
OVERLAY	
PROJ. 1	189-3(52)
NO. 99-3(51)	
SHEET 5	OF 25



TYPICAL A
TRAFFIC CONTROL FOR TRAFFIC LEAVING
ITS NORMAL LANES



TYPICAL B
TRAFFIC CONTROL FOR TRAFFIC RETURNING
TO ITS NORMAL LANE



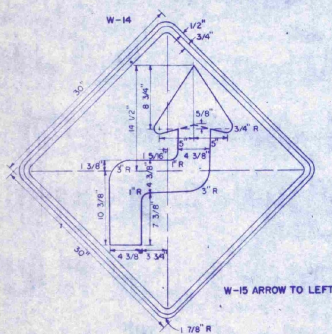
- LEGEND
- ① CONES AT 350' SPACING
 - ② CONES AT 100' SPACING
 - ③ CONES AT 10' SPACING
 - I TYPE I BARRICADE
 - II TYPE II BARRICADE
 - III TYPE III BARRICADE
 - FLAGMAN

TYPICAL C
TRAFFIC CONTROL FOR SEPARATING
THRU AND EXIT TRAFFIC

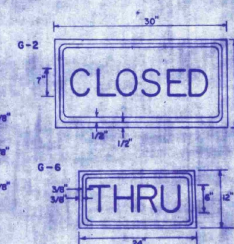
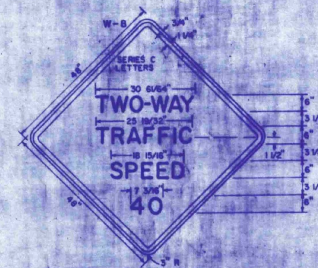
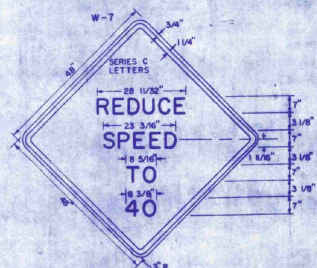


GENERAL NOTES

- Sign H-3 and H-5 on Standard Sheet E-2 shall be used at the beginning and end of the project.
- The traffic signs indicated on this sheet are to be placed as shown above at all work areas where the normal flow of traffic is interrupted or changed.
- Standard Type I Barricades (Standard E-7) are to be placed at 100 foot intervals through lane tapers.
- Standard Type III Barricades (Standard E-7) are to be placed at all locations where traffic would have access into the work area and at that location at the end of a two-way zone where traffic is being directed back into its normal lane.
- Cones are to be placed at varying spacing throughout the construction zone as shown in Typical Traffic Control Diagrams. The cones shall be stabilized to withstand air currents generated by traffic and natural causes.
- For additional information regarding materials, design, lettering, etc. for traffic signs and barricades see Standard Sheets E-2, E-4, E-6, E-7, E-8, E-9, E-11, E-17, E-21.
- Cones will be orange in color and shall be a minimum of 28 inches in height. Those used for night-time traffic control shall be reflectorized.
- Traffic will be diverted from one roadway to the other via existing crossovers or new crossovers constructed by the contractor with the approval of the Engineer.
- The contractor will be responsible for furnishing the necessary mounting supports for the display of all signs.
- Signs not called for on the plans may be ordered by the Engineer and paid for as Item 675.20, Traffic Signs, Type A, or as Item 675.25, Traffic Signs, Type B.
- Refer to Specification 641 Traffic Control for flashing arrows.
- Headlight control signs are to be removed one hour before sunset and erected one hour after sunrise when two-way traffic is maintained 24 hours a day.



W-14 ARROW TO LEFT



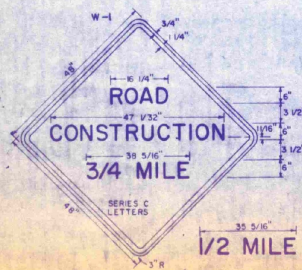
W-6 CLOSED

W-9 THRU TRAFFIC USE LEFT LANE

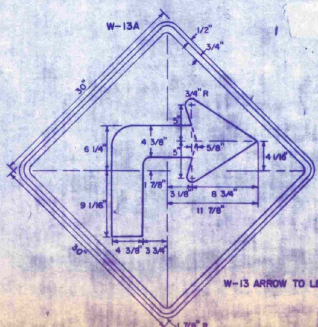
W-9A THRU TRAFFIC USE RIGHT LANE

W-21 THIS EXIT CLOSED

W-9B TWO-WAY TRAFFIC AHEAD



1/2 MILE



W-13A ARROW TO LEFT

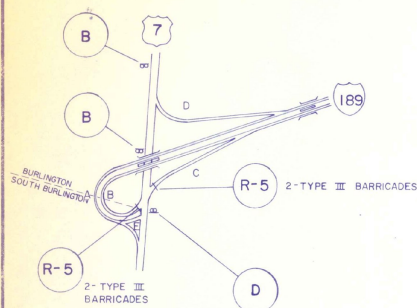


THESE SIGNS SAME FORMAT AS SIGN W-1
W-10 NEXT EXIT CLOSED
W-10A THRU TRAFFIC USE LEFT LANE
W-10A THRU TRAFFIC USE RIGHT LANE
W-21 THIS EXIT CLOSED
W-9B TWO-WAY TRAFFIC AHEAD

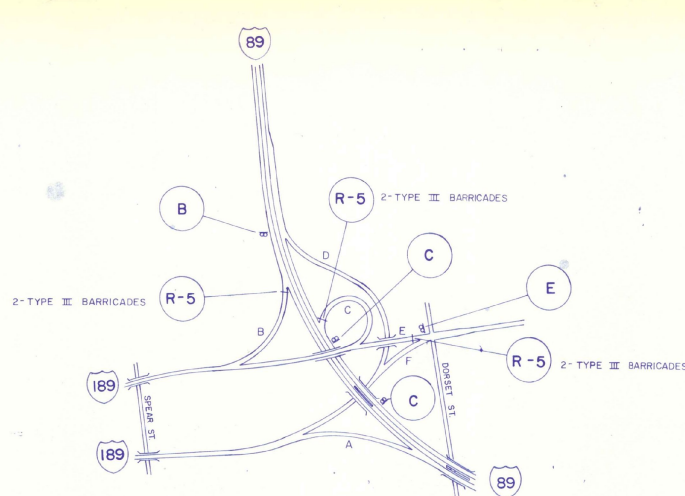


TYPICAL DISPLAY FOR TRAFFIC SIGNS
NOT TO SCALE

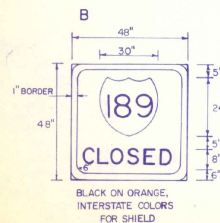
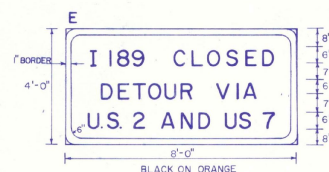
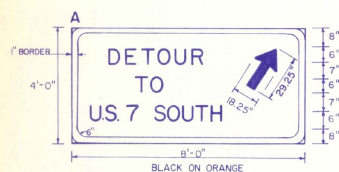
BURLINGTON-30, BURLINGTON WILLISTON-COLCHESTER	
PREPARED BY: AER	DATE: 2/71
DRAWN BY:	DATE:
TRACED BY: RAB	DATE: 3/77
OVERLAY	
PROJ. NO.	189-3(52)
	89-3(51)
SHEET	OF 25



EASTBOUND LANE CLOSED TYPICAL



WESTBOUND LANE CLOSED TYPICAL



GENERAL NOTES

- (1) Sign R-3 and R-5 on Standard Sheet E2 shall be used at beginning and end of projects.
- (2) The location of these signs may be adjusted in the field to fit conditions at each location where the normal flow of traffic is interrupted or changed.
- (3) Standard Type III Barricades (Standard E7) are to be placed at all locations where traffic would have access into the work area.
- (4) Traffic will be detoured through the cities of Burlington and South Burlington 24 hours a day while the paving is in progress. One roadway at a time will be closed; traffic will be maintained on the opposite roadway.
- (5) Each sign shall be erected in a neat and workmanlike manner on wood or metal posts set securely in the ground or attached to a barricade. The bottom of signs on posts shall be at least 5 feet above road level and the nearest edge of each sign shall be located so as to not interfere with traffic, or with pedestrians on sidewalks. The posts and signs shall be braced or reinforced in the back if necessary. The installation of the signs shall be subject to the approval of the engineer.
- (6) The contractor shall be responsible for furnishing the necessary mounting supports for the display of signs.
- (7) All guide signs on Routes 1-89, US-7 and US-2 directing traffic to I-189 when the pertinent roadway is closed to traffic shall be covered and periodically checked to insure that the message is not visible to motorists while the pertinent roadway is being paved.
- (8) Signs not called for on the plans may be ordered by the engineer and paid as Item 075.20 (Traffic Signs Type A or as Item 075.20 Traffic Signs Type B).
- (9) Signs R-1 (ROAD CLOSED) shall be mounted on each Type III Barricade.
- (10) These signs shall have an orange encapsulated lens reflective sheeting background with black lettering film or painted text except Interstate shields which shall be Interstate colors.

