KRISTEN WENZEL

Project Manager | Water Systems

EDUCATION

M.S, Cartography and Geographic Information Systems – Web Map Programming, University of Wisconsin – Madison, 2018

B.A., Geographic Information Sciences, University of Missouri, 2013

USGIF GEOINT Certificate, 2013

PROFESSIONAL REGISTRATIONS AND CERTIFICATIONS

Certificate, Geospatial Intelligence, USGIF

MEMBERSHIPS

American Association of Geographers

American Association of Geographers-Esri ConnectED GeoMentors Program

YEARS OF EXPERIENCE: 10

WITH TREKK: 8

Kristen is a Project Manager and provides GIS quality control and analysis for all storm and sanitary network projects and LiDAR asset management extraction. She has designed a multitude of maps of both sanitary and storm sewer networks that aid in the analysis of the overall network conditions.

Kristen designs models to implement processes that contribute to quality assurance and quality control. This includes continuous cross-checking of data collected by the TREKK field services crews during their investigations, as well as post-project data evaluations. She also composes map books to assist TREKK surveyors and field inspectors with projects and builds data collection applications to help technicians collect efficient, consistent data.

Kristen also helps her clients by creating project dashboards via website applications for real-time quantity updates. She is an active developer on TREKK's Waterspout Team – a website devoted to monitoring flow capacity and image surveillance.

Using her GIS knowledge, Kristen can process, manage, and successfully execute multiple tasks for clients to develop easy to understand geographic representations of data. She proactively seeks out answers to problems; and sees each task through with ingenuity and tenacity.

Kristen is skilled in most ESRI software, including ArcGIS Desktop, ArcGIS Pro, ArcGIS Online, as well as QGIS, Fulcrum, PowerShell and Microsoft SQL Server, for mapping analysis and digital map deliverables. She also has experience using VB, JavaScript and Python to set up dashboards so clients can view real-time progress during field data collection.

PROJECT EXPERIENCE

WASTEWATER

Missouri American Water, Asset Data Collection, Multiple Acquisition Areas. Project Manager for multiple acquisition areas throughout Missouri. Field crews currently capture survey grade data for system assets, including manholes, water valves, meter pits, and cleanouts. TREKK is providing manhole inspection reports in addition to Missouri American Water's baseline inventory attributes. GIS Analyst responsible for managing all GIS products and data collection including staging data collection applications, processing, and quality control of all map updates and GIS related tasks. Also responsible for training team members on GPS capturing devices and staging GPS datasets on mobile platforms.

Illinois American Water, Grafton Acoustic Sounding, Grafton, IL. GIS Analyst responsible for managing all GIS products and data collection including staging data collection applications, processing, and quality control of all map updates and GIS related tasks.

City of Alamo, Sanitary Sewer Evaluation Study, Alamo, TN. GIS Analyst responsible for managing all GIS products and data collection including staging data collection applications, processing, and quality control of all map updates and GIS related tasks.

Metropolitan St. Louis Sewer District/Burns & McDonnell, Clayton Meramec Private I/I Removal, St. Louis, MO. GIS Analyst responsible for managing all GIS products and data collection including staging data collection applications, processing, and quality control of all map updates and GIS related tasks. Also responsible for scheduling field services and partial field data collection as well as providing recommendations based on findings in field study.

Metropolitan St. Louis Sewer District, Critical Infrastructure Assessment & Asset Investigation, St. Louis MO. GIS Analyst responsible for managing all GIS products and data collection including staging data collection applications, processing, and quality control of all map updates and GIS related tasks. Responsible for processing TREKK 360 Inspection photos and applications, as well as maintaining PreView camera service and processing time-lapse videos for wet weather analysis and determining quantities of inflow and infiltration. Responsible for maintaining flow meter and PreView sites on stand-alone Waterspout platform.

Little Rock Water Reclamation Authority, I/I Reduction, Little Rock, AR. GIS Analyst responsible for managing all GIS products and data collection including staging data collection applications, processing, and quality control of all map updates and GIS related tasks.

City of O'Fallon, Wastewater Treatment Plant Evaluation, O'Fallon, MO. GIS Analyst responsible for implementing applications for data collection, processing, quality control and delivery of manhole inspection and CCTV inspection data for study areas. Engineered models to automate final format data in geodatabases to deliver to client. Responsible for creating and implementing automated tools for CCTV selection for recommendation using parameters set by client.

City of St. Charles/ Woodard and Curran, Trunk Line Assessment, St. Charles, MO. GIS Analyst responsible for quality control of manhole inspections and creating maps for the client. Created and utilized a model set in the ESRI Suite to produce scores for asset conditions to be used in a Capital Improvement Plan.

