



CASE STUDY

Drainage Channel

LOCATION: Aylesbury, Saskatchewan

PROJECT TYPE: Design Support & Supply

PRODUCT USED: CCX-M®



CHALLENGE:

A severely eroded drainage channel along Highway 11 needed urgent attention. Water erosion had compromised the channel's structure, destabilizing the bank and threatening the stability of this vital route between Regina and Saskatoon in Saskatchewan. Given the highway's importance and the safety risks associated with ongoing erosion, a durable, long-term solution was essential.

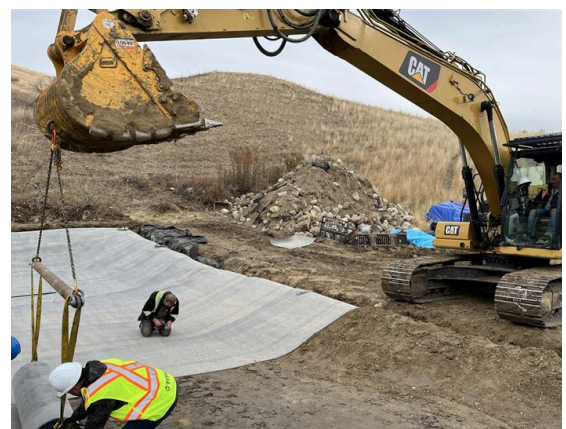
The project site, located on a steep ravine, was exposed to constant erosion from multiple culvert outfalls along the slope. This erosion undermined the highway's structural integrity, necessitating an immediate and robust solution.

The primary challenges included:

- **Steep Terrain:** Working on a steep slope required careful planning and anchoring to stabilize the Concrete Canvas®.
- **Low Temperatures:** Cold temperatures at night posed additional challenges, but installations during the day remained unaffected.
- **Water Supply:** Ensuring an adequate water supply on-site for installation was essential for activating the Concrete Canvas®.



Before CCX-M® Installed



CCX-M® Being Installed



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TITAN SOLUTION:

Titan proposed and implemented the use of Concrete Canvas® CCX-M®, an innovative and highly durable material ideal for erosion control and slope stabilization. Beginning with a collaborative design process in October 2023, Titan worked closely with the project team to finalize plans by July 2024. The installation, which began in October 2024, involved 700 m² (7,534 ft²) of Concrete Canvas® deployed across the rock pool and slopes of the drainage channel.

The installation process included pre-excavated v-trenches and anchor trenches to create a solid foundation. All debris and large stones were removed to ensure the Concrete Canvas® would lay evenly and bond securely to the surface. The material was installed horizontally across the slope and reinforced with Grippler anchors to maintain stability on the steep terrain. At the junction where the runs merged, the seams were carefully sealed and double-screwed to prevent ingress and ensure a watertight finish.

Despite the slowed progress due to steep slopes and anchoring requirements, the project team worked efficiently, mitigating delays and maintaining high safety and quality standards.



CCX-M® Being Anchored



CCX-M® Merged



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ACHIEVEMENT

Despite low nighttime temperatures and slowed progress due to anchoring on steep slopes, the project was executed efficiently despite challenges. The pre-excavated v-trenches and anchor trenches and meticulous debris removal provided a strong foundation for the installation. The result was a durable drainage solution covering 700 m² (7,534 ft²), reinforced with Gripple anchors on slopes and sealed seams to prevent ingress.

Testimonial

A representative from the project owner stated:

"Titan's expertise and dedication to this project were instrumental in its success. From design discussions to execution, the Titan team provided innovative solutions that addressed our concerns about erosion and road stability. The use of Concrete Canvas® CCX-M® proved to be a perfect choice, and the seamless installation has given us confidence in the long-term durability of the repair. We look forward to collaborating with Titan on future infrastructure projects."

This project showcases Titan's capability to deliver tailored solutions for critical infrastructure challenges while maintaining high standards of safety, quality, and environmental protection.



CCX-M® Being Hydrated



CCX-M® Completely Installed