

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Date JUL 12 1985

THE LAKE CONSTRUCTION CORP.

Contractor

A. W. Flewelly

Signature

PRESIDENT



CONTRACT PLANS

THESE PLANS DO NOT REFLECT
CHANGES MADE ON THE PROJECT.

Title

PROPOSED IMPROVEMENT

Arthur C. Hall

RESURFACING PROJECT

Transportation Secretary's

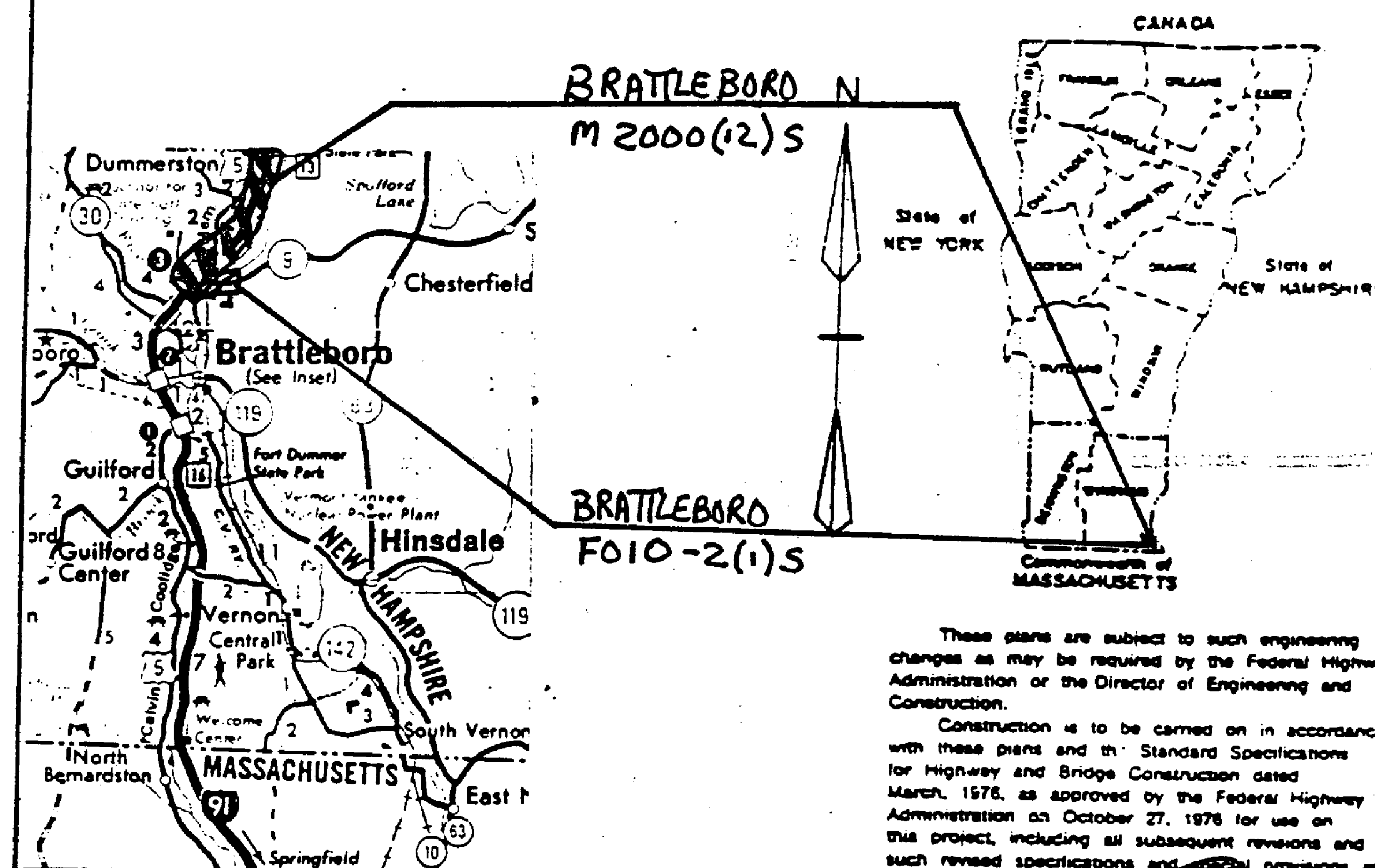
Signature

TOWN OF: BRATTLEBORO

COUNTY OF: WINDHAM

ROUTE NO: US 5 AND VT. 9

ROUTE CLASS: FAU, FAS, FAP



5 0 5
1 INCH REPRESENTS 5 MILES

SEE SHEET 242A FOR INDEX

PROJECT PROCESSED UNDER
SECONDARY ROAD PLAN

These plans are subject to such engineering changes as may be required by the Federal Highway Administration or the Director of Engineering and Construction.

Construction is to be carried on in accordance with these plans and the Standard Specifications for Highway and Bridge Construction dated March, 1976, as approved by the Federal Highway Administration on October 27, 1976 for use on this project, including all subsequent revisions and such revised specifications and other provisions as are incorporated in these plans.

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD

APPROVED *Frank E. Hinch* DATE MAY 2 1985
DIRECTOR OF ENGINEERING AND CONSTRUCTION

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR

PROJECT NO. M 2000(12)S, F010-2(1)S

SHEET 1 OF 23 SHEETS

INDEX

1	TITLE PAGE
2-2A	INDEX
3-4	COMPOSITE QUANTITY SHEET
5	BLANK
6	GUIDELINES FOR MINIMUM INTERIM PAVEMENT MARKING
7	MAINLINE PAVEMENT MARKING AT INTERSECTIONS
8	APPLICATION NOTES
9	STOP BAR DETAIL WITH SIGNALS
10	DIAGRAM US5 AND V4.9 INTERSECTION WITH PAVEMENT MARKINGS

BRATTLEBORO M 2000 (12) S

11	PROJECT DESCRIPTION AND LOCATION
12-13	TYPICAL SECTIONS AND DESIGN DATA
14-14A	PROJECT LENGTHS AND ITEM QUANTITIES

BRATTLEBORO FO10-2(1) S

15	PROJECT DESCRIPTION AND LOCATION
16-17A	TYPICAL SECTIONS AND DESIGN DATA
18-18A	PROJECT LENGTHS AND ITEM QUANTITIES

Index Continued on next page

INDEX

19	STANDARD	SHEET	E-4	03-4-81R
20	STANDARD	SHEET	E-6	04-1-80R
21	STANDARD	SHEET	E-7	02-2-83R
22	STANDARD	SHEET	E-8	06-15-83R
23	STANDARD	SHEET	E-50	03-16-82R

PROJECT BRATTLEBORO

NO. M2000(12)S, F010-2(1)S
SHEET 2A OF 23 SHEETS

QUANTITIES

PROJECT BRATZLEBORO NO. MASSO(12)S, FO10-2(1)S SHEET 3 OF 23

PROJECT LENGTHS AND ITEM QUANTITIES

[illegible]

COMPOSITE PROJECT BRATTLEBORO

NO. m2000(12)s, F010-2(1)s

SHEET 4 OF 23

GUIDELINES FOR MINIMUM INTERIM PAVEMENT MARKINGS
IN CONSTRUCTION ZONES

- A. CENTERLINE AND GORE AREA MARKINGS SHALL BE APPLIED AT THE END OF EACH WORKING DAY. THE FOLLOWING LAYOUT REQUIREMENTS SHALL BE MET:

NO PASSING BARRIER
SOLID STRIPES.

DASHED LINE
10-FOOT SOLID LINE WITH 30-FOOT GAP.

GORE AREA
(GORE AREAS TO INCLUDE 8' CHANNELIZING LINE AND DASHED LINE)
PER STANDARD SHEET E-50

- B. EDGE LINES

WHEN SPECIFIED, EDGE LINES ARE NOT REQUIRED UNTIL COMPLETION OF THE PROJECT. ON INTERSTATE PROJECTS, TEMPORARY EDGE LINES SHOULD BE APPLIED WHERE TRAFFIC VOLUMES AND SPEEDS ARE HIGH AND DELAY OF SEVERAL DAYS IS ANTICIPATED.

