

# Vaughan, ON Wetland Spillways

Year of Construction: 2024  
Location: Vaughan, ON  
Product Installed: Flexamat  
Category: Erosion Control

## CASE STUDY

### CHALLENGE

A series of trapezoidal shaped wetland spillways installed for a wetland eroded within a year of construction, before vegetation had a chance to establish. This resulted in sediment accumulation at the spillway bases, reducing efficiency and increasing maintenance requirements. With regional flows reaching 0.6 m<sup>3</sup>/s, the site required a durable erosion control solution to maintain hydraulic stability and prevent further degradation.

### SOLUTION

Flexamat Plus, a tied concrete block mat, was selected for its durability, hydraulic performance, and ability to resist erosion even before vegetation growth. The system effectively dissipates energy while providing a stable foundation for a long-term vegetation establishment.

Key features of Flexamat Plus:

- Interconnected concrete blocks, reinforced with bi-axial geogrid
- Integrated erosion control blanket; a wood fibre (curlex) underlayment
- Turf reinforcement mat; a polypropylene-based material
- Optimized block spacing; 38mm gaps allow flexibility and promote vegetation establishment
- Performance tested; ASTM D6460 compliance – shear strength of 1,149 Pa and capability to withstand flow velocities of 5.8 m/s (30% bed slope).





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### SPECIAL NOTE

Terrafix supplied customer Flexamat Plus roll dimensions to fit the site requirements, with widths ranging from 1.22m to 4.88m and length increments of 0.305m. Installation was done by a contractor who followed these steps:

- Preparing the subgrade, followed by seeding
- Unrolling the mats over the seeded bedding using an excavator
- Securing the seams with 450mm U-shaped rebars
- Ensuring full contact between the underside of the mat and the soil for stability

Within weeks, vegetation established, integrating the spillways with the wetland. Flexamat Plus provided a cost-effective, low-maintenance solution, ensuring long-term erosion control.

