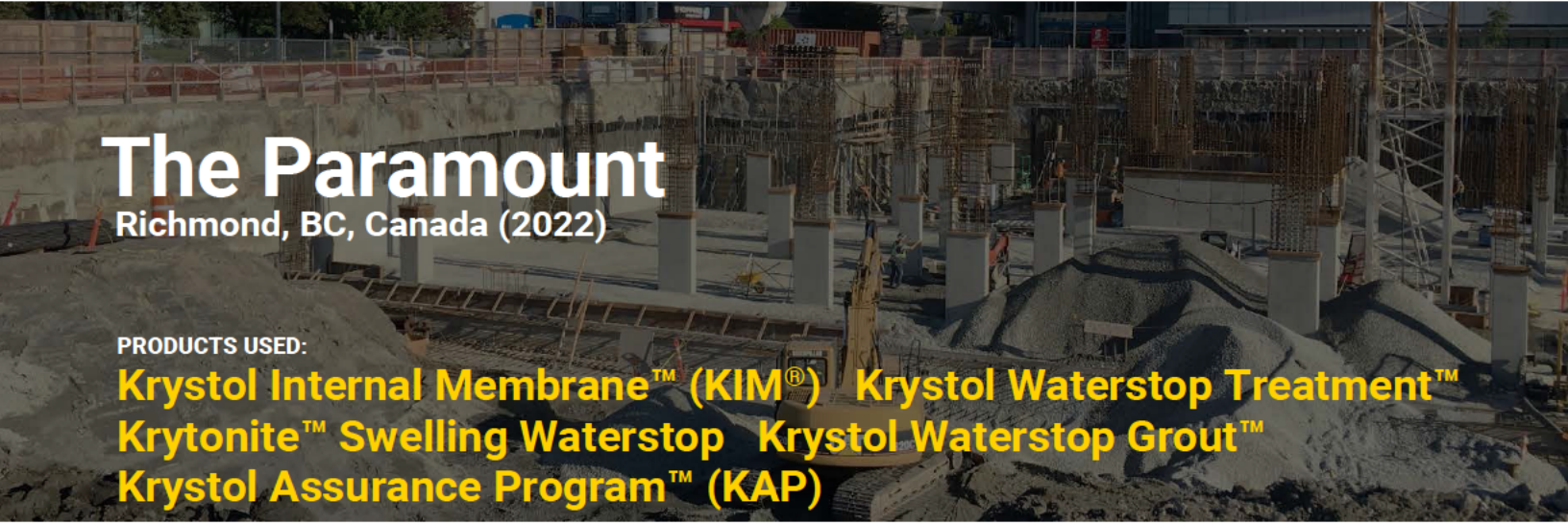

The Paramount

Richmond, BC, Canada (2022)

PRODUCTS USED:

Krystol Internal Membrane™ (KIM®) Krystol Waterstop Treatment™ Krytonite™ Swelling Waterstop Krystol Waterstop Grout™ Krystol Assurance Program™ (KAP)

DEVELOPER:	ARCHITECT:	GENERAL CONTRACTOR:	DISTRIBUTOR:
Keltic Development Ltd.	GBL Architects Inc.	Graham Construction & Engineering Inc.	Kryton International Inc.

BACKGROUND

Despite the risk of water ingress that Richmond's high water table poses for buildings in the area, the city still holds many prime real estate locations for both businesses and families. As an experienced developer, Keltic Development Ltd. was able to spot one in particular there that would prove to be an exceptional spot for their development The Paramount. Situated at the main No. 3 Road and Cook Street, the area would grant people easy access to transit, a large mall with 250 stores and services, restaurants, and more.

Because it was already quite a popular spot, the developer knew that if they built there, their structure would have to have a landmark design to make it a focal point. With that in mind, they worked with GBL Architects Inc. and Graham Construction & Engineering Inc. on a design. Under this collaboration, the three companies decided that The Paramount would consist of three 15-story residential towers, a 12-story office tower, and multiple retail units. All of which would be built above a four-level parkade, with two above grade and below grade sections. And they would be built to LEED Silver standards. The development would also contain a state-of-the-art early childhood development hub worth $13 million and designed to LEED Gold standards, a large courtyard, and a heating and energy distribution hub for the district. And to set it all apart visually, the companies chose to incorporate a stunning six-story glass art installation created by Indigenous artist Thomas Cannell of the Musqueam Nation.

It was an extensive project that would bring new people and resources to the area. But the success of its construction wasn't guaranteed. It depended on not only the careful coordination of all building professionals involved but also on them sticking to the tight building schedule. That would only happen if they ensured they could build with as low risk as possible, which is why they knew they had to mitigate the chance of the surrounding city's high water table causing water ingress.

