STATE OF VERMONT
AGENCY OF TRANSPORTATION

CONTRACT PLANS

THESE PLANS DO NOT REFLECT CHANGES MADE ON THE PROJECT.

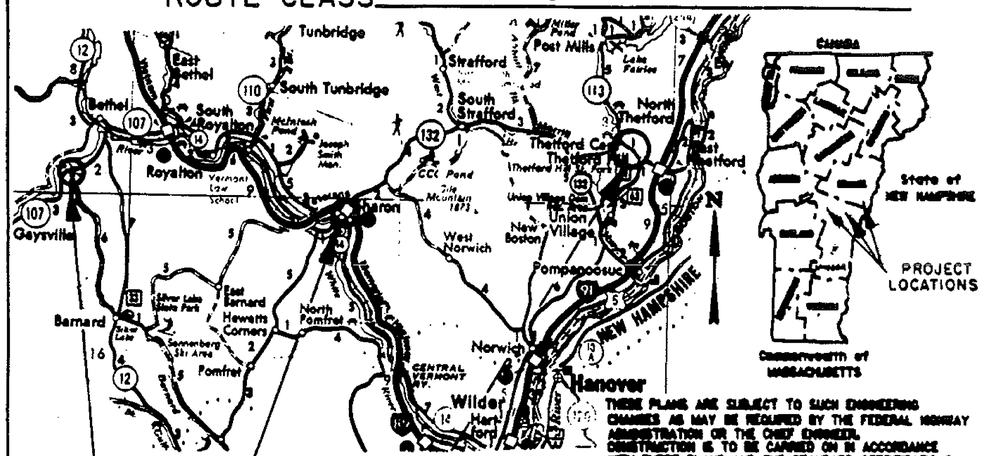
PROPOSED IMPROVEMENT

TOWN OF BETHEL / SHARON

COUNTY OF WINDSOR

ROUTE NO. 12, 132

ROUTE CLASS FAP / FAS



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 CONSTRUCTION DATED 1988, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON NOVEMBER 25, 1988 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD

APPROVED David B Kelley DATE 3/22/88
CHIEF ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR

PROJECT no. HMA 2918
RS 0177(5)

SHEET 1 OF 34 SHEETS

Date: AUG 9 1988

PIKE INDUSTRIES, INC.
Contractor

Roger D. Mart
Signature

Vice President
Title

Transportation Secretary's Signature

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20-34.	BETHEL HMA 2918
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36.	E 101 10/30/87
37.	E 102 10/30/87
38.	E 107 04/29/88R
39.	E 107A 09/10/87
40.	E 143 10/30/87
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PROJECT SHARON BETHEL

NO. RS 0177(5) HMA 2918

SHEET 2 OF 34 SHEETS

QUANTITIES

ITEM DESCRIPTION	AGGREGATE SHOULDERS	EMULSIFIED ASPHALT	BITUMINOUS CONC. PVMT.	POWER GRADER RENTAL	ALL PURPOSE EXCAVATOR	POWER BROOM RENTAL	TRUCK RENTAL	UNIFORM TRAFFIC OFFICERS	FLAGGERS	TESTING EQUIP.- BITUMINOUS	MOBILIZATION	DURABLE 4" WHITE LINE	DURABLE 8" WHITE LINE	DURABLE 24" STOP BAR	DURABLE WORD MARKINGS
ITEM NO.	402.12	404.65	406.25	608.15	608.25	608.30	608.37	630.10	630.15	631.17	635.10	646.30	646.34	646.40	646.44	
UNIT	TON	CWT	TON	HR	HR	HR	HR	HR	HR	LS	LS	LF	LF	LF	EA	
LEVELING	7995		3195													
TOP			7828													
DRIVES	9.3		21													
TURNOUTS	12		62													
SIDE ROADS	5		267													
ROUNDING	13.7		4.8													
TOTALS	8035	182	13321	100	148	62	130	542	658	1	1	1120	550	84	21	

ITEM DESCRIPTION	DURABLE R.R. CROSSING SYM.	TEMP. 4" WHITE LINE	TEMP. 4" YELLOW LINE	TOPSOIL	FLANGED CHANNEL SIGN POSTS	REMOVING SIGNS	ERECTING SALVAGED SIGNS	PAVED RAIL-HIGHWAY CROSSING							
ITEM NO.	646.48	646.50	646.51	651.35	675.30	675.50	675.60	931.10							
UNIT	EA	LF	LF	CY	LB	EA	EA	LF							
TOTALS	2	79810	147576	133	48	1	1	120							

