ENGINEERING | SURVEYING | ENVIRONMENTAL SERVICES

Spottlight

A publication of Spotts, Stevens and McCoy

SSM

SPOTTS | STEVENS | MCCOY

FEBRUARY 2022

Our work touches everyday life.

From the water your drink to the air you breathe to the buildings and communities where you live, work and play.

Spotts, Stevens and McCoy is a family-owned regional engineering, environmental, and surveying firm serving local and global clients. We engineer solutions for a better world. Our work touches everyday life; from the water you drink, to the air you breathe, to the buildings and communities where you live, work and play.

EXPERTISE

- Building Engineering
- Site and Civil Engineering
- Survey, Data Capture and Modeling
- Water and Wastewater Engineering
- Construction Phase Services

Testimonial

"South Heidelberg Township would like to thank Ms. Baltzley her outstanding work on our GIS projects. Ms. Baltzley has not only provided a well designed system that will help South Heidelberg better manage its assets, but she has also done an exceptional job of documenting the process and training our staff on the use of the survey application. Ms. Baltzley is truly talented and we look forward on working with her on our next project which relates to sewer/sewer manhole inspections."

-SOUTH HEIDELBERG TOWNSHIP

Case Study: Field Inspection Applications Using Mobile GIS Technology

SSM is working with South Heidelberg Township on the development and deployment of field inspection applications using mobile Geographic Information Systems (GIS) technology. This technology will modernize the Township's operations and maintenance as well as contribute to a more efficient workflow. SSM is providing multiple inspection applications, all of which include training to Township staff on how to use the GIS applications.

Stormwater Facilities Inspection Applications

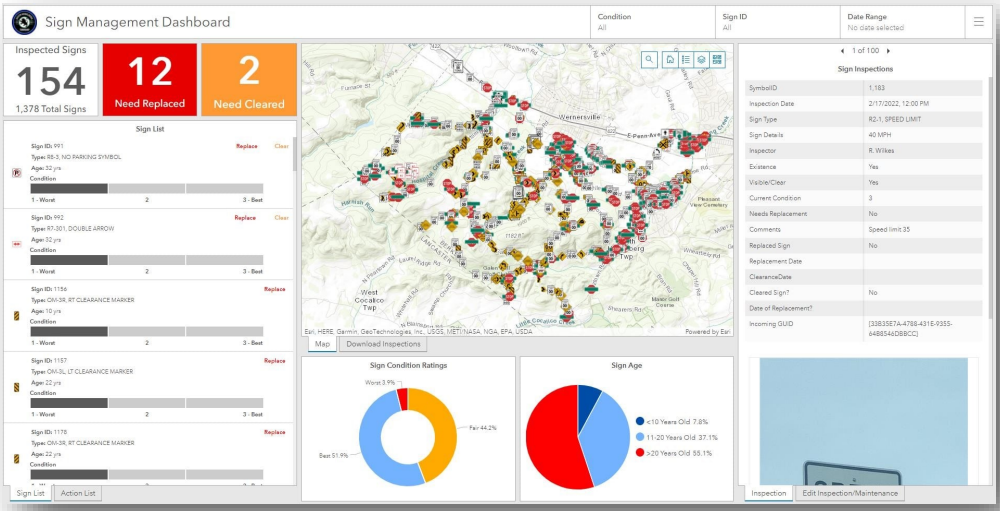
- Populated the existing GIS database with current information, such as outfall descriptions and existing land use within outfall drainage areas.
- Deployed mobile GIS-based field inspection applications for the routine inspection of stormwater outfalls within the Township. Data collected using the outfall inspection applications will be used to generate PaDEP MS4 Outfall Field Screening Report.
- Development and deployment of field inspection applications to gather information and assess the condition of stormwater infrastructure assets throughout the Township.

Transportation Inspection Applications

- Development and deployment of mobile GIS-based field inspection applications for the routine inspection of street signs and road conditions within the Township.

