

CASE STUDY

Aquabox System Fits Tight Footprint Along Boulevard Châteauguay, QC

OWNER

City of Châteauguay, Québec

ENGINEER

Stantec, Longueuil, Québec

CONTRACTOR

Les Entreprises Michaudville Inc.,
Mont-Saint-Hilaire, Québec

INSTALLATION DATE

Summer 2026

PRODUCTS

7,464 modules Aquabox
3 300 mm (12") Nyloplast® Manhole Adapters
323 m (1,060') of 150 mm (6") N-12® perforated
418 m² (500 yd²) of ADS Plus 125 geotextile
12 m (40') of 450 mm (18") N-12
6 m (20') of 150 mm (6") N-12
6 m (20') of 300 mm (12") N-12

CHALLENGE

As part of the revitalization of Châteauguay's Industrial Boulevard, the city needed to manage increased stormwater runoff resulting from roadway improvements and work within a severely limited installation area. Situated between Industrial Boulevard and a neighboring First Nation community, the site offered little room for traditional stormwater infrastructure. An underground retention solution was required to provide the necessary storage volume and maximize the use of the restricted footprint.

SOLUTION

In order to fit the small footprint, an Advanced Drainage Systems' (ADS) Aquabox was chosen for the retention system. 7,464 Aquabox modules were stacked four high for the system, which allows for 3,312 m³ (4,332 yd³) of stormwater storage. The system allows for infiltration into the ground, but also slowly releases into the city storm sewers so as to not overwhelm the system.



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Over 340 m (1,115') of 150-450 mm (6"-18") N-12 pipe was used on the project. 150 mm (6") perforated pipe was used as the Aquabox system's underdrain, while N-12 solid wall pipe was used to move stormwater into and out of the retention system.

To capture the "first flush" stormwater runoff, ADS Plus 125 fabric was utilized for sediment and Total Suspended Solids (TSS) removal. Nyloplast Manhole Adapters will allow for the Aquabox system to be cleaned and maintained from the street level.

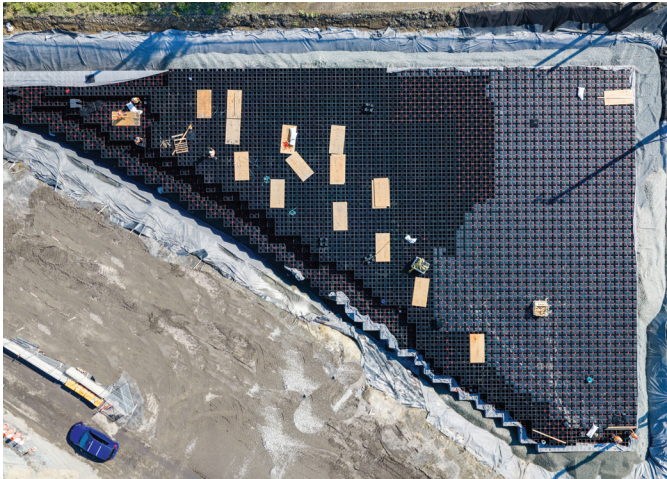
PRODUCT DESCRIPTIONS

Aquabox systems are engineered for use beneath parking lots and paved areas to help maximize land utilization. Manufactured from recycled polypropylene enhanced with a glass additive, the modular design allows for customized configurations to fit complex site conditions. The stackable design allows for compact on-site storage, ease of installation and is built to meet HS-20 load class standards.

