

Emergency Response Leads to Bank Stabilization Needs in Prince Albert, SK - Introducing Natural Channel Techniques to a New Region

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In the summer of 2016 a local state of emergency was declared in Prince Albert, SK after over 200,000 L of oil was spilled into the North Saskatchewan River, which supplies the City's drinking water. The Little Red River was used as one of the temporary emergency water supply sources. This river, located in a City park, was dammed to raise water levels for pumping to the local treatment facility. The backwater had a negative impact on bank stability and dramatically worsened bank conditions as the water was released following the removal of the dam. Trails and trees fell into the river and a local roadway was put at risk. The oil company provided funding for the City to restore the river banks of the Little Red River site. Traditional hard engineering solutions were investigated to re-establish bank stability, but the DFO preferred something more natural. They also wanted to see a project that would provide mitigation for another local project that had mitigation owing. A solution using wood debris toe protection, native vegetation, and improved floodplain connectivity was developed for the five failing outer banks on the site. The City of Prince Albert, interested in stabilizing the river banks downstream of the area impacted by the spill, provided funding for an additional three bends to be stabilized.

Natural channel design is not a common solution in the prairies at this time, and there are no contractors with considerable experience installing instream and bank structures. The contractor that was selected through a 2-stage bidding process had to learn on the go. Learning during construction included how to build a working cofferdam, coir soil lift construction, construction phasing near water, when to field fit, and how to keep a crew of 20 or more productive under tight timelines.

The project grading was complete in 2017, with planting scheduled for the spring of 2018. The City and local citizens are happy with the new, safer park.

Biography

Amber is a water resources specialist at Stantec Consulting Ltd. She works on geomorphic assessments, stream designs, hydrologic and hydraulic modelling studies, and construction observation. One of her recent designs included stabilizing river banks through a park in Prince Albert Saskatchewan. In her free time, Amber is an avid CrossFit participant and trainer.