Sanitary Sewer Manhole Inspection Application

- Development and deployment of GIS-based field inspection application for the routine inspection of sanitary sewer manholes within the Authority's system.



In Action: Field Inspection Applications Using Mobile GIS Technology

This month, Katie Baltzley, Senior GIS Analyst, accompanied the South Heidelberg Public Works crew in deploying the second round of this project: the Street Sign Inspection Application.

The GIS team at SSM created the GIS workflow and mobile application that allows the Township staff to log road sign inspections with mobile devices as well as attach photos of every road sign. All of the inspections and data are saved in ArcGIS online and accessible to Township staff through a Sign Management Dashboard designed by our team.

This electronic ability to map out all of the Township infrastructure and assets (stormwater facilities, street signs, sewer lines, manholes, etc.) is increasing the modernization and efficiency of the Township staff and workflows.

In action the workflow is as follows: The Public Works members inspect signs to determine the condition of those signs and what signs are in need of replacement. All of the data collected (including photos) is stored in an online database with access through a management dashboard (photo above) which then assists the Township in ensuring proper timelines and maintenance of signs. The data also assists in proper planning of budgets for sign replacements and repairs in future years.

Deployment of this application is the second phase of the Township's GIS program - initiated with stormwater inspection and being followed by sewer/sewer manholes.

Katie M. Baltzley
Senior GIS Analyst

katie.baltzley@ssmgroup.com

Ms. Baltzley has 7 years of experience in GIS and the ESRI GIS Platform. Katie is responsible for creating and managing GIS data in support of a variety of environmental, municipal, and industrial projects including producing maps and customized GIS workflows and applications for our Water Resources, Source Water Protection, Utilities, and Comprehensive Planning projects.

EXPERIENCE:

Southeast Morris County Municipal Utilities Authority | Water System Enterprise Geodatabase for Asset Management | Water Supply Improvement Project Support Public Notification Hub Site

Mount Holly Municipal Utilities Authority | Pump Station Inspection GIS Workflow

U.S. Air Force | Traffic Study Mobile Application Support

Adams County | Storm Water System Database GPSing

SWPTAP | Database Development and Management

American's Water Infrastructure Act (AWIA) | Risk and Documentation Application

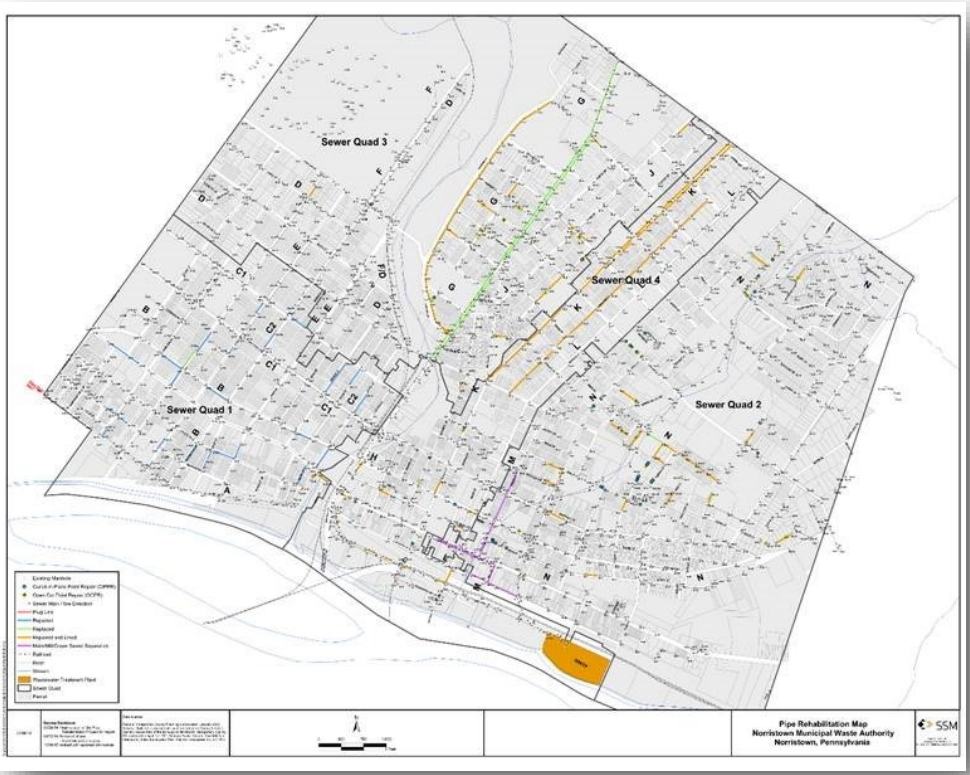
Geographic Information Systems and Asset Management