PROJECT CAVENDISH WEATHERSFIELD NO. F025-1(32)S HMA 2931 SHEET 3 OF 33 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

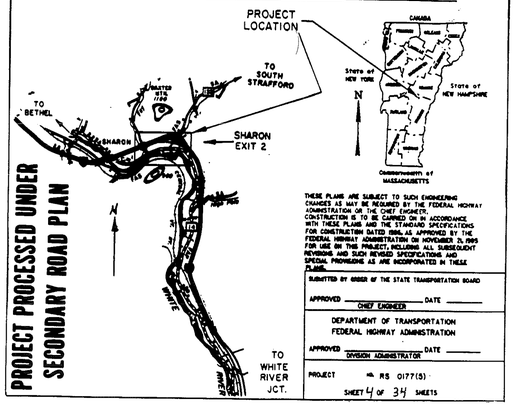
PROPOSED IMPROVEMENT

TOWN OF SHARON

COUNTY OF WINDSOR

ROUTE NO. VT 132

ROUTE CLASS F.A.S.



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 CHIEF ENGINEER. CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1996, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON NOVEMBER 21, 1995 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD

APPROVED _____ DATE _____
CHIEF ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR

PROJECT STP RS 0177(5)

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8-9. TYPICAL SECTIONS AND DESIGN DATA
10. PAVING LIMITS FOR TOWN ROADS AND DRIVES
11. PAVEMENT MARKINGS
12. "STOP AHEAD" DETAIL SHEET
13. STOP BAR APPROACH DETAIL
14. GUIDELINE FOR EDGELINE APPLICATION
15. DURABLE EDGELINE RADIUS LAYOUT TYPICAL
16-17. GUIDELINES FOR MINIMUM INTERIM PAVEMENT MARKINGS
18. PAVEMENT MARKING QUANTITIES
19. ITEM QUANTITIES

PROJECT SHARON

NO. RS 0177(5)

SHEET 5 OF 34 SHEETS

DESCRIPTION AND LOCATION

PROJECT LOCATION

Sharon at MM 0.002 and extending northeasterly along VT 132 for 0.225 mile to MM 0.227 plus a 322 ft. approach on TH 2 (FAS 0177, SA).

PROJECT LENGTH

0.286 miles (1510 feet)

PROJECT DESCRIPTION

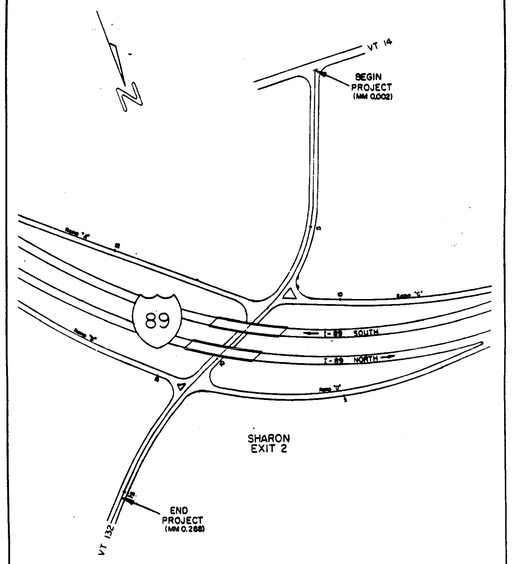
Resurface with a leveling course and 1 ¼" bituminous concrete wearing course overlayed to cover the entire width of the existing paved surfaces as indicated on the plans. Provide new pavement markings as indicated on the plans or as directed by the engineer.

TRAFFIC DATA

1987 AADT 2350
Posted speed limit 35 mph

PROJECT SHARON	NO. RS 0177(5)
	SHEET 6 OF 34 SHEETS

DESCRIPTION AND LOCATION



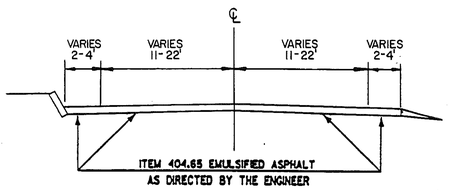
PROJECT SHARON

NO. RS 0177(5)

SHEET 7 OF 34 SHEETS

TYPICAL SECTIONS & DESIGN DATA

BITUMINOUS CONCRETE PAVEMENT
LEVELING COURSE TYPE IV (450 TONS/MILE)
OR AS DIRECTED BY THE ENGINEER
1¼" WEARING COURSE TYPE III (± ¼")



MM 0.002 TO MM 0.120
MM 0.190 TO MM 0.288

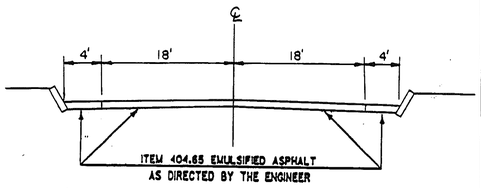
The roadway is to be overlayed to cover the entire width of the existing paved surfaces.
The contractor must duplicate the existing markings and is responsible for documenting the location of those markings prior to any paving operations.

