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14. Supplementary Notes

15. Abstract

Objective

To evaluate the rutting resistance performance of coarse-graded Superpave HMA pavement cores using the asphalt pavement analyzer.
To carry out permeability tests on coarse-graded field specimen cores obtained from different locations on US Highway 81 north of Grafton, ND.
To identify the in-place air void percentage of coarse-graded Superpave HMA pavement from Highway 81 north of Grafton, ND.

Scope

The scope of the work consists of receiving coarse-graded Superpave field cores from three different locations on US Highway 81 north of Grafton, ND and testing their rut resistance performance and permeability. Rut resistance performance will be tested under dry and wet conditions using the APA.

Summary

For this study, the rutting resistance of the coarse-graded mix was evaluated on field cores and tested using the asphalt pavement analyzer. Asphalt permeability and the air voids utilizing field cores were also determined. Statistical analysis indicated that the variations within the wet and dry APA results were significant but the variations for APA results within sections, air voids results, or permeability results were insignificant.

The APA results show that 50 percent of the dry tested core specimens across the project sections of the coarse graded mix have exhibited satisfactory rutting resistance. All but one of the 18 wet tested specimens has failed the APA rut depth specification.

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