PROJECT PROFILE
N16 V100

mainmark

Rehabilitation of Stormwater Chamber

INDUSTRY
Infrastructure

STRUCTURE
Stomwater pit and embankment

PROBLEM
Ageing infrastructure and subsidence

LOCATION
Bronte, NSW, Australia

DURATION / YEAR
2 weeks / 2016

TECHNOLOGY
Permeation Grouting, ENCAP6™

BUSINESS UNIT
Mainmark Australia

Summary

A stormwater pit and embankment in Gardyne Street, Bronte, New South Wales, was experiencing structural problems due to the ageing infrastructure.

Storms and malfunctioning plumbing mains had caused a large area of road to collapse and subside. An adjacent house had also experienced settlement because of the erosion.

Mainmark successfully addressed the structural and ground stability issues faced by the council in just two weeks.

Objectives

Mainmark was initially appointed to help improve the safety of the site by stabilising loose sands using Permeation Grouting, as well as provide a consolidated base for the road and gutter to be re-laid.

On review of the site, Mainmark also recommended the use of ENCAP6™, an innovative corrosion protection system, to improve the structural integrity of the ageing concrete stormwater chamber.

Work was to be completed quickly, cost effectively and with minimal disruption.

Solution

First, the Mainmark team used Permeation Grouting to stabilise and strengthen the sandy embankment surrounding the stormwater chamber. This provided enhanced ground cohesion by producing a solidified mass to support increase loads and fill voids

Rehabilitation of Stormwater Chamber continued

Left: Injection lance flushed into the ground, strengthening the sandy embankment with Permeation Grouting
Right: Technician coating inside of the stormwater chamber with ENCAP6™

in the soil. It helped to prevent further erosion and slippage, allowing the area to be safely filled in. This prepared the site for the next phase of the project.

Mainmark then structurally relined the inside of the chamber with ENCAP6™, a technologically advanced corrosion protection spray for ageing concrete and steel infrastructure. A 30mm coating was applied to the stormwater chamber, which improved its structural integrity and rehabilitated the chamber for ongoing use.

As a spray-on application, ENCAP6™ eliminated the need to replace the chamber using costly excavation or demolition methods. No traffic diversions were required, minimising disruption to public roads and footpaths. It delivered significant time and cost savings for the local council.

ENCAP6™ uses proven, high-performance resins that are ideal for water management infrastructure. The innovative chemical resistant linings create a protective barrier between the substrate and waste flow, and are unaffected by wetness and humidity. It requires no ongoing maintenance.

Mainmark quickly and cost-effectively rehabilitated the stormwater pit with its lasting and durable ENCAP6™ solution.