

Corrosion to Rehab: Results of Coating Inspection of Brownsville PUB SWWTP



J.B. Conant



Brandon Gerardy



January 27 – 28, 2026

Henry B. Gonzalez Convention Center, San Antonio, Texas



BROWNSVILLE GRIT BASINS AND INFLUENT CHANNEL

WARREN'S 301-14 REHABILITATES AND PROTECTS GRIT BASINS AND AN INFLUENT CHANNEL FROM HIGH ABRASION IN HUMID CONDITIONS



CLIENT TYPE
MUNICIPAL

MARKET
WASTEWATER

LOCATION
BROWNSVILLE, TX

AT A GLANCE
PLANT REHABILITATION
ABRASION RESISTANCE
EXISTING COATING REMOVAL
TEMPERATURE EXTREMES
HUMID CONDITIONS

PRODUCTS USED
301-14 HIGH PERFORMANCE

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BROWNSVILLE GRIT BASINS & INFLUENT CHANNEL

Project Overview

- South Wastewater Treatment Plant Improvements
- Goal: Rehabilitate + expand capacity to **12.8 MGD**
- Problem: Severe corrosion and coating delamination



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BROWNSVILLE GRIT BASINS & INFLUENT CHANNEL

Why Warren Was Selected

- Original scope did not include coating
- Warren's system offered:
 - Faster application schedule
 - Strong performance data
 - Better overall value
- Chosen product: **301-14 epoxy**



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PROTECTED BY WARREN EPOXY

WASTEWATER

- Structural rehabilitation
- Superior resistance to H₂S
- Tolerance in low PH

WATER

- NSF/ANSI/CAN 61 Certified
- Rapid Return to Service

STORMWATER

- Improves flow performance
- Protects aquatic life

POWER

- Superior resistance to fuels, chemicals, abrasions, and more

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ABOUT WARREN 301 SERIES EPOXY

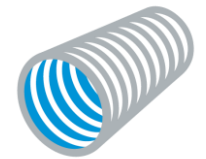
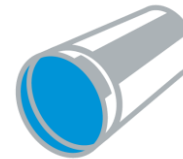
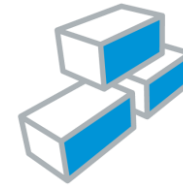
FEATURES



APPLICATIONS



SUBSTRATES



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KEY TECHNICAL BENEFITS



**CHEMICAL
RESISTANCE**



**TENSILE
STRENGTH: Up to
7,500 psi**



**WET/DAMP
APPLICATION**



**SUBSTRATE
ADHESION**



NO VOCs

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BROWNSVILLE GRIT BASINS & INFLUENT CHANNEL

Scope of Work

Rehabbed

- Four **21' x 21'** grit basins
- One **6"** pipe spool
- One **6.5' x 5'** influent channel

Additional

- Lining existing 6" wall spool to prevent future leaks

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BROWNSVILLE GRIT BASINS & INFLUENT CHANNEL

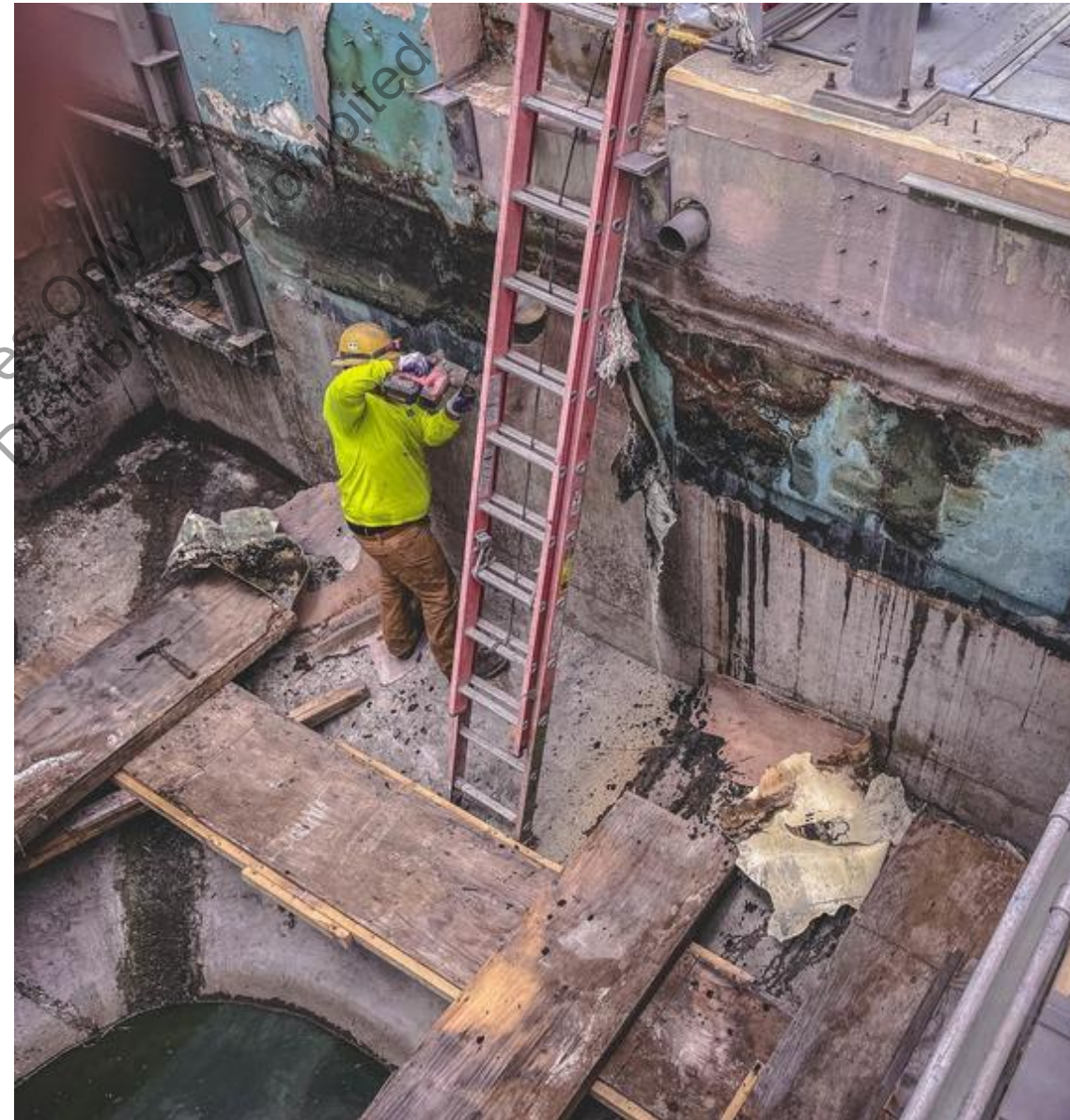
Scope of Work (cont.)