City of Columbia, Inflow and Infiltration Reduction Program, Columbia, MO. GIS Analyst responsible for implementing applications for data collection, processing, quality control and delivery of manhole inspection, CCTV inspection, smoke testing, and building inspection data for Columbia study areas. Engineered models to automate final format data in geodatabases to deliver to client. Responsible for consolidating thousands of inspection records to deliver into an easy-to-understand presentation of currently existing problems within the City of Columbia's sanitary network.

Carthage Water & Electric Plant, Basin 4 – Sanitary Sewer Flow Monitoring, Smoke Testing and Micro-Monitoring, Carthage, MO. GIS Analyst responsible for flow meter data review. Provided data analysis and clean up using Flowlink software and exported data to create Qvl final deliverable spreadsheets and overall summary of flow distribution for each watershed. GIS

and flow information has been staged to be utilized for hydraulic model development. Developed JavaScript code for custom client interface and back-end data integration for TREKK Waterspout to analyze smoke testing RDII projections and micro-monitoring data.

City of Hannibal, Wilson Street Pump Station Construction Bypass Abatement Project, Hannibal, MO. GIS Analyst responsible for managing all GIS products and data collection including staging data collection applications, processing, and quality control of all map updates and GIS related tasks.

City of Dyersburg, Sanitary Sewer Evaluation Study Phase 2, Dyersburg, TN. GIS Analyst responsible for implementing applications for data collection, processing, and quality control of smoke testing and manhole inspections. Engineered an automated report template to deliver to client. Created overall Capital Improvement tool that incorporates Consequence of Failure, Likelihood of Failure, and overall Risk Assessment to provide City with recommendation plan that incorporates budgetary restrictions and optimum return on investment.

City of Dyersburg, Sanitary Sewer Evaluation Study, Evansville & South Town Study Area, Dyersburg, TN. GIS Analyst responsible for implementing applications for data collection, processing, and quality control of smoke testing and manhole inspections. Engineered an automated report template to deliver to client. Created tools to aid in the quick score rating and determine rehabilitation recommendations.

East Bay Municipal Utility District, Time Lapse Manhole Cameras Pilot, Oakland, CA. Provided assistance for camera/photo review for emerging technologies to evaluate effectiveness of MACP manhole inspections for finding I/I. Developed machine learning algorithms for processing photos and developing recommendations for rehab.

City of Danville, Koehn Creek Flow Monitoring, Danville, IL. GIS Analyst responsible for implementing applications for data collection and verifying the data is collected efficiently and consistently.

21 Design Group, Inc., Smoke Testing, Villa Ridge Estates. GIS Analyst responsible for implementing applications for data collection, processing, and quality control of smoke testing defects.

21 Design Group, Inc., Smoke Testing, Sunrise Valley. GIS Analyst responsible for implementing applications for data collection, processing, and quality control of smoke testing defects.

City of Joplin, Flow Monitoring, Joplin, MO. GIS Analyst responsible for implementing applications for data collection. Responsible for updating application to comply with both ISCO and ADS flow meters. Developed automated calculations based on circumference and diameter of pipe to allow efficiency of band construction with technicians.

Metropolitan St. Louis Sewer District, UR-10 Mendall and Wolter Sanitary Relief, St. Louis, MO. GIS Analyst responsible for staging data collection applications, processing, and quality control of private property building inspections. Responsible for reviewing sources of private inflow and infiltration draining into the public sanitary sewer system. Based on the location and type of defect a repair recommendation was created to aid engineers in designing a course to eliminate the source, while collecting flow removal quantification and cost estimates. Trained multiple crews

on how to collect data using tablets and the platform for collection. This process continued through four years of inspections.

City of Parsons, Flow Monitoring Services, Parsons, KS. GIS Analyst responsible for implementing applications for data collection and generate map books for flow meter site locations for technicians.

City of Memphis, SARP10 Sanitary Sewer Evaluation Study Pilot Program, Memphis, TN. Data Coordinator responsible for mapping, GIS and technology integration for the City of Memphis as part of its Consent Decree.

City of Belton, Sanitary Sewer Capital Improvement Plan, Belton, MO. Responsible for quality control of data collection for projects completed as part of the City of Belton's Sanitary Sewer Capital Improvement Plan, including manhole inspections, smoke testing, mainline and lateral CCTV, cleaning and flow metering.

City of Blue Springs, Sanitary Sewer Inflow and Infiltration Study, Blue Springs, MO. Responsible for quality control of data collection for the City's public sector SSES work, including manhole inspections, survey, smoke testing and flow monitoring.

Kansas City Water Services Department, Middle Blue River Neighborhood Sewer Rehabilitation, Kansas City, MO. Led quality assurance and quality control for field condition assessments of manholes and pipelines and integrated this into existing city GIS.

