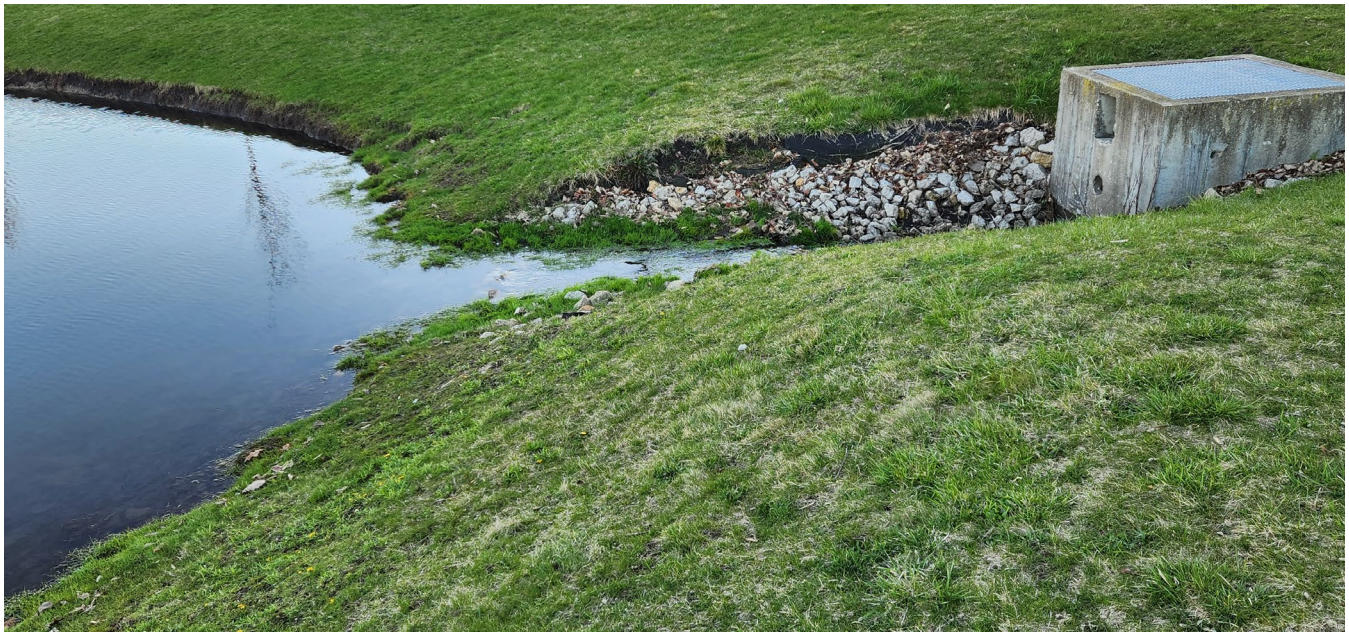
FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
230 Woodlawn Avenue
Aurora, Illinois 60506
630.897.4651

*insight • experience • results*

# STATEMENT OF QUALIFICATIONS

## Consultant Services for Prairie Lakes Stormwater Detention Facility Water Quality Testing, Monitoring and Landscape Maintenance Program



THE VILLAGE OF HOMEWOOD
1893

## PREPARED FOR

**Village of Homewood**
**TERENCE ACQUAH, MPA**
Assistant Village Manager
2020 Chestnut Road
Homewood Illinois 60430

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

March 28, 2025
Terrence Acquah, MPA
Assistant Village Manager
Village of Homewood
2020 Chestnut Road
Homewood, Illinois 60430

**RE: Statement of Qualifications – Consultant Services for Prairie Lakes Stormwater Detention Facility Water Quality Testing, Monitoring and Landscape Maintenance Program**

Dear Terence,

**Fehr Graham specializes in providing environmental services to communities throughout the Midwest, with a focus on improving the quality of life for our clients in the communities where they live and work.** We achieve this by delivering collaborative, insightful and results-driven solutions.

Fehr Graham has worked with municipalities, government agencies and private entities for more than 50 years to provide data-driven solutions and management plans for watershed resources and stormwater management. Fehr Graham employs a diverse team of biologists, water quality specialists, landscape architects, engineers, geologists and surveyors, ensuring we have a qualified professional for every aspect of the job.

This is evident in our approach to staffing. As the Project Manager for these environmental consulting services, I have more than 10 years of experience in continuous water quality monitoring and soil and lake sediment sampling. I began my tenure under the Forest Preserve of DuPage County and have since worked on more than a dozen lentic and lotic water systems to provide data for future planning, management and conservation activities. During this time, I have also conducted wetland delineations for Fehr Graham's clients and led permitting efforts for construction projects, adhering to the U.S. Army Corps of Engineers guidance and local stormwater ordinance mandates.

The team will include those who have conducted wetland restorations in reference ecosystems and civil and structural engineers and stormwater permitting specialists. Resumes detailing their experience are included in this submittal.

We are eager to work with you and continue to improve the quality of life for all who work to protect, use and cherish Illinois' resources.

Respectfully submitted,

Matthew Drabik
630.423.0480
mdrabik@fehrgraham.com
Project Manager

# Business Organization

## History

Fehr Graham was founded in September 1973 by professional engineers Allen Fehr and Joseph Graham. The firm was established by merging these two individuals' practices established in 1965 and 1962, respectively. Today, we proudly serve our valued clients from 13 office locations: Aurora, Champaign, East Peoria, Freeport, Peoria, Rockford, Rochelle, and Springfield, Illinois; Cedar Rapids, Manchester and West Union, Iowa; and Monroe and Sheboygan, Wisconsin.

## Professional Staff

Our staff of 250 is comprised of a wide range of experts, including professional engineers, landscape architects, professional geologists, environmental scientists, safety professionals, engineers-in-training, professional land surveyors, community planners and development specialists, engineering and environmental technicians, field inspectors, grant writers, and support technicians and assistants. Our staff has hands-on experience and applicable registrations and licenses in their areas of discipline.

## Organization

Fehr Graham is a Limited Liability Company led by Kyle Saunders. Trilon Group owns Fehr Graham.

