

Environmental Restoration Work

Year of Construction: 2025

Location: Vaughan, ON

Product Installed: Flexamat Plus

Category: Erosion Control

CASE STUDY

CHALLENGE

Restoration of multiple plunge pools and pocket wetland areas associated with rip rap lined drainage ditches within a creek corridor flowing through new developed lands. The site required a solution capable of withstanding hydraulic forces while supporting longterm ecological integration.

SOLUTION

Flexamat Plus, a tied concrete block mat system, was selected by the Regional Municipality for its durability, proven hydraulic performance, and ability to provide immediate erosion protection prior to vegetation establishment. The system effectively dissipates flow energy while creating a stable foundation that supports long-term vegetation growth and site restoration.

SPECIAL NOTE

Terrafix supplied custom fabricated rolls to meet site-specific requirements, with roll widths of 2.44m and lengths ranging from 14m to 15.5m. Installation was completed by the contractor by 1) preparing the subgrade and seeding 2) placement of the mats over the seeded surface using an excavator 3) securing the seams with 450mm U-shaped rebars 4) ensuring full contact between the underside of the mat and subgrade.

Key features of Flexamat Plus:

- Interconnected concrete blocks with bi-axial geogrid
- Integrated erosion control blanket with wood fibre (curlex) underlayment and polypropylene turf reinforcement mat.
- Optimized block spacing with 38mm gaps to promote flexibility and vegetation establishment
- Performance tested to ASTM D6460, providing a shear strength of 1,149 Pa and resistance to flow velocities up to 5.8m/s on slopes up to 30%.

Within a month of installation, vegetation had successfully established, seamlessly integrating the restored drainage ditches within the surrounding wetlands.

