MACCAFERRI

CASE HISTORY

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ROAD IMPROVEMENT WORKS AT SABAH ROAD

SABAH, SABAH, MALAYSIA

Asphalt Pavement Reinforcement

Problem

Public Work Department of Sabah through its road operator approached Maccaferri to provide sustainable solution for roadworks improvement. The service life of most roads in Sabah has already “expired”, especially along the route of the Pan Borneo Highway.

Noting that every road constructed had a certain service life, there was a need to rebuild those that have expired as these can be easily damaged and are difficult to maintain.

Overloaded lorries coupled with the roads’ expired service life were among the reasons that roads in Sabah were easily damaged, particularly in rural areas.

This case history describes the utilization of geosynthetic products for soil stabilization and pavement reinforcement.

Solution

Pilot project for soil stabilisation and pavement reinforcement in Malaysia. Total of 400,000 sqm of MacGrid AR & MacGrid EG span across five divisions in Sabah namely Kinabatangan, Sandakan, Lahad Datu, Tawau, Beaufort, Tuaran, Ranau, Keningau.

Teamwork from various Maccaferri office to support the client throughout the entire project lifecycle from early planning, field trial, construction and performance evaluation.

It demonstrates the effectiveness of MacGrid EG and MacGrid AR system placed will increase service life of the road pavement. In addition, MacGrid EG, an extruded biaxial geogrid was placed in between the subbase layer to increase lateral confinement between aggregate particles. This reduced lateral spreading of the roadbase under traffic load during their design life Design check was completed based on empirical method using MacRead software. The software is in accordance with the American Association of State Highway and Transportation Officials (AASHTO) Guide for Design of Pavement Structures.

Client: JKR Sabah

Designer / Consultant: JKR Sabah

Contractor: Lintasan Resources

Products used (Qty.)

- MacGrid AR 400,000 sq.m

Date of construction: 05/2023 - 12/2023

Google Maps Google Earth



Unrolling Macgrid AR



Pneumatic tyre roller over MacGrid AR surface



Tack coat spraying prior to MacGrid AR placement.



Pavement works after placement of Macgrid AR

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