PROJECT SHARON

NO. RS 0177(5)
SHEET 8 OF 34 SHEETS

TYPICAL SECTIONS & DESIGN DATA

BITUMINOUS CONCRETE PAVEMENT
LEVELING COURSE TYPE IV (450 TONS/MILE)
OR AS DIRECTED BY THE ENGINEER
1 ¼" WEARING COURSE TYPE III (± ¼")



MM 0.15 TO 0.22

PROJECT SHARON

NO. RS 0177(5)

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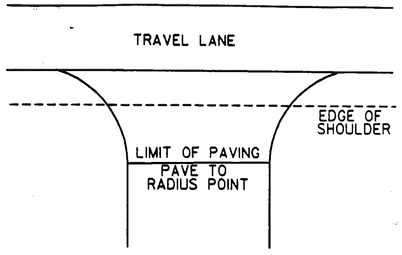
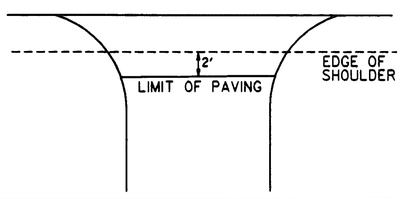
PAVING LIMITS FOR TOWN ROADS & DRIVES

PAVING LIMITS FOR TOWN ROADS



PAVING LIMITS FOR DRIVES



PROJECT SHARON

NO. RS 0177(5)

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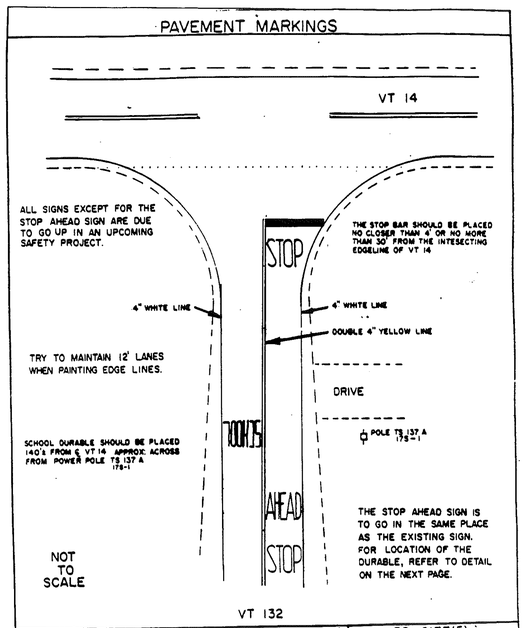
PAVEMENT MARKINGS



PROJECT SHARON

NO. RS 0177(5)

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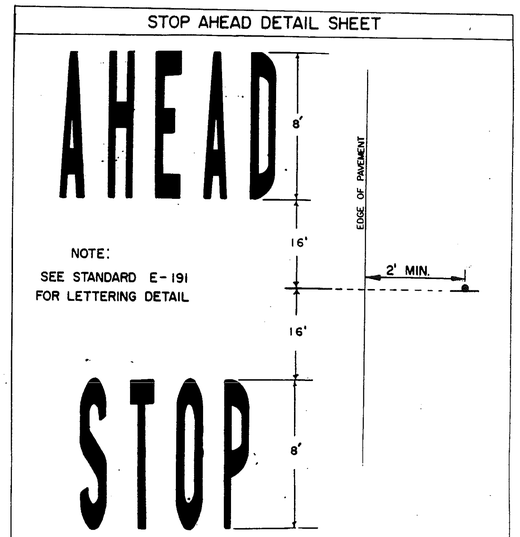
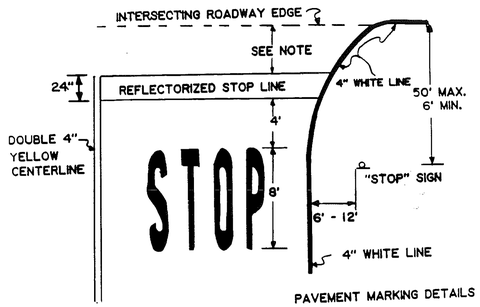
STOP AHEAD DETAIL SHEET



SHARON

RS 0177(5)
SHEET 12 OF 34 SHEETS



PAVEMENT MARKING DETAILS

NOTE: The "desired stopping point" is the location based on site conditions that best allows the stopped vehicle to view the approaching traffic, in no case more than 30 feet or less than 4 feet from the nearest edge of the intersecting roadway.

