FORTA® CONCRETE FIBER

PROJECT PROFILE | PRECAST

Sewer pipe outfall collars, Nelson

PROJECT DESCRIPTION

Upgrade of sewer pipeline for Nelson City and Tasman Disctrict Councils. Pipeline is between Bells Island settling and treatment ponds across Waimea Estuary to pump station at the end of Nayland Road in Stoke, Nelson.

Orignal concrete pipes were replaced with up to 450mm PPE welded together on the Bells island side of the Estuary. The original specification called for steel to be welded into a cage to fit inside the collar moulds. This would prove to be extremely difficult and costly to do and result in a very long time to complete the project castings. Stratmore Construction recommended Forta Ferro macro fibres as an alternative solution.

The pipeline was laid into a trench excavated across the estuary with the concrete collars fitted around the pipe. The weight of the collars help to hold the pipeline down in the trench due to the high water flows from tides.

4 bolts hold the two halves of the collars together. The concrete is entirely reinforced by the Forta Ferro fibre. About 2500 + concrete collars of various sizes were precast by Smith Crane & Construction in their yard in Renwick, Blenheim.

The uniqueness of the project, the saltwater environment and the accepted solution using Forta Ferro fibre reinforcement for the concrete collars contrasts with the original proposal using conventionial steel reinforcement with its associated costs and probability of rusting causing spalling thereby resulting in early failure of the collars.

KEY POINTS

- Significant Cost Savings
- Enhanced Performance
- Long-term durability

DETAILS

Date: 2014

Location: Nelson

Fibre: Forta Ferro®

Dosage: 5.0kg/m³

Concrete Details: 40MPa.

Concrete Supplier: Allied Concrete Nelson

Contractor: Smith Crane & Construction

Contact us for more details