



Parson's Creek Interchange



ArmorMax provides a cost-effective high shear strength armoring solution that establishes vegetation.

LOCATION:

Fort McMurray, Alberta

PRODUCT:

ArmorMax anchored reinforced vegetation system and C125BN erosion control blanket

PROJECT PARTNERS:

Owner

Alberta Transportation

Consultant / Contractor

ISL and Tetra Tech / Sureway Construction

Completion Date

2014-2015

Parson's Creek is a highly-visible and environmentally-sensitive east-to-west flowing waterbody running under Highway 63 in the north end of Fort McMurray, Alberta. The creek connects to the Athabasca River and Alberta Transportation needed to ensure it had proper scour protection to accommodate heavy storm events. Nilex provided technical support for several options.

Challenge

There was limited information available on the creek's flow rate, but Nilex's experience with the area helped predict the clay to rocky soil types the team would encounter. Installation was part of a larger construction project at the interchange, which required skilled site coordination and a cost-effective product. Environmental guidelines for waterbodies prevent concrete pours for hard-armoring situations, and due to the high-visibility of the crossing, the client preferred a solution that could revegetate. The installation was scheduled over the winter months, providing an additional challenge for site crews.

Solution

The consultant and construction teams agreed with Nilex that the ArmorMax Anchored Reinforced Vegetation System was the best fit for the site conditions and budget. ArmorMax combines a woven three-dimensional High Performance Turf Reinforcement Mat (HPTRM) with X3® fiber technology that is secured using earth percussion anchors.

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It was supplemented with C125BN (bionet) erosion control blankets for the upper portions of the creek bank that would see less sustained flows. The blanket also offers quick revegetation.



Installation

ArmorMax requires 4'-long earth anchors, 18" steel pins with washers and U-shaped staples. The winter installation start required crews to pre-drill anchor holes and tighten the anchors later in the season. At that time, crews also installed the staples and pins, along with any additional anchors required.

Results

ArmorMax provided a cost-effective vegetated scour protection layer with a 50-year design life and a market-leading shear stress strength. It reduced carbon emissions by eliminating the haul trucks that rip-rap or gabions would require.

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, 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.