**CONTACT**
**Matt Drabik**
Project Manager
mdrabik@fehrgraham.com

230 Woodlawn Avenue
Aurora, Illinois 60506
630.897.4651
fehrgraham.com

## Office Locations

### ILLINOIS

**Aurora**
230 Woodlawn Avenue
Aurora, IL 60506

**Champaign**
1610 Broadmoor Drive
Champaign, IL 61821

**East Peoria**
140 East Washington Street
East Peoria, IL 61611

**Freeport**
101 West Stephenson Street
Freeport, IL 61032

**Peoria**
1904 NE Monroe Street
Peoria, IL 61603

**Rochelle**
515 Lincoln Highway
Rochelle, IL 61068

**Rockford**
200 Prairie Street, Suite 208
Rockford, IL 61107

**Springfield**
2160 South Sixth Street, Suite D-1
Springfield, IL 62703

### IOWA

**Cedar Rapids**
200 5th Avenue SE, Suite 100
Cedar Rapids, IA 52401

**Manchester**
221 East Main Street, Suite 301
Manchester, IA 52057

**West Union**
128 South Vine Street
West Union, IA 52175

### WISCONSIN

**Monroe**
1107 16th Avenue
Monroe, WI 53566

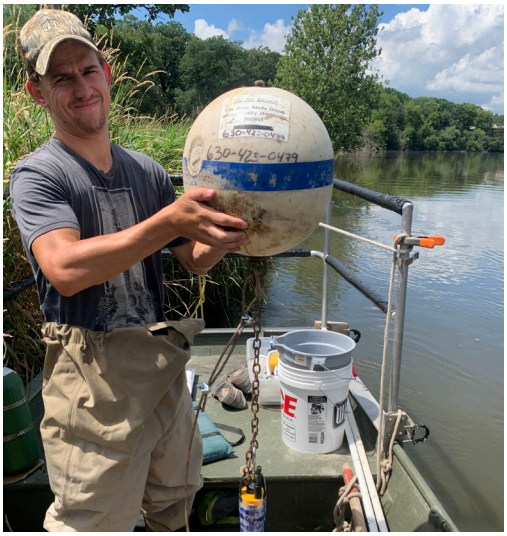
**Sheboygan**
909 North 8th Street, Suite 101
Sheboygan, WI 53081

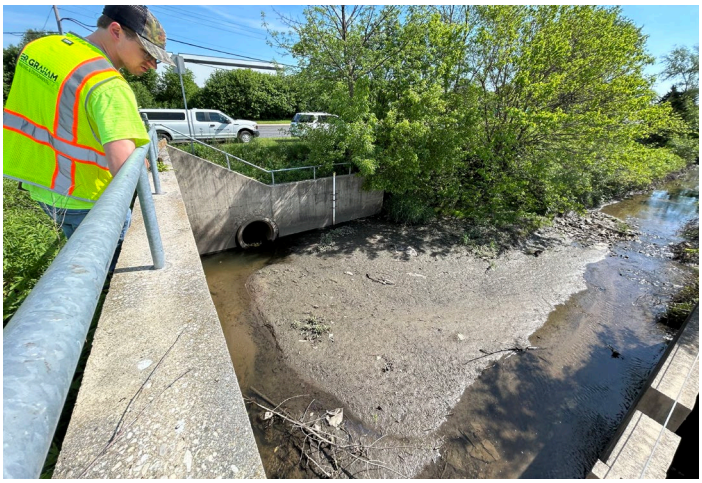
## Team Background

Fehr Graham has helped with water quality assessments and Nutrient Assessment Reduction Plans for ponds, small lakes, creeks and larger rivers throughout the Midwest. We have worked with private homeowner associations, the Rock River Watershed Group, the Fox River Study Group and local government agencies. We have also conducted sediment sampling and bathymetric surveys in waterbodies to determine dredging applicability and feasibility of land application of spoils based on chemical parameters.

Our team members have also completed wetland delineations and wetland restorations, compiled reference vegetative systems for plantings and designed landscape architecture. Our engineering team also recently evaluated DuPage County's stormwater mangement infrastructure and provided recommendations for future rehabiltation and conservation.

Fehr Graham not only provides qualifed field personnel for sampling, but we also has a team of stormwater permitting experts who have helped advance projects in dozens of counties in the state. They understand the intricacies of each county's stormwater management ordiance and permitting process.





## Relevant Experience

» DUPAGE COUNTY, ILLINOIS
STORMWATER CAPITAL ASSESSMENT EVALUATION
- Evaluated the structural integrity of the county's flood control facilities.

» CITY OF AURORA, ILLINOIS
MUNICIPAL SEPARATE STORM SEWER (MS4) PERMITTING
- Got water quality grab samples and determined in-situ water parameters.
- Provided permitting assistance.

» KOLB-LENA, ILLINOIS
YELLOW CREEK STREAM STUDY
- Provided continuous sonde water quality and flow rate study.
- Completed biological assessments.

» ROCK RIVER, ILLINOIS
ROCK RIVER WATERSHED GROUP NARP
- Provided nutrient reduction planning through water quality data collection.

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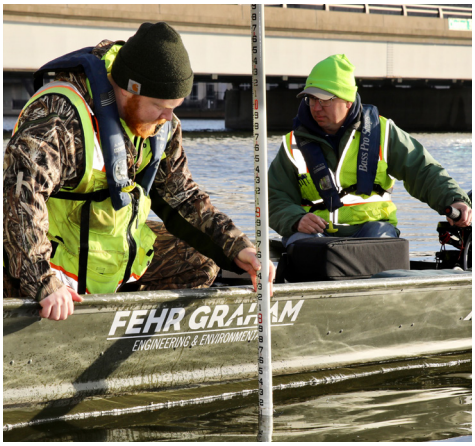


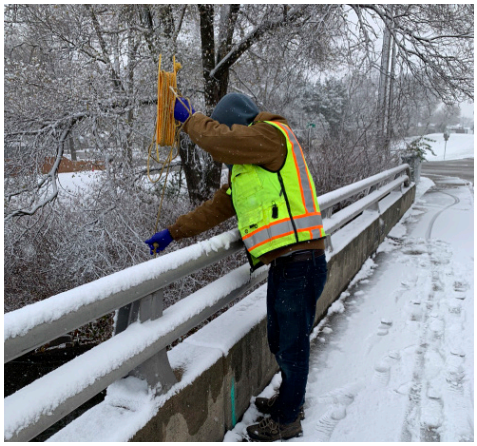

# MS4 monitoring, validation and summary ensures compliance

AURORA, ILLINOIS

AURORA ILLINOIS

**CLIENT CONTACT**
**John Hoffmann**
**Engineering Coordinator**
630.256.3244
hoffmannj@aurora.il.us

**PERIOD OF SERVICES**
2012 to Present

**CONTRACT VALUE**
$56,500 (annual)

## PROJECT TEAM

**SENIOR BIOLOGIST**
Matt Drabik

## AT A GLANCE

- Quarterly ambient sampling.
- Quarterly stormwater sampling.
- Annual outfall inspections.
- Chemical analysis.
- In-situ data, lab data and data sheets from each sampling.

Since 2012, Fehr Graham has served as the trusted partner of the City of Aurora, delivering comprehensive Municipal Separate Storm Sewer Systems (MS4) monitoring services. This collaboration ensures the City's compliance with the instream monitoring mandates set by the Illinois Environmental Protection Agency (EPA) under General National Pollutant Discharge Elimination System Permit No. ILR40 for MS4.

Fehr Graham conducts quarterly ambient sampling at strategically chosen sites: three along the Fox River and three along Indian Creek within the City limits. We also perform quarterly sampling of specific stormwater discharges after rainfall at six locations – two along the Fox River, one along Blackberry Creek and three along Waubonsee Creek – all within City limits. We also conduct annual outfall assessments to identify potential illicit discharges.