SOLUTION

With both water ingress and time constraints being major concerns to The Paramount's development, Keltic Development Ltd. wanted a waterproofing solution that would be guaranteed to work effectively the first time around.

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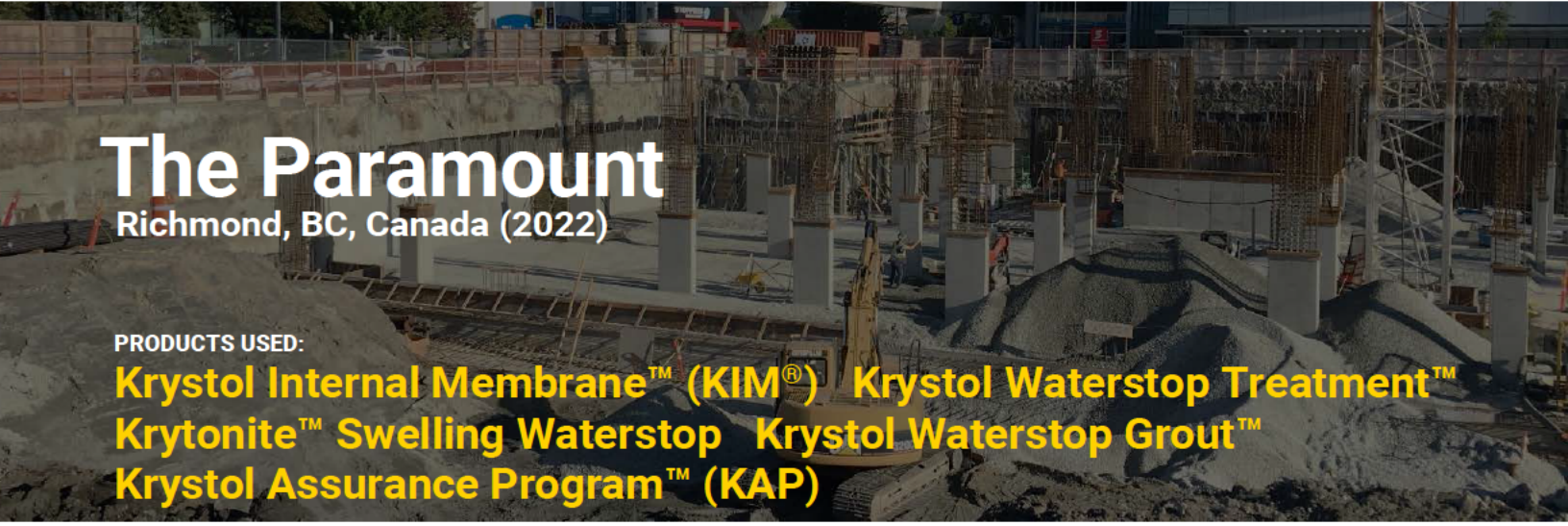

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That led the developer to agreeing to a hybrid approach. Instead of applying just one waterproofing product for the high-risk below grade concrete structure, they would use two different systems. One of which would be the traditional externally applied waterproofing membrane system. To negate the impact of that system's vulnerability to tearing, The Paramount construction team would also apply an integral waterproofing system.

To do that, the team added 5,000 m^3 (176,573 ft^3) of KIM to the concrete mix for the project's raft slab and below grade walls. This addition would ensure that the concrete itself could act as its own waterproof barrier. That way, if any water did get past the membrane, it would be consumed by the Krystol® technology from KIM in the concrete, forming interlocking crystals to block up pathways in the concrete for any other instances of water and waterborne contaminants.

It would provide a way to keep the concrete permanently waterproof. But the surrounding joints and details would still need their own protection, which is why the construction team applied the Krystol® Waterstop System.

Using the system's form of triple protection, they first applied Krystol Waterstop Treatment to the prepared surface of the concrete, which introduced additional Krystol technology protection. Then, they went on to install the Krytonite Swelling Waterstop. With the waterstop's ability to swell more than 10 times its size, it would be more than capable of compression sealing joints safely away from water. To cap off the protection, the construction team created keyways where they could place Krystol Waterstop Grout. Containing fiber reinforcements, the grout would reduce potential shrinkage and cracking in the surrounding concrete.

It all served to give The Paramount full below grade waterproofing protection, and to guarantee its effectiveness, the construction team signed up for KAP. Under this program, the team would receive a 10-year labor and material warranty for leaks from Kryton. So if any leaks occurred via KIM or the Krystol Waterstop System during that 10-year span, Kryton would provide the labor and materials necessary to repair them at no extra cost. To mitigate the possibility of leaks occurring, KAP also gave the construction team access to Kryton specialists for an in-depth design review and site training and inspections.

All this care put into the below grade waterproofing of The Paramount allowed the team to complete the project ahead of time, developing a fully operational building with approval from the municipal government.

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