TRAFFIC PLAN LOCATION		BURLINGTON - SOUTH BURLINGTON	
SURVEYED BY	DATE	DRAWN BY	DATE
AND		TRACED BY	DATE
DESIGN SHEET		PROJ. I	NO. 189-3(52)
		SHEET 7	OF 28

TRAFFIC CONTROL SIGNS SUMMARY SHEET

IDENTIFICATION	NUMBER OF SIGNS	SIZE		TEXT	SIGN COLOR		TOTAL SIGN AREA
		WIDTH	HEIGHT		TEXT	BACK-GROUND	
W-1	4	48"	48"		BLACK	ORANGE	64 ⁰
W-2	2	48"	48"		BLACK	ORANGE	32 ⁰
W-3	2	48"	48"		BLACK	ORANGE	32 ⁰
W-4	2	48"	48"		BLACK	ORANGE	32 ⁰
W-5	1	48"	48"		BLACK	ORANGE	16 ⁰
W-6	1	48"	48"		BLACK	ORANGE	16 ⁰
W-7	4	48"	48"		BLACK	ORANGE	64 ⁰
W-8	14	48"	48"		BLACK	ORANGE	224 ⁰
W-9	14	48"	48"		BLACK	ORANGE	224 ⁰
W-9A	8	24"	18"	TWO WAY TRAFFIC	BLACK	ORANGE	24
W-9B	5	24"	24"	10 MPH	BLACK	ORANGE	20
W-9B	1	48"	48"		BLACK	ORANGE	16 ⁰

COLUMN TOTAL = 572⁰

IDENTIFICATION	NUMBER OF SIGNS	SIZE		TEXT	SIGN COLOR		TOTAL SIGN AREA
		WIDTH	HEIGHT		TEXT	BACK-GROUND	
W-10	2	48"	48"		BLACK	ORANGE	32 ⁰
W-11	2	48"	48"		BLACK	ORANGE	32 ⁰
W-12	2	48"	24"	TURN OFF HEADLIGHTS	BLACK	ORANGE	16 ⁰
W-13	1	30"	30"		BLACK	ORANGE	63 ⁰
W-14	1	30"	30"		BLACK	ORANGE	63 ⁰
W-15	2	30"	30"		BLACK	ORANGE	125 ⁰
W-16	3	48"	24"		BLACK	ORANGE	24 ⁰
W-17	2	48"	24"	TURN ON HEADLIGHTS	BLACK	ORANGE	16 ⁰
W-18	1	48"	48"		BLACK	ORANGE	16 ⁰
W-19	1	48"	48"		BLACK	ORANGE	16 ⁰
W-20	1	48"	48"		BLACK	ORANGE	16 ⁰

COLUMN TOTAL = 217⁰

SHEET TOTAL = 879.6

IDENTIFICATION	NUMBER OF SIGNS	SIZE		TEXT	SIGN COLOR		TOTAL SIGN AREA
		WIDTH	HEIGHT		TEXT	BACK-GROUND	
W-21	1	48"	48"		BLACK	ORANGE	16 ⁰
R-1 ^H	2	30"	30"		WHITE	RED	—
R-2 ^H	14	24"	30"		BLACK	WHITE	40
G-1	2	60"	24"		BLACK	ORANGE	20 ⁰
G-2	4	30"	15"		BLACK	ORANGE	12.5 ⁰
G-3 ^H	4	24"	12"		WHITE	BLUE	—
G-4 ^H	4	24"	12"		WHITE	BLUE	—
G-5 ^H	4	24"	24"		WHITE	BLUE	—
G-6	1	21"	15"		BLACK	ORANGE	2 ⁰
R-3 ^H	2	36"	29"		RED	WHITE	—

COLUMN TOTAL = 90.5⁰

IDENTIFICATION OF TRAFFIC SIGNS

Traffic signs are identified on these plans by a number prefixed by a letter which indicates the following general classifications:

- G - Other guide signs
- R - Regulatory signs
- W - Warning signs

Traffic signs may be mounted on a portable support. They will be positioned in accordance with plan sheets 4 & 5. (Typical display for traffic signs)

The background and text on all traffic signs may be of non-reflectORIZED character except those signs to be used for night-time traffic control shall be reflectORIZED.

* Traffic Control signs to be furnished and installed (unless otherwise indicated) as Section 641, Traffic Control.

All black & orange signs shall have an orange, encapsulated lens reflective sheeting background.

BURLINGTON - SO. BURLINGTON
WILLISTON - COLCHESTER

SECTION 641
TRAFFIC CONTROL SIGNS
SUMMARY SHEET

PREPARED BY: AER DATE: 2/28/73
CHECKED BY: DATE: 3/7/73
TRACED BY: DGG DATE: 3/7/73
OVERLAY
PHOL I NO. 189-3 (52)
89-3 (51)
SHEET 2 OF 25

* These signs will be furnished by the Vermont Highway Department. The necessary mounting supports for display of these signs will be furnished by the Contractor.

[illegible][illegible][illegible]

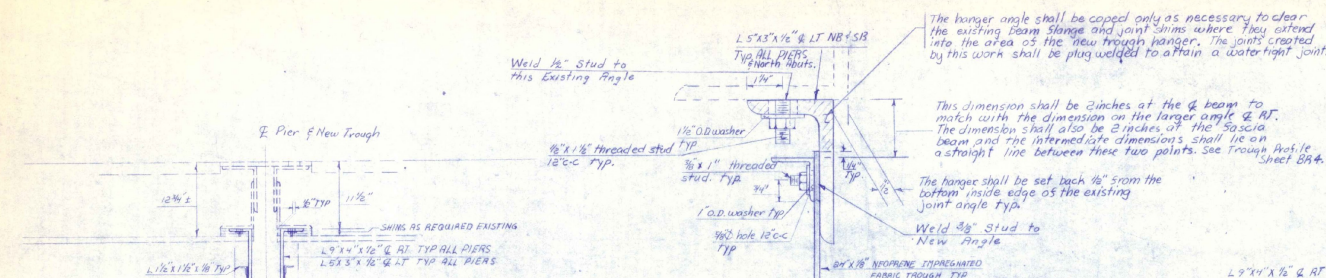
PREPARED BY _____ DATE _____
CHECKED BY _____ DATE _____
TRACED BY _____ DATE _____

I 89-3(51)
PROJ. I NO. 189-3(52)
SHEET 9 OF 25

* These signs will be furnished by the Vermont Highway Department. The necessary mounting supports for display of these signs will be furnished by the Contractor.

NOTES

1. All work shall be paid for as Structural Steel Item 506.94. Fabric Troughs shall be paid for under Structural Steel.
2. Total Units Required: Pier Trough Assemblies - 12
Abut Trough Assemblies - 24
RT Abut Hopper Assemblies - 24
LT Abut Hopper Assemblies - 2
3. All details shall be field checked prior to fabrication.
4. All field welds made after galvanizing shall be painted with zinc-rich paint one coat after cleaning. The paint shall meet the requirements of Section 708.07(2). Guts shall be treated likewise.
5. Materials for Fabric Trough shall conform to Spec. 731.01.
6. All steel shall be ASTM-A36 and painted as per UT Spec. Sect. 513, unless otherwise noted on these plans, payment included in Item 506.94.
7. All areas in contact with the new work shall be cleaned and primed as per Section 513, contractor's option on method, payment included in Item 506.94.



ELEVATION: TROUGH HANGER
TYP. PIER & NORTH ABUT & LT NB & SB
Scale 1" = 2"

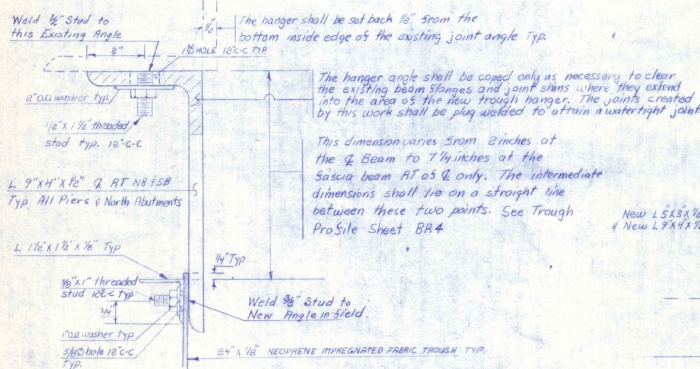
L 9" x 14" x 1/2" & RT TYP NORTH ABUT'S
L 5" x 3" x 1/2" & LT TYP NORTH ABUT'S

The horizontal leg of the 1/2" x 1 1/2" L may be notched slightly to clear the webs of the main beams, should they intrude into the working clearance.

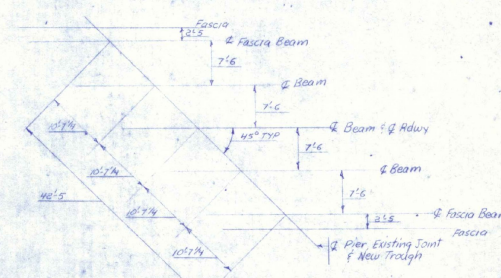
Note: The sustaining detail for all the angles on the bridge side of the North Abutment joints shall be the same as for the pier joint typicals on this sheet.

Note: The horizontal channel and the horizontal angle of the cross bracing may be removed on alternate bays of the No. 1 buttments to facilitate installation of the joints. These members shall be reinstalled to conform to original before working on the adjacent bay. Any bolts removed shall be replaced with new 3/4" A-325 High-Strength bolts as per UT Spec. Section 506.