During the MS4 storm sewer outfall assessment, our team partners with an Engineering Technician from the City for on-site fieldwork. This assessment covers storm sewer outfalls within designated City watersheds on a four-year rotation, focusing on 15 priority outfalls. Simultaneously, we update the GIS database. At our Aurora office, Fehr Graham maintains a weather station to monitor rainfall, triggering stormwater sampling when a quarter inch of rain is recorded within 24 hours.

Our team plays a pivotal role in providing the City of Aurora with essential data for submission to the Illinois EPA, ensuring compliance with permit regulations. Our commitment to excellence extends beyond data collection, encompassing the comprehensive support to meet and exceed regulatory standards.

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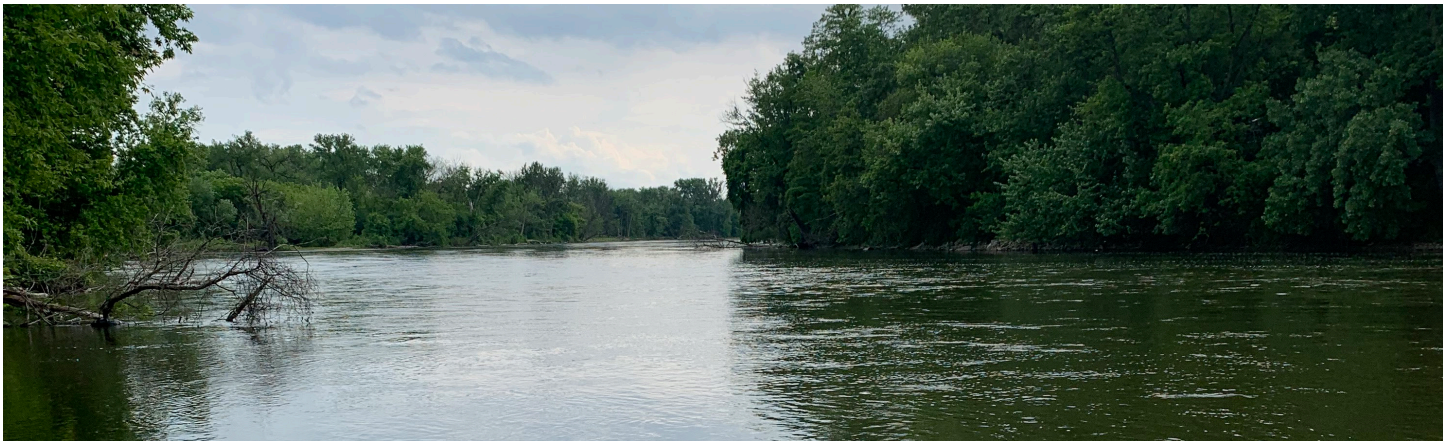

# Nutrient Assessment and Reduction Plan helps meet permit requirements

NORTHERN ILLINOIS

ROCK RIVER
Watershed Group

**CLIENT CONTACT**
Greg Cassaro
Director of Plant Operations
Four Rivers Sanitation Authority
RWWG Chair
815.387.7605
gcassaro@fourrivers.illinois.gov

**PERIOD OF SERVICES**
Early 2021 to Present

**CONTRACT VALUE**
Phase I: $77,500
Phase II: $735,000 (estimate)

## PROJECT TEAM

**PROJECT MANAGER**
Karoline Qasem, PhD, PE, PMP, CFM

**BIOLOGIST**
Matt Drabik

## AT A GLANCE

- Project coordination with RRWG and monthly meetings.
- Preliminary water quality data review and data gaps assessment.
- NARP objectives and work plan development.
- Study development monitoring and field data verification.
- Watershed and instream water quality models development.
- Water quality summary report writing.
- Regulatory support.

The Rock River Watershed Group (RRWG) is a coalition of stakeholders dedicated to preserving and improving the water quality of the Rock River Watershed.

As part of its National Pollutant Elimination System (NPDES) permits, RRWG's Publicly Owned Treatment Works (POTWs) members are required to develop a Nutrient Assessment and Reduction Plan (NARP) study to identify point and nonpoint source reductions to eliminate phosphorus-related impairments in the Rock and Kishwaukee rivers.

Fehr Graham, in collaboration with a consulting team, leads the NARP study development. As the team lead, Fehr Graham provides project updates, assigns roles, addresses concerns, coordinates data monitoring and plans future steps at monthly RRWG meetings.

As part of Phase I, the consulting team reviewed historical publicly available water quality data within the Rock and Kishwaukee watersheds. Preliminary findings revealed the need for further monitoring to identify the sources of phosphorus input to these watersheds.

In Phase II, Fehr Graham conducted continuous water quality data at 16 locations and discrete water quality data at 17 locations in both rivers. This data underwent a rigorous three-tier review process, encompassing cross-referencing continuous data with discrete samples, visual investigations and detailed field sheet reviews. We presented and discussed the data with the RRWG members and incorporated feedback.

RRWG also obtained data from the United States Geological Survey (USGS), the Illinois Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA). This data was summarized in a report and submitted to the Illinois EPA to meet the regulatory requirement.

The consulting team is developing a watershed model using the Soil & Water Assessment Tool (SWAT) and an instream model using Water Quality Analysis Simulation Program (WASP). The models will be used to simulate the conditions of both rivers, serving as the baseline model. Alternative scenarios will be compared against this baseline model to determine the most effective management strategy for addressing phosphorus-related impairments in the Rock and Kishwaukee rivers.

The project outcomes will be documented in a final NARP document, which will be submitted to the Illinois EPA to satisfy the NARP NPDES special conditions for all POTW members.

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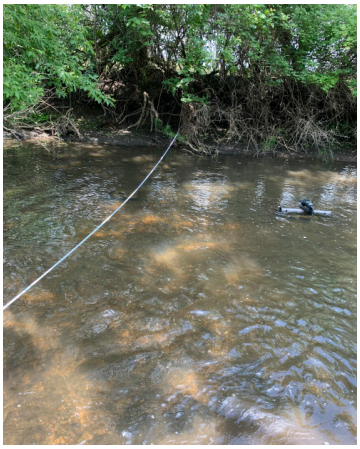
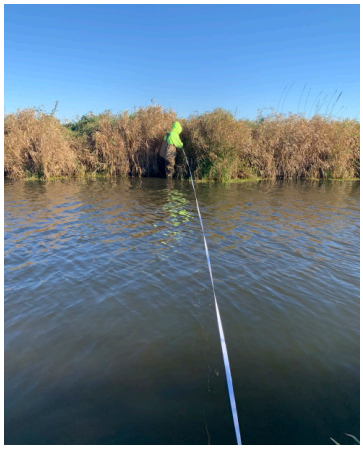
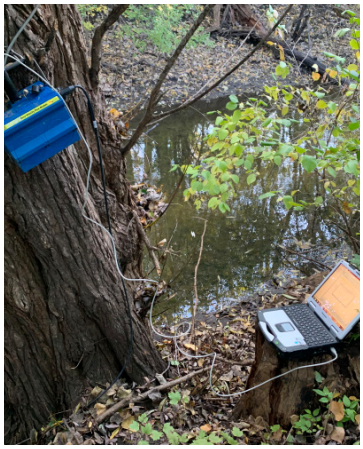
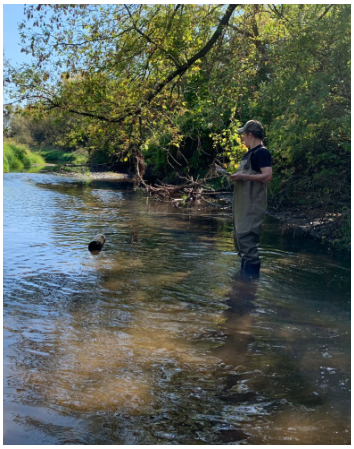