NOT TO SCALE

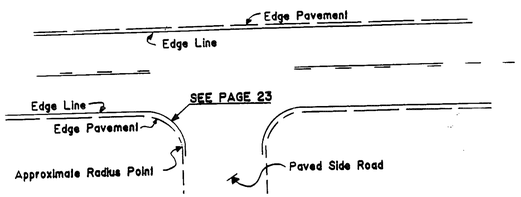
STOP BAR APPROACH DETAILS

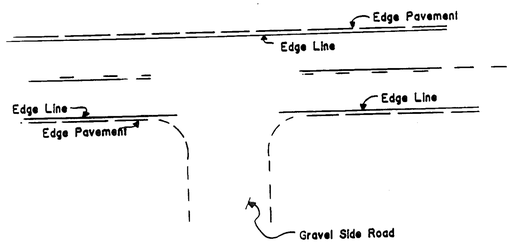
SHEET 13 OF 34 SHEETS

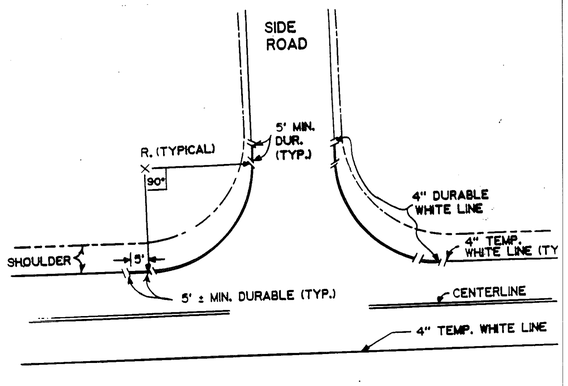
GUIDELINE FOR EDGELINE APPLICATION ON 2-LANE, 2-WAY HIGHWAY

Edgelines shall be applied to the right and left of centerline on highways that have a traffic volume in excess of 1000 vehicles per day. Edgelines should be maintained at a constant distance from the centerline unless pavement width increases to allow wider lanes.

Treatment of intersecting side roads shall be as shown below:







Edgelines for paved side road intersections shall have a durable edgeline radius with a 5' minimum tangent section on each end as shown.

DURABLE EDGELINE RADIUS LAYOUT TYPICAL

Guidelines for Minimum Interim Pavement Markings For Constructon Zones

A. Definition - Interim markings are markings that are placed prior to the application of pavement markings as specified in the project plans. The costs associated with the interim markings including material costs, placement costs, and removal costs shall be subsidiary to the specified pavement markings.

B. Interim markings shall consist of tape or temporary raised pavement markers (RPM's). Interim paint may be used on any pavement course except final wearing course.

The tape shall be the type that can be paved over or of a type easily removed if placed on the final pavement surface. Interim tape markings or RPM's will be offset and removed prior to the application of the specified markings and shall be applied as described below:

C. Centerline and gore area markings shall be applied at the end of each working day. The following layout requirements shall be met:

No Passing Zone

Solid Stripes - Double yellow removable pavement marking tape lines spaced 4" apart.

or

Raised Pavment Markers - In no case shall temporary raised pavement markers be used for more than three calendar days before the application of the specified markings. Raised pavement markers (removable) when used, shall be placed on 5' centers with every 4th marker being reflectorized. The raised pavement markings shall be supplemented with black on orange 'No Passing' signs placed at the beginning of the no passing zone and every 1000' thereafter throughout the no passing zone. All temporary raised pavement markers shall be removed immediately upon placement of specified markings. All costs associated with "No Passing" signs and their installation shall be subsidiary to the specified pavement markings.

Dashed Line

10-Foot solid line with 30-foot gap.

or

For markings to be used for three days or less - 4 foot solid line with 36 foot gap to be removed immediately upon the application of the specified markings.

or

4 retro-reflective RPM's on three foot centers with a 30 foot gap to be removed immediately upon the application of the specified markings.

Gore Area
Gore areas to include 8 inch channelizing line and 4" dashed line
See Standard Sheet E-191.