- C. TEMPORARY MARKINGS MAY CONSIST OF PAINT, TAPE OR RAISED PAVEMENT MARKERS (RPM'S). THE TAPE SHALL BE A RETRO-REFLECTIVE FILM ON A CONFORMABLE METALLIC BACKING THAT CAN BE PAVED OVER. TAPE MAY BE USED ON THE FINAL SURFACE COURSE IF IT WILL NOT INTERFERE WITH THE FINAL MARKING APPLICATION. TEMPORARY TAPE MARKINGS WILL BE OFFSET AND REMOVED WHEN PROJECT IS FINISHED AND FINAL CENTERLINE PAINTED. THE TAPE SHALL BE THE TYPE THAT IS REMOVABLE INTACT AND NOT SEPERATE AT ANY TIME. THE RPM'S SHALL HAVE A SELF-ADHESIVE BACKING EASILY REMOVED BEFORE PAVING AND SHALL CONFORM TO THE FOLLOWING LAYOUT PATTERN:

NO PASSING BARRIER
NO RPM'S ALLOWED.

DASHED LINE
FOUR RETRO-REFLECTIVE RPM'S ON 3 1/2 FOOT CENTERS WITH A 30' GAP.

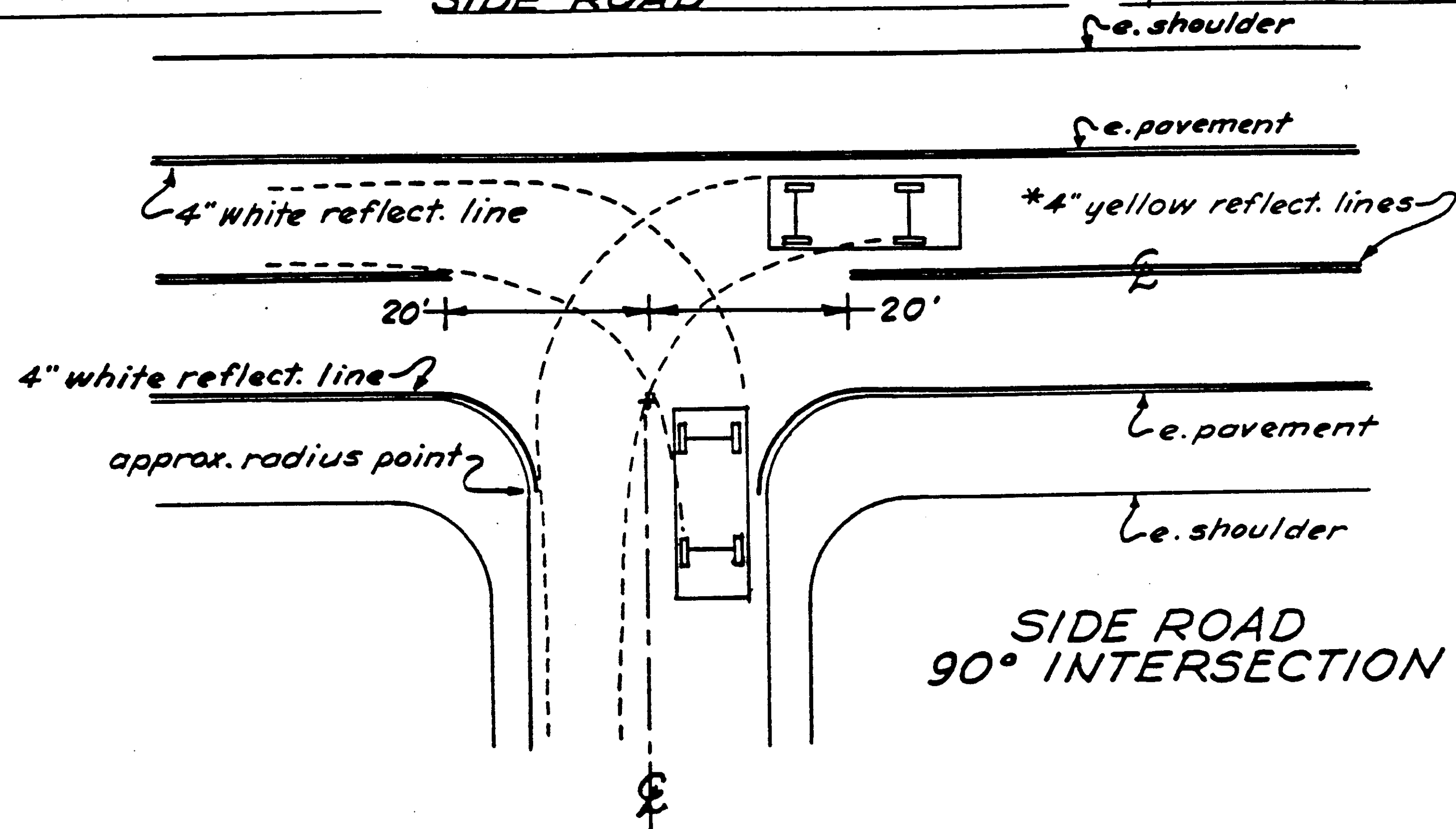
SOLID LINE - EDGE LINES
INTERSTATE MEDIAN SIDE-RETRO-REFLECTIVE RPM'S ON 4 TO 5 FOOT CENTER.
DRIVERS RIGHT SIDE-RPM'S NOT ALLOWED.

- D. WHEN PAINT IS USED FOR TEMPORARY MARKING, AN ALTERNATE MATERIAL SUCH AS TAPE OR RPM'S SHALL BE ON HAND IN THE EVENT RAIN PREVENTS THE PAINT APPLICATION FROM BEING COMPLETED. ALL PAINT SHALL BE REFLECTORIZED.
- E. PAYMENT FOR PAINT AND TAPE SHALL BE COMPUTED ON A LINEAR FOOT BASIS AS IF PAINT WAS USED. PAYMENT FOR THE RPM'S SHALL BE COMPUTED AS IF AN EQUIVALENT PAINT LINE WAS USED. (FOR EXAMPLE, DASHED LINE PAID AS 10 FEET OF PAINT, SOLID LINE PAID AS THE TOTAL DISTANCE COVERED WITH THE MARKERS).
- F. PRIOR TO ACCEPTANCE, THE PAVEMENT MARKINGS SHALL BE COMPLETED FOR THE ENTIRE PROJECT BY THE CONTRACTOR AS DETAILED ON THE PLANS OR DIRECTED BY THE RESIDENT ENGINEER.