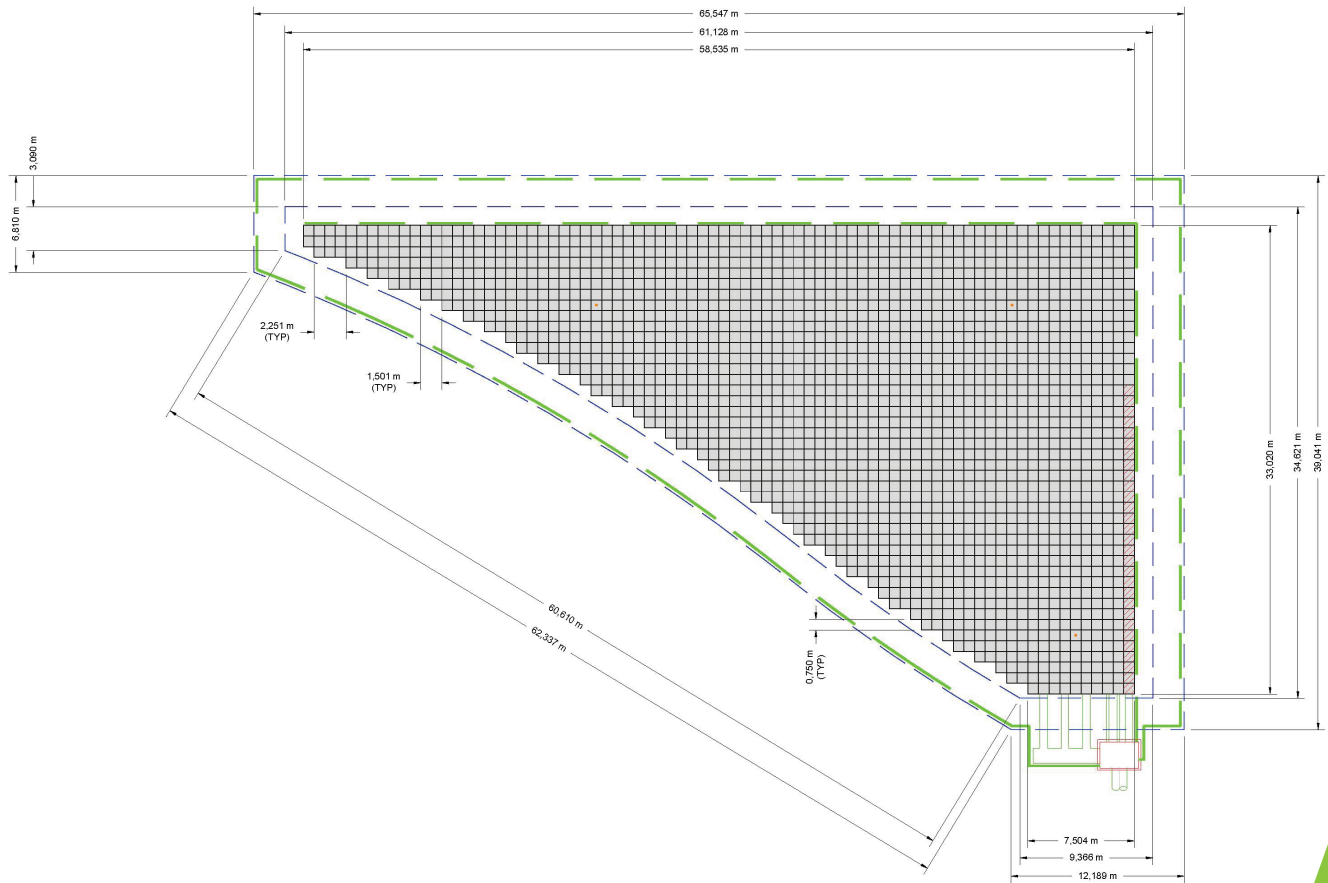
Nyloplast Engineered Surface Drainage products provide dependable, project-specific solution for stormwater management. The heavy-duty PVC structures and ductile iron grates deliver the strength and durability needed to meet site demands. With a range of structures from 200-900 mm (8"-36"), Nyloplast is tailored to project requirements. Seamless compatibility with plastic underground storm drain systems allow for smooth transitions between pipe sizes and materials, as well as adjustments in elevation and direction, supporting efficient installation and long-term performance.

N-12 Dual Wall Pipe has a corrugated exterior and smooth interior wall that provide exceptional hydraulics, strength and corrosion resistance. N-12 is available in 100-1500 mm (4"-60") diameters and in 6 m (20') lengths to provide faster installation and lower installation costs. The integrated inline bell design allows for easy installation and eliminates chipping and cracking that is common to concrete bells. N-12 addresses subsurface and stormwater gravity-flow drainage needs.

ADS Plus 125 is a woven geotextile fabric that captures "first flush" in a retention system for easy cleaning and maintenance. ADS Plus 125 is available in a roll that is 3.8 m (12.5') wide by 110 m (360') in length. The



fabric is produced from first quality material to provide the perfect balance of strength and separation to function well in a wide range of performance requirements.



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