Surface Preparation

- Removing existing polyurethane
- Abrasive blasting
- Final washdown

Application

- **200 mils** of 301-14 epoxy
- Focus on splash zone
(high-failure area)



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BROWNSVILLE GRIT BASINS & INFLUENT CHANNEL

Execution

- Only two basins offline at once
- Warren's system enabled completion within three-week window
- Change order: line additional 3' x 3' x 12' bypass channel



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BROWNSVILLE GRIT BASINS & INFLUENT CHANNEL

Project Challenges



- Constant heat index over **100°F**
- Heavy rainfall, high humidity

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BROWNSVILLE GRIT BASINS & INFLUENT CHANNEL

Project Successes



Benefits delivered

- Superior adhesion
- Corrosion + abrasion protection
- Stress-free application despite extreme weather
- On-time delivery within the GC's schedule

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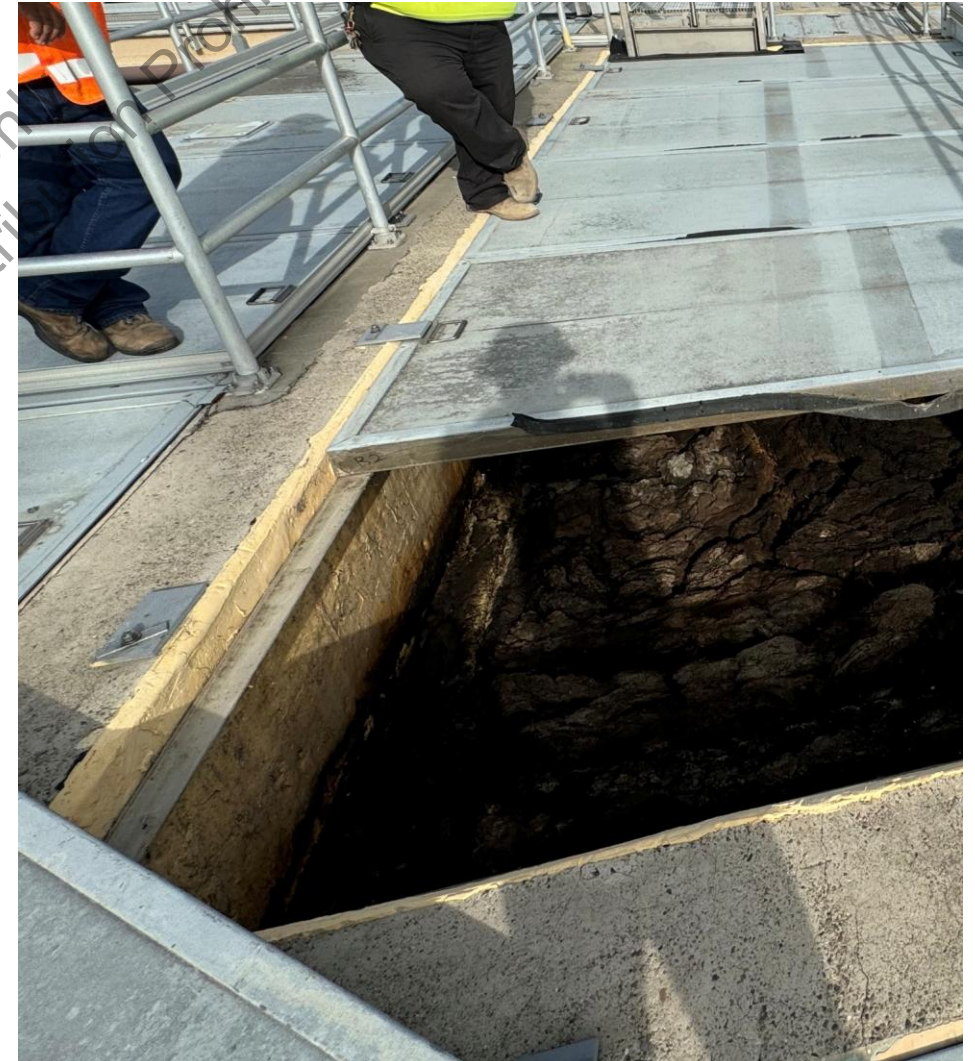


BROWNSVILLE GRIT BASINS & INFLUENT CHANNEL

Reinspection Findings

27-Month Reinspection

- Owner attended
- Removed odor control covers
- Found firm & fully intact



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BROWNSVILLE GRIT BASINS & INFLUENT CHANNEL

Reinspection Findings



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BROWNSVILLE GRIT BASINS & INFLUENT CHANNEL

Distribution Channels & Aggressive WWTP Environment



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QUESTIONS?



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