



Existing Building Large Project **Royal Bank Plaza**

Allied Professional:
WSP Canada Inc.
Manufacturer:
Tremco Canada
Contractor:
Macdero Construction

Toronto's iconic Royal Bank Plaza marks the spot for this Trillium Award-winning submission. Here, a team comprising Macdero Construction, WSP, and Tremco worked in unison to restore the iconic tower's podium deck and the below-grade structural integrity, all while working overtop Toronto's Path system and amidst one of the City's most densely populated intersections.

"Upon mobilization and working in an area so densely populated with pedestrians and high-profile tenants, we knew from the start that noise and vibrations from our key operations, such as concrete repairs and the removal of overburden and old waterproofing, would be very challenging, despite taking the highest precautions," says Paul Segatti, Vice President of Project Management for Macdero Construction.

Initially, the scope of the project included removing large portions of the podium overburden spanning the area facing Bay St and Front St. Upon lifting the overburden and placing the granite pavers delicately on pallets, however, the team discovered sunken planters and access stairs, which added complexity to their overarching task of keeping the exposed concrete slab watertight for the Path's commercial retail tenants.

"As the project started - and without the building's original drawings - it was clear the podium deck was far more intricate than a traditional flat slab," Macdero explains in its submission. "The long covered-over planters and access stairs were now exposed, which meant multiple remeasures between consultant and contractor to confirm quantities and proper application."



Key drain locations were also called into question as clogged drains had resulted in storm system backups and standing water. "This was another variable our team had to navigate by chasing drains into the building while carefully setting up scaffolding in mechanical rooms with 30 ft ceiling heights," the team notes.

Working around the tower's gold-clad curtain wall system also posed a challenge when it came to terminating the upturn waterproofing. After many years, the large steel "C" beam on which the curtain sat had become extremely corroded and deteriorated and could not be left in its current state. For this reason, crews carefully removed large sections and replaced them with a new concrete curb. "With the discovery of

this and after extensive discussions with all parties, it was agreed that the first row of the iconic gold-clad panels would need to be removed and, in their absence, temporary shoring and hoarding put in its place,” Macdero says. “This decision involved meticulous planning and collaboration with WSP to ensure that not only was the building’s structural integrity maintained but that great care was taken to make the temporary setup airtight to prevent dust, pollutants, smoke, and odours from entering the interior of the building. In addition, keeping these areas secure was critical.”

Equal focus was paid when phasing in parking stalls and ramp closures to ensure the timely completion of the concrete repairs. This phasing was crucial, the team insists, as it enabled Macdero’s in-house Injection Services Division to follow closely behind with DRE’s supplied KOSTER Curtain Injection products on all three levels of the parking structure, as well as in the slab-to-soffit areas of the staff locker room and mechanical corridors behind high-end retail tenants. “Given the complexity of the original building design, these areas required specialized waterproofing due to the proximity of critical infrastructure and subway tunnels, where conventional methods would have been ineffective,” Macdero notes.

Airtight communication and collaboration carried the project team through these challenges. Bi-weekly meetings were conducted between the contractor, landlord, consultants, and suppliers to review the project work scope, critical path items, and detailing. These sessions ensured Tremco’s waterproofing system was meticulously planned and executed, contributing to its long-term success and durability.

“At the end of the project and a rigorous flood test, it was the collaboration with all



the different individuals to support a very high-profile client in a very predominant area of downtown that made this project a huge success while also adhering to the contract value with minimal additional costs—a welcome outcome considering the project’s complexity,” says Jillian Wilson, Project Manager with WSP.

“This result not only reflects effective planning and execution but also highlights the importance of clear communication and collaboration,” the submission adds. “Achieving the project goals within the agreed-upon budget was a significant accomplishment, adding value and satisfaction for everyone involved.”





New Construction Project **The Well**

Allied Professional:
Adamson Associates Architects
Manufacturer:
DRE Industries Inc. / CETCO
Contractor:
Bothwell-Accurate

Spanning 7.8 acres across downtown Toronto, The Well is one of the largest mixed-use developments in Canada. Starting in 2018, the site underwent a monumental waterproofing system installation, specified by Adamson Associates, supplied by DRE/CETCO, and installed by Bothwell Accurate. The installation spanned 400,000 square feet across six levels below grade with a P7 Level venting floor and a water treatment facility underneath. It was no small project, the team says in its Trillium Award submission, noting, "Because of the complexity of the project, the multi-year application timeline and critical nature of the basement spaces, Adamson Associates Architects needed a reliable below-grade waterproofing membrane that offers local technical support throughout the design and construction stages, provides a meaningful warranty, and works with experienced, trained applicators."