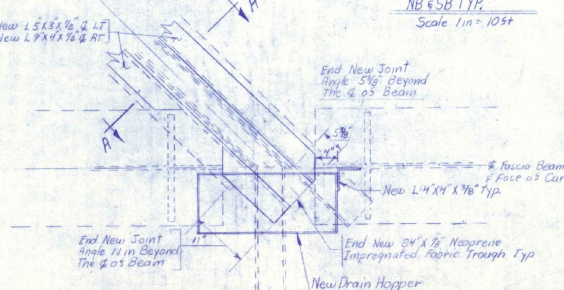
ELEVATION: NB & SB NORTH ABUTMENTS
Scale 1 1/2" = 1"



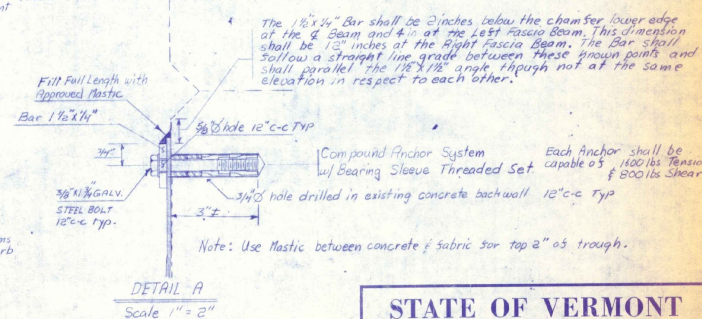
ELEVATION: TROUGH HANGER
TYP. PIER & RT NB & SB & NORTH ABUTS & LT
Scale 1" = 2"



PLAN: BEAM SPACING
NB & SB TYP.
Scale 1 in = 10 ft

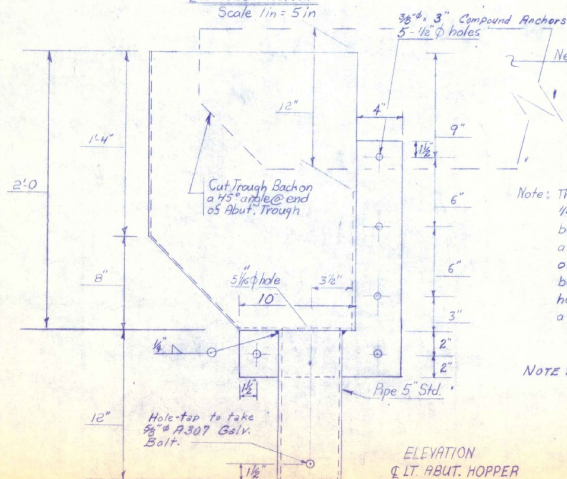
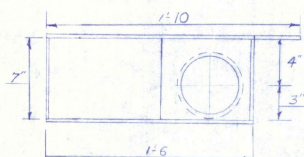
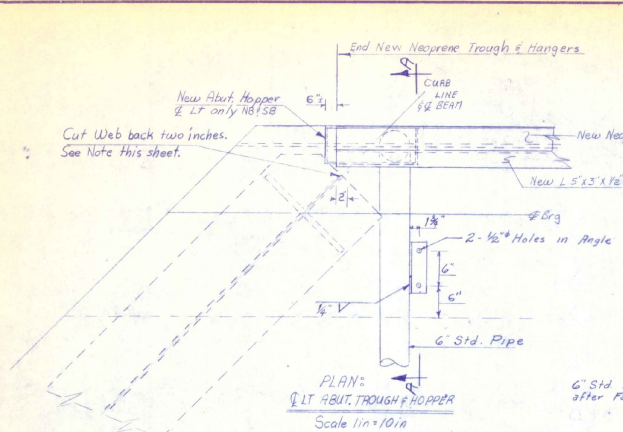


PLAN: JOINT & HOPPER DETAIL
@ PIER FASCIA BEAMS TYP.
Scale 1" = 10"



STATE OF VERMONT DEPARTMENT OF HIGHWAYS

TOWN OF	So. Burlington	Bridge No.	70-N/S
HIGHWAY NO.	I-89	Log Sta.	400185
		Post Sta.	90
		Surv. Sta.	
Joint Trough Details			
I-89 OVER WINDSKI RIVER			
Designed by	Mittell	Drawn by	Mittell
Checked by	C. J. Goss	Bridge Design Supervisor	
PROJECT	Williston Colchester	PROJECT NO.	I-89-3(51)
Bridge Sheet No.	B.P. 3	Sheet	10 of 25



ELEVATION
LT ABUT. HOPPER
Scale 1 in = 5 in

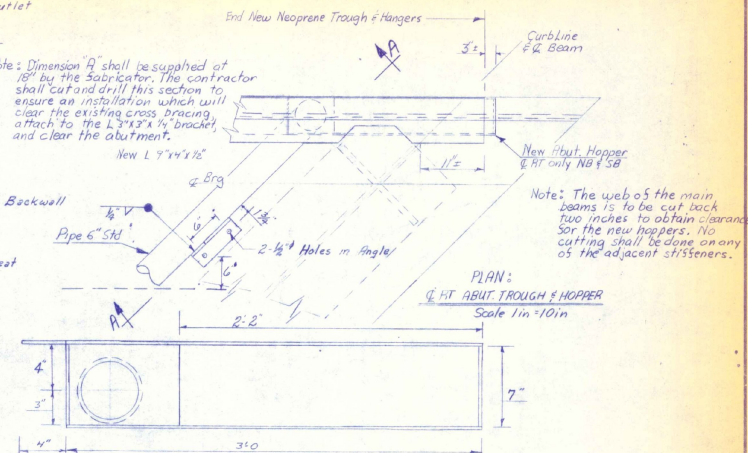
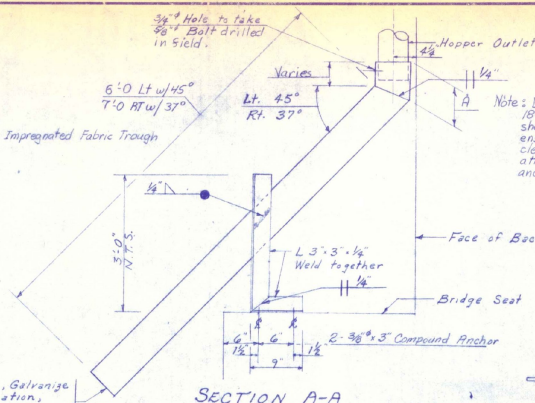
ERECTION Note: The hoppers shall be placed as shown on this sheet. This will require that the hopper be forced as far as possible up under the trough. The trough should be enclosed as much as possible by the hopper but should not be bent or buckled to restrict the flow of water. The hopper shall be held in place with the same 3/8" x 3" Compound Anchor System w/ Bearing Sleeve Threaded Set as is used and detailed for the backwall side of the abutment trough. Attach hoppers to Backwall.

Note: The Abut. hoppers shall be fabricated from 1/4 inch steel PL. All plates shall be A-36 & all pipes shall be ASTM A-53 Steel, and shall be galvanized after fabrication according to ASTM A-123 or ASTM A-153. The fabrication welds shall be 1/4" fillet welds on the inside of the hopper and shall be full length to ensure a watertight container.

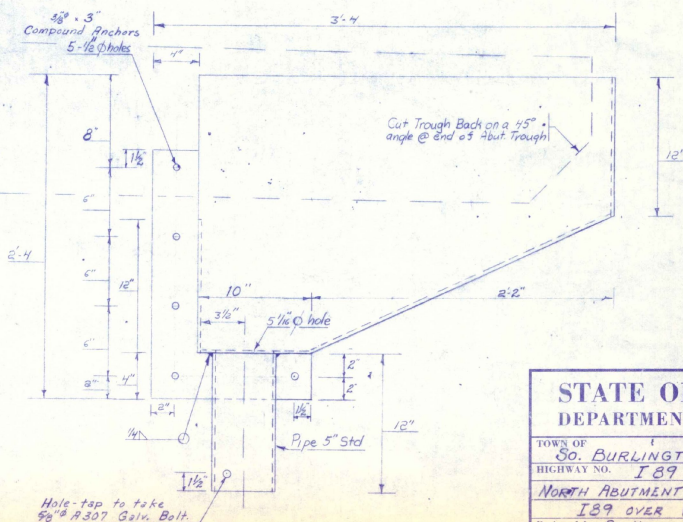
Note: Ultimate load of each Compound Anchor
Tension: 1600 pounds
Shear: 800 pounds

6" Std. Pipe, Galvanize after Fabrication.

SECTION A-A
DOWNPIPE DETAILS @
NORTH ABUTMENTS
1" = 10"



PLAN:
RT ABUT. HOPPER
Scale 1 in = 5 in



ELEVATION:
RT ABUT. HOPPER
Scale 1 in = 5 in

STATE OF VERMONT DEPARTMENT OF HIGHWAYS

TOWN OF	So. BURLINGTON	Bridge No.	70-NES
HIGHWAY NO.	189	Log Sta. Mile Post	90
PROJECT	NORTH ABUTMENT HOPPER DETAILS		
DESIGNED BY	G. KITTELL	BRIDGE DESIGN SUPERVISOR	G. KITTELL
CHECKED BY	C.V. GRENIER date 5-74	R.S. HAUPT date 5-74	
PROJECT	WILLISTON - COLCHESTER 189-3(51)		
BRIDGE SHEET NO.	BR 5	SHEET	12 OF 25

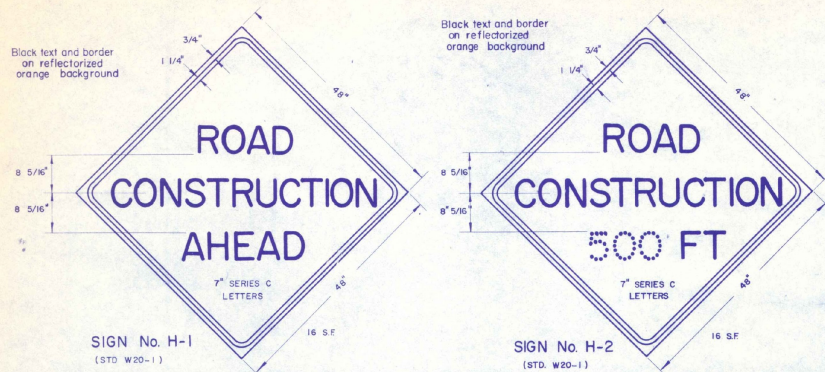
[illegible]

