RIVER CITY CONDOMINIUM PHASE 2
2016 ONTARIO CONCRETE AWARD WINNING PROJECT FOR MATERIAL DEVELOPMENT & INNOVATION

PROJECT SUMMARY
River City Phase 2 Block 4 East is the second phase of a 1200 unit residential development by Urban Capital in the West Don Lands.

The second phase consists of 248 residential units in three glass mini towers connected on each floor with fully glazed passageways. There are two levels of above grade parking and an outdoor pool on the third level.

Sustainability
The project was targeted LEED Gold. The vegetated green roof was made as large as possible while still allowing some space for terraces and pathways to service doors. The building has a large cistern for storing rain water, which is used for the irrigation of the plants on the third floor courtyard.

Specific Structural Engineering Challenges Posed by the Design
- Bridging connections between the buildings to give complete access to all three towers.
- Architecturally exposed concrete was used on the north and south ground floor walls as well as all ceilings within each unit and all common areas.
- Concrete placement and forming procedures to construct the loft style condominium units with a 90° rotation of selected units.

Architectural Merit
Designed by the architectural team of Saucier & Perrotte the River City team had just completed the first private sector development in the West Don Lands.

The second phase of the $300 million project by developer Urban Capital included 248 units contained in a single building structured to appear as three connected 12 storey mini towers.

OWNER
Urban Capital

ARCHITECT OF RECORD
Saucier + Perrotte Architectes/ZAS Architects

ENGINEER OF RECORD
Adjeleian Allen Rubeli Limited

GENERAL CONTRACTORS
Bluescape Construction Management Inc.

FORMING CONTRACTOR
Vuemont Structure

MATERIAL SUPPLIERS
St Marys CBM

ADDITIONAL PARTICIPANTS
- Aluma Systems
- BASF Canada Inc.
- LIUNA LOCAL 183
- Salit Steel

LOCATION
Toronto, Ontario

COMPLETION
September 2015

CONTRACT VALUE
$50 Million

PROJECT FACTS
FOOT PLATE: 2,250 m²
TOTAL CONCRETE: 12,500 m³
In 2000, the Ontario Cast-In-Place Concrete Development Council (OCCDC) was formed to aid the owner/developer, architect/engineer and design-build contractor in the decision-making process of choosing the best construction material for the framing system of new cast-in-place structures.

OCCDC promotes the benefits of reinforced concrete as the construction material of choice based upon the following advantages:

- fast-track construction
- cost savings
- structural advantages
- environmental considerations
- local economy benefits

The Members of the OCCDC include (alphabetical order):

- Aluma Systems Inc.
- Carpenters District Council of Ontario
- Concrete Forming Association of Ontario
- Ironworkers District Council of Ontario
- LIUNA—Ontario Provincial District Council
- Ontario Formwork Association
- PERI Formwork Systems Inc.
- Ready Mixed Concrete Association of Ontario
- Reinforcing Steel Institute of Canada

The entire project team participated and contributed in both the planning and on-site implementations.

Included in the many challenges was the pouring of accelerated concrete throughout the forming stage and on most structural slabs while achieving the desired finish. Particularly throughout the winter months the effort co-ordinated with the team achieved excellent results.

The project was delivered using high performance concrete mixes with a quality ready mix supplier. St Marys CBM First-Up™ and Get-Set™ accelerated mixes were selected to assist with the unique forming and loading challenges while continuing to meet the schedule in the winter months.

With concrete using First-Up, forms can be removed sooner, and concrete can bear construction loads earlier than with traditional concrete.

It is designed to accelerate concrete strength gain and different formulations make it easier to customize the concrete mix to the construction schedule.

Concrete using Get-Set allows for different formulations in ready mix concrete to achieve quicker and more predictable set times in the cold winter months. This was an asset with the project requiring an architectural exposed finish in specific areas. With Get-Set they could achieve excellent surface appearance while speeding up the set time by up to 35%.

Also included in this project was a concrete which incorporated RustGuard™, a corrosion inhibitor. RustGuard chemically inhibits the corrosive action of chlorides and reinforcing steel and pre-stressed strands in concrete.

This product greatly increases the durability and service life of the parking structure.

Material Development & Innovation and Specialty Concrete Construction

The project involved construction of architecturally exposed concrete units on each floor level. Many of the units feature unique shapes and a high level of surface finish which required a superior concrete mix and specialized forming techniques to achieve the owner’s vision.