EXPERIMENTAL PROJECT WORK PLAN

Research Programs

High Float vs. Polymer Modified Emulsion Seal and Cover with/without Fog Seal

Location:	Hill County/US 2 (N-1): RP 355-372
Project Name:	Gilford-East
Project Number:	NH 1-6(123)355
Project Type:	Seal & Cover (Chip Seal) Emulsion Comparison
Principal Investigators:	Craig Abernathy; Experimental Project Manager (ExPM)
Technical Contact:	Christie McOmber P.E.; Great Falls District

Objective

Evaluate the performance and durability of the selected asphalt emulsions in seal and cover (chip Seal) and post fog seal applications.

Description

Determine the short and long-term performance benefits of each application including cost effectiveness, long term durability, and/or potential chip retention benefits of Cationic High Float Rapid-Set High Viscosity Polymer (CHFRS-2P) vs. Cationic Rapid Set High-Viscosity Polymer (CRS-2P) with a combination of Cationic Slow-set Low Viscosity Hard-base (CSS-1H/diluted 50%) fog seal treatment. Maintenance is routinely using the CHRFS-2P chip seal oil and there have been noted benefits of fog seal on a new chip seal (CS), but formal documentation of the benefits is lacking.

Experimental Design

The project plans include a full width 0.15’ ½ inch Grade S PMS and PG 64-28 binder, plus an isolation lift of 0.07’ from approximate reference point 354.6 to 372.14 on 17.54 miles of US 2 N-1).

The project will be completed with and CHFRS-2P CS on the east half of the project limits and conventional CRS-2P CS with standard application rates on the west half. Fifty percent of the west half of the CRS-2P section will receive CSS-1H fog seal (refer to proposed project layout). Type 1 chips will be used on the project.

The measure of effectiveness (MOE) prevalent with this project will focus on:

- Construction practice,
- Short-term chip loss and fly chips,
- Long-term durability (e.g. chip embedment and retention, raveling, bleeding, etc.)
- Chip loss at centerline due to plowing,
- Striping Durability

This project will be to document the pavement prior to the Seal treatments. Any surface preparation prior to application, Placement practice of the Seals and long-term visual documentation.

Evaluation Procedures

Research will document the installation for best practice and any installation concerns germane to the performance of the CS/FS placement. Additional inspections may supplement the semi-annual site visits based on need.

Construction Documentation: Documentation will include information specific to the installation events during CS/FS placement.

Cost Analysis: TBD

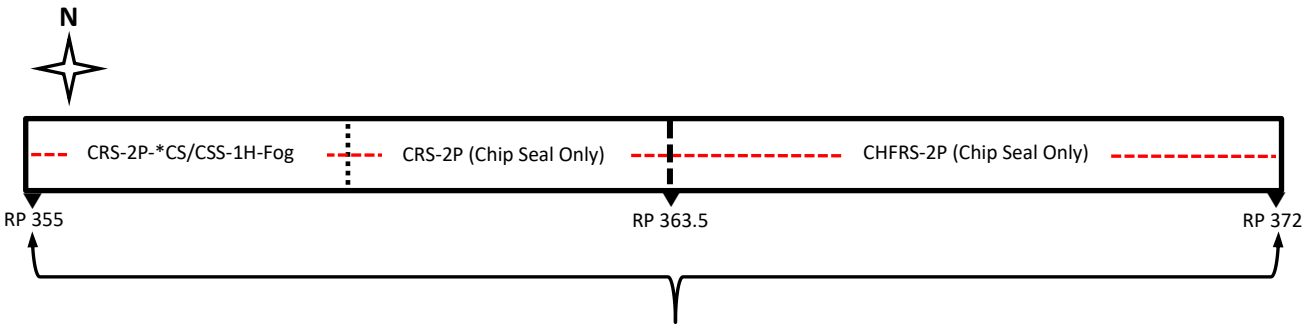
Evaluation Schedule (tentative based on actual construction timeline)

Research will monitor performance for the duration of the project. This is in accordance with the Department's "Experimental Project Procedures". Delivery of a construction/installation report and final project report will be the responsibility of Research. A web page will be dedicated to display all reporting from the project.

2019:	Installation/Construction Report
2019-2023:	Semi-Annual Inspections/ Annual Evaluation Reports
*****2024:	Final Evaluation/Final Report

*****The data collection and analysis phase of the project may be extended if the additional data may add value to the overall results of the project.

[1]Proposed Layout



*Chip Seal

Gilford East/NH 1-6(123)355: Hill County (all values approximate)

[1]All values approximate; not to scale