		QUANTITY BREAKDOWN															
NO.	ITEM	UNIT	**												TOTAL	FINAL	
			IS9 Over Muddy Brk	IS9 Over Dorset St	IS9 Over IS9 CB	IS9 Over IS9	IS9 Over Woods Rd	IS9 Over CVR	IS9 Over 11 Rte 15	IS9 Over Va Gwinn St	IS9 Over US 94	IS9 Over 7	IS9 Over IS9	IS9 Over IS9			
403.10	Asphalt Emulsion for Slurry Seal (ONE COURSE)	cwt	28	59	30	38	0	60	49	48	45	18				395	
403.12	Aggregate for Slurry Seal, General	Ton	5	11	10	7	0	11	9	9	9	3				74	
506.94	Structural Steel (31340 lbs) See Note	L.S.					1									1	
406.25	Bituminous Concrete Pavement	Ton					192									192	
404.65	Emulsified Asphalt	Gal					651									651	
NOTE: THE TOTAL PAVEMENT WEIGHT OF STRUCTURAL STEEL SHOWN ON THE ESTIMATE UNDER ITEM 506.94 STRUCTURAL STEEL (LINE 506) INCLUDES ALL STEEL COMPONENTS OF THE TRUCKS, HOPPERS, CONCRETE WEIGHT OF FABRIC TRUCKS, WELDED STADS, BRIDGE RAILS, RAILS AND WISHERS. THE WEIGHT OF WELDS HAS NOT BEEN INCLUDED IN THE TOTAL PAVEMENT.																	
* Quantities given for treatment of approach slabs for a width of 16' along & from deck joint																	
** Entire quantities for this structure included in this contract for IS9																	

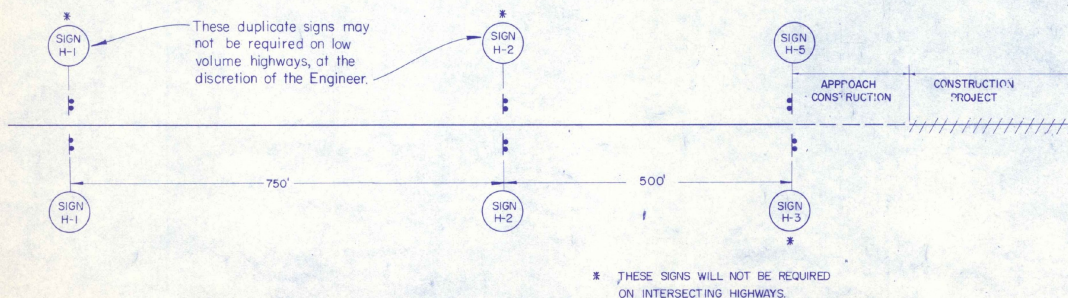
PROJECT NO. I89-3(51)
SHEET NO. 13 OF 25

[illegible][illegible]

BRIDGE (S) AT STATION (S)	Prepared by <u>B. Elwood</u>	Checked by <u>R. P. GARDNER</u>	PROJECT NO. <u>I 189-3(52)</u>
LOCATION (S) <u>BURLINGTON- So BURLINGTON</u>	SUPERVISOR: <u>B. Elwood</u>	BR <u>2</u> OF <u> </u>	SHEET NO. <u>14</u> OF <u>25</u>



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

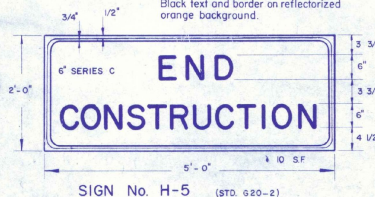


Show mileage to nearest 1/4 mile

Black text and border on reflectorized orange background.



Black text and border on reflectorized orange background.



LOCATION

NOTES

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

DESIGN

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

MATERIALS

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

REFLECTORIZATION

All new signs requiring an orange background shall have encapsulated lens reflective sheeting material as of January 1, 1975.

ILLUMINATION

If desired by the contractor, and approved by the Engineer, a sign may be illuminated instead of reflectorized. The illumination may be provided by incandescent or fluorescent lamps, or by spotlights. Lamps shall be properly shielded to protect drivers from glare. Torches, lanterns or existing street lighting are not acceptable for sign illumination. If the Engineer considers that a reflectorized sign is not adequate, he may order that it be illuminated.

INSTALLATION

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

MAINTENANCE

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

GENERAL

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

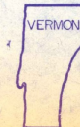
When project is closed down for temporary periods the signs shall be covered in a workmanlike manner.

REVISIONS AND CORRECTIONS
SEPT. 11, 1973 - REVISED PER ORDER OF FHWA, SEPT. 11, 1973
OCT. 19, 1973 - SIGN H-4 REMOVED
MAY 14, 1974 - REFLECTIVE MATERIAL CHANGE

APPROVED
DATE *Dec 14, 1971*
R. H. Arnold
CHIEF ENGINEER
E. L. Stuckney
ASST. CHIEF ENGINEER
G. M. Lane
HIGHWAY ENGINEER

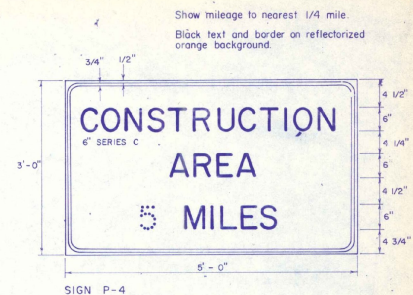
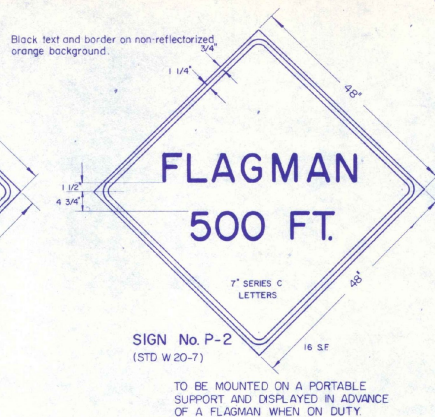
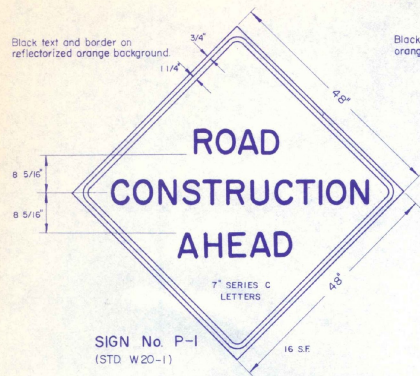
TRAFFIC SIGNS

ROAD CONSTRUCTION APPROACH SIGNS



DEPARTMENT
OF HIGHWAYS
STANDARD

E-2



LOCATION

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

DESIGN

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

MATERIALS

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

REFLECTORIZATION

All new signs requiring an orange background shall have encapsulated lens reflective sheeting material as of January 1, 1975.

INSTALLATION

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

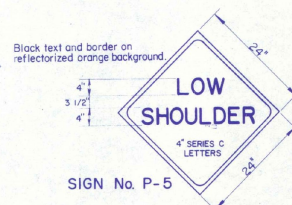
MAINTENANCE

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

GENERAL

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

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



TO BE LOCATED AS ORDERED BY THE ENGINEER ON POSTS SET SECURELY IN THE GROUND, NEAR EDGE OF SIGN TO BE AT LEAST 2 FT. FROM EDGE OF PAVEMENT, WITH BOTTOM AT LEAST 3 FT. ABOVE ROAD LEVEL.



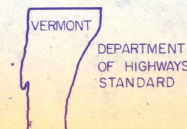
REVISIONS AND CORRECTIONS
SEPT. 11, 1973 - REVISED PER ORDER OF FHWA, SEPT. 11, 1973
NOV. 6, 1973 - REVISED PER ORDER OF FHWA
MAY 14, 1974 - REFLECTIVE MATERIAL CHANGE.

APPROVED
Dec 14/1977
DATE
R. H. Connolly
CHIEF ENGINEER
E. V. Buckley
ASST. CHIEF ENGINEER
G. M. Lane
HIGHWAY ENGINEER

TRAFFIC SIGNS

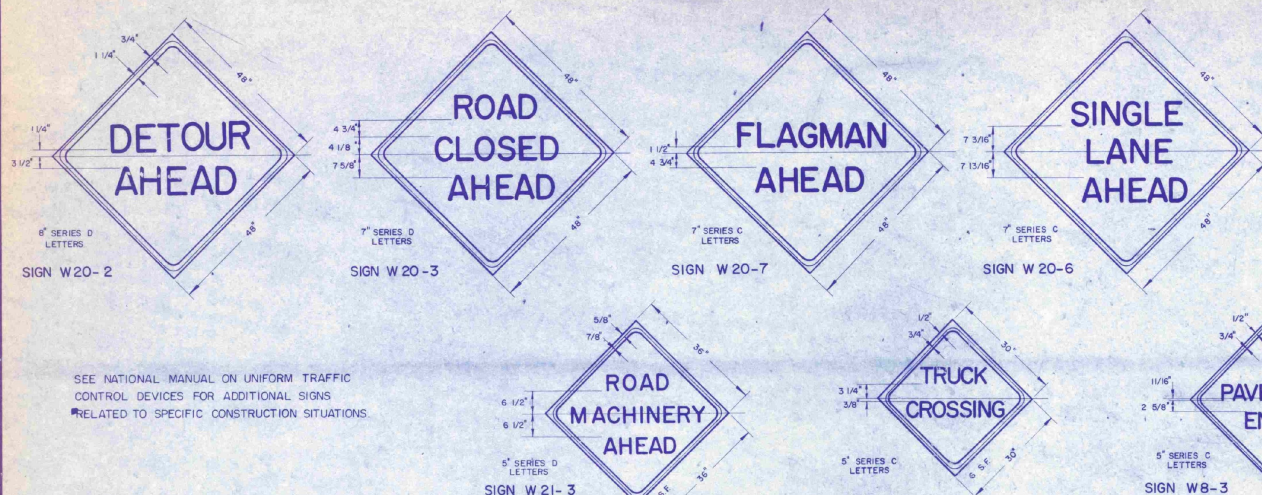
ROAD CONSTRUCTION SIGNS

-PAVING-



E-4

ALL DIAMOND SHAPED SIGNS SHALL HAVE BLACK TEXTS AND BORDERS ON AN ORANGE BACKGROUND. IF A MESSAGE IS TO BE CONVEYED DURING THE HOURS OF DARKNESS, THE BACKGROUND SHALL BE REFLECTORIZED OR THE ENTIRE SIGN SHALL BE ILLUMINATED.



