

CASE STUDY



PROJECT SNAPSHOT

PROJECT

Ak-Chin Indian Community,
Maricopa Indian Reservation
Manhole Rehabilitation, Maricopa, AZ

OWNER

Ak-Chin Indian Tribe

PROJECT CHALLENGES

- Epoxy application crew needed to mobilize quickly.
- Severe Hydrogen Sulfide corrosion across all manholes

CONTACT

Vortex Companies
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CONTRACTOR

Hunter Contracting

TIMING

January 2019 — February 2019

SOLUTION

- I & I Guard®-PRF to stop leaks
- Hyperform and AluminaLiner® to restore structural integrity
- Structure Guard® to prevent further corrosion and deterioration

Quadex® Structure Guard® Add a New Life to Manholes on Ak-Chin Indian Reservation

100% SOLIDS EPOXY COATING PREVENTS CORROSION, I & I AND SAVES MONEY.

VORTEX PRODUCTS USED



Structure Guard®



Hyperform®



I & I Guard®-PRF



AluminaLiner®

THE CHALLENGE

The Ak-Chin Indian Community of the Maricopa Indian Reservation is a federally recognized Native American tribe. It is located in the Santa Cruz Valley in Pinal County, Arizona, 37 miles south of Phoenix, near the city of Maricopa. After routine inspections, several pre-cast concrete sanitary sewer manholes of varying depths and sizes were found to be suffering from inflow, infiltration and severe H₂S corrosion. Left alone, they would continue to deteriorate and ultimately fail. Ranging from 4' to 25' in depth and 48" to 60" in diameter, the manholes were still structurally sound enough to rehabilitate and therefore avoid the cost and disruption of replacing them. Hunter Contracting, the general contractor, had originally chosen a manhole lining applicator to perform the task, but when they did not show up to the jobsite, Hunter found itself in a search for a proven installation contractor with experience applying repair materials that met the job specifications.



Manhole cleaned and prepped, awaiting structural and corrosion protection.



Completed manhole after Structure Guard® spray-applied and troweled to a smooth finish.



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THE SOLUTION

After doing some research, Hunter Contracting sought the product and installation expertise of Vortex Services, a division of the Vortex Companies. Vortex not only provides installation services, it also manufactures industry leading materials and equipment designed to effectively restore damaged and leaking infrastructure.

After an inspection and assessment, Vortex Services recommended a three-step rehabilitation approach to fully address the aging and degraded manholes.

1. Clean, identify and address any leaks with Quadex I & I Guard®-PRF, a polyurethane chemical grout and Quadex Hyperform®, a one component, rapid-setting, patching water stop material.
2. After prep, trowel apply AluminaLiner® a structural cementitious mortar.
3. After AluminaLiner is cured, spray apply Quadex Structure Guard®, a 100% solids epoxy proven to protect the manholes from corrosion while adding another layer of leak protection. Structure Guard goes on quickly and can be applied up to 250 mils in a single pass. When fully cured it provides a corrosion and leak proof lining and adds an additional 50+ years of design life to a manhole.

To complete the project in the most efficient manner, Hunter Contracting applied the AluminaLiner, while Vortex Services applied the Structure Guard.



Structure Guard is easy to apply and allows crews to quickly complete multiple structures in a single day.



Structure Guard can be applied up to 250 mils per pass.

THE RESULTS

Once Hunter Contracting identified Vortex Services to be the lead in this manhole rehabilitation project, it was completed on time and within the set budget. The Vortex crew met project objectives and exceeded all expectations.

While working side-by-side with Hunter Contracting, the Vortex Services team also took the time to train and certify the Hunter crews on the proper installation procedures. Hunter has since become a trusted installation partner in the Arizona region.