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RESEARCH UPDATE

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GLASPHALT PAVEMENT PERFORMANCE ON VT ROUTE 12

REFERENCES: Work Plan 92-R-20, Update U92-4

PURPOSE: This research update documents the performance of waste crushed glass utilized as a portion of the coarse aggregate in a bituminous concrete pavement surface course placed on Route 12 in Hartland, Vermont.

HISTORY: Approximately 0.48 miles of the southbound lane of VT Route 12 (mile marker 0.12 through mile marker 0.60) were paved with a glasphalt surface course on July 31 and August 3, 1992. There were no special problems noted during the production or placement of the experimental bituminous mix and inspections through 3 months of service indicated satisfactory field performance. Details on the production and placement of the experimental and control mixes are available in Research Update U92-4.

FIELD PERFORMANCE: The project was inspected in April and September 1993. The Spring inspection revealed some loss of glass aggregate as evidenced by the existence of glass particles on the surface of the adjacent gravel shoulder. All glass particles noted were free of any asphalt coating. Surface pitting was visually apparent only under close observation. Little, if any, glass was missing from the pavement beyond the edge line marking where traffic is not a factor.

The early Fall inspection revealed no measurable change in the amount of glass aggregate lost. Although more glass aggregate may be displaced, there is no indication at this time that the loss will cause significant damage to the pavement.

The surface texture of the pavement is quite open between the wheel paths on both the glasphalt and standard pavement. The pitting due to loss of glass particles is not a significant factor with regard to the surface texture on the glasphalt mix.

Locked wheel friction tests taken on September 14, 1993 averaged 47 on the glasphalt as compared to 48 after the first 50 days of service. The skid values on the standard mix dropped from 53 initially to a current value of 48.

There was no measurable rutting or cracking in the pavement evaluation test sections, but there are some reflective transverse cracks at other locations on the project.

FOLLOW UP: Performance monitoring will continue with emphasis on loss of aggregate, rutting and friction values.

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