SEE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR ADDITIONAL SIGNS RELATED TO SPECIFIC CONSTRUCTION SITUATIONS.

NOTES

APPLICATION OF STANDARDS

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

DESIGN

The designs of the signs and barricades shall conform with the details shown on this sheet and with the standards prescribed in the Manual. Deviations will not be permitted. Signs and barricades that are to convey their messages during the hours of darkness shall be reflectorized or illuminated.

MATERIALS

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

REFLECTORIZATION

All new signs requiring an orange background shall have encapsulated lens reflective sheeting material as of January 1, 1975.

ILLUMINATION

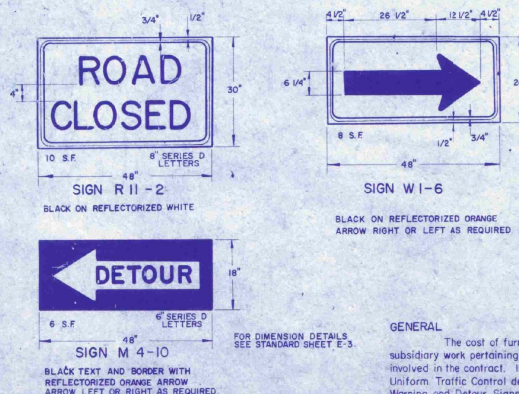
If desired by the contractor and approved by the Engineer, a sign or barricade may be illuminated instead of reflectorized. The illumination may be provided by incandescent or fluorescent lamps, or by spotlights. Lamps shall be properly shielded to protect drivers from glare. Torches, lanterns, or existing street lighting are not acceptable for illumination.

INSTALLATION

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

MAINTENANCE

Signs shall be kept in a clean and legible condition at all times with the reflective quality completely unimpaired. Signs, sign supports, and barricades shall be repaired, cleaned, repainted or replaced whenever necessary. Torches, lanterns and fires shall not be placed so close to signs and barricades as to scorch them or deposit spots on them. Weeds, shrubbery, construction materials, equipment, and snow shall not be allowed to obscure any sign or barricade. The maintenance of all traffic control devices shall be subject to the orders of the Engineer.



FOR DIMENSION DETAILS SEE STANDARD SHEET E-3.

GENERAL

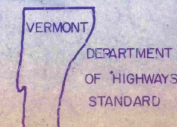
The cost of furnishing, erecting, maintaining and removing all construction approach signs shall be considered as subsidiary work pertaining to the project as a whole and shall be included in the contract unit price bid for various items involved in the contract. In all phases of construction of approach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

REVISIONS AND CORRECTIONS
DEC. 14, 1973 - BEADS ON PAINT FOR BACKGROUND MATERIAL REMOVED.
MAY 14, 1974 - REFLECTIVE MATERIAL "1" ADDED

APPROVED
Dec 14, 1971
DATE
R. H. Connolly
CHIEF ENGINEER
E. H. Stucky
ASST. CHIEF ENGINEER
G. M. Lane
HIGHWAY ENGINEER

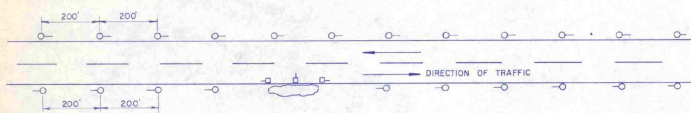
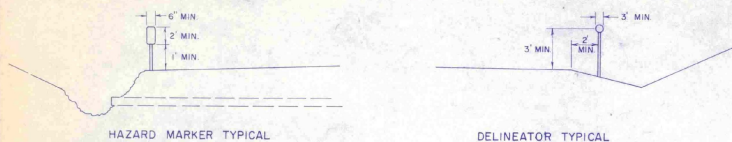
TRAFFIC SIGNS

ON-PROJECT CONSTRUCTION SIGNS

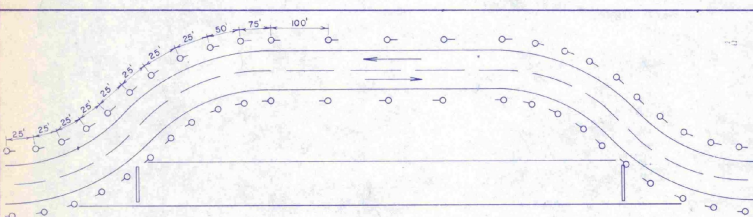


E-6

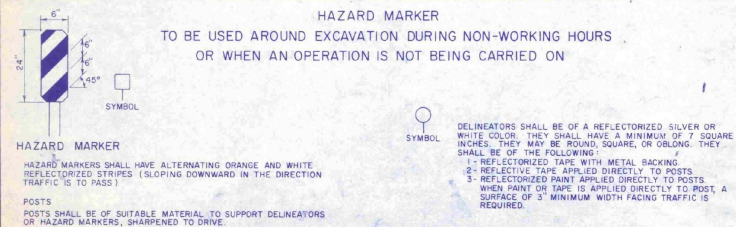
DELINEATOR AND HAZARD MARKER DETAILS
FOR CONSTRUCTION AREAS WHERE TRAFFIC IS MAINTAINED



DELINEATOR AND HAZARD MARKER LOCATION DETAIL FOR TWO WAY TRAFFIC
(FOR INTERSTATE TYPE HIGHWAYS
200' SPACING ON RT.
AND 400' SPACING ON MEDIAN EDGE)



DELINEATOR LOCATION DETAIL FOR CONSTRUCTION DETOUR



MATERIALS

The barricades shown on this sheet normally will be of wood or wood and metal construction and type II barricades may be of metal construction.

DESIGN

The design of the barricades shall conform with the details shown on this sheet and the markings on the barricades shall be alternate orange and white stripes (sloping downward at an angle of 45 degrees in the direction traffic is to pass).

COLORS

The barricades shown on this sheet shall have alternating reflectORIZED white and orange stripes. The orange shall conform with the standard color adopted by the American Association of State Highway Officials and approved by the U.S. Department of Transportation Federal Highway Administration.

REFLECTORIZATION

The barricades shall be reflectORIZED with reflective sheeting.

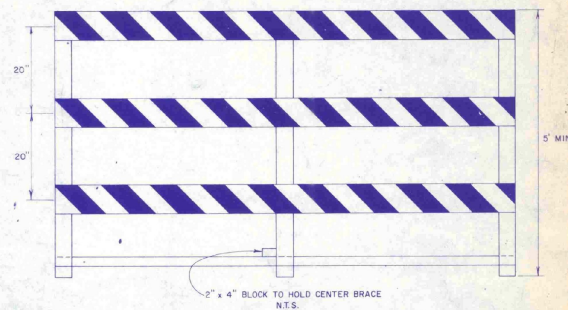
LOCATION

The barricades shown on this sheet will be located by the Engineer in the field or as shown on the plans. The locations of the barricades shall follow the procedures set forth in the Manual on Uniform Traffic Control Devices.

MAINTENANCE

Barricades shall be maintained in a clean and legible condition satisfactory to the Engineer. They shall be completely visible to approaching traffic at all times. Damaged, defaced, or dirty barricades shall be repaired, cleaned, or replaced as ordered by the Engineer.

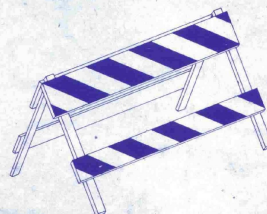
TYPE III



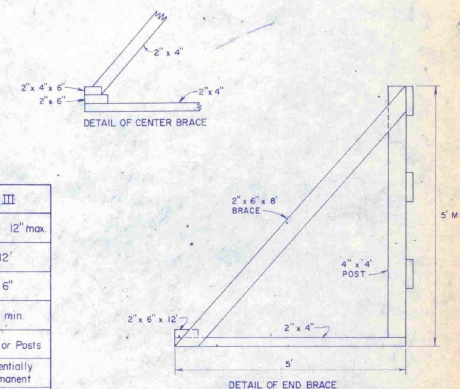
TYPE I



TYPE II



	I	II	III
WIDTH OF RAIL	8' min. 12' max.	8' min. 12' max.	8' min. 12' max.
LENGTH OF RAIL	6' - 8'	3' min. 4' max.	12'
WIDTH OF STRIPES	6"	6"	6"
HEIGHT	3' min.	3' min.	5' min.
TYPE OF FRAME	Demountable or Heavy 'A' Frame	Light 'A' Frame	Skids or Posts
FLEXIBILITY	Essentially Moveable	Portable	Essentially Permanent
ANGLE OF STRIPE	45°	45°	45°
COLOR OF STRIPES	Orange and White	Orange and White	Orange and White