D. Edge Lines
~~When specified, edge lines are not required until completion of the project. Edge lines should be applied where traffic volumes are high and/or a delay of several days is anticipated. In these instances, paint or RPM's can be used as the interim marking material to be paid under the appropriate bid item. RPM's should be retro-reflective temporary markers on a 5' spacing pattern and the same color as the line they are substituting for.~~

E. 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.

TEMPORARY 4" YELLOW LINE

MILE	MILE	LT	RT		QUANTITY LT	QUANTITY ℄	QUANTITY RT		TOTAL
0.002	0.288	SOLID	SOLID		1510		1510		3020
		ASSUME 100% LOSS DUE TO LEVELING							X 2
									6040
		DEDUCT FOR INTERSECTIONS, 4 RAMPS							-640
									5400 LF
		ITEM 646.40 DURABLE 24" STOP BAR							16 LF
		ITEM 646.44 DURABLE LETTER IN WORD MARKING (SCHOOL ℄ MM 0.03± ℄ MM 0.16±) (STOP ℄ MM 0.01±) (STOP AHEAD ℄ MM 0.06±)							25 EA

TEMPORARY 4" WHITE LINE

0.002	0.288				1510		1510		3020
		DEDUCT, FOR INTERSECTIONS, 4 RAMPS							-665
									2355
								ROUNDING	45
									2400 LF

PROJECT SHARON

NO. RS 0177(5)

SHEET 18 OF 34 SHEETS

QUANTITIES

ITEM DESCRIPTION	AGGREGATE SHOULDERS	EMULSIFIED ASPHALT	BITUMINOUS CONCRETE PAVEMENT	CHANGE ELEV. OF DI., CB, MH	POWER GRADER RENTAL	ALL PURPOSE EXCAVATOR RENTAL TYPE I	POWER BROOM RENTAL	TRUCK RENTAL	UNIFORMED TRAFFIC OFFICERS	FLAGPERSONS	TESTING EQUIPMENT - BIT.
ITEM NO.	402.12	404.65	406.25	604.40	608.15	608.25	608.30	608.37	630.10	630.15	631.17
UNIT	TON	CWT	TON	EA	HR	HR	HR	HR	HR	HR	LS
DRIVES			5								
APPROACHES			5								
LEVELING COURSE			130								
TOP COURSE			470								
TOTAL	7	9	610	1	3	3	3	3	30	30	0.50

ITEM DESCRIPTION	MOBILIZATION	DURABLE 4" WHITE LINE	DURABLE 24" STOP BAR	DURABLE LETTER IN WORD MARKING	TEMPORARY 4" WHITE LINE	TEMPORARY 4" YELLOW LINE	TOPSOIL	TRAFFIC SIGNS, TYPE A	FLANGED CHANNEL SIGN POSTS	REMOVING SIGNS
ITEM NO.	625.10	646.30	646.40	646.44	646.50	646.51	651.35	675.20	675.30	675.50
UNIT	LS	LF	LF	EA	LF	LF	CY	SF	LB	EA
LEVELING COURSE					0	2700				
TOP COURSE					2400	2700				
TOTAL	0.55	40	16	25	2400	5400	6	9	48	1

STATE OF VERMONT

AGENCY OF TRANSPORTATION

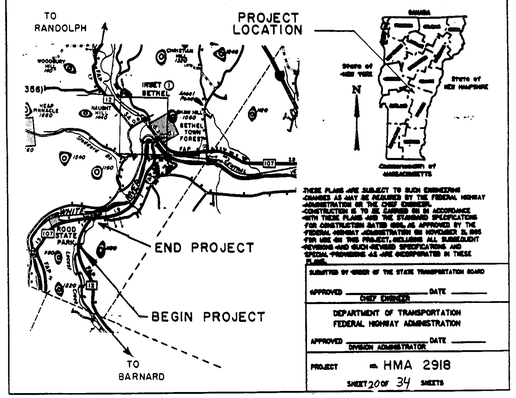
PROPOSED IMPROVEMENT

TOWN OF BETHEL

COUNTY OF WINDSOR

ROUTE NO. VT 12

ROUTE CLASS F.A.P.



THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE STATE HIGHWAY ADMINISTRATION. IT IS TO BE CARRIED OUT IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1988, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON NOVEMBER 2, 1988 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD

APPROVED _____ DATE _____
CHIEF ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR

PROJECT no. HMA 2918

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23. LOCATION
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25. PAVING LIMITS FOR TOWN ROADS AND DRIVES
26. SIGN REPLACEMENT
27. WORD MARKING LAYOUT DETAIL
28. STOP BAR APPROACH DETAIL
29. GUIDELINE FOR EDGELINE APPLICATION
30. DURABLE EDGELINE RADIUS LAYOUT TYPICAL
31-32. GUIDELINES FOR MINIMUM INTERIM PAVEMENT MARKINGS
33. PAVEMENT MARKING QUANTITIES
34. ITEM QUANTITIES

PROJECT BETHEL

NO. HMA 2918

SHEET 21 OF 34 SHEETS

DESCRIPTION AND LOCATION

PROJECT LOCATION

Beginning in the town of Bethel at MM 1.062 and extending northerly along VT 12 for 0.321 miles to MM 1.383

PROJECT LENGTH

0.321 miles (1694 feet)

PROJECT DESCRIPTION

Resurface with a leveling course and 1-1/4" bituminous overlay, Provide paved shoulders and new pavement markings as indicated on the plans or as directed by the engineer.

