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# Allan Block and No-Fines Concrete: The Site Solution Combination to Tight Spaces

The Lord Shaughnessy building is a modern residential complex and a piece of geometrical art originally built in 1980. With its sharp angles and combination of colors, the building provides its own unique aesthetic appeal that is hard to find. The owners of the Lord Shaughnessy complex wanted an exterior that could match the appeal of the building as well. To provide an expanded, updated, and more usable outdoor area for its residence, they turned to [LADR Landscape Architects](#) and [Ryzuk Engineering](#) to create an appealing and viable design.

## Plan

There was an existing structure to be worked and designed around for the Lord Shaughnessy project. The building had an underground parking lot. This was key to the project, as the design was to incorporate and improve upon the existing stairs, walkways, and structures on the property. In addition, they were looking to use the opportunity to make a more usable patio for the building's lower residents as well.

To create the desired additional space, LADR called for a retaining wall surrounding the property. To help meet their aesthetic needs, they specified Allan Block for their retaining wall supplied by [Expocrete Concrete Products](#). When Ryzuk Engineering began running calculations and design options, there was one major complication to overcome. That complication was the need for space that a typical geogrid reinforced retaining wall would require, and an existing wall already surrounding the site. The new retaining wall would only be a few feet off the property line and therefore, excavation was limited.

Due to the limited excavation, geogrid was not a viable support option for this project. To solve this complication, Ryzuk Engineering designed the wall to be supported with the installation of support buttresses. However, while these buttresses would create the necessary support, they would intrude into the open space that the project was being designed to create. With the assistance of Expocrete, another option was pursued: no-fines concrete (NFC).

## Project Information

**Name:** Lord Shaughnessy

**Product:** AB Classic

**Size:** 1,400 ft<sup>2</sup> (1,30 m<sup>2</sup>)

**Wall Designer:** [LADR Landscape Architects](#)

**Engineer:** [Ryzuk Engineering](#)

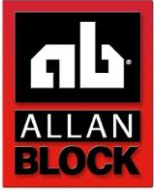
**Wall Builder:** [Set In Stone Construction](#)

**Allan Block Manufacturer:** [Expocrete Concrete Products](#)



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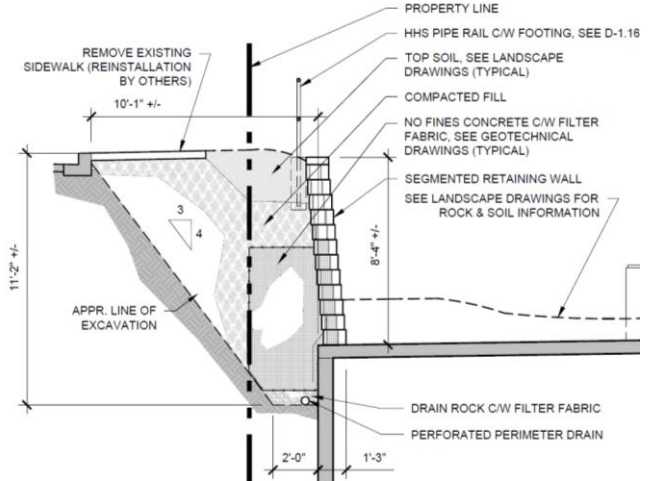
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## Design

With the limited design space, NFC was a perfect internal support solution for the Lord Shaughnessy complex. Allan Block with NFC would create a cohesive mass and essentially create a large gravity wall structure. With a structure similarly calculated to that of a competitive Big Block wall, the support buttresses would no longer be required.

With roughly an 8ft (2.4m) tall wall in most sections, a typical geogrid reinforced retaining wall for this situation would need an excavation of at least 8 to 9ft (2.4 to 2.7m) in order to properly install the minimum geogrid reinforcement of 5ft (1.5m) length. With an offset of roughly 1ft (0.3m), this provides an overall minimum final structure depth of 6ft (1.8m), meaning over half the structure would cross onto city property. With the use of NFC, the excavation and infill were able to be minimized to a fractional 3ft (1 m) behind the block wall facing. This application was even more unique than most in the fact that the NFC was used as a means to adhere the Allan Block retaining wall to a previously existing cast concrete structure running along the edge of



the property. This created a complete maximization of usable space, and led to the best solution for meeting the original needs of the project.

## Build

The Lord Shaughnessy retaining wall was also a first for Anthony Sampson and his team at [Set In Stone Construction](#). Anthony had completed the [AB Contractor Certification Course](#) beforehand and was well prepared to tackle his first retaining wall project. With the help of Expocrete, the block was ordered and now to acquire the NFC. He had several companies turn him down due to the cost of developing a new mix design, but he then found [Island Diversified Concrete](#). They deal with many projects with niche concrete requirements and were happy to help Anthony with his request. As with any first-time installer, it took a little time for Anthony and the crew with Set In Stone Construction to familiarize themselves with the consistency of the NFC and the process for which it is installed. After the first courses, the rest of the installation was a breeze.



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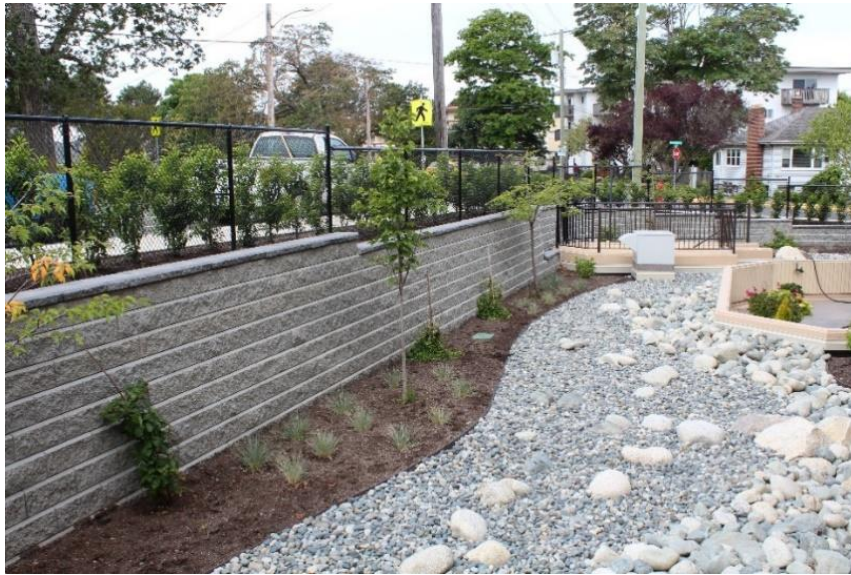
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Starting at the end of August and ending just before December, the wall installation took only three and a half months to complete. Due to proper planning and forethought, Anthony and his team at Set In Stone Construction were able to build this wall with relative ease. With the confidence Anthony and his team acquired from attending the AB Contractor Certification Class, and having never installed NFC before, he told us, "The project ran quite smoothly and there wasn't any real issues". Along with the help of Expocrete, and a thorough



design from LADR and Ryzuk, the project was a success. The building exterior, the new patios, and the updated stairs and walkways to the underground parking look phenomenal, and help to bring even more beauty and accentuation to Lord Shaughnessy.

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