REVISIONS AND CORRECTIONS
MAY 12, 1973 - DELINEATOR SPACING REVISED
SEPT 19, 1973 - DELINEATOR SPACING REVISED

APPROVED
Feb 15, 1973
DATE

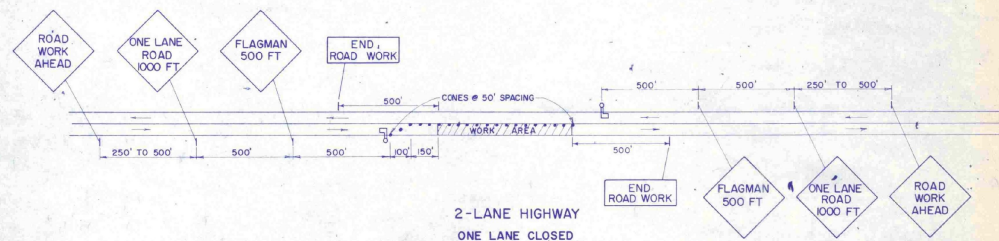
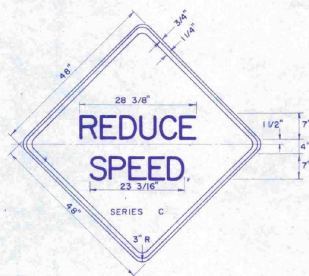
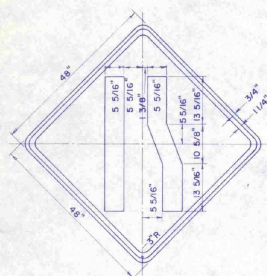
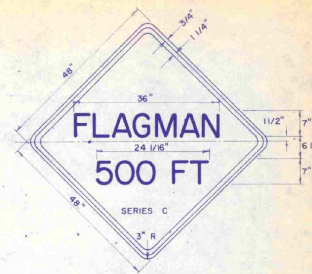
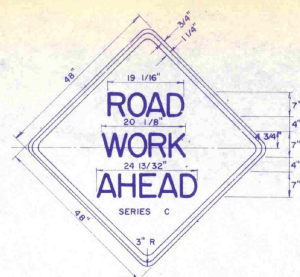
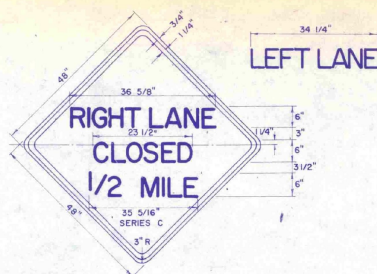
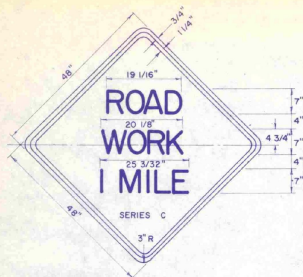
RCM
CHIEF ENGINEER
EH Steiner
ASST. CHIEF ENGINEER
LM Lane
HIGHWAY ENGINEER

TRAFFIC SIGNS

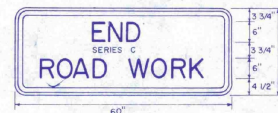
DELINEATION AND BARRICADES
FOR CONSTRUCTION AREAS

VERMONT
DEPARTMENT
OF HIGHWAYS
STANDARD

E-7



2-LANE HIGHWAY
ONE LANE CLOSED



Reflectorization
All new signs requiring an orange background shall have encapsulated lens reflective sheeting material, as of January 1, 1975. The text and borders may be screened, lettering film, or hand painted.

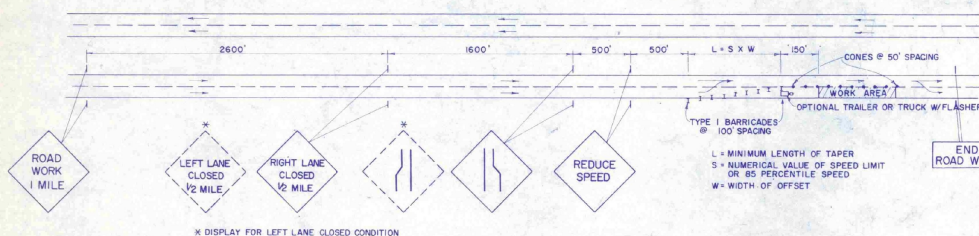
Colors
The warning signs shown on this sheet shall have black text, border, and symbols on a reflectorized orange background. The orange shall conform with the standard colors adopted by the American Association of State Highway Officials and approved by the U.S. Department of Transportation, Federal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

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

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

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

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



* DISPLAY FOR LEFT LANE CLOSED CONDITION

4-LANE DIVIDED HIGHWAY
ONE LANE CLOSED

REVISIONS & CORRECTIONS
FEB 29, 1972: SIGN ADDED UNDER DIRECTION OF FEDERAL HIGHWAY ADMINISTRATION
MAY 14, 1974: REFLECTIVE MATERIAL CHANGE

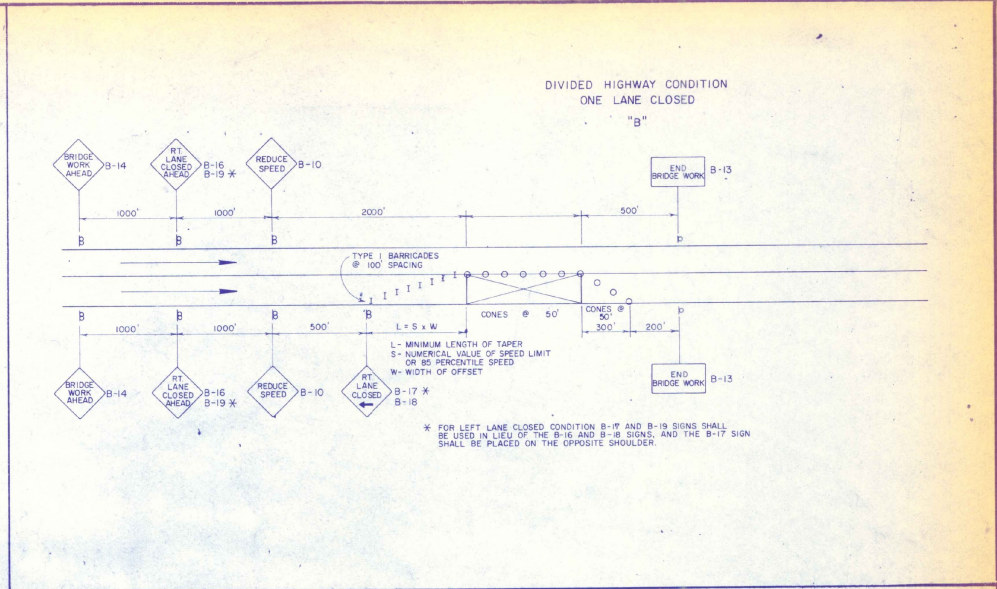
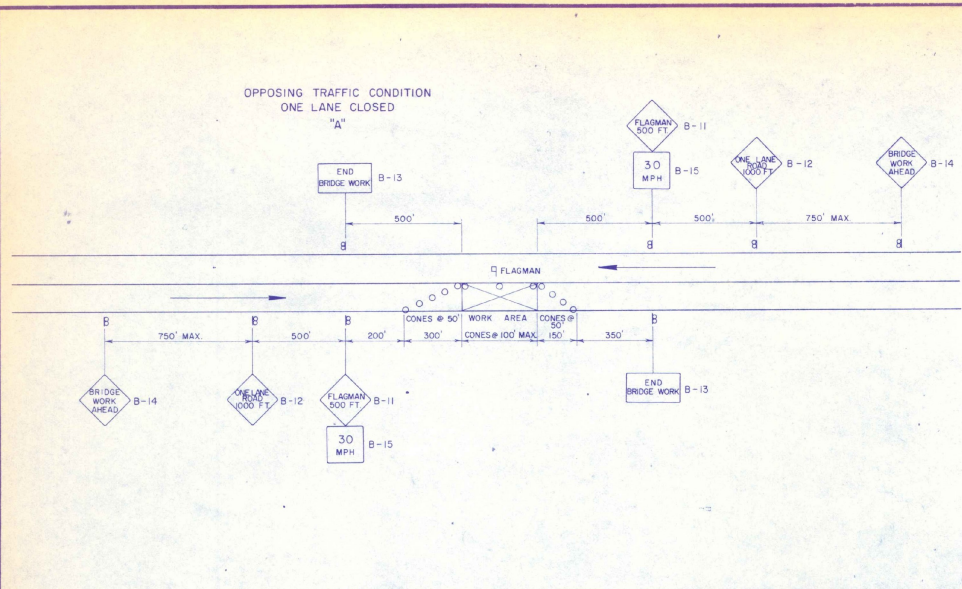
APPROVED:

DATE: Jan. 26, 1972
CHIEF ENGINEER: R. W. Arnold
ASST. CHIEF ENGINEER: C. H. O'Brien
HIGHWAY ENGINEER: G. M. Lane

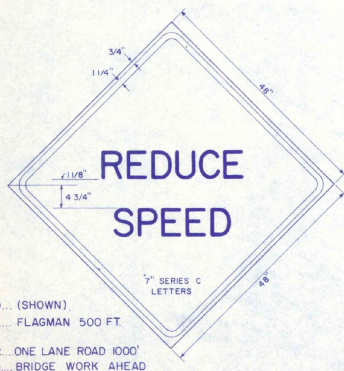
TRAFFIC SIGNS TYPICAL MAJOR MAINTENANCE OPERATION APPROACH SIGNS

VERMONT
DEPARTMENT
OF HIGHWAYS
STANDARD

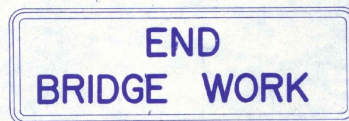
E-8



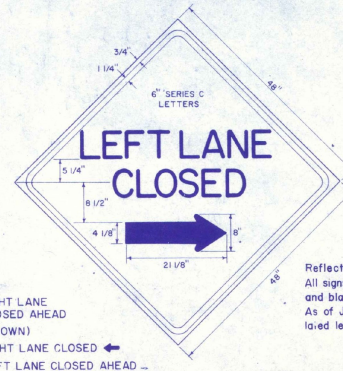
SIGNS B-10, B-11, B-12, B-14



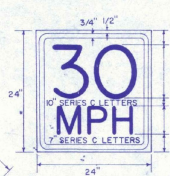
SIGN B-13



SIGNS B-16, B-17, B-18, B-19



SIGN B-15



NOTES:

1. Signing to remain the same for "all lanes open condition," except signs B-11, B-15, B-16, B-17, B-18, B-19 are to be covered or removed.
2. 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.
3. If vertical clearance has been reduced below 14 ft. and lane is open to traffic, a vertical clearance sign is required with clearance shown. If clearance is reduced below 12 ft. the lane must be closed. The signs shall be located next to the restriction. Existing clearance warning signs shall be covered when not applicable.
4. When any personnel or equipment is temporarily working, or physically placed within the work zone shoulder limits, a flagman shall be placed on duty to direct traffic for condition "A" only. Flagmen use shall be as directed by the Engineer.
5. Signs on all intersecting public highways shall be as shown on the plans or as directed by the Engineer.
6. The design of the signs shall conform with the details shown on this sheet and with the standards in the Manual on Uniform Traffic Control Devices prepared by the National Joint Committee on Uniform Traffic Control Devices.
7. Installation. Signs and barricades shall be in place prior to the start of the maintenance operation to which they apply, and shall be removed promptly when the need no longer exists. Each sign shall be erected in a neat and workmanlike manner on wood or metal posts set securely in the ground, or on portable supports for temporary use, or on barricades when appropriate. As a general rule, roadside signs shall be 5 feet above road level with the nearest edge at least 5 feet outside the shoulder point. The installation of all signs and barricades shall be subject to the approval of the Engineer.
8. The cost of furnishing, erecting, maintaining, and removing all signs shall be borne by the Contractor without additional compensation.

