



# Richmond Industrial Center Stormwater Detention

<b>OWNER</b>	Montrose Properties
<b>CONTRACTOR</b>	United
<b>ENGINEER</b>	Water Street Engineering
<b>LOCATION</b>	Richmond, BC

The Richmond Industrial Center development is located on an old landfill site along the shores of the Fraser River. It includes twelve buildings, occupying 170 acres plus 40 acres of green space and will generate 4,800 new jobs for the area. Typically, no increase in water level would be allowed within the City's drainage system compared to the pre-development condition. A stormwater management plan was therefore required as part of this new development.

## The Challenge

With 170 acres of building footprint, plus associated parking and roadways, this new development required a system to manage the additional stormwater runoff and high water volumes. Four options were considered. The first discharged all runoff via a stormwater outfall to the Fraser River, and the second discharged to the City's drainage system (without attenuation). The third option was to upgrade the City's drainage system of ditches and pumps. The final option was to install a stormwater detention system with attenuated peak flows discharging to existing infrastructure.



## PRODUCT DETAILS

HydroStor H180 Stormwater  
Chambers

## The Solution

The decision was made to go with a stormwater detention system. Two systems were evaluated based on a number of factors, including cost and ease of installation: arched plastic and crate-style chambers. After a hydraulic analysis and evaluation of burial requirements, an arched detention system was selected. HydroStor H180 chambers were used in the detention system design with a BOSS 2000 HDPE pipe manifold system. The H180 model provides a high storage volume while minimizing the overall footprint. Their light weight, stackable, open-bottom design also reduces transportation and installation costs. Handles on the chamber units facilitate site installation. To date, the underground stormwater detention systems for four buildings are complete. A total of 1,519 chambers were installed, providing a total storage volume of approximately 8,400 cubic meters.



Detention system excavation, geotextile and liner installation.



Detention system layout and the placement of gravel surround.



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