TRAFFIC DATA

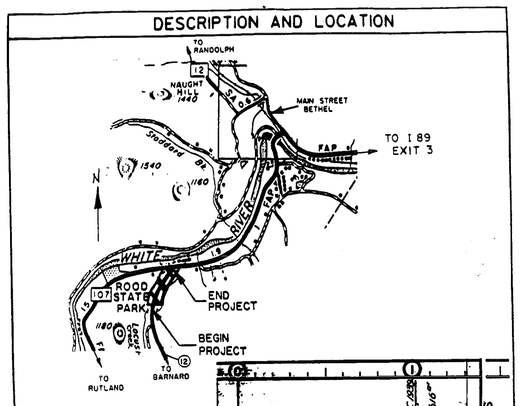
1987 AADT 1120
Posted speed limit 50 MPH

PROJECT BETHEL

NO. HMA 2918

SHEET 22 OF 34 SHEETS

DESCRIPTION AND LOCATION



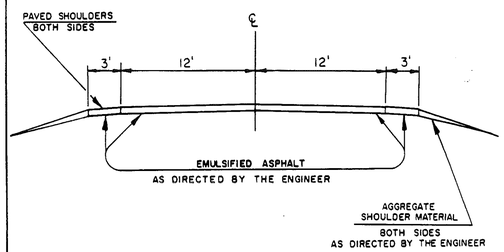
PROJECT BETHEL

NO. HMA 2918

SHEET 23 OF 34 SHEETS

TYPICAL SECTIONS & DESIGN DATA

BITUMINOUS CONCRETE PAVEMENT
LEVELING COURSE TYPE IV (340 TONS/MILE)
1 ¼" WEARING COURSE, TYPE III (± ¼")
SHOULDERS 1 ¼" OF TYPE III (± ¼")