REVISIONS AND CORRECTIONS
FEB. 29, 1972: REVISED PER DIRECTION OF FEDERAL HIGHWAY ADMINISTRATION
DEC. 19, 1972: REVISED PER DIRECTION OF FEDERAL HIGHWAY ADMINISTRATION
MAY 14, 1974: REFLECTIVE MATERIAL CHANGE

APPROVED

Dec 29 1971
R. M. Lane
CHIEF ENGINEER
E. J. O'Brien
ASSISTANT CHIEF ENGINEER
L. M. Lane
HIGHWAY ENGINEER

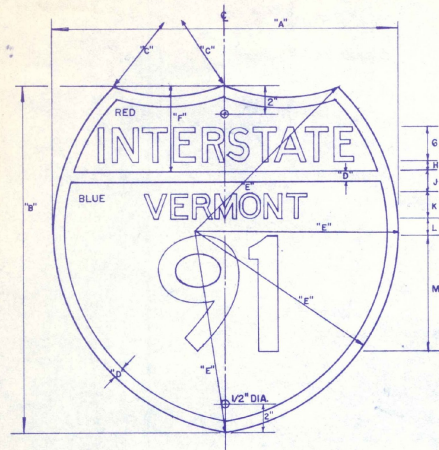
TRAFFIC SIGNS

BRIDGE MAINTENANCE APPROACH SIGNS

VERMONT
DEPARTMENT
OF HIGHWAYS
STANDARD

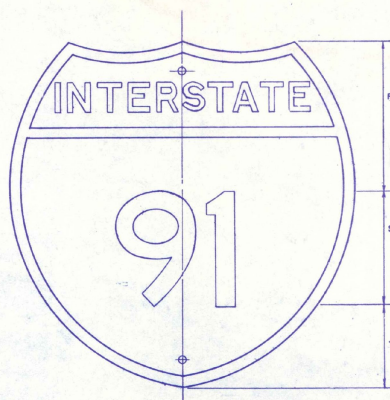
E-9

INTERSTATE ROUTE MARKER
FOR INDEPENDENT USE



SHIELD SIZE	A	B	C	D	E	F	G	H	J	K	L	M	SQ. FT.
24" x 24"	24"	24"	15"	1 1/2"	15"	5"	2 1/2"	1 1/2"	1"	1 1/2"	1 1/2"	10"	40
30" x 24"	30"	24"	24"	1 1/2"	17"	5"	2 1/2"	1 1/2"	1"	1 1/2"	1 1/2"	10"	50
36" x 36"	36"	36"	22 1/2"	3/4"	22 1/2"	7 1/2"	3 3/4"	3/4"	1 1/2"	2 1/4"	3/4"	15"	90
48" x 36"	45"	36"	36"	3/4"	25 1/2"	7 1/2"	3 3/4"	3/4"	1 1/2"	2 1/4"	3/4"	15"	1125

INTERSTATE ROUTE MARKER
FOR USE ON GUIDE SIGNS



SHIELD SIZE	R	S	T	SQ. FT.
24" x 24"	6 1/2"	12"	5 1/2"	40
30" x 24"	6 1/2"	12"	5 1/2"	50
36" x 36"	9 3/4"	18"	6 1/4"	90
48" x 36"	9 3/4"	18"	6 1/4"	1125

MATERIALS

The Sign Base Material May Be Any Of The Following, Of The Minimum Thickness Noted:

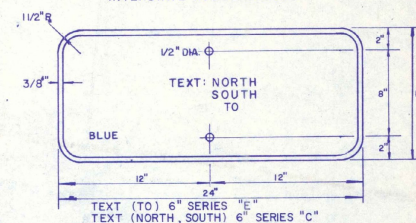
FLAT SHEET ALUMINUM	
Less Than 24" x 24"	0.060"
24" x 24"	0.080"
36" x 36"	0.100"
When used on guide signs	0.060"
HIGH DENSITY OVERLAID PLYWOOD	
Less Than 24" x 24"	3/8"
24" x 24"	1/2"
36" x 36"	5/8"
	3/8"

GALVANIZED FLAT SHEET STEEL	
Less Than 24" x 24"	18 Gage
24" x 24"	16 Gage
36" x 36"	14 Gage

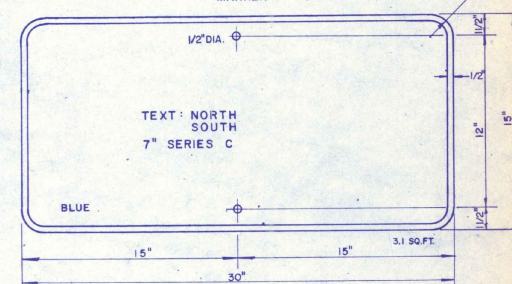
The Reflective Material Shall Be Encapsulated Lens Silver Reflective Sheeting Applied To The Entire Background Of The Marker.

The Texts Of The Interstate Route Markers, And Of The Auxiliary Markers Except Trailblazer Auxiliaries, Shall Be Reverse Screened.

CARDINAL DIRECTION MARKERS
FOR USE WITH 24 INCH
INTERSTATE ROUTE MARKERS



FOR USE WITH 36 INCH INTERSTATE ROUTE
MARKER.



LETTERING

Letters And Digits Shall Conform With The Standard Alphabets For Highway Signs Approved By The National Joint Committee On Uniform Traffic Control Devices.

SPECIFICATIONS

Interstate Route Markers And Auxiliary Route Markers Shall Meet The Standard State Specifications For "Traffic Signs".

DESIGNS

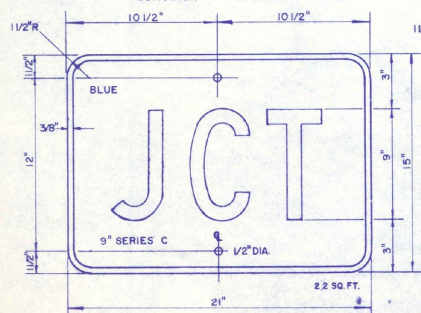
The Designs Of Interstate Route Markers And Auxiliary Markers Shall Conform With The Requirements Set Forth In The Manual On Uniform Traffic Control Devices Adopted by the American Association of State Highway Officials.

COLORS

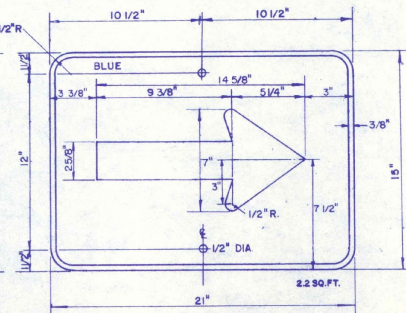
The Official Interstate Route Marker Shall Have A ReflectORIZED White Or Silver Text On A ReflectORIZED Red And Blue Background. Auxiliary Markers Used With Interstate Route Markers Shall Have A ReflectORIZED White Or Silver Text On A ReflectORIZED Blue Background, Except When Used As Part Of A Trailblazer Assembly.

The Red And Blue Shall Conform With The Standard Colors Adopted By The American Association Of State Highway Officials And Approved By The U.S. Department Of Transportation, Federal Highway Administration.

JUNCTION MARKER



DIRECTIONAL ARROW



REVISIONS AND CORRECTIONS

APR. 11, 1975 - REVISED ACCORDING TO FEDERAL HIGHWAY ADMINISTRATION INSTRUCTIONS
MAY 9, 1974 - ADDITION OF AUXILIARY MARKER (TO)

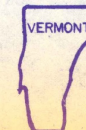
APPROVED

Dec. 12/1971

R.H. Curried
CHIEF ENGINEER
E.W. Stebbins
ASST. CHIEF ENGINEER
Wm. Lane
HIGHWAY ENGINEER

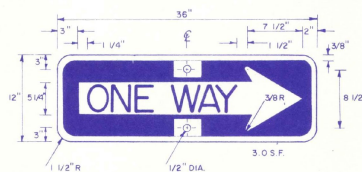
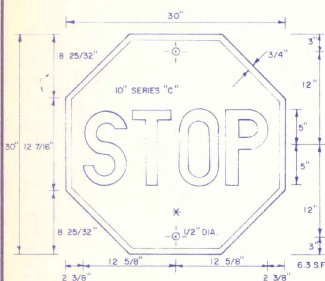
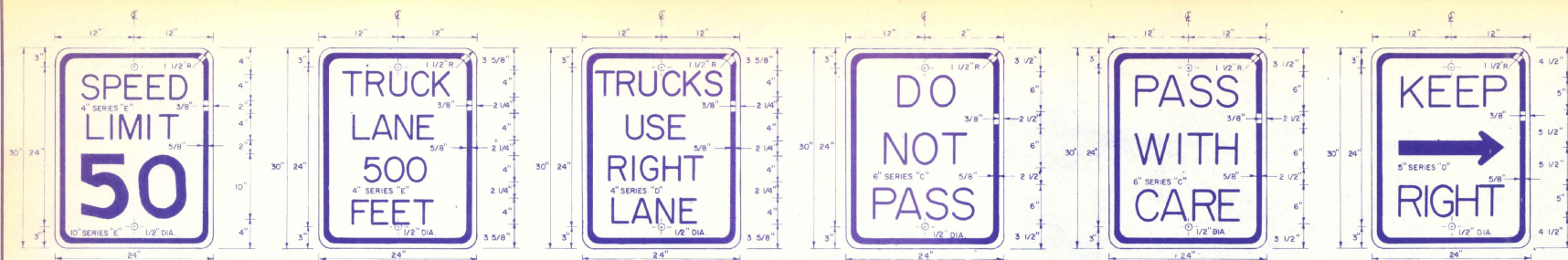
DRAWN A.W.C.
TRACED B.L.E.

