

High Rise Residential Development

Year of Construction: 2025

Location: Oakville, ON

Product Installed: HydroChain

Category: Stormwater Management

CASE STUDY

CHALLENGE

Fitting a 514m³ stormwater storage tank within a constrained footprint to be largely occupied by a new high-rise residential building.

SOLUTION

A modular HydroChain Aquamod system was used to efficiently fit within the available space while minimizing stone and maximizing storage capacity.

SPECIAL NOTE

A high-rise development required an efficient subsurface stormwater solution that could maximize storage area for site use (i.e. parking). The HydroChain Aquamod system was selected for its modular design and high void ratio of 96.5%, enabling a compact yet high-capacity configuration. A total of 1,812 half modules (906 full modules) were installed in a three-layer arrangement reaching 3m in height. Each module consists of two 1m x 1m x 0.5m half units connected to form a 0.5m³ structure with a base storage capacity of 0.48m³.

Installation efficiency was a key advantage, with one pallet representing 10.3m³ installed in just 30 minutes by a five-person crew. The system required only 198m³ of stone for bedding and perimeter support, significantly reducing excavation and stone requirements compared to traditional arched shaped chamber systems.

Manufactured from fiberglass-reinforced polypropylene (FRP) and tested in accordance with ASTM D2412 standards, the system delivers structural reliability and long-term performance. Its flexible layout allowed the tank to be configured around the building footprint while supporting a parking lot above.