# Water monitoring provides required data for permit requirements

HUNTLEY, ILLINOIS

HUNTLEY
ILLINOIS

**CLIENT CONTACT**
Tim Farrell
Director of Public Works and Engineering
847.515.5285

**PERIOD OF SERVICES**
March 2021 to December 2021

**CONTRACT VALUE**
$58,025

## PROJECT TEAM

**BIOLOGIST**
Matt Drabik

## AT A GLANCE

- Developed a QAPP and submitted to the Illinois EPA.
- Provided continuous water quality and flow monitoring.
- Performed discrete water quality sampling.
- Provided quality assurance and quality control of data.
- Submitted all results to the client.

Like so many Illinois communities, the Village of Huntley is required to comply with its National Pollutant Discharge Elimination System (NPDES) permit. When the Illinois Environmental Protection Agency (EPA) required a Nutrient Assessment Reduction Plan (NARP) to comply with the permit, the Village hired Fehr Graham to help.

We teamed up with engineering firms Geosyntec and Engineering Enterprises Inc. (EEI) to make it happen, working with both consultants to fulfill NARP requirements.

To fill the required data gaps to develop the NARP, Fehr Graham performed water quality and low flow monitoring to the south branch of the Kishwaukee River. Our team conducted continuous water quality monitoring using EXO sondes to collect dissolved oxygen, pH, conductivity and temperature. We deployed ISCO flowmeters to measure continuous total flow, level and discharge.

These were deployed upstream and downstream from the Wastewater Treatment Plant effluent discharges. The sondes and flow meters recorded data at 15-minute increments between May 3 and Oct. 29, 2021.

We collected water samples, downloaded data from the monitors and assessed habitats once in May, June, September and October. We assessed them twice in July and August. We worked closely with the Village and had a member of the Wastewater Treatment Plant staff regularly check our equipment.

We developed a Quality Assurance Project Plan (QAPP) and provided continuous water quality monitoring and discrete water quality sampling. Our team handled quality assurance and quality control for data before it was submitted to the client.

Once the NARP is fully developed, the NPDES special condition will be fulfilled for the Village. This provides an economical alternative to the Illinois EPA implemented standard.

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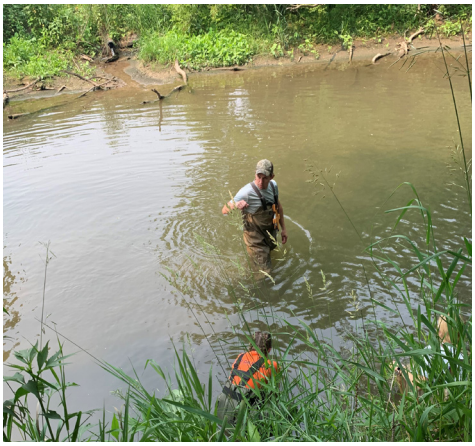
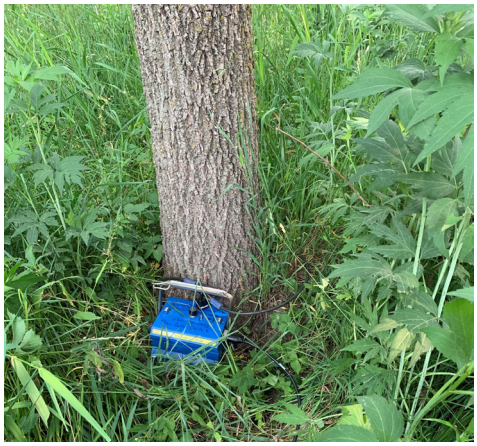
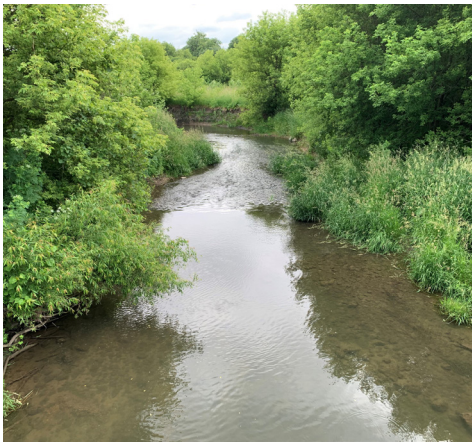

# Yellow Creek stream study ensures environmental stewardship

LENA, ILLINOIS

SAVENCIA FROMAGE & DAIRY | CHEESE USA

**CLIENT CONTACT**
James Baxter
**Project Engineer**
815.369.4577
james.baxter@savencia.com

**PERIOD OF SERVICES**
May 2023 to Present

**CONTRACT VALUE**
$79,250

## PROJECT TEAM

**PROJECT MANAGER**
Karoline Qasem, PhD, PE, PMP, CFM

**SENIOR BIOLOGIST**
Matt Drabik

## AT A GLANCE

- Biological sampling, including fish, macroinvertebrates, and freshwater mussel survey.
- Continuous and discrete water quality sampling.
- Continuous flow monitoring.
- Comprehensive Data review, validation and analysis.
- Water quality assessment report writing.

Fehr Graham collaborated with Savencia Cheese USA – Kolb-Lena in a comprehensive stream study to assess the water quality and health of Yellow Creek. This partnership started because of the proposed effluent discharge that might affect Yellow Creek's ecological balance so Fehr Graham could prepare and submit for a new National Pollutant Discharge Elimination System (NPDES) permit.

Kolb-Lena collected water quality and biological sampling at the proposed effluent outfall near the North Sunnyside Road Bridge derived from regulatory compliance and commitment to environmental stewardship. Parameters such as temperature, pH, dissolved oxygen, dissolved oxygen saturation and conductivity were recorded every 15 minutes from June 15 to Oct. 2, 2023. Discrete water quality samples were collected during bi-monthly site visits, targeting biochemical oxygen demand, nitrate-nitrite, ammonia nitrogen, total phosphorus, total suspended solids and fecal coliform. Fish sampling was conducted on an area spanning 100 meters downstream and 100 meters upstream of the proposed effluent location while macroinvertebrate sampling covered an area of roughly 150 feet upstream and downstream of the bridge. The mussel survey was conducted covering an area of 600 feet within the vicinity of the proposed outfall covering.