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

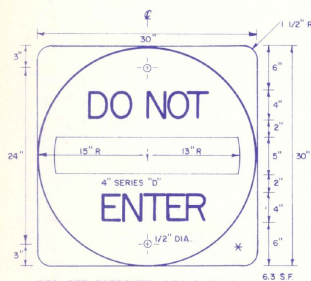


VERMONT
DEPARTMENT
OF HIGHWAYS
STANDARD

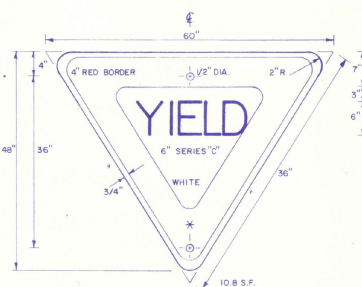
E-11



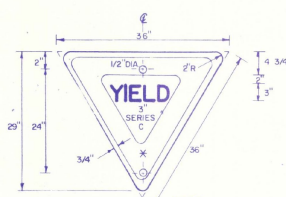
DIMENSIONS							
A	B	C	D	E	F	G	H
30"	24"	6"	3"	4 1/2"	5/8"	5/8"	
36"	24"	6"	3 1/2"	4 1/2"	3/4"	3/4"	
48"	30"	8"	4 1/2"	4 1/2"	1"	1"	



RED REFLECTORIZED BORDER ON A REFLECTORIZED WHITE BACKGROUND WITH WHITE STRIPE AND TEXT, REVERSE SCREENED.



RED REFLECTORIZED BORDER ON A REFLECTORIZED WHITE BACKGROUND WITH RED PAINTED TEXT, REVERSE SCREENED METHOD.



RED REFLECTORIZED BORDER ON A REFLECTORIZED WHITE BACKGROUND WITH RED PAINTED TEXT, REVERSE SCREENED METHOD.

MATERIALS:

The sign base materials used for the regulatory signs shown on this sheet may be any of the following, of the minimum thickness noted:

	30"x30"	36"x30"	48"x30"
FLAT SHEET ALUMINUM	0.008"	0.010"	0.125"
HIGH DENSITY OVERLAID PLYWOOD	1/2"	5/8"	5/8"
GALVANIZED FLAT SHEET STEEL	16gage	14gage	12gage

The reflective material for the black and white signs shall be flat top silver reflective sheeting applied to the entire background of the sign.

* The reflective material for the red and white signs shall have high intensity encapsulated lens reflective sheeting applied to the entire background of the sign.

The text of the STOP, DO NOT ENTER, WRONG WAY, and border of YIELD signs shall be reversed screened; the text of the other signs may be lettering film, silk screened or hand painted.

COLORS:

The regulatory signs shown on this sheet, except the STOP, DO NOT ENTER, WRONG WAY, and YIELD signs, shall have black text on reflectorized white or silver background.

The STOP, DO NOT ENTER, and WRONG WAY signs shall have a reflectorized white or silver text on a reflectorized red background.

The YIELD sign shall have a red text on a reflectorized white background with a red border reversed screened.

The red, white, and black shall conform with the standard colors adopted by the American Association of State Highway Officials and approved by the Department of Transportation, Federal Highway Administration.

TEXT DESIGN:

Letters, digits, arrows, spacings, and text dimensions shall conform with the standard alphabets and designs prescribed in the Manual on Uniform Traffic Control Devices prepared by the National Joint Committee on Uniform Traffic Control Devices.

SPECIFICATIONS:

Regulatory signs shall meet the standard state specifications for traffic signs.

REVISIONS AND CORRECTIONS
Jan. 8, 1974 Revised to include encapsulated lens reflective sheeting.

APPROVED: DATE: Jan 4, 1972

R.H. Arnold
CHIEF ENGINEER

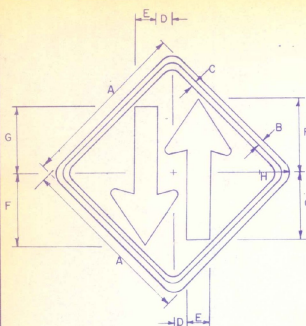
E.H. Stiebney
ASST. CHIEF ENGINEER

G.M. Lane
HIGHWAY ENGINEER

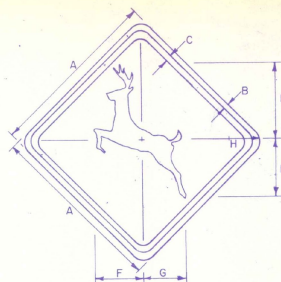
REGULATORY SIGNS

VERMONT
DEPARTMENT
OF HIGHWAYS
STANDARD

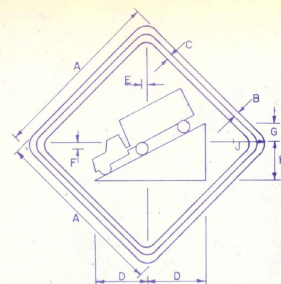
E-17



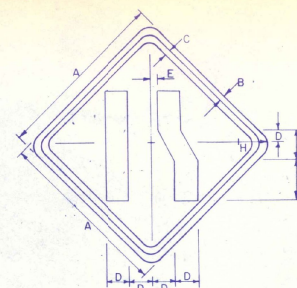
SIGN	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	H
MINIMUM	24	3/8	5/8	2	3	9	8 1/2	1 1/2
STANDARD	30	1/2	3/4	2 1/2	4	12 1/2	11 1/2	1 7/8
EXPRESSWAY	36	5/8	7/8	3	5	14	13	2 1/4
FREEWAY	48	3/4	1 1/4	4	6	18	17	3



SIGN	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	H
MINIMUM	24	3/8	5/8	10 5/8	7 7/8	6 1/2	5 3/8	1 1/2
STANDARD	30	1/2	3/4	13 1/2	10	8 1/4	7 1/2	1 7/8
EXPRESSWAY	36	5/8	7/8	16 1/4	12	9 7/8	9	2 1/4
FREEWAY	48	3/4	1 1/4	21 1/4	15 3/4	13	11 3/4	3



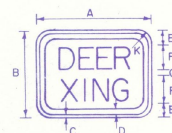
SIGN	DIMENSIONS (INCHES)								
	A	B	C	D	E	F	G	H	J
MINIMUM	24	3/8	5/8	7 1/2	7/8	7/8	2 3/8	5 1/8	1 1/2
STANDARD	30	1/2	3/4	9 1/2	1 1/8	1 1/8	3	6 1/2	1 7/8
EXPRESSWAY	36	5/8	7/8	11 1/4	1 5/8	1 5/8	3 9/16	7 1/16	2 1/4
FREEWAY	48	3/4	1 1/4	15	1 3/4	1 3/4	4 3/4	10 1/4	3



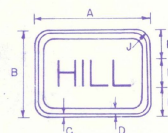
SIGN	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	H
MINIMUM	30	1/2	3/4	3 3/8	5/8	6 3/8	6 3/4	1 7/8
STD. & EXPWY.	36	5/8	7/8	4	1	10	8	2 1/4
FREEWAY	48	3/4	1 1/4	5 5/8	1 3/8	13 5/8	10 5/8	3



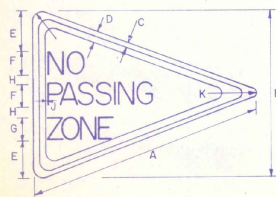
SIGN	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	J
STD. & MIN.	24	18	3/8	5/8	4	4 C	2	1 1/2



SIGN	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	K
STD. & MIN.	24	18	3/8	5/8	3	5 D	2	1 1/2



SIGN	DIMENSIONS (INCHES)						
	A	B	C	D	E	F	J
STD. 8 MIN	24	18	3/8	5/8	6	6 0	1 1/2



SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	K
MINIMUM	40	30	3/8	5/8	7 1/4	4	4	1 3/4	2 1/2	1 1/2
STANDARD	48	36	1/2	3/4	8 1/2	5	5	2	3	1 7/8
SPECIAL	64	48	5/8	7/8	12	6	6	3	4	2 1/4

The sign material used for the warning signs shown on this sheet may be any of the following minimum thicknesses noted:

	24x18	24x24	24x30	36x36	48x48	(inches)
(1) Flat sheet aluminum	0.080	0.080	0.100	0.100	0.125	(inches)
(2) High density overlaid plywood	1/2	1/2	5/8	5/8	3/4	(inches)
(3) Galvanized sheet steel	16	16	14	14	12	(gages)

The reflective material shall be of reflective sheeting applied to the entire background of the sign. The arrows, text, symbols, and borders may be screened, lettering film, or hand painted.

COLORS:

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

TEXT DESIGN:

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

SPECIFICATIONS:

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

REVISIONS AND CORRECTIONS

APPROVED:

DATE: Jan 31, 1972

R. J. Arnold
CHIEF ENGINEER

E. B. Buckley
ASST. CHIEF ENGINEER

L. M. Lane
HIGHWAY ENGINEER

WARNING SIGNS

VERMONT
DEPARTMENT
OF HIGHWAYS
STANDARD

E-21