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## Royal Vista Multi-Service Facility and Fire Station 34

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Police personnel and firefighters often work side by side while tending to emergencies. So when plans were set in motion for a new fire station in northwest Calgary, the City knew the two services would cohabitate well under one roof, as they have in four previous stations. Added to the mix at this station is Calgary Community Standards (which includes animal and bylaw services) and Alberta Health Services, making the Royal Vista Multi-Service Facility and Fire Station 34 a veritable one-stop-shop of community services that not only makes sense for the six communities it serves, but looks good too.

With its three apparatus bays, the new Multi-Service Facility will trump the former one-bay Royal Oak Fire Station, while adding all the features of a full fire station. The clay-tile clad beauty will meet LEED Gold standards and include features such as site irrigation, a green roof and high-efficiency water and light fixtures when it opens later this year.



But what happens in the Community Standards office when an alarm is sounded for a fire, or in the peaceful offices of Alberta Health Services, when a police alarm is activated? That's a common query directed at Calgary Fire Department acting manager of capital development Mark Woodward, but he reassures that the building is designed for peaceful cohabitation.

"Because of the way the building is designed and separated, and because only fire and Alberta Health Services have auditable tones, the other departments don't hear those alarm or alert tones, unless they are in shared space," he explains.

Woodward also quickly alleviates worries about barking dogs and caterwauling cats disrupting

the other tenants as well. “The Calgary Community Standards business unit includes animal services, but there will be no animals at this site,” he says. In fact, making final decisions about the tenant mix was based on sound strategy.

“Through our strategic services division we run an analysis in response times to meet our council-approved benchmarks. Police services were included from the beginning. There is a process. We are asking, ‘if this service needs to be in this location, does anyone else need to be there as well?’ Like our other stations, this one is designed to be post disaster.”

Some of the post-disaster features of note in this project include doubling up on all high-efficiency condensing boilers and distribution pumps, so there is always one on stand-by. Usage of the mechanical system components is balanced between the twin units, in order to avoid too much wear and tear on just one system, and also to ensure they are running properly.

Albert Chang, senior mechanical engineer with TYZ Engineering adds, “Another innovation is a solar hot water system which enables us to use domestic hot water that is primarily heated through the power of the sun.

So, for example, if the natural gas got shut off, the building would still have some hot water, so in case firefighters have to go out to multiple calls in one day, there is a chance to clean up and prepare for their next call when they arrive back at the fire station.”

Chang is most enthusiastic about the variable refrigerant flow [VRF] system. “It not only offers an extra degree of comfort and controllability for people in the building, but it provides independent heating and cooling to specific areas at the same time. It’s a very energy-efficient method of heating and cooling a building of this size. This particular system has the smarts to know what is going on and when to adjust the temperature accordingly. As this is a LEED Gold building, we have to look at thermal comfort within certain quantifiers.”

Kyle Smith, LEED consultant and project associate with WSP Canada Inc. adds, “The building has surpassed many LEED requirements. For example, the site provides 50 per cent more open space than required by LEED to provide habitat for wildlife and promote biodiversity.”



Water savings are also a key design feature. A stormwater cistern collects rainwater for irrigation, eliminating any need for potable water for irrigation, and the water fixtures in the building use 37.5 per cent less water than the minimum requirements of LEED.

“The high-efficiency design is expected to incur nearly double the energy cost savings compared to a building which meets the minimum LEED energy efficiency requirements,” says Smith. “An energy sub-metering system will be installed so that we can accurately track the building’s energy use.”

Additionally, all of the adhesives, paints, sealants and coatings used in the building meet stringent requirements pertaining to the amount of volatile organic compounds (VOC) they can contain. Creating a LEED certification strategy based off of the goals of the team at the beginning of the process was critical to help the project run smoothly as the design evolved.

As Calgary City Council steers development away from the standalone business unit buildings,

not only does the complexity of the buildings increase, but the design complexities are ramped up as well.

Genevieve Giguere, associate principal with S2 Architecture says, “It’s very different to design a building that represents individual departments, and maintain a strong municipal image as well. The design guidelines for the area also imposed a strong prairie design connotation, and we wanted to approach the architectural design from a very contemporary esthetic and make it sustainable as well.

“It is also at the very extreme edge of the city so the design is a play on the notion of introspection of urban versus rural intersections. Wood laminate panels and stone cladding were inspired by the prairies, and we played a lot with clay tile, using the linear nature of the material and its colours to evoke the traditional red clay bricks that we associate with a fire hall.”

Project manager Mike Napper with Bird Construction, adds, “It’s a very complicated building in a very small package,” referring not only to the variety of tenants but the variety of materials for example, on the finishes on both the interior and exterior, as well as the mechanical system. “We have had a great relationship with the City and the consultant team and it has made for a positive project,” he says. A protracted process to get an exterior sign approved by each business unit, for example, only served to enhance on-site camaraderie.

“That sign approval went around and around for awhile,” he laughs. “We joked around about it quite a bit, but the process itself is just part of a very well run project.”

#### LOCATION

16 Royal Vista Way NW, Calgary, Alberta

#### OWNER

Calgary Fire Department

#### DEVELOPER

The City of Calgary

#### ARCHITECT

S2 Architecture

#### GENERAL CONTRACTOR

Bird Construction

#### STRUCTURAL CONSULTANT

Tomecek Roney Little & Associates (TRL)

#### MECHANICAL CONSULTANT

TYZ Engineering Ltd.

#### ELECTRICAL CONSULTANT

SMP Engineering

#### LEED CONSULTANT

WSP Canada Inc.

#### TOTAL SIZE

22,000 square feet

TOTAL COST  
\$11.5 million

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