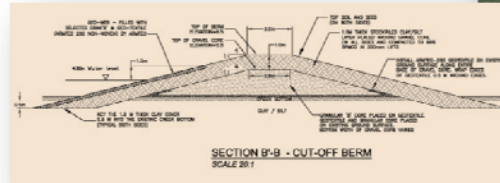


LAGOON DRAINAGE IMPROVEMENTS

KASHECHEWAN FIRST NATION



Client
Kashechewan First Nation

Services
Detailed Design
Tendering
Contract Administration
On-Site Inspection

Reference
Mr. Kelvin Jamieson
705-533-4088

Year
2009

In 2009, Kashechewan First Nation retained Keewatin-Aski Ltd. to design improvements to the existing drainage characteristics of the community's sewage lagoon structure. The key issue centered on East Creek, the receiving water body for the treated lagoon effluent. East Creek discharges directly to James Bay. However, it was identified that there is potential for East Creek to back up when blockages (beaver dams and ice flows) stop the natural flow to James Bay. This condition combined with high storm runoff volumes or a batch lagoon discharge may result in an East Creek flow reversal to Red Willow Creek. The raw water intake for the community water treatment plant is located in Red Willow Creek. The elimination of contaminate threats upstream of intake was the key design objective for the lagoon drainage improvements.

Keewatin-Aski successfully delivered the following design, tendering and contract administration services to meet this objective:

- Design of a new cut off berm, composed of natural clay borrow with geoweb slope protection to be constructed across East Creek, south of the lagoon effluent discharge area. In the event of a natural blockage of East Creek which causes the waters to back up towards Red Willow Creek, the cut off berm prevents the mingling of East Creek waters with Red Willow Creek and protects the water treatment plant raw water intake.
- Survey and design of a protective, continuous ditch system around the lagoon berms with positive drainage provided to East Creek.
- Design of a new overflow structure between the two lagoons.
- Facilitated MNR approval of the works.
- Prepared detailed design and tender documents.
- Provided contract administration and inspection services during construction.