

Stormwater Management for a Large Open-Cast Coalmine: A Case Study And Proposed Solutions¹

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Abstract: Stringent discharge limits are faced by a large open-cast coal mine located in a semi-arid temperate coastal region that receives the vast majority of its rainfall in a few intense stormy periods per year. In order to most consistently achieve compliance, characteristics of the water quality and quantity as well as mine the mine site were diagnosed. Then solutions were presented. These solutions include infiltration basins, infiltration berms on the overburden pile, revegetation with deep-rooted trees and grasses, a sedimentation vortex system, improved streambank armoring, gabion baskets, check dams, and most importantly an infiltration basin with a floating decanter and an outflow control structure. These solutions are proposed to be applied together but due to cost, some management practices many not be included in the final applied solution set.

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