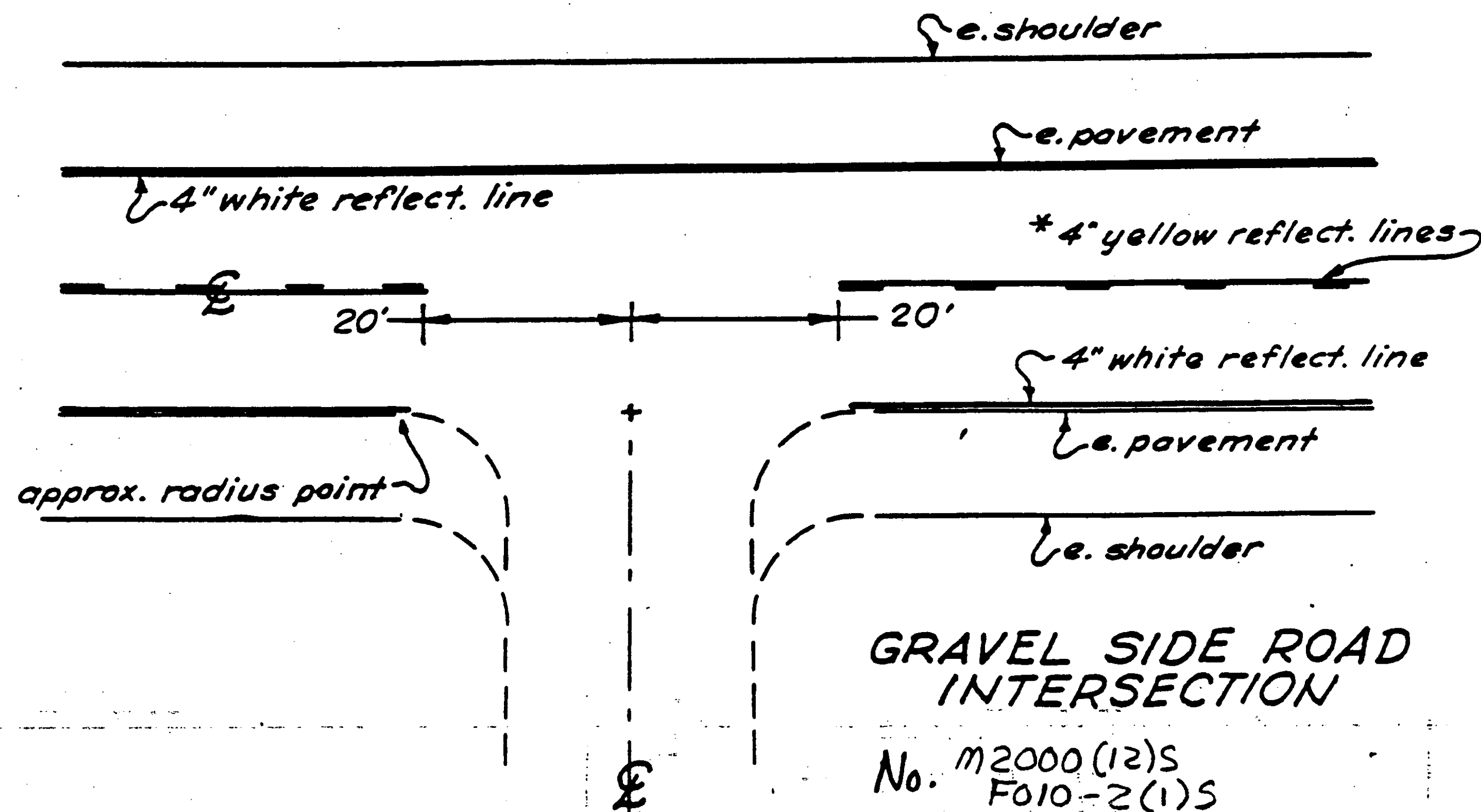
REVISED
02/11/85

PROJECT: BRATTLEBORO

No. M 2000(12)S, F 10-2(C)S
SHEET 6 OF 23 SHEETS

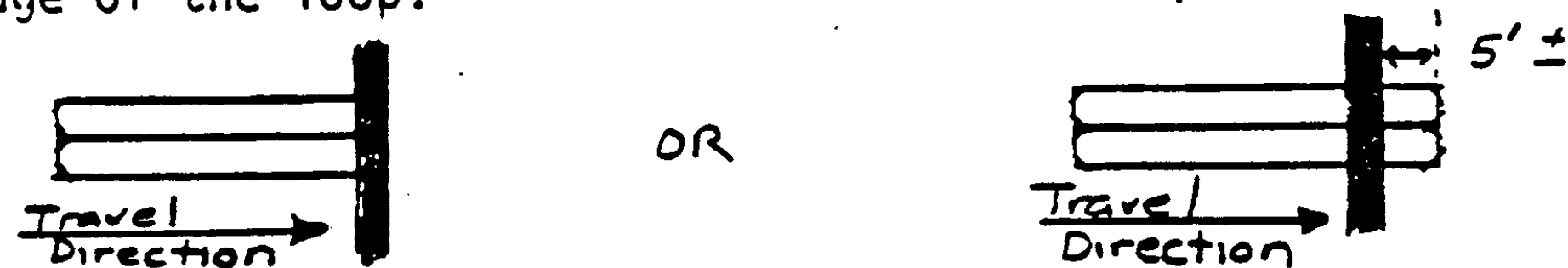


* Centerline treatment shall consist of a minimum of 400 feet of solid line in advance of the intersection and shall be paired with either a solid or dashed line depending on sight distance availability in the opposing lane.



APPLICATION NOTES

1. Edge lines shall be placed 1'-0" from curb.
2. Lane widths based on available roadway width. Preference shall be given to thru lanes with a preferred width of 12'. Left and right turn lanes may be between 10'-12' in width.
3. Exclusive turn lanes (left or right) - Turn lane lanes shall be solid and extend back from the stopbar an adequate distance to store turning vehicles. Generally, the lane line will extend back to the point of full lane width. The edge line taper rate should be 15:1 (minimum). In urban areas an 80' minimum is required. In both rural and urban areas a 200' taper is desirable. An estimate of length required can be determined by dividing the average hourly turning volume by the number of cycles per hour. Multiply the result by 25' per vehicle and then multiply by 1.5 to 2.0. Existing geometry may restrict turn lane length.
4. Turn arrows shall be placed at the begin and end of the left or right turn lane and in the middle if the lane length exceeds 200'.
5. Turn arrows placed at the end of the lane with the stop bar shall be placed with a 4' gap between the stop bar and arrow.
6. There shall be a 4' gap between turn arrows and word markings.
7. When word markings are used at the beginning of a turn lane the markings shall begin at the start of the solid white lane line.
8. The word marking STOP shall be placed with a 4' gap between the marking and the stop bar.
9. Gore markings shown are only approximate. Marking shall be as detailed on Standard Sheet E-50.
10. Stopbars shall be located no closer than 40' from the nearest signal face and no further than 120' from the furthest face. At intersections where there are existing vehicle detector loops, care should be taken in locating the stop bar. In most cases the stopbar should be at or just behind the front edge of the loop.



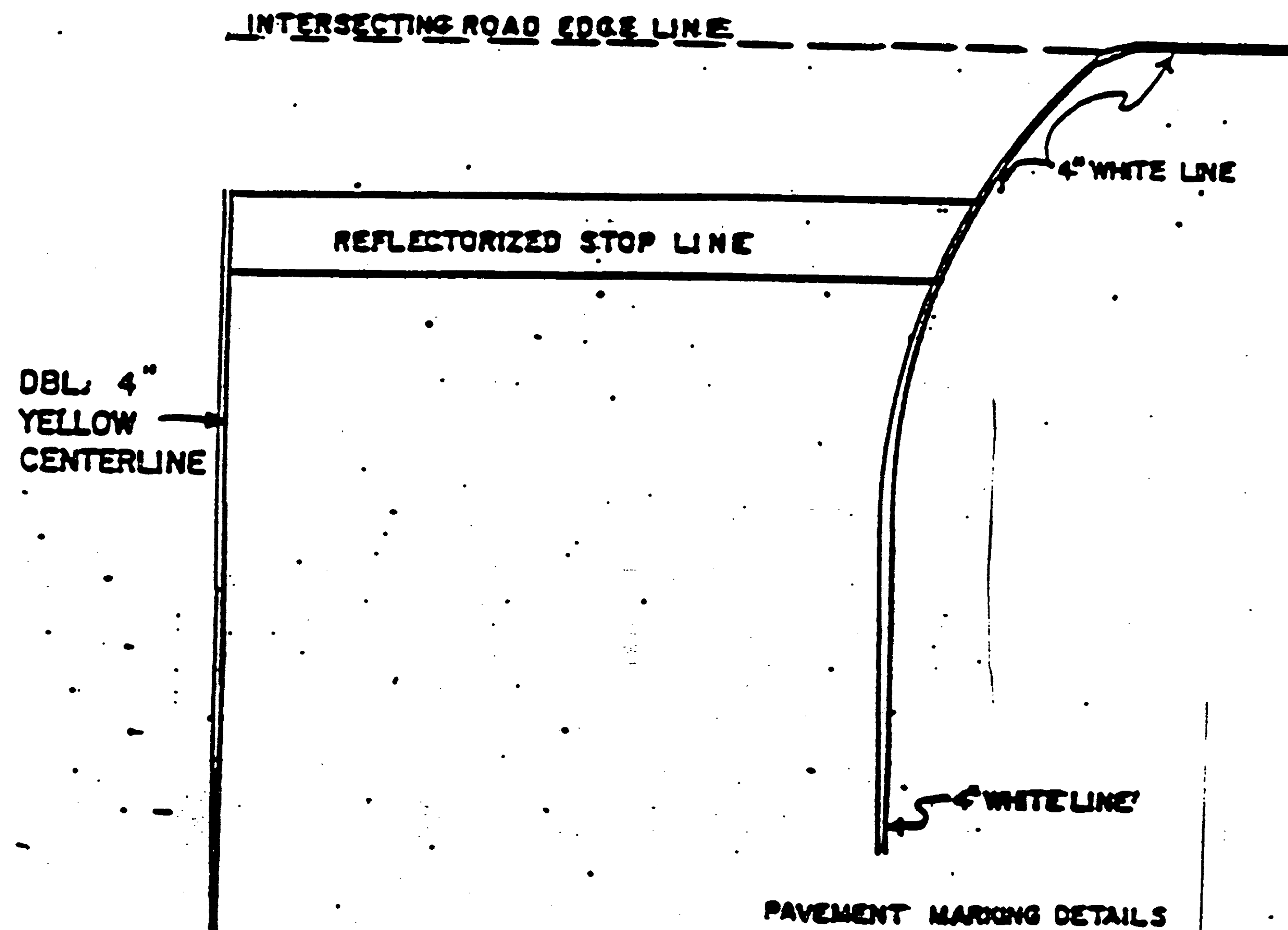
If loop locations are not known, contact either the Maintenance Division or Traffic Design for information.