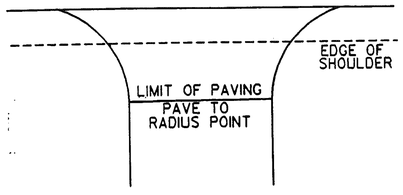
PROJECT BETHEL

NO. HMA 2918

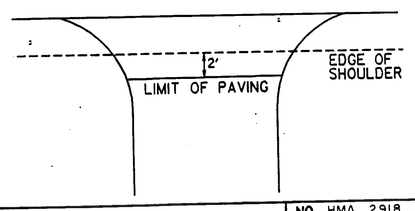
SHEET 24 OF 34 SHEETS

PAVING LIMITS FOR TOWN ROADS & DRIVES

PAVING LIMITS FOR TOWN ROADS



PAVING LIMITS FOR DRIVES

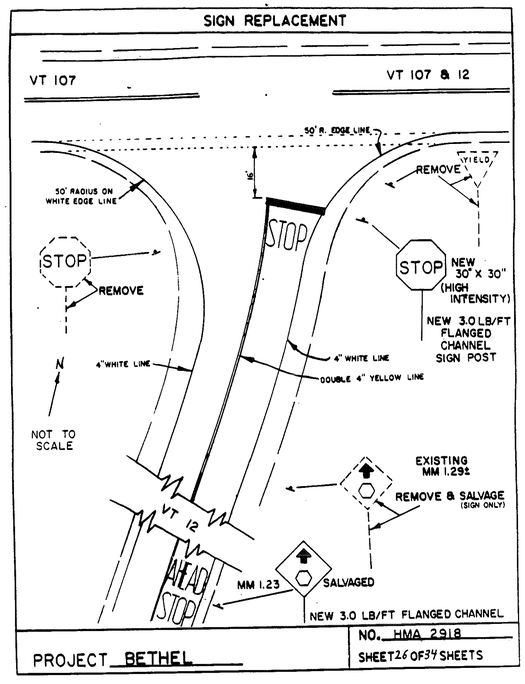


PROJECT BETHEL

NO. HMA 2918

SHEET 25 OF 34 SHEETS

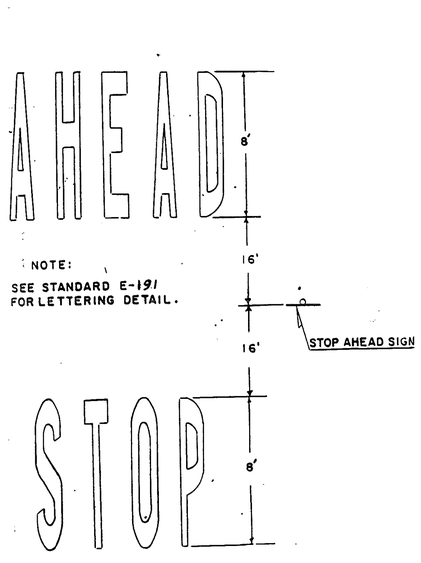
SIGN REPLACEMENT



PROJECT BETHEL

NO. HMA 2918

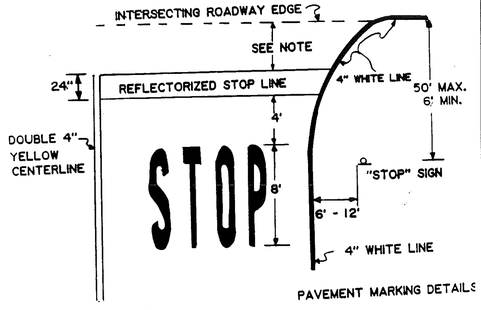
SHEET 26 OF 34 SHEETS



NOTE:
SEE STANDARD E-191
FOR LETTERING DETAIL.

WORD MARKING LAYOUT DETAIL

Same For:
"SIGNAL"
"YIELD"



PAVEMENT MARKING DETAILS

NOTE: The "desired stopping point" is the location based on site conditions that best allows the stopped vehicle to view the approaching traffic, in no case more than 30 feet or less than 4 feet from the nearest edge of the intersecting roadway.

NOT TO SCALE

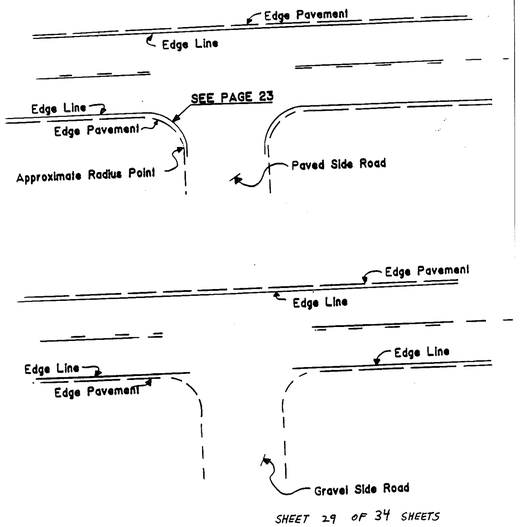
STOP BAR APPROACH DETAILS

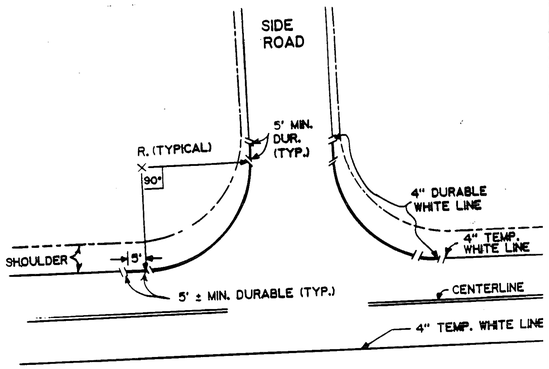
SHEET 28 OF 34 SHEETS

GUIDELINE FOR EDGELINE APPLICATION ON 2-LANE, 2-WAY HIGHWAY

Edgelines shall be applied to the right and left of centerline on highways that have a traffic volume in excess of 1000 vehicles per day. Edgelines should be maintained at a constant distance from the centerline unless pavement width increases to allow wider lanes.

Treatment of intersecting side roads shall be as shown below:





Edgelines for paved side road intersections shall have a durable edgeline radius with a 5' minimum tangent section on each end as shown.

DURABLE EDGELINE RADIUS LAYOUT TYPICAL

Guidelines for Minimum Interim Pavement Markings
For Constructon Zones

A. Definition - Interim markings are markings that are placed prior to the application of pavement markings as specified in the project plans. The costs associated with the interim markings including material costs, placement costs, and removal costs shall be subsidiary to the specified pavement markings.