Following the data monitoring, Fehr Graham conducted a thorough data review and validation following standard methods. The review included creating timeseries plots, pie charts and summary statistics to assess the baseline condition of Yellow Creek. Overall, data showed that Yellow Creek is resilient and vibrant, despite the occasional spikes in some nutrient levels, potentially because of agricultural runoff. We documented data summaries in a Water Quality Assessment Report and shared in a PowerPoint presentation for Kolb-Lena.

Fehr Graham also supported Kolb-Lena in regulatory discussions to determine the expected effluent limits for the future discharger, and we identified the next steps to complete an antidegradation study to submit with the new NPDES permit application.

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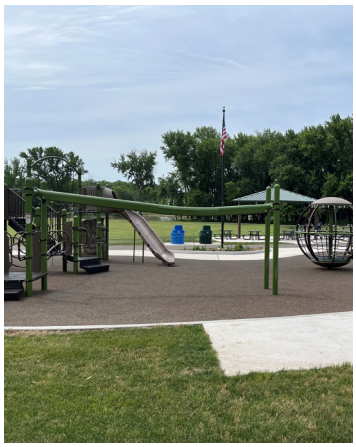

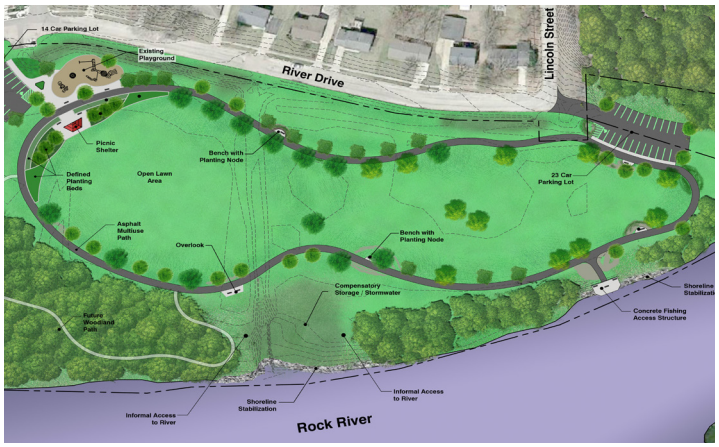


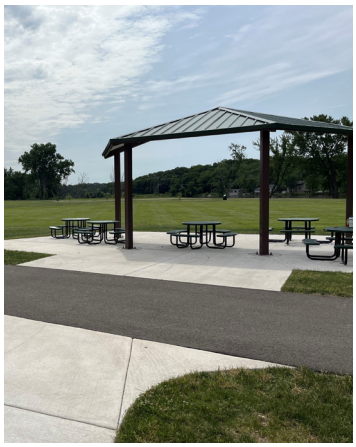

# Donald B. Johnson Riverfront Park: Land transformed with scenic paths, play areas

BYRON, ILLINOIS

The Byron Park District wanted to create the Donald B. Johnson Riverfront Park on 10 vacant acres along the Rock River. The Park District hoped to develop the area and add a multiuse path, event spaces with shelter and parking facilities, and playground equipment for children of all ages.

Park District officials hired Fehr Graham to prepare and submit applications to the Illinois Department of Natural Resources (DNR) through the Open Space Lands Acquisition and Development (OSLAD) grant program. The Park District successfully secured a $400,000 grant in 2020 to help fund the project.

Our team met with the Park District Board to present the site features and general vision for the riverfront park. It was important to create sight lines through the park and add access to the Rock River. With this in mind, the design included half a mile of looped multiuse path with frontage along the river. Because most of the site is within Special Flood Hazard Areas, notably the Floodway and Zone AE, the improvements needed to be permitted and completed following Illinois DNR Office of Water Resources and U.S. Army Corps of Engineers standards.

Our team oversaw this project from start to finish, assisting the Park District with conceptual plans, budget estimates and grant funding. Fehr Graham developed engineering plans and specifications for the improvements, completed permitting and provided support during construction. Work was completed in spring 2024.

BYRON PARK DISTRICT

**CLIENT CONTACT**
Nick Warner
Executive Director
815.234.6218
nwarner@byronparkdistrict.com

**PERIOD OF SERVICES**
February 2019 to 2024

**CONTRACT VALUE**
$110,000

**CONSTRUCTION COST**
$923,000

**FUNDING**
LOCAL/OSLAD

## PROJECT TEAM

**PROJECT MANAGER**
Jason Stoll, PE

**LANDSCAPE ARCHITECT**
Mark Decker, PLA

**SENIOR COMMUNITY DEVELOPMENT SPECIALIST**
Bridgette Stocks

**TRANSPORTATION PROJECT ENGINEER**
Brock Sutton, PE

## AT A GLANCE

- Conceptual Design Services.
- Riverfront Master Plans.
- Phase I and Phase II engineering.
- Landscape architecture services.
- Wetlands Delineation Report
- OSLAD grant application and grant administration services.
- Joint permit applications with Illinois DNR and U.S. Army Corps of Engineers.
- Bidding.
- Construction staking and layout.
- Shop drawing reviews.
- Construction administration.

# Key Personnel

THE VILLAGE OF HOMEWOOD 1893

**PROJECT MANAGER**
Matt Drabik

**PERMITTING**
Karoline Qasem, PhD, PE, PMP, CFM

**LANDSCAPE ARCHITECTURE**
Mark Decker, PLA, ASLA

**SENIOR ENGINEER**
Mark Halm, PE, BCEE

**WETLAND RESTORATION**
Alex Peters, PLA, PWS

Mannik Smith GROUP

**SISTER FIRM**

**POTENTIAL SUBCONTRACTORS**

First Environmental Laboratories, Inc.

**WATER AND SENDIMENT SAMPLE ANALYSIS**

METIRI

**WATER AND SENDIMENT SAMPLE ANALYSIS**

# Matt Drabik

## Senior Biologist

Matt Drabik is experienced in collecting stormwater data for analysis and permitting and putting the data in ArcGIS programs for modeling and analysis.

He has been involved in various studies using discrete and continuous water quality monitoring techniques. He has analyzed the data using the YSI KorEXO software and ArcGIS Pro programs. The purposes of these studies have ranged from Municipal Separate Storm Sewer Systems (MS4) compliance and permit renewals to watershed modeling and Nutrient Assessment and Reduction Plans (NARP).