11. Dotted line extensions (lane lines and/or centerline) may be used at some intersections to emphasize turning paths.

Revision - 11/84
Note 3 revised
Notes 10&11 added

DETAILS

With Signal



NOTE :

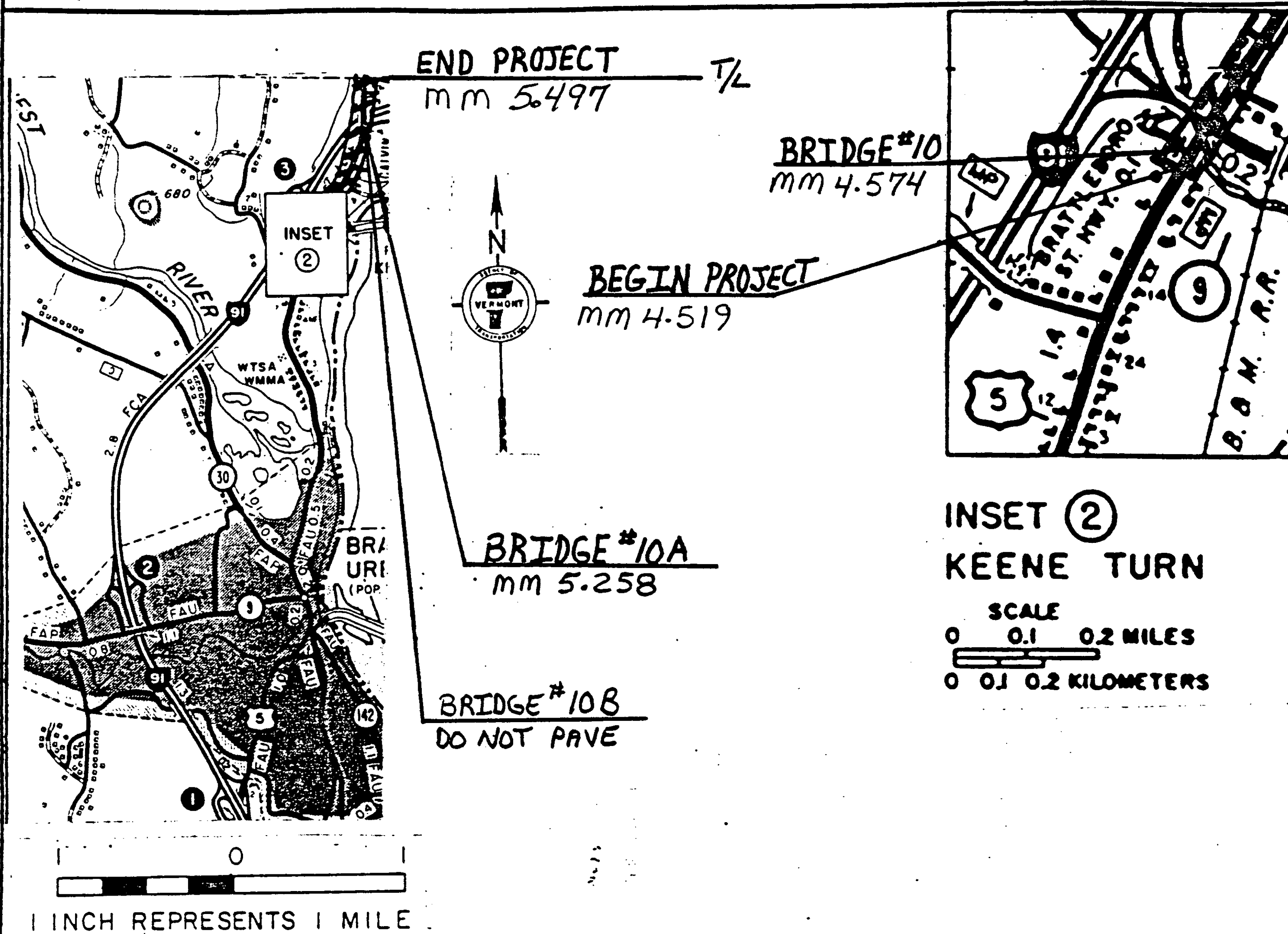
THE STOP BAR SHALL BE PLACED
A MINIMUM OF 40' FROM THE
NEAREST TRAFFIC SIGNAL.

PROJECT BRATTLEBORD

NQ m2000 (12) S, F010-2(1) S

SHEET 9 OF 23 SHEETS

PROJECT DESCRIPTION AND LOCATION



IN BRATTLEBORO, beginning at a point on US 5 approximately 300 feet south of the bridge over Sargent Brook (mm 4.519) and extending northerly 0.978 miles to the BRATTLEBORO - DUMMERSTON T/L mm 5.497.

