Reviewed by:
Robert F. Cauley
Materials and Research
Engineer

Prepared by:
Joseph A. Kelly
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RESEARCH UPDATE

Update U97-17

PERFORMANCE GRADE ASPHALT CEMENT WATERFORD, VT

REFERENCE: Work Plan 95-R-16, Report 95-4, Update U96-22

HISTORY: During the summer of 1994, 4.56 km of VT 18 from MM 0.034 to MM 2.868 in Waterford was rehabilitated. The experimental asphalt cement selected for this project was PG 52-40, with standard AC-20 utilized as the control. Project work also included full depth base reclamation and drainage improvements. Preconstruction and construction observations were documented in Report 95-4. Post construction information can be found in Update U96-22. This report documents the condition of this highway after 3 winter maintenance seasons.

STATUS: This project was last inspected in June 1997. Data pertaining to rutting, cracking and roughness were collected and summarized for thirteen (13) test section locations.

Significant cracking and rutting continued at the MM 2.20 site located in the AC-20 overlay section. This section exhibited an increase in cracking from 84 m/100m in 1996 to 194 m/100m in 1997. An increase in rutting in the southbound wheel path was observed at this location, as well as the development of ruts in the northbound wheel paths.

Two additional sites exhibited increased rutting without additional cracking. MM 2.05, within the performance graded asphalt overlay section, displayed no change in rutting in both outer wheel paths. This site did, however, develop ruts in both passenger side wheel paths. MM 2.60, within the second AC-20 overlay section showed additional rutting in the southbound wheel paths only. All other experimental and control areas continue to be in excellent condition.

Summary of pavement performance is illustrated in the following table:

YEAR	PAVEMENT	ROUGHNESS (mm/Km)	CRACKS (M/100M)	AVERAGE RUTTING (mm)	
				Southbound	Northbound
1995	Standard Mix Overlay	60.1	0	(1)	(1)
	Performance Graded Asphalt PG 52-40	62.4	0	(1)	(1)
1996	Standard Mix Overlay	61.9	13	1	(1)
	Performance Graded Asphalt PG 52-40	71.3	0	2	1
1997	Standard Mix Overlay	68	30	3	1
	Performance Graded Asphalt PG 52-40	71	0	4	1

(1) No rutting was observed.

FOLLOW-UP: The project will continue to be monitored annually, with an emphasis on identifying differences between the sections with standard and PG asphalt cements.