### EDUCATION

**B.S. in Natural Resources and Environmental Sciences**
University of Illinois at Urbana-Champaign, 2013

**M.S. in Entomology**
University of Illinois at Urbana-Champaign, 2021

### CERTIFICATIONS

NAUI SCUBA Certified

Society of Freshwater Science
Macroinvertebrate Taxonomic Identification

Illinois Department of Natural Resources Aquatic Boating Safety Certification

Wetland Training Institute
Basic Wetland Delineation

ASTM Training on Phase I and Phase II Environmental Site Assessments for Commercial Real Estate

Confined Space Entry for General Industry
29 CFR 1910.146

### BIOLOGICAL AND WATER QUALITY SAMPLING FOR STREAM DEGRADATION STUDY

**Savencia Cheese USA | Village of Lena, Illinois**

Matt performed continuous water quality monitoring for several parameters using YSI ExoSondes and collected grab samples for testing of Volatile Organic Compounds, Polychlorinated Biphenyls, and Resource Conservation and Recovery Act metals. Matt also conducted freshwater mussel and fish surveys to determine the biotic health of the stream.

### BIOLOGICAL AND WATER CHEMISTRY MONITORING

**Fox Metro Water Reclamation District | Oswego, Illinois**

Matt performed discrete water quality sampling, maintenance of continuous sampling, multiparameter devices, and freshwater fish and macroinvertebrate sampling.

### STORMWATER OUTFALL ASSESSMENT

**City of Aurora, Illinois**

Matt conducted field outfall inspections to discern possible illicit discharges or connections within the City during dry weather.

### ELBURN WATER SYSTEMS ANALYSIS

**City of Elburn, Illinois**

Matt used ArcGIS to create maps used for modeling and analyzing the water systems throughout the City.

### NARP

- Woodstock Northside Wastewater Treatment Plant | Woodstock, Illinois
- Rock River Watershed Group | Rockford, Illinois
- Village of Huntley, Illinois

### QUARTERLY STORMWATER MONITORING FOR MS4 COMPLIANCE

- City of Aurora, Illinois
- Fox Metro Water Reclamation District | Oswego, Illinois

### NATIONAL POLLUTANT DISCHARGE ELIMINATION PERMITTING

Knollwood and Woodridge Greene Valley Wastewater Treatment Plants | DuPage County, Illinois

# Karoline Qasem, PhD, PE, PMP, CFM

## Project Manager

Karoline Qasem is an accomplished water resources engineer with extensive experience in stormwater management, watershed, water quality, hydrodynamic modeling, regulatory compliance, nutrient criteria limit development and watershed planning. With a strong background in urban hydrology, green infrastructure and stream restoration, she specializes in analyzing and modeling the impact of urban development and storms on waterways. Karoline has a proven track record of leading interdisciplinary teams to deliver comprehensive stormwater management solutions, leveraging her expertise in Python, ArcGIS, and hydrologic/hydraulic modeling tools.

### EDUCATION

**Ph.D., Civil Engineering**
University of Illinois-Chicago, 2018

**M.S., Urban Planning and Policy**
University of Illinois-Chicago, 2014

**B.S., Architectural Engineering**
Islamic University of Gaza-Gaza, Palestine, 2009

### PROFESSIONAL LICENSE

**Professional Engineer**
Wisconsin, #49181-6, 2022

### PROFESSIONAL CERTIFICATIONS

**Project Management Professional (PMP)**
#3847896, 2024

**Certified Floodplain Manager (CFM)**
#IL-24-00983, 2024

### PROFESSIONAL ASSOCIATIONS

Calumet Stormwater Collaborative-Committee Member
Illinois Water Environment Association Watershed Management Committee-Chair
American Society of Civil Engineers

### PUBLICATIONS

Qasem K., Andrew Barbeau (2025). Illinois Association for Floodplain and Stormwater Management (IAFSM) Conference. *2D Modeling Meets Real-World Flexibility: Managing Regulatory Challenges at the Geneva Fox River Crossing.*

Qasem K., Leonard Dane (2024). Illinois Wastewater Professionals Conference (IWPC). *Beyond Numbers: Long-Term Monitoring as a Cornerstone in NARP Implementation.*

Qasem K., Katrina Santos (2024). Illinois Association for Floodplain and Stormwater Management (IAFSM). *From Blueprint to Permit: Stormwater Compliance in Primrose Farm Expansion.*

### SANITARY SEWER RIVER CROSSING AND SCREENING BUILDING ENGINEERING

**City of Geneva, Illinois**
Karoline led the permitting effort to verify compliance with local regulations from the Illinois Department of Natural Resources (DNR) and the U.S. Army Corps of Engineers (USACE). She used HEC-RAS 2D to evaluate the surface water level increase because of the placement of two cofferdams in the Fox River.

### PRIMROSE FARM AGRICULTURE LAB SITE DRAINAGE STUDY

**St. Charles Park District, Illinois**
Karoline led the permitting effort to verify compliance with local stormwater regulations from the Illinois DNR and the USACE. The team used HEC-HMS to evaluate the effectiveness of the existing detention pond in detaining water resulting from the additional impervious cover of new developments and modifications to developments.

### PRIMROSE FARM AGRICULTURE LAB SITE DRAINAGE STUDY

**Oswego Park District, Illinois**
Karoline led the permitting effort to verify compliance with local stormwater regulations from the Illinois DNR and the USACE. The team used HEC-RAS 1D model to evaluate the surface water level increase because of replacing three round existing Hole #17 metal culverts at the Fox Bend Golf Course with one large rectangular concrete box culvert.

### PROGRAM MANAGEMENT OF STORMWATER MASTER PLANNING*

**Metropolitan Water Reclamation District of Greater Chicago (MWRD) | Chicago, Illinois**
Karoline assisted in MWRD Stormwater Master Plan to continue their effort toward resolving flooding issues by providing program management services within the combined sewer area. Specifically, She assisted in large-scale data collection and created a database for any planning effort in communities within MWRD service areas. Also, she helped identify innovative techniques to solve flooding issues locally and nationally.

### INDIAN CREEK WATERSHED SUPPORT*

**Chicago Metropolitan Agency for Planning | Kane County, Illinois**
Karoline served as the Technical Lead and Modeler for pollution load estimates and best management practices identification in the Mill Creek Watershed. Karoline prepared a database from publicly available weather and climate data for model development.

### CONDEMNATION AND FLOOD INUNDATION LITIGATION SUPPORT*

**Confidential Client | Houston, Texas**
Karoline was part of a team that supported Hurricane Harvey litigation related to flood inundation of private properties downstream of the Addicks and Barker reservoirs.

* Projects completed with previous employer.

# Mark Decker, PLA, ASLA

## Landscape Architect

Mark Decker is a creative force behind projects that stand the test of time. He specializes in planning and designing conservation and recreation spaces and excels in graphic communication and 3D modeling and rendering, where his designs transcend the ordinary. His background in ecology, natural resources, and art is the foundation for his work, which influences and elevates projects.

Mark thrives with a diverse portfolio that includes open space development, parks, green infrastructure, streambank stabilization, site planning, streetscapes, trail corridors and public plaza projects. What sets Mark apart is his passion for considering the environmental impact of design and his commitment to incorporating resilience into every solution.

