

Maintenance on Highway No. 1, Lam Sai (Outbound) – at Km. 56+000

Ayutthaya, Thailand



				
2025	Department Of Highways	(MacGrid AR) (39,000 M2)	Bureau Of Survey And Design	Department Of Highways

The Bureau of Survey and Design, Department of Highways, undertook the improvement and rehabilitation of a U-turn bridge on Highway No. 1 at Lam Sai (Outbound), Ayutthaya Province. The project involved resurfacing the asphalt pavement with a new asphalt concrete layer over a total width of 29.50 meters, covering the section from Km. 55+075 to Km. 56+300 (1.225 km in length). The budget for asphalt resurfacing work alone was approximately THB 15 million.

The original pavement structure was constructed with concrete. The project aimed to rehabilitate the existing surface by overlaying it with asphalt concrete to improve fatigue resistance and minimize rutting. Although the resurfaced pavement initially achieved satisfactory structural performance, cracks like those found in the deteriorated original surface often reappeared shortly after opening to traffic. These cracks — known as reflective cracking — significantly reduce the road’s performance and service life.



During Construction



During Construction

Maccaferri collaborated with the Bureau of Survey and Design (DOH) to analyze the potential causes of pavement distress and proposed the use of **MacGrid ARG**, an asphalt pavement reinforcement composite, to address the problem.

MacGrid ARG consists of two key components:

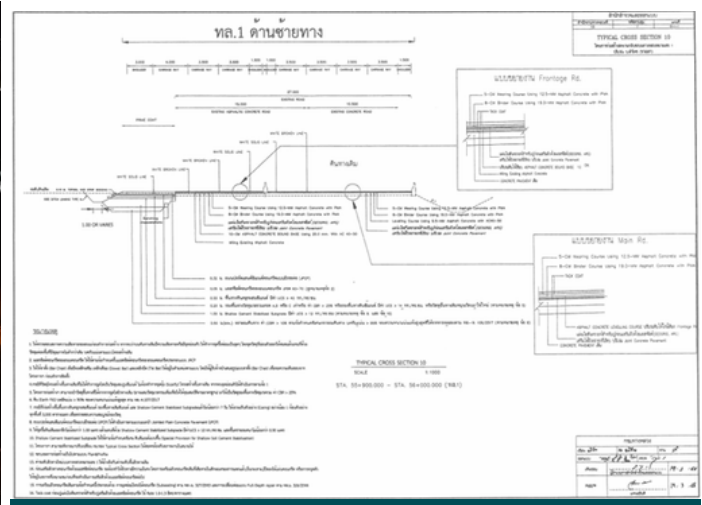
Glass fiber reinforcement grid – providing high tensile strength to resist crack propagation.

Nonwoven geotextile backing – serving as a stress-absorbing and waterproofing interlayer.

Together, these components deliver three main functions: reinforcement, waterproofing, and stress relief. Test results have demonstrated that fiberglass-based reinforcement offers the highest efficiency in delaying and preventing the propagation of reflective cracking, thereby extending pavement life and improving long-term performance.



After





GOOGLE MAPS



GOOGLE EARTH