

JEFFERSON CITY, WISCONSIN

Roadway reconstruction on STH-106 with MIRAFL



Industry: Transportation
Sub-industry: Roads and highways
Location: Wisconsin
Product: MIRAFL® H₂Ri

Overview

The Wisconsin Highway 106 (STH-106) underwent reconstruction over a marsh area but soon faced problems with uneven settling. The Jefferson County Highway Department sought a quick reconstruction method that would limit the need to remove large volumes of wet, organic soil while ensuring a stable base for the flexible pavement road. The solution needed to be sturdy enough to prevent uneven settling along the road, maintaining a smooth and rideable surface.

Challenge

The main challenge was dealing with wet, saturated silt and peat deposits, extending over 30 ft (9.14 m) beneath the existing pavement. The solution involved a robust construction approach using a single layer of MIRAFL H₂Ri geosynthetic material placed directly on the subgrade. This was followed by a 15 in (38 cm) layer of crushed stone, a layer of MIRAFL BXG110 biaxial geogrid, and another 15 in (38 cm)

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CASE STUDY

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layer of crushed stone. The **MIRAFI** H₂Ri reinforcement and moisture management created a “raft”-like platform for the road, improving drainage, particularly during spring thaws and heavy rains.

Solution

The Jefferson County Highway Department was satisfied with the installation process. The multi-layer geosynthetic reinforcement provided a strong, stable base, allowing for smooth paving operations. This robust system reduced the need for subgrade removal to just 30 in (76 cm), significantly less than the 5-8 ft (1.52–2.44 m or more) that might have been necessary given the soil conditions. The **MIRAFI** H₂Ri not only saved costs but also allowed for quicker installation.



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