



Effluent pond with weeping wall, Wairau Valley, Marlborough

PROJECT DESCRIPTION

New effluent pond built above an existing pond. Designed by Ross Patching from Golden Bay who has designed and project managed several of these ponds. Effluent and wash down etc runs from the milking shed / yard down into the new top pond, solids settle and are spread by the slated wooden wall running through the middle of the pond. The liquids then drain into the bottom pond, with the idea is to keep most of the settled solids in the top pond which are then removed by tractor at a later stage.

Opus Consulting Engineers, Blenheim were involved in the approval of products for the project in conjunction with Marlborough District Council.

The pond was designed with a liner which was laid first, followed by on average 200mm of concrete reinforced with Forta Ferro macro synthetic fibre system at 4.5kg/m³ and also included the use of a waterproofing admixture, Krystol Internal Membrane (KIM-HS).

Forta Ferro was chosen as the reinforcement in lieu of steel mesh, which provided significant transport and placement costs compared to using steel mesh. Forta Ferro is easily pumped and placed, reinforces 3 dimensionally (top to bottom), provides enhanced plastic shrinkage control and long-term performance.

The location of the project meant reasonably lengthy travel times for the concrete trucks (over an hour). The Forta Ferro fibre was added at the concrete plant and a higher slump was used to allow for the travel time. Once the truck arrived on site the KIM was added and a super plastizer (if needed) to assist creating the correct slump for the concrete pump.

KEY POINTS

- Cost Savings
- Enhanced Performance
- Long-term durability

DETAILS

Date: 2014

Location: Wairau Valley, Marlborough

Fibre: Forta Ferro[®]

Dosage: 4.5kg/m³

Concrete Details: 30MPa.

Concrete Supplier: Marlborough Ready Mix

Contractor: Findlater Construction

Contact us for more details