TRAFFIC DATA
1982 ADT 10,430
V = 40 MPH

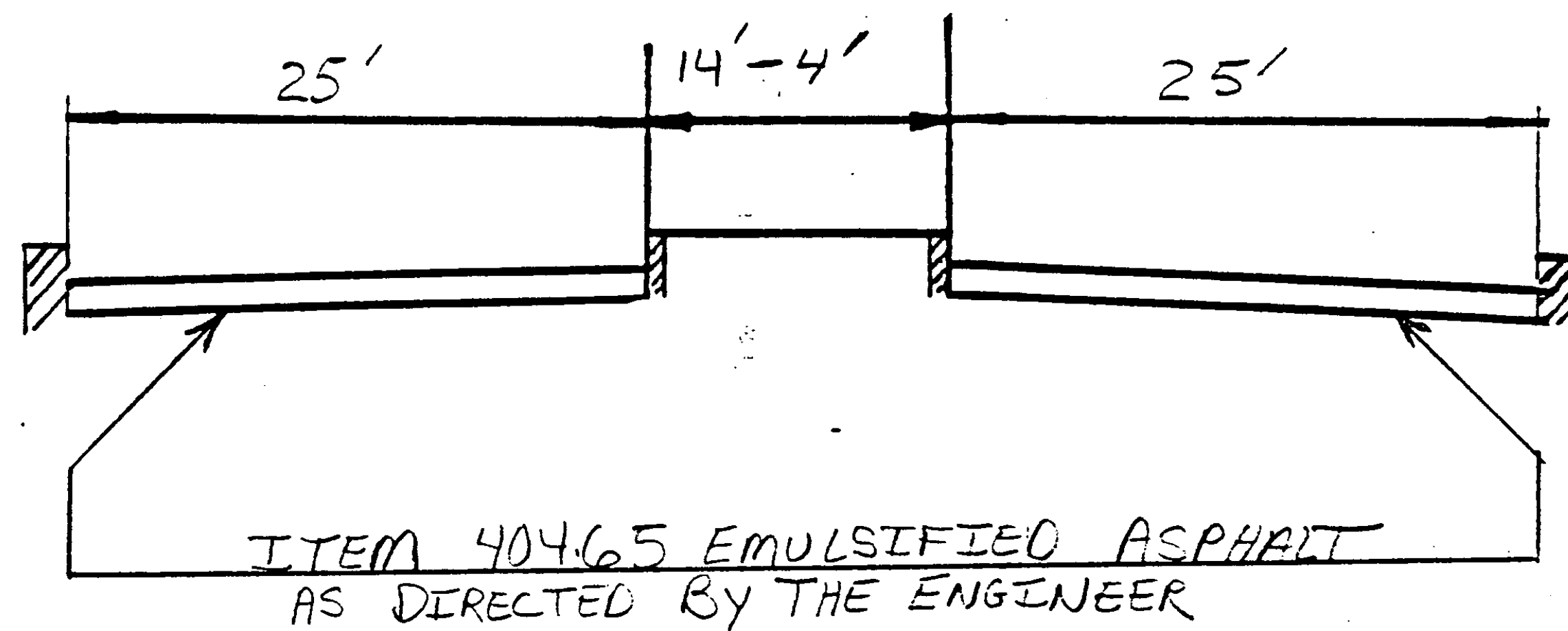
LENGTH OF PROJECT: 0.978 mi.
5164 ft.

PROJECT BRATTLEBORO

NO. m 2000 (12) S
SHEET 11 OF 23 SHEETS

TYPICAL SECTIONS & DESIGN DATA

ITEM 406.25 BITUMINOUS CONCRETE PAVEMENT
LEVELING COURSE, TYPE III OR IV (50' WIDE @ 563 TONS/M²)
AS DIRECTED BY THE ENGINEER
1 1/2" WEARING COURSE, TYPE III



BRATTLEBORO MM. 4.519 ~ MM 4.652

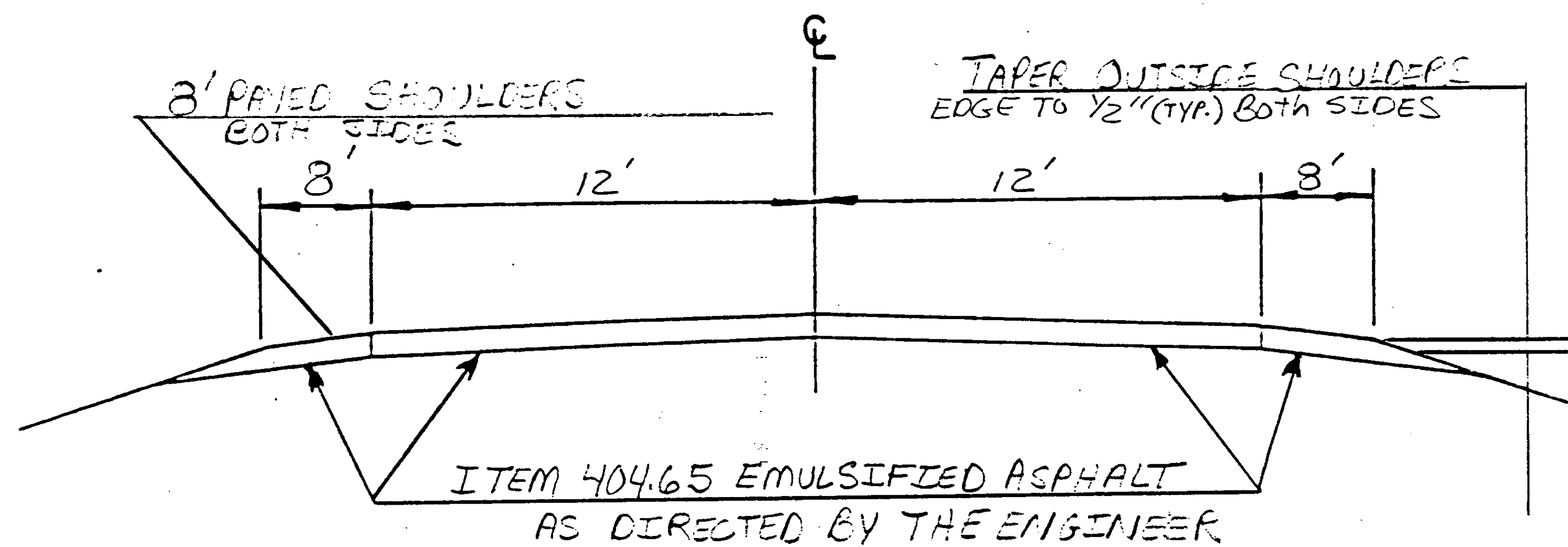
PROJECT BRATTLEBORO

NO. M 2000 (12) S

SHEET 12 OF 23 SHEETS

TYPICAL SECTIONS & DESIGN DATA

ITEM 406.25 BITUMINOUS CONCRETE PAVEMENT
 LEVELING COURSE, TYPE III OR IV (24' WIDE @ 273 TONS/mi)
 AS DIRECTED BY THE ENGINEER
 1 1/2" WEARING COURSE, TYPE III



BRATTLEBORO MM 4.652 ~ MM 5.497

PROJECT	LENGTHS	AND	ITEM	QUANTITIES
1	100	100	100	100
2	100	100	100	100
3	100	100	100	100
4	100	100	100	100
5	100	100	100	100
6	100	100	100	100
7	100	100	100	100
8	100	100	100	100
9	100	100	100	100
10	100	100	100	100
11	100	100	100	100
12	100	100	100	100
13	100	100	100	100
14	100	100	100	100
15	100	100	100	100
16	100	100	100	100
17	100	100	100	100
18	100	100	100	100
19	100	100	100	100
20	100	100	100	100
21	100	100	100	100
22	100	100	100	100
23	100	100	100	100
24	100	100	100	100
25	100	100	100	100
26	100	100	100	100
27	100	100	100	100
28	100	100	100	100
29	100	100	100	100
30	100	100	100	100
31	100	100	100	100
32	100	100	100	100
33	100	100	100	100
34	100	100	100	100
35	100	100	100	100
36	100	100	100	100
37	100	100	100	100
38	100	100	100	100
39	100	100	100	100
40	100	100	100	100
41	100	100	100	100
42	100	100	100	100
43	100	100	100	100
44	100	100	100	100
45	100	100	100	100
46	100	100	100	100
47	100	100	100	100
48	100	100	100	100
49	100	100	100	100
50	100	100	100	100
51	100	100	100	100
52	100	100	100	100
53	100	100	100	100
54	100	100	100	100
55	100	100	100	100
56	100	100	100	100
57	100	100	100	100
58	100	100	100	100
59	100	100	100	100
60	100	100	100	100
61	100	100	100	100
62	100	100	100	100
63	100	100	100	100
64	100	100	100	100
65	100	100	100	100
66	100	100	100	100
67	100	100	100	100
68	100	100	100	100
69	100	100	100	100
70	100	100	100	100
71	100	100	100	100
72	100	100	100	100
73	100	100	100	100
74	100	100	100	100
75	100	100	100	100
76	100	100	100	100
77	100	100	100	100
78	100	100	100	100
79	100	100	100	100
80	10			

