



Infrastructure Innovators Since 1994

QuakeWrap, Inc.

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(520) 791-7000, FAX (520) 791-0600

Toll Free (866) QuakeWrap (782-5397)

www.quakewrap.com

PROJECT PROFILE

Underground CMP Stormwater Detention Basin Rehab Using FRP

Repair System: Wet Layup FRP

Client: Starbucks

Contractors: Mission Underground, FRP Construction

Project Location: Chandler, Arizona

Background:

- Corrugated Metal Pipes (CMP) are subject to internal corrosion over time, particularly along the invert due to direct exposure to water
- Additionally, the highly alkaline soils of the Phoenix area result in external corrosion
- The client was in need of a structural rehabilitation of the underground CMP stormwater detention basin to avoid collapse due to external loads (soil pressure and vehicle weight).

Project Synopsis:

- Project involved 8-ft (2.4 m) diameter CMP used for stormwater detention. The CMP had three sections: 25 feet, 25 feet, and 27 feet (7.6m, 7.6m and 8.2m) with 5 ft. (1.5 m) of soil cover above and two gasket bands connecting the pipes together
- The CMP detention basin is located under a Starbucks parking lot. Starbucks explored economic repair options – such as excavation of the CMP – but this option would close business for approximately 3-to-4 weeks
- Client chooses a hybrid concrete + FRP rehabilitation of 77 linear feet of corroded tank made of 16-gauge steel under five feet of cover.

Design and Installation:

- Project included engineering, design, and detailed drawings of the repair
- Surface preparation to bottom half of CMP including removal of loose material, application of primer, tack welding of wire mesh and application of new concrete and FRP
- Production and installation of spacers and installation of QuakeWrap's non-pervious dual layer fiberglass laminate, B2610, onto partially cured concrete and another 2 feet onto CMP.

More case studies on QuakeWrap's pipe, storage tank, and other underground infrastructure rehabilitation projects can be found at www.pipemedic.com

For more information on QuakeWrap's overall infrastructure repair capabilities please visit www.quakewrap.com or contact us at (520) 791-7000 or via email at info@quakewrap.com



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Project Photos: Before and During





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Project Photos: During and After

