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Planning for a Thermally Insulated Test Road : Technical Paper

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ABSTRACT

The planning for construction of an Indiana test road incorporating sections insulated to attenuate frost penetration is described. The flexible pavement installation is comprised of three 200-foot long sections, two of which have a foamed plastic insulating layer. All sections are intensively instrumented with temperature sensors, and a comprehensive evaluation of both thermal and structural performance is planned.

The facility was designed using empirical data derived from previous installations in other states and Canadian provinces, as well as output from a versatile analytical model of one-dimensional heat flow developed at Purdue University. The installation, which will probably be built early in 1969, has two objectives: (a) the acquisition of first-hand experience with the construction and performance of insulated pavements, and (b) the validation, refinement, and extension of extant solutions for thermal pavement design.

Both instrumentation and special construction features are described.