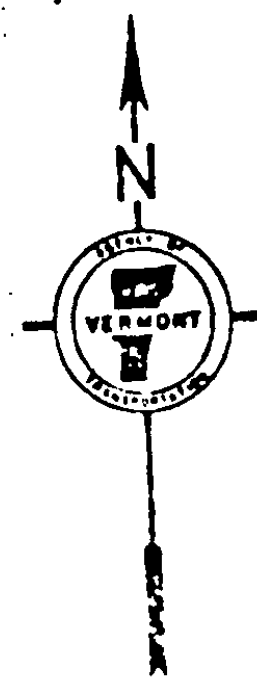
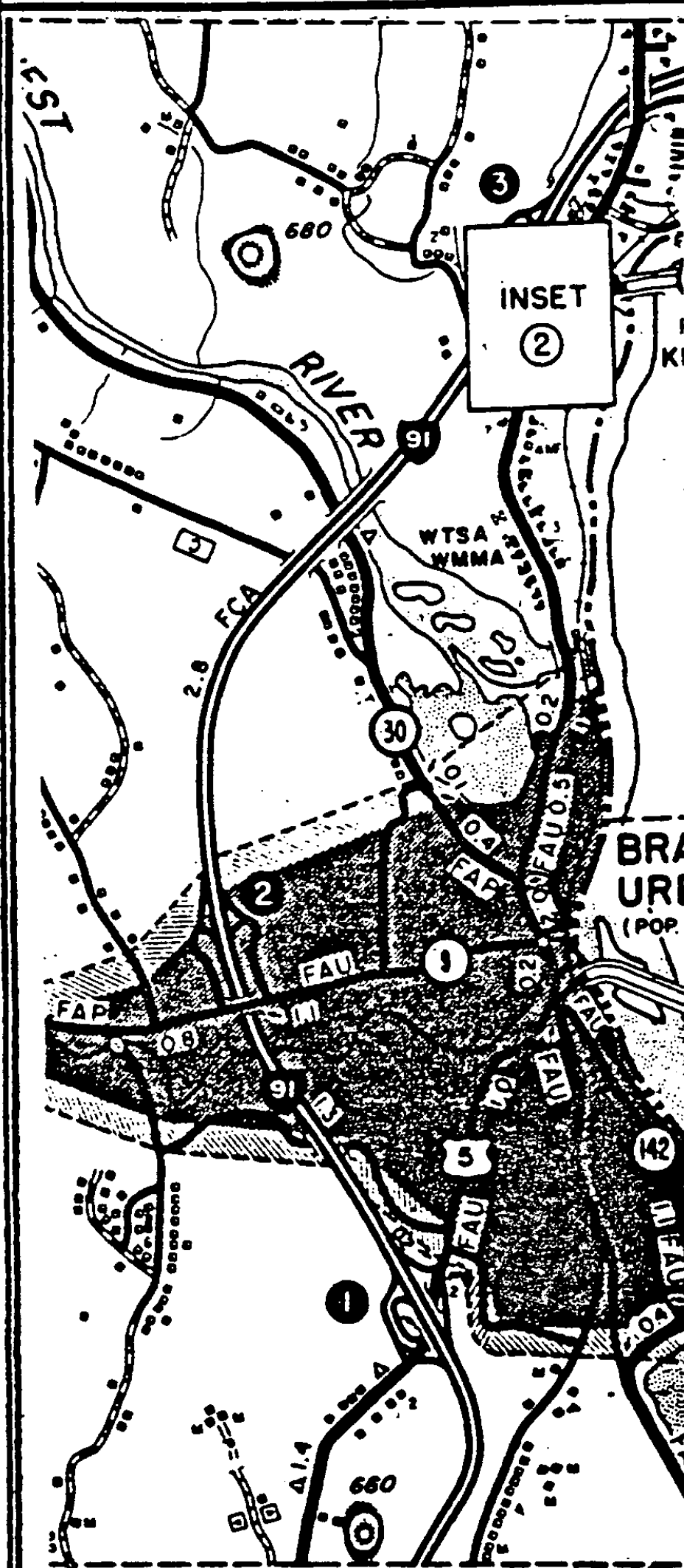
ITEM NO	ITEM DESCRIPTION														ITEM NO
	635.10	646.21	646.35	646.36	646.60	646.62	646.64	646.65	646.66	646.68	608.25	646.61	646.76		
UNIT	L.S.	LF	LF	LF	LF	LF	LF	EA.	EA.	LF	HR.	LF	LF		
LOCATION															
BRATLEBORO USS MM 4.519 to 5.497	0.88	1050	10878	12768	640	360	44	8	32	250	5	1290	300		
ROUNDING	—	—	22	32	60	40	1	—	—	50	—	10			
TOTALS	0.88	1050	10900	12800	700	400	45	8	32	300	5	1300	300		

PROJECT BRAZILBORO

NO. M 2000 (12) S

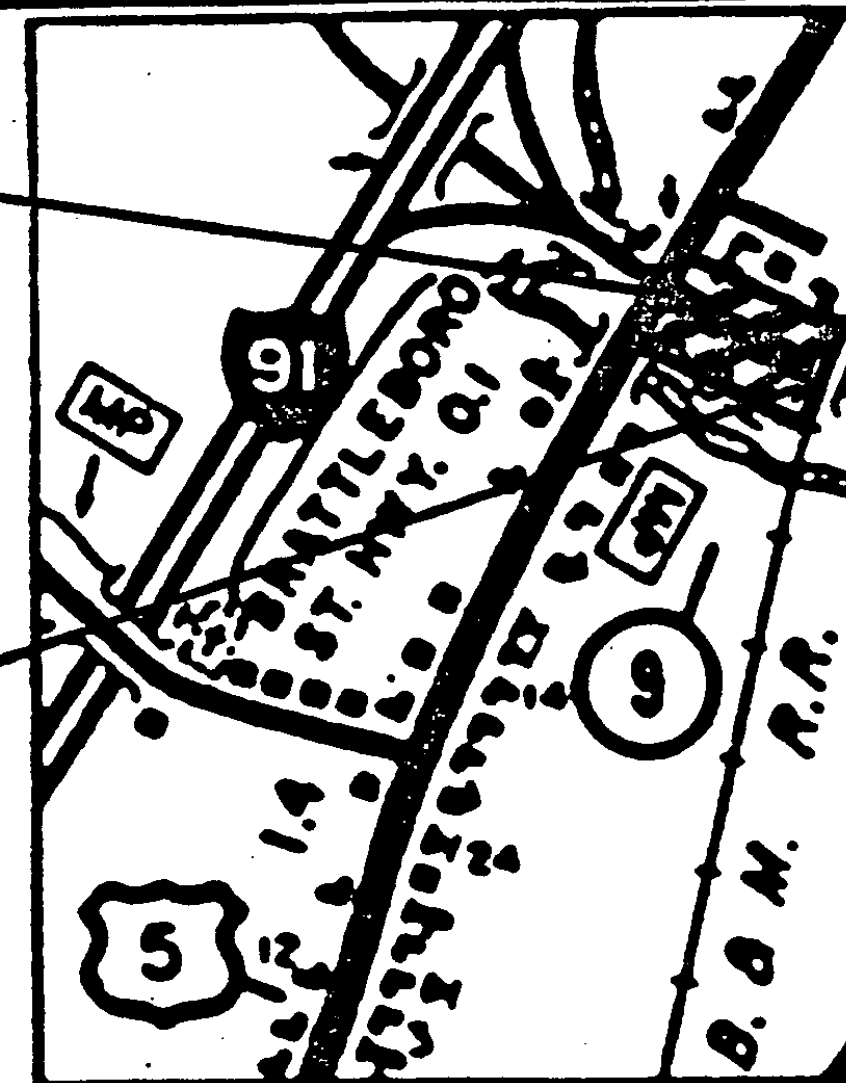
SHEET 14A OF 23

PROJECT DESCRIPTION AND LOCATION



BEGIN PROJECT
MM 7.055

END PROJECT
MM 7.186



INSET ②
KEENE TURN

SCALE
0 0.1 0.2 MILES
0 0.1 0.2 KILOMETERS

0
1 INCH REPRESENTS 1 MILE

IN BRATTLEBORO, beginning at a point ON Vt. 9 (mm 7.055)
the jct. of US 5, Vt. 9, and BRATTLEBORO ST. HWY., and extending
easterly for 0.131 miles to the B & M RR bridge over Vt. 9
(mm 7.186)

