



Project Summary

Project Name:
Springs Hill Treatment Plant
Expansion

Project Location:
Seguin, Texas, United States

Organization:
M&S Engineering

Be Inspired Category:
Innovation in Water and
Wastewater Treatment Plants

Bentley Software Used:

- MicroStation®
- WaterCAD®

Project Objectives:
Develop a sustainable solution to
double the capacity of an existing
surface water treatment plant
while decreasing the burden on
the region's fragile groundwater
resources.

Fast Facts

- The expansion of the water treatment plant is intended to decrease reliance on fragile groundwater resources
- Funding and tight deadlines were some of the obstacles overcome by M&S Engineering
- WaterCAD allowed the project team to quickly and efficiently evaluate a variety of potential solutions
- New treatment plant works seamlessly with the existing infrastructure
- The number of small time increments saved through the efficient use of the user-friendly software added up to a substantial savings in both time and money.

M&S Engineering Saves Design Time on Water Treatment Plant Expansion

Project to Increase Efficiency of Water Distribution System and Conserve Valuable Groundwater Resources

A New Standard for Environmental Stewardship

The management of Springs Hill Water Supply Corporation, Seguin, Texas, has implemented a set of in-house policies to increase the efficiency and cost-effectiveness of its water distribution system. The policies include green infrastructure improvements that set the standard for environmental stewardship for the benefit of its constituents. Equally important, they set an example for neighboring utilities to follow.

To meet Springs Hill's goals, M&S Engineering deployed Bentley's WaterCAD for water distribution system analysis and design and MicroStation for infrastructure design. The software helped the engineering team develop a sustainable solution for doubling the capacity by expanding an existing surface water treatment plant, as part of an effort to decrease the burden on the region's fragile groundwater resources. The realized time savings using Bentley software directly contributed to substantial cost savings.

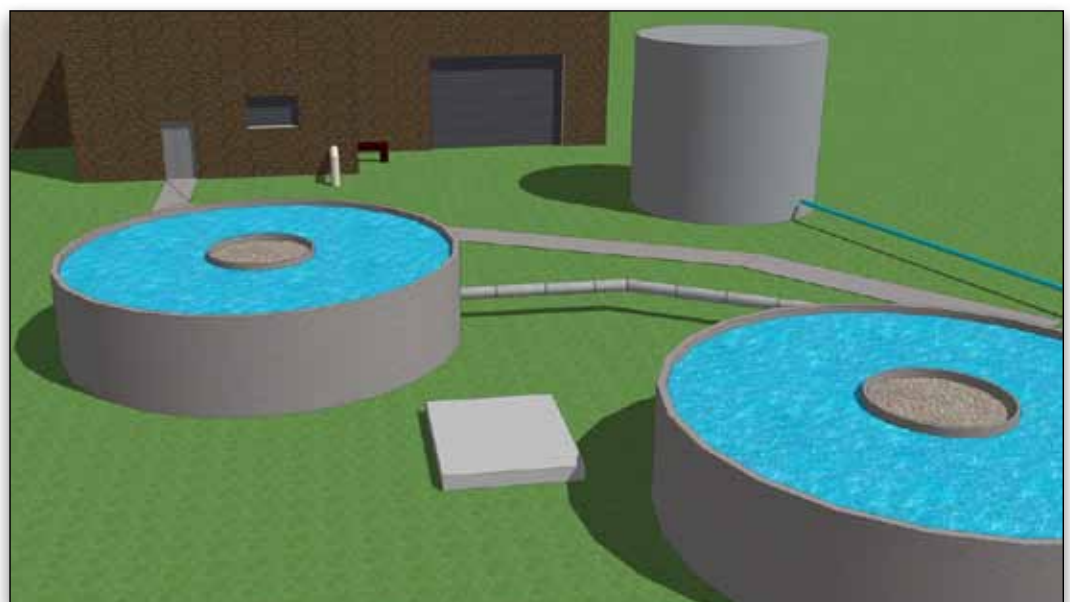
Challenges Overcome

Factors that contributed to project success included state-of-the-art technology; coordination across multiple project teams, operational personnel, and stakeholders; use of green technology; and the development of a solution that combined the best of what had performed well for the plant operators over the past two decades with new and more efficient technology.

Among the obstacles M&S Engineering had to overcome were:

1. Limited regional precedence for the incorporation of green infrastructure into a water utility,
2. A very tight timeframe for design, permitting, bidding, and construction,
3. The need to incorporate 40-year-old infrastructure.

By leveraging experienced personnel and robust software M&S Engineering was able to efficiently deliver the project ahead of an almost impossibly tight schedule. The addition will work seamlessly with the existing infrastructure currently operated by Springs Hill with little additional operator training.



3D water treatment plant modeled in MicroStation

“Through the use of WaterCAD, it was possible to evaluate the impact of the planned expansion as well as of several other related projects to determine which would yield the greatest benefit to the area’s natural resources.”

Find out about Bentley at: www.bentley.com

Contact Bentley

1-800-BENTLEY (1-800-236-8539)
Outside the US +1 610-458-5000

Global Office Listings

www.bentley.com/contact

WaterCAD and MicroStation were key to this project being completed successfully and on time. M&S Engineering had used WaterCAD to complete a system-wide calibrated water model of the Springs Hill system. The model was used to evaluate the impact of the different options for increasing the water treatment plant’s production, allowing the project team to evaluate a variety of potential solutions quickly and efficiently.

Daniel Konstanski, project manager at M&S Engineering, said about WaterCAD: “The software’s interface and capabilities saved us countless hours. The number of small time increments saved through the efficient use of the user-friendly software added up to a substantial savings in both time and money.”

Environmental Impact

The expansion of the water treatment plant was one facet of a system-wide plan to decrease reliance on fragile groundwater sources in the area. Overuse of water in several regional aquifers became a major environmental and economic concern in the Southwest, and the area around Springs Hill Water Supply Corporation was no exception.

Konstanski explained: “Through the use of WaterCAD, it was possible to evaluate the impact of the planned expansion as well as of several other related projects to determine which would yield the greatest benefit to the area’s natural resources. This provided a return on investment in hours saved evaluating different options, as well as an environmental return.”