

GROUNDGUARD chosen to prevent water loss due to poor soil conditions around canal gate

GROUNDGUARD maintains impermeability and puncture resistance under exposure to harsh UV and weather extremes, resulting in a long lifespan with minimal maintenance.

Crawford, Colorado, USA

The challenge

A water conservation agency needed to prevent water loss and structural inefficiency due to poor soil conditions and seepage at a canal gate and check gate at two separate areas of an earthen feeder ditch. The agency had tried compacting the soil in and around the concrete structures, but the issues persisted.

The solution

The two areas were drained of water and then excavated to remove debris and re-shape the earthen ditch. The excavator also dug a keyway trench along the opposite sides of the ditch and at both ends of the installation areas for the liner to be buried and securely anchored upon installation.

GROUNDGUARD liner was chosen for the combination of its durability and the ability to anchor the liner to the existing concrete canal gate and check gate structures. One area to be lined was 35x53 ft. The other area was 35x41 ft. The material used was a base layer of 16 oz non-woven geotextile placed directly on the soil to provide added cut resistance to the underside of the liner. The GROUNDGUARD liner pre-coated with 90 mils of aromatic polyurea on a 2x2 woven geotextile backing was then installed on top of the non-woven geotextile material. The GROUNDGUARD liner was chemically sealed to the concrete canal gate and check gate structures with polyurea material.

Material used:

- 16 oz non-woven geotextile placed directly on the ground
- GROUNDGUARD liner pre-coated with 90 mils of aromatic polyurea on a 2x2 woven geotextile backing
- Aromatic polyurea to chemically seam liner panels and seal liner to existing concrete structures

The results

The GROUNDGUARD liner, sealed to the concrete and buried in the keyway trenches, provided an immediate increase in the amount of water flowing through the canal without water escaping the ditch. The agency undertook the project in a season when the weather was dry in order to be prepared for the heavy springtime runoff.

Project Details

Client: Crawford Water Conservancy District

Contractor: SilverBack Industries

Location: Crawford, CO, USA

Application: Rural Ditch and Canal Water Management

Product: GROUNDGUARD



Poor soil conditions allowed erosion and build-up of debris at the canal gate and check gate.



GROUNDGUARD liner sealed to the concrete structure will minimize erosion and seepage, preventing water loss.

Before

Area 1 before GROUNDGUARD installation.



After

Area 1 after GROUNDGUARD installation.



Before

Area 2 before GROUNDGUARD installation.



After

Area 2 after GROUNDGUARD installation.



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