



I&I Mitigation using CPP Sprayliner MH

The Resort Municipality of Whistler (RMOW), in Whistler, British Columbia, has been striving to use proactive measures to moderate concrete corrosion through their Sewer Odour and Corrosion Control Program which began in 2018. This program seeks to mitigate concrete corrosion that has been identified along the RMOW's trunk main and extend the functional life of this important infrastructure.¹ The municipality's program also seeks to mitigate odor within its sanitary sewer system.

In early spring 2023, when residents complained of odor inside of their homes coming from sewer lines, the municipality identified 11 concrete sanitary sewer manholes (on average 4' x 7') along the trunk main that were degraded. The manhole ratings ranged from "poor" to "fair" with only one receiving a "good" rating. These manholes had never been lined to seal and protect them from Inflow and Infiltration (I&I) or corrosion, which led to the inevitable deterioration of these structures. Upon identification, a sealing and lining solution using Epoxytec's ultra-high build, high strength structural liners was initiated.

Logistics and application methods needed to be considered in light of the unique characteristics of this project. It was centrally located in a small community with narrow streets and in particular, three manholes were located along a narrow park road next to a golf course. Epoxytec's trenchless technology application method is less disruptive to the community than alternative options. Experienced contractor, Stray Cat Industrial, was engaged to successfully execute all facets of this project. As part of Epoxytec's Certified Applicator Network (ECAN), Stray Cat Industrial has the knowledge and experience to perform a job of this scope. Additionally, Tnemec/Epoxytec's Technical Service was on-site for startup and was able to provide valuable insight, with both the product and the equipment.

The weather was cold and wet, with snow falling several days

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Featured Products

Series 451 CPP Sprayliner MH



Project Information

Location

Whistler, British Columbia, Canada

Completion Date

April 2023

Structure

Manholes

Owner

City of Whistler

Engineer

RSOM – Resort Municipality of Whistler

Applicator

Stray Cat Industrial, Kamloops, British Columbia, Canada

Above: Manhole before and after Series 451 CPP Sprayliner MH spray application.





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I&I Mitigation using CPP Sprayliner MH (cont.)

throughout. The temperatures ranged from 45°F to 60°F (7°C to 16°C). Inside the manholes the temperatures were low, near 45–50°F (7°C to 10°C), with high humidity (80%RH). Because Epoxytec CPP Sprayliner MH is tolerant of high humidity conditions, humidity did not need to be addressed. However, Stray Cat Industrial did address the temperatures and used drum kits, heated blanket wraps, 4000-watt Viscon in-line material heaters, and a Graco XP70 with 145cc lowers to control the product and surface temperatures per the product's Product Data Sheets. Temperatures were maintained using the correct PC setup.

Prior to application, the manholes were prepared using a 5000-psi pressure washer with a 0-degree tip. Before and after cleaning, pH testing was performed until the concrete reached a pH of 9 or higher. ICRI CSP comparators were used and ranged from a CSP of 5 to 9 to confirm proper surface profile.

Upon completion of surface preparation and substrate restoration, Epoxytec's Series 451 CPP Sprayliner MH was applied at 125–150 mils DFT. The product cured overnight, even under the cold and wet conditions. The project lasted 13 days in its entirety.

The purpose of this project was to line the existing sewer main and manholes in order to restore them and prevent future corrosion thus extending the lifespan of the existing infrastructure. Not only was this accomplished, but this application will also assist in decreasing groundwater infiltration into the sewer system, a primary goal of I & I mitigation programs.

¹<https://www.whistler.ca/services/water-and-wastewater/Sewer-Odour-Corrosion-Control-Program/>



Above: Series 451 CPP Sprayliner MH being sprayed on substrate.

