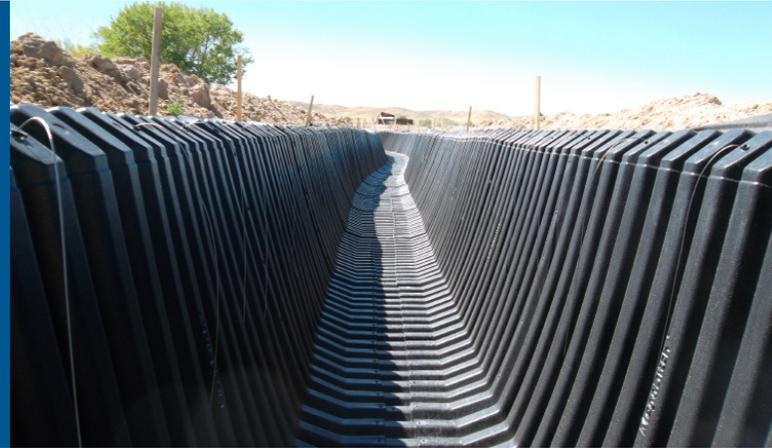




# Douglas Irrigation Canal



***MegaDitch is a cost effective, alternative solution to plastic piping.***

**LOCATION:**

*Douglas, Wyoming*

**PRODUCT:**

*MegaDitch*

**PROJECT PARTNERS:**

*Consultant*

*Penda Corporation*

*Wagner Rents, Steamboat Springs*

*Nilex*

*Completion Date*

*September 2014*

The owners of a newly built natural gas transfer station in Douglas, Wyoming required a triple-lined canal to contain flow from an existing irrigation canal in order to protect sensitive operations.

## Challenge

The client was looking for a cost effective, alternative solution to a 48-foot plastic pipe. In addition, the alternative design would need to be as water-tight as the plastic pipe system while providing flexible geometry to conform to the canal's curves and changing bottom width.

## Solution

Nilex recommended a leak-proof, triple layer lining system that included a Geosynthetic Clay Liner (GCL) as the bottom layer with a 30 mil textured HDPE liner to be placed on top followed by 12 inches of soil providing confining pressure for the GCL. The final layer of protection was an adjustable SmartDitch™ MegaDitch system that was specified and specially fabricated by the Penda Corporation. The MegaDitch system was recommended because it is an expandable channel lining system engineered with adjustable sidewalls that can conform to a variety of slopes and grades.

# DOUGLAS IRRIGATION CANAL

## Installation

Due to the century-old large trees growing in the existing irrigation canal, the contractor decided to excavate a new canal to fit the proposed liner system. The final dimensions of the canal consisted of a three foot wide bottom with 1:1 side slopes that were five feet high.

The installation began with the GCL being placed at the bottom of the channel extending one foot up the side slopes as a final layer of protection against leaks. The HDPE liner was then installed directly on the GCL also extending to the top of the side slopes. Compacted clay was then placed on top to properly seal the GCL.

Finally, the base and wall sections of the MegaDitch system were installed to act as a permanent channel liner. Nilex provided technical support to increase installation efficiency.



## Results

The MegaDitch system provided the client with a permanent channel liner capable of withstanding decades of ultraviolet exposure, wildlife impacts and constant water flow during the summer

months. Additionally, the textured liner increased friction on the side slopes which will reduce the potential of sliding. Nilex helped the client realize a cost savings of approximately \$50,000 while designing a solution that is as water-tight as the plastic piping alternative.



## The Nilex Advantage

Nilex is committed to unearthing better results. Whether it's for a civil, resource or environmental project, we offer the latest engineered and technically superior materials and techniques to save our customers time and money, and minimize the need to move or remove earth, and reduce the need for granular materials.

With over 35 years experience, a long-standing commitment to the environment and highly qualified staff, Nilex delivers the products and technologies that give clients an economic advantage with environmental benefit.