



FGI PROJECT SPOTLIGHT: Maerkle Reservoir Floating Cover Project

GEOMEMBRANE APPLICATION: Floating cover and chafer for drinking water distribution reservoir

MATERIALS USED: 1,300,000 sq. ft. of potable grade CSPE geomembrane

MEMBER COMPANIES: Hilts Consulting Group and Raven Industries

PROJECT DESCRIPTION

The reservoir stores treated potable water as part of a water distribution system and provides a 10-day operation storage of 200 million gallons. The reservoir covers 17 acres and has a maximum depth of 60 ft. Interior side slopes range from 2H:1V to 4.5H:1V. The reservoir geometry is complex, consisting of eight curves and eight tangent sections.



The project components include removing the 20-year-old existing reinforced polypropylene floating cover and existing partial HDPE geomembrane chafer. The replacement floating cover system consists of a new 45-mil, scrim reinforced CSPE geomembrane, weight tensioned floating cover. The floating cover features include access hatches, air/vacuum vents, remote water quality sampling capabilities, four submersible rainwater removal pumps, and walkaway access paths. A new 45-mil, scrim reinforced, CSPE geomembrane chafer strip was installed covering approximately two-thirds of the reservoir side slopes.

The floating cover and chafer materials were prefabricated into large panels based on site specific geometry and location within the reservoir. A total of 117 prefabricated panels were required for the floating cover system and 101 prefabricated panels for the chafer. The panels are approximately 34 feet wide with custom lengths up to over 300 feet long.

Additional site improvements include new storm water discharge laterals for the floating cover, rainwater removal pumps, discharge points, new electrical power distribution system, replacement of three submerged valves at the outlet structures within the reservoir, and perimeter site fencing.

View [Full Project Spotlight](#) for lessons learned and how the use of factory fabrication improved this project.

[View Project Spotlight](#)

2021 FGI Webinar Series

The FGI is continuing its popular geo-engineering webinar series with exciting topics throughout the rest of 2021. All FGI webinars are recorded and posted on our website to view/download for FREE. All webinars viewed will earn 1.0 PDH. Register for one of the upcoming webinars today:

Sept 9 at Noon CDT: Industry Best Practices for Floating Cover Systems (Hilts, Fraser & Sati) [Register](#)
Sept 30 at 11 a.m. CDT: Geosynthetics and Stability for Heap Leaching and Tailings Dams (Stark) [Register](#)
Oct. 21 at 11 a.m. CDT: Geomembrane Texturing - Quantifying & Specification (Swan & Yuan) [Register](#)
Nov. 11 at Noon CST: Use of Geomembranes in CCR Landfills and Impoundments (Amaya) [Register](#)

- Audio and Video Podcast Series
- Geo-Engineering Pop Quizzes
- Pond Leakage Calculator
- Panel Weight Calculator
- Webinar Library
- Project Spotlights
- Member Directory
- Videos of ASTM Factory & Field Test Methods
- Latest Specifications & Guidelines
- Material and Equipment Guides
- Technical Papers & Journal Articles
- Industry News and Events
- Photo and Video Gallery



[Visit FGI Website](#)

Fabricated Geomembrane Institute | fabricatedgeomembrane@gmail.com |
www.fabricatedgeomembrane.com | 217 333-3929

STAY CONNECTED