With this in mind, the project team selected CETCO's Coreflex 60 and Ultraseal XP waterproofing membranes to ensure The Well remains operational and free from water damage for many years, reducing costly repairs and maintenance. Bothwell Accurate, a CETCO-certified applicator, was awarded the installation work.

"The Well's waterproofing system was designed with longevity, sustainability, efficiency, and durability in mind, incorporating multiple layers of protection to guard against the harsh Canadian Climate," the team says.

The substrate preparation for such a large site added further complexity to the job. Success relied on numerous on-site meetings by the project team to review and approve.





Waterproofing pre-construction meetings took place in 2018 and waterproofing took over five years to complete, while multiple years of seasonal weather changes needed to be taken into consideration for waterproofing application.

During the installation, crews worked in close concert with The Well's general contractors, Deltera and EllisDon. Doing so meant careful planning as each side was treated like a different job site, and workers were prohibited from crossing between each other without proper protocols and safety. Moreover, each side also used different certified inspection companies, requiring increased coordination and communication. "There were over 80 project-specific details provided for this project, some used on both sides of the project, and some used on just one side," the team recalls. "Separate detail packs were produced for each side of the project for clarity, and all project-specific details were reviewed and approved by the design team before installation."

In the end, the team notes, "There were hundreds of tiebacks and thousands of tie-rods, each requiring special detailing and inspection." Additionally, working around the main Enwave tie-in under Spadina introduced further complexities to the project.

It was solid teamwork, extensive planning, and attention to detail that ultimately led the crews to the successful execution of The Well's waterproofing strategy. "The effective implementation in the challenging urban conditions of downtown Toronto is a testament to the skill and expertise of the construction team. Their ability to overcome the unique obstacles presented by the site has set a new standard for urban waterproofing projects," says the team, adding, "The Well project stands as a beacon of innovation and quality in the field of waterproofing."



Existing Building Small Project

4211 Yonge St.

Foundation Wall Leak Repair

Allied Professional:

RJC Engineers

Manufacturer:

DRE Industries Inc./Koster

Contractor:

**Maxim Group General
Contracting Limited**

In November 2022, Maxim Group General Contracting Limited, RJC Engineers, DRE Industries Inc./ Koster addressed significant leakage at 4211 Yonge Street in Toronto. Their work proved crucial in preserving the building's value, improving occupant safety and comfort, and putting the sealant and waterproofing industry's talents on display.

The project involved the installation of a robust waterproofing and water management approach to address significant leakage through the building's west P2 Level foundation wall. As RJC Engineers explains: "The west portion of the P2 parking level was not an ideal parking location and was typically avoided by tenants due to continued through-wall leakage—an issue that predated RJC Engineers's involvement at the property. The wetting of the foundation wall and high humidity that resulted throughout the level contributed to accelerated deterioration of the foundation wall, adjacent column bases, and the P1 level slab post-tensioning system."

Colliers initiated the project on behalf of the building's new owners, who were concerned about the significant ongoing leakage into and around an old through-wall drainage system installed near the foundation wall's middle and upper portions. And with plans for the garage to undergo a significant garage and post-tensioning system rehabilitation, the owners needed the troubled area to be a viable parking location for tenants. RJC Engineers was called in to design and implement a repair solution,

leading to the installation of a Koster curtain injection waterproofing system supplied by DRE and installed by Maxim Group General Contracting. "The system allows blindside waterproofing installation from the interior of an existing structure, which provides significant value and effectiveness when combined with cementitious waterproofing installation at the interior," RJC Engineers explains.

Work included the installation of through wall drainage beneath the slab-on-grade with weeping tile catchment and drainage. It also included the removal of existing above slab through-wall piping and patching of the openings, installation of foundation wall curtain injection waterproofing, the application of cementitious waterproofing at the foundation wall interior, and robust efforts to mitigate the impact of the project. It concluded with cleaning and painting the affected area before it was returned to the owner in like new condition.

RJC is proud to report that the project is a resounding success. The garage interior is noticeably less humid, which bodes well for slower rates of ongoing garage deterioration.

"The project team worked together to provide exceptional value to the client by implementing industry best-practice existing building foundation wall waterproofing schemes," it adds, noting, "Maxim Group and DRE/Koster deserve substantial credit for bringing a state-of-the-industry design to reality with minimal tenant impact and a very happy client."

