

FERN HOLLOW WATER TREATMENT PLANT

CASE STUDY



LOCATION

Moon, PA

MARKET SECTOR

Municipal

APPLICATION

Water Treatment

SIZE

50 ft x 148 ft (7,498 sq ft)

SPECIAL FEATURES

Designed and installed around existing tank footprint and varying wall elevations, stainless steel fasteners and bracing, humidity-controlled mechanical ventilation

INSTALLATION

Legacy in-house crews



MOON TOWNSHIP, PENNSYLVANIA, modernized their water treatment facility in 2018. As part of the upgrade, they decided to enclose the clarifying equipment in a fabric building. “Having a building protects the tanks,” said Burt Rateau, Water Treatment Superintendent at Moon Township. “Ducks can’t land in it, it keeps the leaves out, the building keeps the bug population down and controls algae growth, you can’t throw things in the tanks.”

Moon Township partnered with KLH Engineers on the design and installation of the building. After researching many building options including steel, brick, tin and concrete block, the team toured a fabric building by Legacy Building Solutions in a nearby community.





Although the neighboring building is used for municipal salt storage, the team at Moon Township could see that a Legacy building would meet their needs for a water treatment plant. “We were impressed by what we saw,” said Rateau. “It’s a neat-looking building. We’re in a residential area, so we try to be aesthetically pleasing. And the upkeep seems easier – no worries about windows leaking or cracks in the brick.”

KLH Engineers was also impressed by Legacy’s building type and processes. “This is definitely a more permanent building type,” said Joe Gianvito, project engineer. “And working with Legacy was easy – there was good communication throughout the design and installation process.”

The building is clad in Legacy’s exclusive white ExxoTec™ fabric. The fabric transmits visible light while blocking and reflecting UV rays, which prevents algae growth. The non-corrosive nature of the fabric allows the cladding to outlast other materials in a high-moisture environment. The solid rigid steel framing is also treated for corrosion protection.

Ventilation was another concern inside the building. The finished design incorporates a passive system consisting of overhangs with mesh-ventilated soffits and framed louvers for air intake along with ridge vents for exhaust, as

well as an active system using fiberglass fans that provide the air circulation needed inside to control humidity and mitigate moisture-induced maintenance.

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Legacy crews arrived on site to install the building overtop the existing water treatment equipment. Another advantage of fabric buildings is that they are installed faster than other types of buildings – in this case, installation was completed in 14 days. “A brick building would have taken months and probably been triple the cost,” said Rateau.

Reducing maintenance time and costs was a primary concern for the township. The new building helps achieve that by being low maintenance itself, as well as reducing the maintenance needed for the equipment and tanks inside. “It’s an easier environment for the operators,” said Gianvito. “They are out of the elements while maintaining the equipment, and it probably improves the life of the systems as well.”