

CASE STUDY



PROJECT SNAPSHOT

PROJECT OWNER
City of Victoria

CONTRACTORS
Vortex Companies & Victoria Drains

PROBLEM
Sixty-six of the City's aging manhole system were experiencing corrosion from H₂S gas exposure, root intrusion and leaks that necessitated rehabilitation.

SOLUTION
After manholes were assessed, cleaned and patched to stop I & I, GeoKrete® structural geopolymer mortar was applied to bring the manholes back to full structural integrity and functional ability.

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Manhole Repair in Victoria, BC

A CITY LOOKING FOR MANHOLE REHABILITATION SOLUTIONS.

VORTEX PRODUCTS USED

- GeoKrete®**
- Hyperform®**
- sprayMASTER®**
- Quad-Plug®**

THE CHALLENGE

In early 2024, the City of Victoria, British Columbia, Canada conducted an annual inspection of its manholes and noticed that a number of them were on the decline. In total, 66 manholes were found suffering from degradation from H₂S gas, root intrusion and cracks causing I & I, that rendered them ineffective; their channels and benching were in particularly poor shape. When Victoria put this project out to bid, Vortex Companies, working in tandem with local drainage services provider Victoria Drains, presented their proposed rehabilitation plan and solutions to the City. The City was impressed with the cost savings and ease of installation associated with the team's proposal, and selected Victoria Drains and Vortex to repair this essential infrastructure.



VICTORIA DRAINS

THE SOLUTION

As part of this collaboration, Vortex supplied the repair products, a sprayMASTER® mortar application rig, along with training and technical support, while Victoria Drains handled traffic management plans and supplied in-house traffic control workers. Beginning in October, the crew removed debris from the manholes as necessary and then carefully inspected each asset.

Patch & Repair First

After cleaning the manholes, the team applied Quadex® Quad-Plug® to repair and restore broken or missing sections of the trough and bench. Hyperform®, rapid-set patching material was then used to fill shape the bench and fill voids in the chimney.



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Apply Fully Structural GeoKrete® Complete Restoration

Finally the team spin-cast and spray-applied approximately one inch of Quadex® GeoKrete structural geopolymer mortar onto each one to restore their structural integrity. Once troweled to a smooth finish, the manholes were ready for service in less than 24 hours. pleased with the group's efforts.



THE RESULTS

The collaborative efforts of Victoria Drains and Vortex Companies, from initial presentations and site walks to assessment and recommended trenchless solution, the team completed the manhole rehabilitation project on time, taking just under three months. The crew stayed within Victoria's budget for this project, and the City has been pleased with the group's efforts.



IMPACT

1 Used trenchless methods to repair manholes, helping the City avoid more expensive and invasive full open-cut replacements.

2 Restored manholes' structural integrity to ensure the structures will be resilient against I & I and hydrogen sulfide exposure in the future.

3 Finished this repair job on schedule and stayed within the City's budget.