



# SOLENO

Mastering Storm Water

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**DEVELOPER**  
OF SUSTAINABLE SOLUTIONS  
FOR MASTERING STORM WATER



## INSTALLATION OF A STORMFILTER FILTRATION SYSTEM WITH RECHARGEABLE CARTRIDGES IN VICTORIAVILLE, QUEBEC

**Stormwater treatment: A proven solution that ensures maximum reliability and performance.**

In the context of the residential development project on the former site of Mobilier HPL (Shermag) in the Arthabaska sector of Victoriaville, the contractor Sablière de Warwick Ltd had to install a stormwater filtration system, in compliance with the requirements of the Quebec Environment Ministry (Ministère de l'Environnement et de la Lutte contre les changements climatiques or MELCC). For several years, the civil engineering contractor has advocated the use of the many products offered by Soleno. Supported by the expertise of the Quebec manufacturer, the project manager at Sablière de Warwick Ltd, Yves Boilard, chose to trust the StormFilter filtration system, approved by the MELCC, with rechargeable cartridges which offers many benefits.

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## THE CONTEXT

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Initiated in the summer of 2018 by AMG Immobilier Inc. property developer, the new residential development will host 77 housing units (semi-detached and multi-dwelling). It will be served by a new street of 350 linear meters by 9 meters width: the Manufacture street, between Curé-Suzor and Girouard streets.

Mandated as consulting engineers for the execution of this project, the design team of EXP was asked to propose an effective solution for stormwater treatment. In order to respect the rejection flows allowed by the City of Victoriaville as well as the flow quality mandated by the MELCC, a flow control system has been planned downstream of the detention basin. In addition to the quantitative control provided by this basin and the regulation of flows, a quality control is also necessary. This project being subject to Section 22 of the Law on the quality of the Environment (LQE), applied by the MELCC, the treatment system should be able to treat and eliminate 60% of total suspended solids (TSS) contained in the runoff water, before its discharge to an outlet. However, in order to avoid the Environment Ministry authorization process, the developer certified through a compliance statement, that the project was in compliance with the rules and the criteria for calculation and design of stormwater management works (according to the Calculation and Design Manual for Municipal Storm Water Management Works), one of these criteria being to ensure a TSS removal rate of 80%.

Informed of this project, the team of Soleno proposed an amendment to the concept established by EXP, suggesting the use of a single structure to replace the three (3) structures initially planned. After a few discussions, this alternative was accepted and the StormFilter treatment unit was approved as an equivalent to the plans and specifications.

## THE SOLUTION

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The contractor therefore proceeded to the installation of a StormFilter, vault model, with nominal dimensions specially adapted for this project: width of 2.1 m (7 ft), length of 2.4 m (8.0 ft) and height of 2.7 m (9 ft). This tailored vault is composed of 3 interior separations; an inlet chamber with a 450 mm (18 in) diameter inlet, a filtration chamber containing 6 rechargeable filtering cartridges of 675 mm (27 in) in height, under which is located flow kit, and an outlet chamber which includes a 600 mm (24 in) diameter outlet. Three access chimneys of 750 mm (30 in) in diameter provide access to the different chambers. A flow regulator, a control valve and a weir wall ensure the quantitative management of different flow rates. Similar to the installation of a traditional concrete vault, the installation of the three main sections of the StormFilter system only required an hour to the contractor.



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## THE BENEFITS

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The modified concept proposed by Soleno allowed the consolidation of all the required structures (3) of the initial plans and specifications, into a single structure. This consolidation allowed the contractor to make significant savings, by reducing the number of structures to install, the footprint and the excavation requirements, some important criteria in product selection. Factory pre-assembled, the site installation and assembly of the main sections was quickly done, a valued feature for Yves Boilard. *"I am very pleased with the speed of installation as well as the excellent service provided by Soleno team who was present on the project site"*, he said.

The internal bypass integrated into the StormFilter vault allows you to control peak flows while maintaining the treatment capacity of the device during high intensity events. The StormFilter filtration system with rechargeable cartridges effectively removes more than 80% of total suspended solids (TSS) and adsorbs dissolved pollutants contained in the storm water before its discharge to an outlet. The six large rechargeable filtering cartridges contain PhosphoSorbMD filtering media. This media retains particles and sediments, and adsorbs pollutants such as phosphorus, oil and grease, soluble metals and nutrients. Finally, thanks to its flexible configuration that can adapt to different flows, the ground space as well as to the hydraulic data specific to the project, the StormFilter filtration treatment system with internal bypass represented the most effective solution, while allowing for significant savings in the short and long term.



The realization of this project was made possible thanks to: the contractor [Sablière de Warwick Ltd](#) and the distributor [J.U. Houle](#).

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