SSM provides professional GIS services to municipalities; from mapping support for infrastructure projects, to focused GIS and data capture projects. SSM's GIS Asset Management approach helps municipalities to transform sewer infrastructure data into an easy-to-use operations asset management system capturing vital infrastructure data points with survey-grade accuracy. The data is verified and compiled into a geo-spatial database.

- GIS Database Development
- GIS Training
- ArcGIS Online Implementation
- Mobile Application Design
- Field Data Collection
- Survey Grade GPS Collection
- Customizable Inspection Forms
- Field Inspection Reports
- Document Management

Sewer Manhole Inspections through Integrated Mobile GIS Technology

Traditionally sanitary sewer manhole inspections are conducted by field inspectors, filling out a blank inspection report form, using pen and paper. Utilizing mobile GIS technology, the process can be streamlined, eliminating the need for paper forms and clipboards. A customized manhole inspection app guides the inspector through a series of questions where answers range from yes/no or multiple choice to free-form responses. Working directly with the collection system's existing GIS data, the inspection app pulls manhole information (such as manhole ID#) into the form, and when complete, pushes the collected information back into the GIS. If the system does not have GIS already in place, the manhole inspection app can be used to initiate system-wide GIS implementation.



Case Study: GIS Mapping for Sanitary Sewer Rehabilitation and Investigation

SSM provided assistance to the Norristown Municipal Waste Authority (NMWA) for over 15 years for compliance with a PA Department of Environmental Protection Consent Order and Agreement to eliminate combined sewer overflows (CSOs) and excessive Inflow/Infiltration from the sewage collection system. SSM performed extensive Inflow/Infiltration (I/I) investigations and program management, including manhole inspections, building and outside property inspections, and some smoke and dye testing of roof leaders, foundation drains and parking lot storm drains.

SSM prepared and calibrated the hydraulic model of the Authority's 60-mile sanitary sewer collection system and performed Sewer System Evaluations and cost-benefits analysis for various projects, including alternatives analyses for several sewer rehabilitation projects. SSM also prepared an extensive conceptual design and analysis of alternatives for the WWTP.

SSM provided extensive GIS Mapping of the NMWA's sanitary sewer collection system to include 60 miles of sanitary sewer. The GIS database was used to prepare and calibrate a hydraulic model of the sewer system and to provide maps for use in Inflow/Infiltration (I/I) investigations and program management, including flow metering locations (pre- and post-rehabilitation), manhole inspections, building and outside property inspections, some smoke and dye testing of roof leaders, foundation drains and parking lot storm drains. GIS database management was utilized in order to map the results of televising investigations and flow metering, as well as to provide recommendations for non-invasive inflow reduction methods for property owners. SSM provided guidance to NMWA staff for collecting data from property surveys which was then incorporated into the GIS database. This mapping was later incorporated into the NMWA's Combined Sewer Overflow - Long Term Control Plan for submission to the PA DEP, including the Nine Minimum Controls update for CSO 003.