### EDUCATION

**M.L.A. in Landscape Architecture**
University of Illinois at Urbana-Champaign, 2007

**B.A. in Biology**
Trinity Christian College, Palos Heights, Illinois, 1999

### PROFESSIONAL LICENSES

**Professional Landscape Architect**
Illinois #157.001331, 2009

**Professional Landscape Architect**
Wisconsin #868-14, 2023

### PROFESSIONAL ASSOCIATIONS

**American Society of Landscape Architects**
#1078767, 2005

United States Green Building Council

Sigma Lambda Alpha Honor Society

### RIVER FRONT NORTH MASTER PLAN AND DESIGN GUIDELINES

**City of Aurora, Illinois**

Mark worked with the City of Aurora to develop a Master Plan and design guidelines for a new mixed-use district in downtown Aurora. The new plan incorporates enhanced pedestrian zones to promote walkability and expanded urban greenspace. The guidelines provide design standards and material palettes for future development.

### GARFIELD PARK IMPROVEMENTS

**Decatur Park District, Decatur, Illinois**

Mark helped prepare redevelopment plans, led a community engagement effort and created conceptual plans that identified residents' needs and concerns. He helped the Park District find funding for improvements. Based on Mark's plans, the playground was awarded funding as a PlayOn! National Demonstration Playground because it met the criteria for fitness-based design. The park improvements were submitted for grant award consideration in the Illinois Department of Natural Resources Open Space Lands Acquisition and Development (OSLAD) program.

### BLACKBERRY CROSSING PARK PLAN

**Fox Valley Park District | Aurora, Illinois**

Mark prepared a phased plan for OSLAD grant funding for park improvements, including off-street parking, pickleball courts, splash pad, playground, sand volleyball court, basketball courts, restroom facility and games plaza.

### FAIRVIEW PARK FITNESS AND CHALLENGE COURSE

**Decatur Park District | Decatur, Illinois**

Mark worked with staff to develop plans for a destination playground, bike skills course and adult fitness area. The playground features a fitness challenge course and football-themed interactive play areas.

### STONES LANDING PARK IMPROVEMENTS

**Village of Machesney Park, Illinois**

Mark prepared a concept development plan to expand a riverfront park along the Rock River. Using his plans, the Village was awarded grant funding from the Illinois Department of Natural Resources Open Space Land Acquisition and Development (OSLAD) program to purchase properties within the proposed park. The proposed park includes an Americans with Disabilities Act-accessible fishing pier, open space restoration, an asphalt trail and a river overlook.

# Mark J. Halm, PE, BCEE

## Senior Project Manager

Mark Halm is a recognized leader in water and wastewater design, bringing decades of expertise to every project. As a driving force behind Fehr Graham's wastewater treatment plant designs, he leads planning, design and construction management for pump stations and treatment facilities. His deep industry knowledge and innovative approach make him an invaluable resource for complex infrastructure projects.

### EDUCATION

**B.S. in Civil Engineering**
Marquette University, 1990

**M.S. in Civil Engineering**
Marquette University, 1992

**M.B.A.**
Keller Graduate School of Management, 2000

### PROFESSIONAL LICENSES

**Professional Engineer**
Illinois #062-050076

**Board Certified Environmental Engineer**
American Academy of Environmental Engineers, 2012

### PROFESSIONAL ASSOCIATIONS

**Water Environment Federation**
Past Delegate
**American Water Works Association**
**Illinois Water Environment Association**
Past Executive Board Member

### PHASE I AND II WASTEWATER TREATMENT PLANT (WWTP) IMPROVEMENTS PROGRAM

**Fox Metro Water Reclamation District | Oswego, Illinois**

Mark was the Program Manager for the $50 million Phase I Improvements Program, overseeing three contracts that included temperature-phased anaerobic digestion, chemically enhanced primary treatment and hydraulic upgrades to support future Phase II work. He also led the $100 million Phase II Improvements Program, which upgraded the 36-million-gallons-per-day (GPD) North Facility for biological phosphorus removal and delivered a new 6 MGD South Facility along with a Fox River sewer crossing.

### PHASE I AND II WWTP IMPROVEMENTS

**Village of Addison, Illinois**

Mark served as Project Manager and Lead Engineer for Addison's wastewater treatment plant improvements. Phase I involved replacing six collection pump stations, upgrading an excess flow pump station and improving the Village's two treatment facilities. Phase II focused on digestion and dewatering upgrades. Mark also led the development of a Phosphorus Removal Feasibility Study and Discharge Optimization Plan, ensuring the Village met evolving standards.

### WWTP PHOSPHORUS REMOVAL DESIGN

**DuPage County, Illinois**

Mark was the Project Manager and Lead Process Engineer for the Phosphorus Removal Feasibility Study at the Knollwood and Woodridge Greene Valley WWTPs. He also managed the design and construction of phosphorus removal improvements at Knollwood and led the project for similar upgrades at Woodridge Greene Valley, ensuring both facilities met regulatory standards while enhancing operational efficiency.

### WWTP IMPROVEMENTS

- Phase I construction engineering | Freeport, Illinois
- Facility plan amendment | Freeport, Illinois
- Phase I headworks and chemically enhanced primary treatment | Freeport, Illinois
- Grit tank odor control | Fox Metro Water Reclamation District
- Raw sewage pump station odor control | Fox Metro Water Reclamation District
- Turbo blower installation | Fox Metro Water Reclamation District
- Master Plan development | Fox Metro Water Reclamation District
- Phase III-VII improvements | Salt Creek Sanitary District | Villa Park, Illinois
- Thickening Improvements | City of Plano, Illinois
- Screening, grit removal, biological nutrient removal, aerobic digestion and dewatering improvements | City of Plano, Illinois

### CITY OF MENDOTA, ILLINOIS

- Facility Plan | City of Mendota, Illinois
- Headworks and Supervisory Control and Data Acquisition improvements | City of Mendota, Illinois
- Disinfection Improvements | City of Mendota, Illinois

# Alex Peters, PLA, PWS

## Professional Background

Alex has a background in ecological restoration, native plant communities, wetland biology, storm water management, and green infrastructure. They research and document conservation efforts and prepare plans leading to successful restoration project development. Alex also has experience preparing watershed management plans, grant applications, ecological inventories, waterway permit applications, and park master plans.

