

Tiger Brennan Drive Duplication

Darwin, NT

Battling Darwin's wet season our cost effective mass mixing design was proved to be the optimum solution under inundated culvert extensions.



The project

Tiger Brennan Drive runs through Darwin's eastern suburbs. The duplication of the road from two lanes to four lanes is part of the \$127M East Arm Port Access Route, to improve traffic flow to East Arm Port and Palmerston. The duplicated road crosses tidal mud flats and areas of very soft unconsolidated alluvium, which needed ground improvement to mitigate settlement.

The challenge

The site consisted of very soft mangrove mud and alluvium up to 5m deep, in a tidal influenced zone. The works had to be carried out during tides that heavily inundated the working area. The extent of the treatment was to mitigate settlement under 4m high embankments and culvert extensions.

The solution

Keller provided a cost effective design and construct Mass Soil mixing solution. The solution proved to be the best applicable ground improvement technique for the difficult site conditions. Laboratory trial mixing confirmed the most cost-effective binder dosage prior to commencement. Keller built a temporary access road to get equipment to site and carried out dust and noise monitoring throughout the treatment to minimise impacts on the road and nearby homes. Verification testing was conducted by Keller using proprietary CPT units and the works was so successful Keller was asked to significantly extend the area during the project. GPS was used to track and maintain construction records.

Project facts

Owner(s)

BMD Constructions

Keller business unit(s)

Keller Australia

Main contractor(s)

NT Government

Solutions

Bearing capacity / settlement control

Markets

Infrastructure

Techniques

Mass mixing