TRAFFIC DATA

1982 ADT 6630

V = 40 MPH

LENGTH OF PROJECT: 0.131 miles
632 Feet

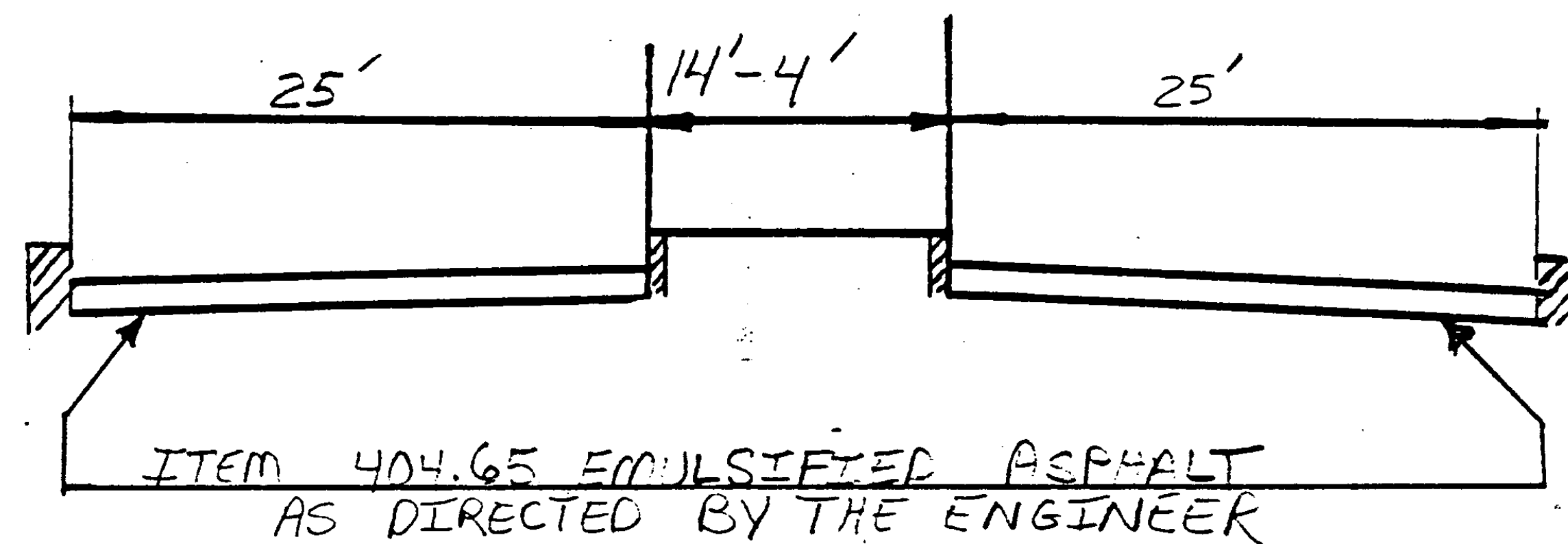
PROJECT BRATTLEBORO

NO. F040-2(1)S

SHEET 15 OF 23 SHEETS

TYPICAL SECTIONS & DESIGN DATA

ITEM 406.25 BITUMINOUS CONCRETE PREPARED
LEVELING COURSE, TYPE III OR IV (50' WIDE @ 568 TONS/mi)
AS DIRECTED BY THE ENGINEER
1 1/2" WEARING COURSE, TYPE III