## Experience

**Maumee Area of Concern Ecological Restoration Concept Plans, Ohio (Clients: Ohio EPA, Partners for Clean Streams) (Role: Restoration Ecologist)**
Developed 26 concept plans and two preliminary design plans for stream and wetland restoration projects in the Maumee Area of Concern. The plans present information related to existing conditions, current biological and habitat data, recommended restoration actions and their associated improvements to habitat and fish and macroinvertebrate populations, and a concept plan that works within site constraints to propose realistic options to improve stream and wetland habitat. In addition, project viability for 52 potential restoration projects throughout the Maumee AOC was assessed. *(Subconsultant services to TetraTech.)*

**Maumee Area of Concern Watershed and Beneficial Use Impairment (BUI) Assessments, Ohio (Client: Ohio EPA) (Role: Natural Resources Scientist)**
Evaluated current conditions of *BUI 8: Eutrophication and Undesirable Algae* and *BUI 11: Degradation of Aesthetics* in the Maumee Area of Concern (AOC). Prepared 20 HUC-12 scale assessment and problem definition documents to support the Maumee AOC Advisory Committee's (MAAC) subcommittee for BUIs: degradation to fish populations, degradation to benthos populations, and loss of fish habitat. *(Subconsultant services to TetraTech.)*

**Non-Point Source Watershed Restoration Plans, Ohio (Clients: Ohio EPA, Washington Township RecPlex and Centerville-Washington Park District) (Role: Restoration Planner)**
Developed habitat restoration plans for three sub-watersheds in the Maumee Area of Concern: Upper Blue Creek, Sibley Creek-Ottawa River, and Detwiler Ditch-Frontal Lake Erie, and for the Holes Creek sub-watershed in the Lower Great Miami River. These restoration plans conform to the Ohio EPA 9-element nonpoint source implementation strategy watershed management plan requirements and outline causes and sources of impairment to fish and benthos populations and habitat. The plans also outline future steps to remove impairment and restoration projects ready for implementation. *(Subconsultant services to TetraTech.)*

**Sylvan Prairie Park Master Plan, Sylvania, Ohio (Client: Outdoor Sylvania Community Parks) (Role: Landscape Architect)**
Performed a site assessment, participated in client and park board meetings, developed an online public survey, supported public meetings, and helped develop a master plan for Sylvan Prairie Park.

### Specializations

Ecological Restoration and Planning

Surface Water and Wetland Delineation, Mitigation, Waterways Permitting, and NEPA Compliance

Interpretive Signage Design

Grant Writing

### Education

MS Natural Resources and Environment, University of Michigan

MLA Landscape Architecture, University of Michigan

BS Plant Biology, University of Michigan

### Certifications / Affiliations

Landscape Architect, State of Ohio (#2401692)

Professional Wetland Scientist (#3828)

Michigan Certified Natural Shoreline Professional (#566)

OSHA 40-hr HAZWOPER training

Meets ODOT Prequalification Requirements for Ecological Surveys and Waterway Permits

ODNR Approved Mussel Surveyor for Reconnaissance Surveys

USACE 40-hr Wetland Delineation Training

### Years of Experience

With MSG 2017 - Present

# Subcontractors

Fehr Graham collaborates with the highest level of subcontractors, all of which are accredited Illinois Environmental Protection Agency-certified laboratories.

| | | |
|---|---|---|
|  | **First Environmental Laboratories**<br>Ryan Gerrick<br>1600 Shore Road, Suite D<br>Naperville, Illinois 60563<br>630.778.1200<br>ryan@firstenv.com | First Environmental Laboratories delivers the highest standard of testing and scientific services in the market, offering the most advanced solutions in the industry, backed by truly transparent data, a highly trained team, and the service and support that comes from decades of experience. |
|  | **Metiri Group**<br>Daniel Galeher<br>1950 S Batavia Avenue #150<br>Geneva, Illinois 60134<br>800.783.5227<br>daniel.galeher@metrigroup.com | The Metiri Group is on a mission to inform decisions through the use of laboratories that enhance people's lives and the sustainability of our plant. Laboratories generate unique and essential data sets to support the development of healthy communities, clean environments, and responsible stewardship. |

Fehr Graham will team with either First Environmental Laboratories or the Metiri Group to analyze the water and sediment samples for the appropriate parameters.

# Project Assessments

## Project Understanding

Our environmental team will provide the Village of Homewood with sound scientific data regarding the safety and status of the Prairie Lakes Stormwater Detention Facility. The evaluation of the facility will include continuous water quality monitoring, discrete grab sampling, vegetative evaluations and structural integrity assessments of the stabilized bank. We will provide a final report, describing the conditions of the basin and outlining the environmental health and safety of the facility regarding each water quality parameter.

Fehr Graham has a proven record of working with dedicated volunteer organizations with similar projects like the Homewood Izaak Walton Preserve. Members deserve to know that the 178-acre site they use for family gatherings, kayaking, hiking and fishing is safe, and that the Village of Homewood is committed to ensuring that it stays that way. Ensuring the safety of the preserve for members and the public requires a thorough assessment of all its components, including the settling/stilling basin, the wetland biofilter, the vegetated lake shelf and the outlet discharge structure.



## Detailed Work Plan/Deliverables

### Prairie Lakes Stormwater Detention Facility Scope of Work

Fehr Graham will provide the following scope of services:

- Mobilizing, demobilizing and decontaminating Fehr Graham sampling equipment.
- Traveling to and from the Fehr Graham office in Aurora, Illinois, to the project site in Homewood, Illinois (Cook County).
  - Developing a water and sediment sampling plan with a frequency designed to provide sound scientific data for the Village of Homewood to assess the health and safety of the detention basin.
  - Providing continuous and/or discrete sampling for a variety of toxic chemical parameters, including Fluoranthene, which was detected above the acute and chronic water quality standards in previous studies.
  - Documenting the methodology to ensure a proper sampling protocol and facilitate easily replicable and repeatable results.
  - Coordinating with an Illinois Environmental Protection Agency (EPA) accredited laboratory (Metiri or First Enviro) to ensure that analytic results and analysis follow proper testing procedures.
- Assessing the condition of, and developing a conservation plan for, the biofilter of native vegetative species (aquatic and terrestrial) within the project area.

- Taking inventory of the terrestrial and aquatic vegetative species on-site and estimating the percentage cover of each native species versus invasive species.
- Developing a restoration plan, a reference vegetative ecosystem, a planting and seeding schedule, and providing maintenance and monitoring benchmarks in line with the Village of Homewood's goals.

» Assisting the Village of Homewood with regulatory compliance and corresponding with government agencies, including the Illinois EPA.

- Providing documentation of the analytical results to the relevant agencies and outlining the methodology to ensure complete transparency is provided to the public.

> Working side by side with Fehr Graham for the betterment of our community and the environment has been an outstanding experience, and **I highly recommend them for your consulting needs**.
>
> **MATT HECKMAN**
> **Public Works Director**
> City of Dixon, Illinois

# References

**City of Aurora, Illinois**
John Hoffmann
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44 East Downer Place
Aurora, Illinois 60507
630.256.3244
hoffmannj@aurora.il.us

**Rock River Watershed Group**
Greg Cassaro
Director of Plant Operations
Four Rivers Sanitation Authority
RWWG Chair
3501 Kishwaukee Street
Rockford, Illinois 61109
815.354.9586
gcassaro@fourrivers.illinois.gov

**Village of Huntley, Illinois**
Tim Farrell
Director of Public Works and Engineering
10987 Main Street
Huntley, Illinois 60142
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**Savencia Cheese USA**
James Baxter
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3990 North Sunnyside Road
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**Byron Park District**
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