CELEBRATING 90 years 1932 2022

Celebrating the Stories that Made Us

This year, SSM celebrates its 90th anniversary in business. Follow along through our newsletter and through social media as we share 90 stories for 90 years. Stories - just like these - that demonstrate where we came from, and how we got here.

SUPPORTING THE SNACK INDUSTRY: Did you know, February is National Snack Food Month! So, we celebrated with this snack-y story. As SSM, we take snacking seriously. From the farm to the table we proudly support food experts so that they get to focus their time and attention on the core of their business.

More than 30 years ago, SSM began working with this local commercial bakery. You may not recognize it by this angle, but you're probably familiar with their famous Milano cookies. You guessed it: Pepperidge Farm.

SSM provided services for the design and construction of the main access road for the 611,000 SF bakery facility on a 114-acre site, crossing the Pennsylvania Turnpike in East Cocalico Township, Lancaster County PA. This included roadway and drainage design, construction inspection, and a Traffic Impact Study for a 1.4 million-SF distribution center. The study encompassed 14 existing and 5 proposed intersections, and included trip operations and distribution predictions, capacity analysis, and improvement recommendations.

SSM provided planning, surveying and site engineering including designs for building placement, roadways, parking, utilities, storm drainage, traffic circulation and signalization, sedimentation and erosion control, and site grading. SSM designed new ramps to an existing bridge over the turnpike and worked with PennDOT to coordinate roadway and traffic signalization improvements to help alleviate existing traffic congestion in the area.

AWARD-WINNING SERVICES

SSM's work with the Pepperidge Farm Bakery led to multiple awards for our civil engineering services.

February 1992 | SSM was Awarded CEC Engineering Excellence Achievement Award

(Pictured Above) Robert Rowland, PE, president of Consulting Engineers Council of PA, presented the Engineering Excellence Achievement Award to Mark Stabolepszy, Jack Palmer, and Scott Miller during the annual awards dinner in Hershey. The award was presented for SSM's site engineering of the Pepperidge Farm, Inc. Bakery and Biscuit Facility.

Two current SSM employees are featured in the award acceptance photo. Mark Stabolepszy, Vice President of Civil Engineering is pictured on the left. And, Scott Miller, Manager of Land Development Services is the furthest right.

March 1992 | Stormwater Award Accepted for Pepperidge Farm

Jack Palmer and Nick Schmehl accepted the Lancaster County Conservation District's 1992 outstanding Stormwater management design award for Pepperidge Farm Bakery and Biscuit Facility.

MATHCOUNTS COMMUNITY OUTREACH:

This month 7th and 8th graders around Berks County competed in the annual MathCounts competition. This regional competition dates back to 1985 when Eric Flicker (a past SSM president) was the original MathCounts coordinator in Berks County. You can find him holding the check (left).

MathCounts has always been a favorite memory of the SSM team. Over the years we've provided competition coordination, proctoring, oversight, and even donuts! Many years later and SSM still provides volunteers for the local competition.

CONTINUING THE TRADITION: The SSM team continues to support youth in pursuing STEM based learning that makes the world a better place. We love to be involved in community outreach, but especially community outreach that is celebrating the minds and the skills of the next generation.

Did you know: our Energy and Sustainability Team develops and helps to implement Energy and Sustainability educational curriculum for the Philadelphia School District.

ANNIVERSARY OF ESTABLISHMENT OF HISTORICAL RECORDS:

On February 17th in SSM history, we officially became home of the largest and most complete repository of survey records of Berks County, Pennsylvania.

February 17th, 1983 - the final settlement at which the records, plans and title: Frankhouser Associates were transferred to Spotts, Stevens and McCoy, Inc. With this transfer, SSM's archives were combined with the 60 years of survey records and plans developed by Frankhouser Associates.

SSM's title still stands: home of the largest and most complete repository of survey records of Berks County. Our archives hold property records all the way back to the mid-19th century.

