



Real Time Control Building #3

Edmonton, Alberta, Canada. gh3 Architects

Learn how Seves Glass Block collaborated with architects and masons on an award winning municipal infrastructure building in Edmonton, Alberta Canada.



The Real Time Control Building #3 (RTC3) of Edmonton is a wonderful example of how glass block can be used creatively in architecture. Seves glass block encase the circular municipal infrastructure building, creating a stunning landmark that celebrates the importance of engineering as a part of the fabric of everyday life. The task of fitting glass block around a circular structure was daunting, taking extremely precise planning and execution, but the results were spectacular

and garnered several awards for the design firm, gh3. As Jaret Jahner of Scorpio Masonry says, "No one had ever done this before!". Functional buildings are not generally known for their beauty, but the RTC3, completed in January 2015 defies all such expectations.

The sheer beauty of the building serves to openly flaunt the importance of lowly city infrastructure in our lives. The RTC3 is a control gate that channels and monitors storm and sewage overflow into holding tanks situated below the surface. It also houses all the equipment needed for the smooth functioning of its purpose. The circular shape of the building extends the form of the main shaft below, but as the structure extrudes above ground, the glass block surface catches the light, brightening the surroundings and providing infinite geometries of reflection.

Why Glass Blocks?

The design firm, gh3, considered various building materials, but settled on glass block for their aesthetic interest as well as their functionality.

Aesthetically, it was important to consider the location of the proposed building. The building site was situated just east of downtown Edmonton, along the Northern banks of the Saskatchewan River, and would be seen from the north, south and east, near and far. As such, it was important that the aesthetics of the building fit and enhance the architectural fabric of the city while still remaining true to its functional purpose. Glass block, and especially the frosted glass block used in the RTC3, emit a delicate radiance that is at once invigorating, yet still industrial. The unique 45-degree orientation of the glass block contribute to the overall energy of the design.

Functionally, the glass block acts like breathing skin for the inner body of the structure. The glass block pre-heats the air trapped in the cavity between the blocks and the inner steel structure in winter, which is then circulated throughout the building. In summer, ventilation allows the heated air to escape, thus acting as cooling insulation.

The durability of glass block was also a strong factor in their favour when gh3 was considering building materials. Glass block will maintain their original appearance, requiring far less maintenance than concrete.



Overcoming Design Challenges

While using square block at a 45 degree angle was aesthetically pleasing, it also presented some substantial technical challenges — namely alignment. The difficulties of making sure the all blocks would align were further compounded by the curvature of the building. Computer modeling, diagramming and rendering helped. A string marionette model that took two weeks to lay out provided concrete visualization and pinpointed where problems could occur.

The architects at gh3 credited, in a large part, the professionalism of the masonry firm, Scorpio Masonry, for their expertise in making the project come to life. The masons had mere millimeters of tolerance to work with. “Since everything was tilted at 45 degrees and you’re going in a circle, it was difficult for sure”, says Jaret, the project manager for Scorpio Masonry, “Everything had to match up exactly.” The first couple of courses (rounds) were the most difficult and needed some modifications, but after that the execution went smoothly. The precision of the masons can be especially appreciated by examining the areas around the doors and windows.

The laying of the glass block had to be precise in another way too. Because glass block is transparent, any lumps of mortar would be visible with backlighting. The masons needed to be extremely meticulous in their application of the mortar. And they were indeed — the building looks clean and spectacular at night!

How Seves Glass Block Helped

Gh3 relied on the extensive knowledge and service of Seves Glass Block for the success of the project. While the triangular blocks were the clincher for the project, they weren't immediately available in North America. Tony Kava, the CEO at Seves Glass Block Inc., however, had them custom made in Europe and arranged to ship the order. Throughout the project, Tony was, "great and instrumental at finding solutions," says Raymond. "Tony was always available to share his extensive knowledge on the block, grouts and sealants. We really valued his due diligence with this project".

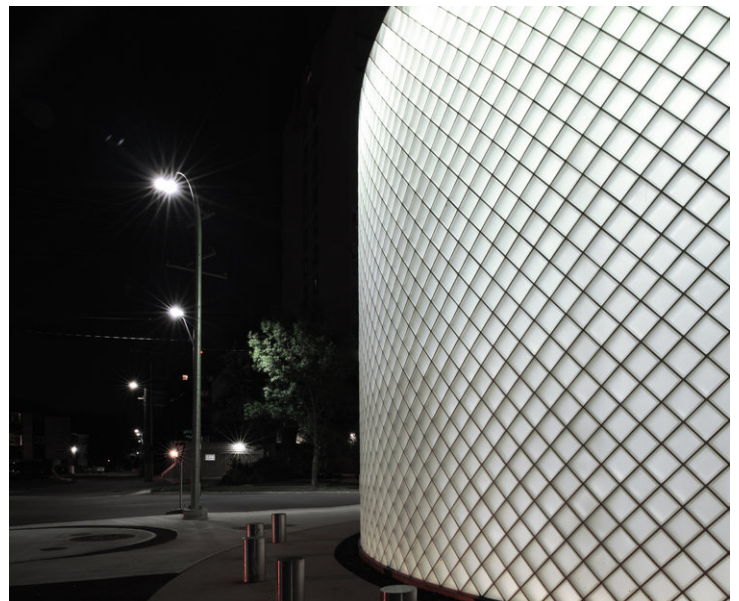
The Outcome

The project took three years to complete. Today, Edmonton has a beautiful building that integrates design and function to not only fit, but positively enhance, Edmonton's urban landscape. The building contributes to the public's awareness of the importance of functional municipal buildings and their place in the ecological complexities of daily experience.

Response to the building has been overwhelmingly positive. Not only are residents pleased with the results, the building has won multiple awards.

Awards

Governor General's Medal in Architecture
City of Edmonton Urban Design Award –Honourable Mention
Canadian Architect Award of Merit
Alberta Masonry Design Awards – Artistic Use of Masonry



To find out how Seves Glass Block can make your project an award winner, contact our design team today!

Making *WOW* Architecture Possible