

CASE STUDY



PROJECT SNAPSHOT

PROJECT

City of Cocoa, FL – Claude H. Dyal Water Treatment Plant, Ozone Contactor Tanks

PROBLEM

11 chambers, totaling 25,982 square feet of Ozone Contactor tanks were suffering from extreme corrosion and degradation due to the harsh environment. If the degradation was allowed to continue, the structure could have leaked or become structurally compromised.

GENERAL CONTRACTOR

Vortex Lining Systems – Applied GeoKrete geopolymer

SUB-CONTRACTOR

Titan – Applied Epoxy coating

SCOPE

11 Ozone Contactor chambers (25,982 sq. ft.)

TIMELINE

October 2021 – February 2022

CONTACT

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Rehabilitation of Damaged and Degraded Ozone Contactor Tanks

CITY OF COCOA, FLORIDA ENGAGES VORTEX TO REPAIR SEVERELY DAMAGED OZONE CONTACTOR TANKS UTILIZING ADVANCED COATINGS AND GEOPOLYMERS FOR CORROSION AND STRUCTURAL INTEGRITY

VORTEX PRODUCTS USED

-  Structure Guard®- Water
-  GeoKrete®-Water

THE CHALLENGE

The City of Cocoa, Florida, needed critical rehabilitation work at the Claude H. Dyal Water Treatment Plant, specifically on its Ozone Contactor tanks. Vortex Companies was contracted to clean and coat the tanks, applying advanced lining solutions that would restore structural integrity, protect water quality, and extend the life of this vital infrastructure.

The Ozone Contactor tanks had significant degradation and required immediate attention to prevent further structural compromise and possible water quality issues. Because the tanks are essential to water treatment operations, downtime needed to be minimized, ruling out a costly and time-consuming replacement option.

Key obstacles included:

- Tank Height and Access: Materials had to be pumped up and over tank walls due to limited equipment placement.
- Confined Entry: A small entry opening complicated crew access and scaffold construction.
- Unknown Cleaning Needs: Without prior inspection, the amount of debris buildup was underestimated, requiring additional work and budget adjustments.

Failure to repair could have led to:

- Structural leaks or collapse
- Potential compromise of potable water quality
- Significant downtime and increased costs for tank replacement



Before



After



CASE STUDY



THE SOLUTION

Vortex implemented a trenchless lining approach using NSF-approved materials, ensuring both structural renewal and compliance with water safety standards.

Rehabilitation Method:

- Geopolymer Lining: 1.5-inch application of GeoKrete®-Water across all 11 chambers
- Epoxy Lining: 125 mils of Structure Guard® - Water Epoxy applied as a protective topcoat in influent chambers
- Total Coverage: 25,982 sq. ft. rehabilitated, including 2,496 sq. ft. with dual-layer protection

WHY VORTEX?

The City selected Vortex based on its experience, proven track record, ease of installation, and ability to deliver under challenging conditions. The solution offered:

- Faster turnaround than full replacement
- Significant cost savings
- Long-term structural protection
- Confidence in potable water safety

THE RESULTS

By leveraging geopolymer and epoxy lining technologies, Vortex Companies delivered a fast, cost-effective, and durable solution for the City of Cocoa's Claude H. Dyal Water Treatment Plant. This project highlights how trenchless rehabilitation methods not only protect critical infrastructure but also ensure safe, reliable service for communities.

- **On-Time Delivery:** Completed within the scheduled timeframe (Oct. 2021 - Feb. 2022)
- **Quality Assurance:** All objectives were met — and exceeded — with tanks restored to full operational capacity.
- **Client Satisfaction:** Despite three change orders (primarily due to unforeseen cleaning needs), the City was very pleased with the results and the professionalism of the Vortex team.
- **Infrastructure Renewal:** The project extended the useful life of the Ozone Contactor tanks, safeguarded water quality, and avoided the significant costs and disruptions of replacement.

