

CASE STUDY - HSC ROAD STABILIZING, DUST SUPPRESSION AND POT HOLE REPAIR

SPAINS ROAD, NZ

HSC – HYGROSCOPIC SOIL CEMENT STABILIZER



PRODUCT HSC – HYGROSCOPIC SOIL CEMENT

ENGINEER NOT REQUIRED

CLIENT FAR NORTH DISTRICT COUNCIL, NZ

CONTRACTOR HARRISON CONTRACTORS

LOCATION NORTHLAND, NEW ZEALAND

WHERE SCIENCE



MEETS THE EARTH

PROJECT-

Spains Road in Kaitaia, Northland is built over a peat subgrade. Peat is characterized by large porosity and low density with a large water and organic matter content causing issues such as dust, potholes, corrugations, heaving and gravel loss.

HSC was chosen because of its hygroscopic properties and its ability to greatly strengthen and stabilize weak soils and also its capacity for rehealing. The Clients expectation was 12-18 months however, the pavement was still well bound and suppressing dust 40 months following installation.

DESIGN

Stabilization of existing flexing peat subgrade and treatment of potholes

Application Rate: 4 kgs HSC per sqm & 10% HSC to the weight of the aggregate for pot hole repair

Gravel added: treated the insitu

Depth Treated: 75mm & potholes up to 50mm deep

Aggregate was a Sandy fine gravel

Equipment used: Grader, 10 ton Roller, Water Cart, Powder Spreader Truck, labourers, shovels, rakes, whacker packer

BENEFITS TO THE PROJECT:

- No imported aggregate was required as the insitu material was treated.
- An inexpensive eco-friendly solution for stabilizing and dust suppressing weak subgrades and pavements with high organic properties. The same product used for pothole fill.
- HSC improves the engineering properties of the treated soil and is proven to eliminate the cost of grading and re-sheeting on gravel roads for extended periods.
- Pavements can be designed so that they can be regraded and compacted.
- HSC Pothole performed very well in the task set out. The edges held tight to the pavement even though the stabilized aggregate in the hole varied from 5mm – 50mm deep.
- HSC has the ability to stay flexible and bind itself to the existing pavement.



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