STORMWATER

Metropolitan St. Louis Sewer District, Stormwater Asset & Investigation Services, St. Louis MO. Project Manager for the Stormwater contract. TREKK is the prime consultant supporting the District with locations and verifying stormwater assets. Field crews are characterizing structure inventory, determining ownership for assets, and defining network connectivity in St. Louis County Mapgrid project areas. Also the GIS Analyst responsible for managing all GIS products and data collection including staging data collection applications, processing, and quality control of all map updates and GIS related tasks. Responsible for processing TREKK 360 Inspection photos and applications, as well as maintaining PreView camera service and processing time-lapse videos for wet weather analysis and determining quantities of inflow and infiltration.

City of Springfield, Stormwater Condition Assessment, Springfield, MO. GIS Analyst responsible for developing tools for Capital Improvement Plan, incorporating city specific data as parameters to provide a plan for infrastructure repair and optimum return on investment. Engineered a project dashboard via website application to provide real-time updates per field data collection for both internal and external use.

City of Parsons, Stormwater Mapping and Sanitary Sewer Evaluation, Parsons, KS. Responsible for quality control of data collection to identify cross connections between the storm and sanitary sewer system, including CCTV with dye testing, smoke testing, GPS/GIS services and storm sewer inspection. More than 1,500 smoke defects were identified in only 300,000 LF of smoke testing.

TRANSPORTATION

Mark Thomas & Associates, Carson City Sign Inventory, Carson City, NV. GIS Analyst responsible for review of sign extraction and post data collection processing for mobile LiDAR-

created sign inventory. Reviewer for processed 360° photos using panoramic stitching software that can be hosted online or offline. Utilized automated processes for relational database creation for deliverables, including linked photos and reports.

Stanislaus County, Highway Safety Improvement Program (HSIP) Design of Striping and Signage, Modesto, CA. GIS Analyst responsible for review of sign extraction and post data collection processing for mobile LiDAR-created sign inventory. Reviewer for processed 360° photos using panoramic stitching software that can be hosted online or offline. Utilized automated processes for relational database creation for deliverables, including linked photos and reports.

Marin County/Mark Thomas, Marin County Sign Inventory, Marin County, CA. GIS Analyst responsible for sign extraction and post data collection processing for mobile LiDAR-created sign inventory. Processed 360° photos using panoramic stitching software that can be hosted online or offline. Created automated processes for relational database creation for deliverables, including linked photos and reports.

KDOT/Transystems, I-70 Sign Inventory, State of Kansas. GIS Analyst responsible for sign extraction and data collection processing for mobile LiDAR-created sign inventory. Data collected included sign coordinates, corresponding photos, MUTCD code, sign height\width, distance from roadway, height above roadway as well as post and sign attributes and conditions. Processed 360° photos using panoramic stitching software that can be hosted online or offline.

EXPERIENCE PRIOR TO JOINING TREKK

Harris Corporation, GIS Content Assessment Manager, St. Louis, MO, 2014-2016. Led a team of Analysts that conducted quality control for content work being done in other departments. Responsible for tests on new methods of GIS technology for internal and external use. Utilized JIRA boards to track progress and set up daily meetings to show progress and roadblocks throughout the duration of the projects. Responsible for standard operating procedures for team to use while performing multiple tasks on project. Also responsible for creating the organizational database of products coming from the client that were expected to be incorporated in the final deliverable. Versioning was very important in this process. Project experience includes:

- **Government Contracting, NGA, St. Louis, MO.** Content Assessment Lead, responsible for evaluating the final form data from the digitizing department. Aided in the creation of tools with open-source software to run metrics over existing data for consistency and accuracy. Responsible for co-creating a dashboard web service for clients while data mining open-source GIS data to enhance currently existing data banks.

- **University of Missouri – Columbia, GIS Analyst, Columbia, MO.** Participated in a group of 10 to enhance MSDIS data and begin new data collection. Also responsible for pylon and attribute extraction and analysis contracted through Boeing. Project experience included:

- **Pylon Extraction and Analysis Project, Boeing, St. Louis, MO.** Data Manager, responsible for downloading imagery and organizing and distributing the data for pylon and attribute extraction. Digitized and collected attribute data for point, line, and polygon features.

- **Emergency Response Assessment, GIS Analyst, Columbia, MO.** GIS analyst responsible for digitizing homes and residential buildings in rural Missouri to help emergency responders locate homes and people in an emergency.

- **Emergency Response Assessment, GIS Analyst, Columbia, MO.** GIS analyst responsible for digitizing homes and residential buildings in rural Missouri to help emergency responders locate homes and people in an emergency.

- **State of Missouri-State Broadband Data and Development Grant Program, GIS Analyst, Columbia MO.** GIS analyst, responsible for data collection of Missouri residents with broadband internet and speed of their internet, which aided in the decision of where to introduce new markets for broadband internet connections.