B. Interim markings shall consist of tape or temporary raised pavement markers (RPM's). Interim paint may be used on any pavement course except final wearing course.

The tape shall be the type that can be paved over or of a type easily removed if placed on the final pavement surface. Interim tape markings or RPM's will be offset and removed prior to the application of the specified markings and shall be applied as described below:

C. Centerline and gore area markings shall be applied at the end of each working day. The following layout requirements shall be met:

No Passing Zone
Solid Stripes - Double yellow removable pavement marking tape lines spaced 4" apart.

or

Raised Pavment Markers - In no case shall temporary raised pavement markers be used for more than three calendar days before the application of the specified markings. Raised pavement markers (removable) when used, shall be placed on 5' centers with every 4th marker being reflectorized. The raised pavement markings shall be supplemented with black on orange "No Passing' signs placed at the beginning of the no passing zone and every 1000' thereafter throughout the no passing zone. All temporary raised pavement markers shall be removed immediately upon placement of specified markings. All costs associated with "No Passing" signs and their installation shall be subsidiary to the specified pavement markings.

Dashed Line
10-Foot solid line with 30-foot gap.

or

For markings to be used for three days or less
- 4 foot solid line with 36 foot gap to be removed immediately upon the application of the specified markings.

or

4 retro-reflective RPM's on three foot centers with a 30 foot gap to be removed immediately upon the application of the specified markings.

Gore Area

Gore areas to include 8 inch channelizing line and 4" dashed line
See Standard Sheet E-191.

D. Edge Lines

~~When specified, edge lines are not required until completion of the project. Edge lines should be applied where traffic volumes are high and/or a delay of several days is anticipated. In these instances, paint or RPM's can be used as the interim marking material to be paid under the appropriate bid item. RPM's should be retro-reflective temporary markers on a 5' spacing pattern and the same color as the line they are substituting for.~~

E. 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.

TEMPORARY 4" YELLOW LINE

MILE	MILE	LT	RT	℄	QUANTITY LT	QUANTITY ℄	QUANTITY RT		TOTALS
1.055	1.140	SOLID	DASHED		449		110		559
1.140	1.383	SOLID	SOLID		1283		1283		2566
									3125
		ASSUME 100% LOSS DUE TO LEVELING							X 2
									6250
		LESS BREAK AT JCT VT 107							-80
									6170
								ROUNDING	30
									6200 LF
		ITEM 646.40 DURABLE 24" STOP BAR							18 LF
		ITEM 646.44 DURABLE LETTER IN WORD MARKING (STOP ⊛ JCT VT 107) (STOP AHEAD ● MM 1.23)							13 EA

TEMPORARY 4" WHITE LINE

MILE	MILE	LT	RT	℄	QUANTITY LT	QUANTITY ℄	QUANTITY RT		TOTALS
1.055	1.383	SOLID	SOLID		1732		1732		3464
								ROUNDING	36
									3500 LF

PROJECT BETHEL

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QUANTITIES

ITEM DESCRIPTION	AGGREGATE SHOULDERS	EMULSIFIED ASPHALT	BIT. CONCRETE PAVEMENT	POWER SWEEPER RENTAL	ALL PURPOSE TYPE EXCAVATOR RENTAL	POWER BROOM RENTAL	TRUCK RENTAL	UNIFORMED TRAFFIC OFFICERS	FLAGPERSONS	FIELD TESTING	MOBILIZATION	DURABLE 4" WHITE LINE	DURABLE STOP BAR 24"	DURABLE LETTER/WORD MARKING	TEMP. 4" WHITE LINE
ITEM NO.	402.12	404.65	406.25	608.15	608.25	608.30	608.37	630.10	630.15	631.17	635.10	646.30	646.40	646.48	646.50
UNIT	TON	CWT	TON	HR	HR	HR	HR	HR	HR	LS	LS	LF	LF	EA	LF
LEVELING COURSE			112												
TOP COURSE			428												3500
TOTALS	10	8	540	4	4	3	4	24	28	0.50	0.45	80	18	13	3500

ITEM DESCRIPTION	TEMP. 4" YELLOW LINE	TOPSOIL	TRAFFIC SIGNS TYPE A	FLANGED CHANNEL SIGN POSTS	REMOVING SIGNS	ERECTING SALVAGED SIGNS									
ITEM NO.	646.51	651.35	675.20	675.30	675.50	675.60									
UNIT	LF	CY	SF	LB	EA	EA									
LEVELING	3100														
TOP COURSE	3100														
TOTALS	6200	7	6.25	90	3	1									

PROJECT BETHEL NO. HMA 2918 SHEET 34 OF 34 SHEETS