Steve Smith, pictured to the left, says that "There isn't a day that I come to work that I am not back here using this archive." Steve is the Senior Project Manager of our Survey Department at SSM.

We are so proud of our collection of archives for all that they allow us to provide to our community and our clients!

Opportunities at SSM - join the team!

Visit ssmgroup.com for more information about these opportunities:

- **Mechanical Engineer** with experience in the design of HVAC, process piping and plumbing systems in industrial, commercial, and R&D type facilities.
- **Senior Electrical Designer** with 10+ years of experience to perform design, survey and drafting of power distribution, lighting, and fire alarm and telecommunication systems for Industrial, Commercial, Educational, Pharmaceutical and Research and Development Laboratory applications.
- **CAD Designer - Civil Engineering** with responsibilities including design and layout of civil, water, wastewater, and environmental engineering projects.
- **Land Development Project Engineer** with strengths in stormwater management design and permitting; basic AutoCAD Civil3D design capability; and experience presenting plans at public meetings.
- **Senior Municipal Engineer** with experience in municipal engineering and a background in Stormwater management and traffic/transportation.
- **Survey Crew Chief** with technical and crew chief experience to perform all aspects of site and boundary reconnaissance, construction stakeout, and boundary, topographic, roadway and as-built surveys.
- **Senior Systems Administrator** with experience in the IT field to provide high-level, wide-range support of our IT infrastructure.
- **Graduate Water/Wastewater Engineer** to work with a multi-disciplinary team to help local and regional public and private sector clients to solve infrastructure challenges.
- **Director of Surveying and Data Capture** with responsibilities including setting the strategy and overseeing the execution of the department's business plan, staff management and development, operations, technology and business development.

Team News

Andrew J. Wengerd, PE, CFPS, LEED AP Named Manager, Mechanical Engineering

Andrew Wengerd has transitioned into the role of Department Manager. In this role he will be responsible for daily operations of the Mechanical Engineering department and execution of the department's strategic assignments. His experience includes design of heating, ventilating and air conditioning systems for industrial, commercial, educational, and semiconductor facilities. He has experience in design and project management for a variety of projects as well as experience in system start up and testing services. He has prepared reports analyzing existing systems and evaluating new systems and products. These reports contain calculations, analysis, recommendations, cost estimates, and energy estimates. In addition to HVAC design, Mr. Wengerd also has several years' experience in the fire protection field. He has performed several sprinkler system layouts, hydraulic calculations, and fire pump selections. He has also experience evaluating city water supplies for capabilities in supplying new and existing buildings.

Marika Selzler, EIT, ENV SP Earns Certified Energy Manager Designation

Marika Selzler, EIT, ENV SP has earned the Certified Energy Manager (CEM) designation through the Association of Energy Engineers (AEE). Marika is a member of the Energy and Sustainability Services Team at SSM. With a Bachelor's Degree in Chemical Engineering, she brings a broad range of experience to the team including energy benchmarking, load profiling, and long-term trend analysis of commercial facilities, industrial plants, and vehicle fleets; BAS-based continuous commissioning and Analytics-as-a-Service of commercial buildings; calculating and evaluating emissions of existing systems, buildings, campuses, and fleets, and improvements from conservation, efficiency, and fuel-switching projects; supervising preparation of energy audits and reports.

About the Certification: The CEM program helps educate and qualify individuals involved in optimizing the use of energy in buildings and systems. By obtaining the CEM certification, candidates gain industry and peer recognition by demonstrating their understanding of energy-efficiency principles, practices, and technologies. The program also helps the energy industry by raising the professional standards, both technical and ethical, of those engaged in energy efficiency and energy management. The CEM accreditation is one of the most globally respected in the field of energy management. To qualify for CEM designation — the internationally accepted symbol of professional competence within the energy management field — candidates must meet strict educational and professional criteria, attend an AEE-sponsored CEM training seminar, and pass a rigorous 17-part exam administered by AEE.