BRATTLEBORO MM 7.055 ~ MM 7.150

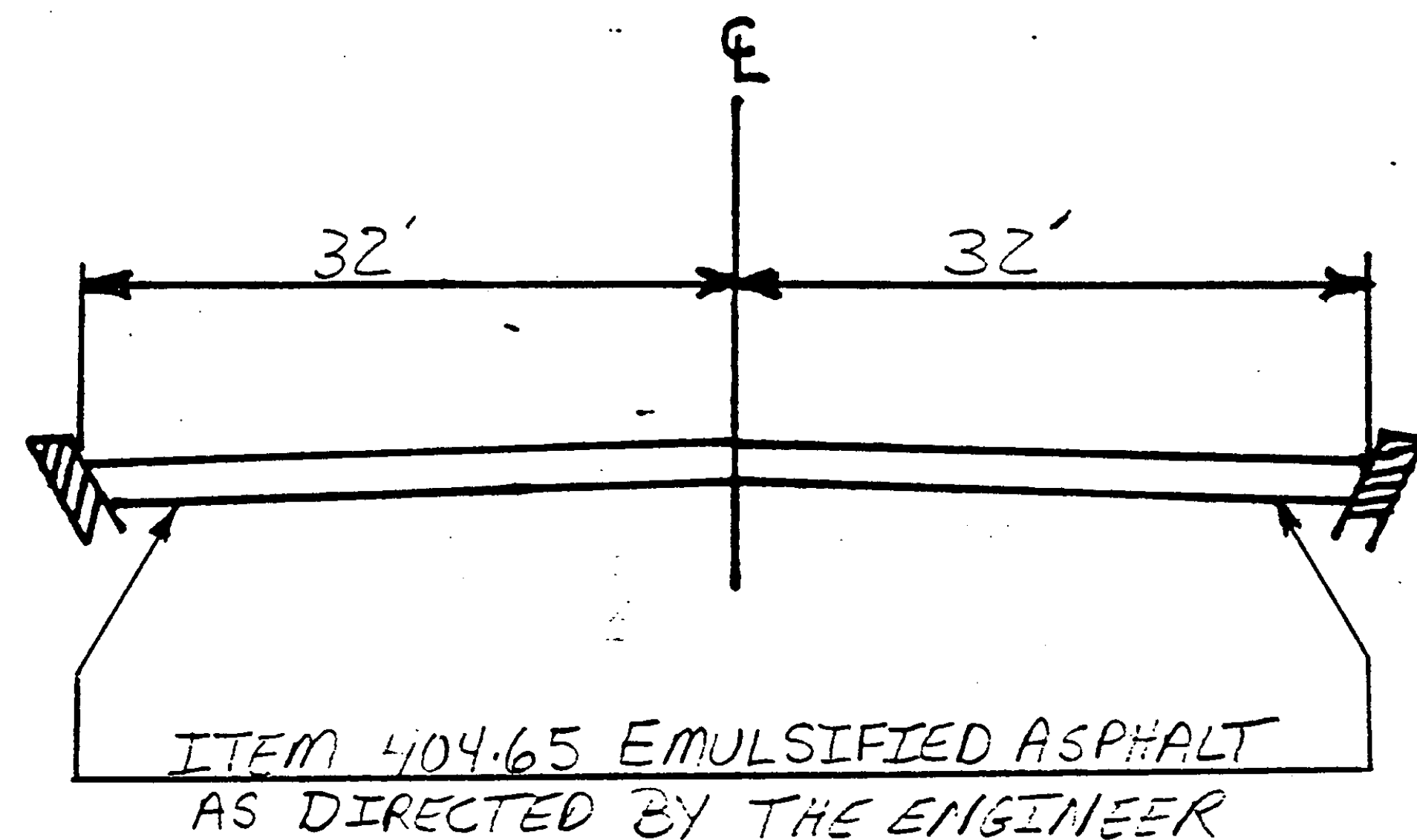
PROJECT BRATTLEBORO

NO. F 010-2(1) S

SHEET 16 OF 23 SHEETS

TYPICAL SECTIONS & DESIGN DATA

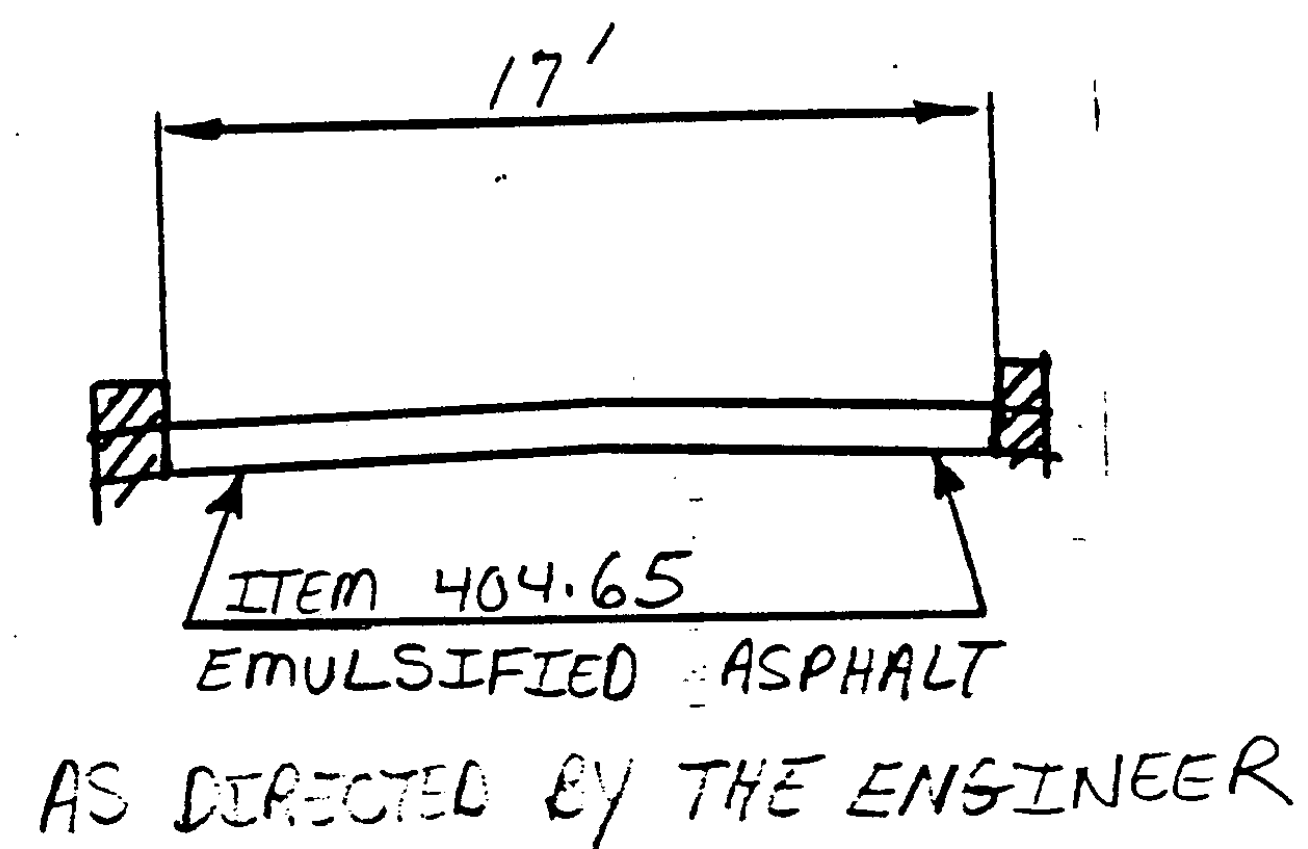
ITEM 406.25 BITUMINOUS CONCRETE PAVEMENT
LEVELING COURSE, TYPE III or IV (64' WIDE @ 7.27 ^{TONS}/mi)
AS DIRECTED BY THE ENGINEER
1 1/2" WEARING COURSE, TYPE III



BRATTLEBORO MM 7.150 ~ mm 7.186

TYPICAL SECTIONS & DESIGN DATA

ITEM 406.25 BITUMINOUS CONCRETE PREPARED
LEVELING COURSE, TYPE III OR IV (17' WIDE @ 193 TONS/mi)
AS DIRECTED BY THE ENGINEER
1 1/2" WEARING COURSE, TYPE III



BRATTLEBORO TWO RAMP ON AND OFF FOR V.9

PROJECT BRATTLEBORO

NO. F010-2(1)S

SHEET 17A OF 23 SHEETS

PROJECT	LENGTHS	AND	ITEM	QUANTITIES
---------	---------	-----	------	------------

ITEM DESCRIPTION														
OPTION														
UNIFORMED TRAFFIC OFFICERS														
POWER BROOM RENTAL														
BITUMINOUS CONCRETE PAVEMENT														
EMULSIFIED ASPHALT														
GRAVEL SHOULDERS														
GRAVEL SHOULDERS														
LEVELING COURSE														
OVERLAY DEPTH														
WIDTH														
LENGTH														
ITEM NO	FT.	FT.	IN.	TONS	402.10	402.11	404.65	406.25	608.30	604.40	630.10	630.15	653.10	TOPSOIL
UNIT				MI	CY	TON	CWT	TON	HR	EA.	HR.	HR.	CY	
LOCATION														
BRATTLEBORO V-9 MM 7.055 ~ MM 7.150	502	50	1 1/2	568			3	227	1	7	14	14		CURB TO CURB ISLAND
								54						LEVEL @ 568 TONS/M
BRATTLEBORO V-9 MM 7.150 ~ MM 7.186	190	64	1 1/2	727			2	113	1	0	7	7		CURB TO CURB NO SHOULDERS
								26						LEVEL @ 727 TONS/M
RAMPS (EST.)	[450]	17	1 1/2	193			1	72	1	1	5	5		Ramps 225' LONG CURB TO CURB
								17						LEVEL @ 193 TONS/M
PROJECT					5	9	1	45	2	-	2	2	3	INCLUDES DRIVES
ROUNDING						1	-	1	-	-	2	2	2	& APPROACHES
TOTALS	692		1 1/2		5	10	7	555	5	8	30	30	5	

PROJECT BRATISLAVA

NO. F010-2(1)5

SHEET 18 OF 23

PROJECT	LENGTHS	AND	ITEM	QUANTITIES
1	100	100	100	100
2	100	100	100	100
3	100	100	100	100
4	100	100	100	100
5	100	100	100	100
6	100	100	100	100
7	100	100	100	100
8	100	100	100	100
9	100	100	100	100
10	100	100	100	100
11	100	100	100	100
12	100	100	100	100
13	100	100	100	100
14	100	100	100	100
15	100	100	100	100
16	100	100	100	100
17	100	100	100	100
18	100	100	100	100
19	100	100	100	100
20	100	100	100	100
21	100	100	100	100
22	100	100	100	100
23	100	100	100	100
24	100	100	100	100
25	100	100	100	100
26	100	100	100	100
27	100	100	100	100
28	100	100	100	100
29	100	100	100	100
30	100	100	100	100
31	100	100	100	100
32	100	100	100	100
33	100	100	100	100
34	100	100	100	100
35	100	100	100	100
36	100	100	100	100
37	100	100	100	100
38	100	100	100	100
39	100	100	100	100
40	100	100	100	100
41	100	100	100	100
42	100	100	100	100
43	100	100	100	100
44	100	100	100	100
45	100	100	100	100
46	100	100	100	100
47	100	100	100	100
48	100	100	100	100
49	100	100	100	100
50	100	100	100	100
51	100	100	100	100
52	100	100	100	100
53	100	100	100	100
54	100	100	100	100
55	100	100	100	100
56	100	100	100	100
57	100	100	100	100
58	100	100	100	100
59	100	100	100	100
60	100	100	100	100
61	100	100	100	100
62	100	100	100	100
63	100	100	100	100
64	100	100	100	100
65	100	100	100	100
66	100	100	100	100
67	100	100	100	100
68	100	100	100	100
69	100	100	100	100
70	100	100	100	100
71	100	100	100	100
72	100	100	100	100
73	100	100	100	100
74	100	100	100	100
75	100	100	100	100
76	100	100	100	100
77	100	100	100	100
78	100	100	100	100
79	100	100	100	100
80	10			

[illegible]PROJECT BRATTLEBORO

NO. F010-2(1)S

SHEET 18A OF 23