

# whks

engineers + planners + land surveyors

## Third-Party Alternative Analysis for Farm Creek Trunk Sewer

Statement of Qualifications



Photo by Jim Gee, obtained with permission from the Washington Chamber of Commerce

» **SUBMITTED TO:**  
Dennis Carr, P.E.  
City Engineer  
City of Washington  
301 Walnut Street  
Washington, IL 61571

September 8, 2021

3695 Sixth Street Frontage Road W, Suite A  
Springfield, IL 62703  
Phone: 217.483.9457  
Email: springfield@whks.com  
Website: www.whks.com

**whks**

engineers + planners + land surveyors

September 8, 2021

Mr. Dennis Carr, P.E.  
City Engineer  
City of Washington  
301 Walnut Street  
Washington, IL 61571



RE: Third-Party Alternative Analysis for Farm Creek Trunkline Sanitary Sewer Project

Dear Mr. Carr:

The WHKS Team is qualified and interested in completing a third-party analysis of routing alignments for the Farm Creek Trunkline Sewer. Our team members have extensive experience providing route location analysis for underground utility projects, with a focus on minimizing disruptions, managing risk, and balancing cost and non-cost priorities.

We will review and offer suggestions on the alignments previously studied, without any preconceived ideas of the "best choice". Our team's qualifications and experience allow us to complete this work without reinventing the wheel, saving the City time and resources.

Scott Hunt of our Springfield office will be our designated project manager and single point-of-contact with the City, if selected for this work. Scott's career began in 1995 with the Illinois Environmental Protection Agency (IEPA) and transitioned to the consulting field in 1999.

*"We brought Scott Hunt to our firm because of his excellent reputation serving Illinois municipalities with their infrastructure needs. The references of his clients speak volumes to his attention to detail and quality of work and are consistent with our core values here at WHKS."*

-Fouad Daoud, P.E., S.E.  
WHKS & Co. President and CEO

If selected for this project, the design work will be led and managed from our office in Springfield, IL office. We know the project schedule is important to all parties and we can begin the analysis upon Notice to Proceed.

We acknowledge receipt of electronic copies of the Preliminary Engineering Study for the Farm Creek Trunk Sewer, the presentation made by Aptim on behalf of the property owners, and the presentation given by Strand.

We appreciate the opportunity to present our Statement of Qualifications. If you have any questions about the information contained in our submittal, please contact Scott Hunt at 217.483.9457 or by email at shunt@whks.com.

Sincerely,

**WHKS & co.**

A handwritten signature in blue ink, appearing to read "Scott D. Sanford".

Scott D. Sanford, P.E., S.E.  
Vice President, Springfield Office Manager

**0 1 - 0 3**

---

Project  
Understanding and  
Work Plan

**0 4**

---

Comparable  
Projects, Success,  
Experience

**0 5 - 1 0**

---

Project Experience

**1 1**

---

Key Personnel,  
Experience with  
Budget/Schedules

**1 2 - 1 9**

---

Resumes

**2 0**

---

Firm Profile, Office  
Locations, Contact  
Information

## Project Understanding

The City of Washington is seeking an independent analysis of the Farm Creek Trunkline Sanitary Sewer project. This includes a third- party analysis of at least five alternative alignments prepared by two different consultants, preparing recommendations, and presenting information to the Washington City Council. Our approach will utilize and respect these previous studies, while providing a “fresh look” to deliver the analysis in a timely and efficient manner.

## Project Approach / Work Plan

1. Review Strand’s October 2019 report in detail to gain a full understanding of the hydraulic, alignment, I/I, access and maintenance issues with the existing Farm Creek trunk line sewer.
2. Review the 7/12/21 Property Owner’s presentation to the City prepared by APTIM and compare it to Strand’s original study to fully understand the differences between the alignments. Document the property owner’s primary concerns.
3. Review the 7/26/21 Strand presentation in which three additional Alignments C, D, and E were evaluated by Strand in response to the Property Owner’s presentation and noted concerns.
4. Once WHKS has fully reviewed the subject reports, a kick-off meeting will be scheduled with the City of Washington to:
  - a. Go over our understanding of the reports and issues at hand
  - b. Outline to the City our approach to providing a fully independent 3rd party review of the sewer alignments
  - c. Conduct a preliminary site inspection of the alignments to photograph the site conditions along each alignment
5. General summary of alignments to be analyzed:
  - a. Alignment B: Strand’s original recommended alignment from their October 2019 Study
    - i. Generally located south of the RR and Farm Creek, routed away from the creek, but still generally in the Farm Creek bottom lands
  - b. Alignment D: One of Strand’s alternative alignments evaluated after the Property Owner’s presentation
    - i. Generally located south of the RR and Farm Creek but further south than Alignment B and the floodplains, and through the Shellbark Court development
  - c. Alignment E: One of Strand’s alternative alignments evaluated after the Property Owner’s presentation
    - i. Generally located north of the RR and Farm Creek well north of the wetlands and floodplains
    - ii. Similar to Property Owner’s Alignment D-1

### 1 REVIEW

- Review Previous Reports and Presentations
- Attend Kick Off Meeting with City

### 2 ANALYZE AND INVESTIGATE

- Analyze Alignments
- Conduct any Additional Investigations
- Meet with Stakeholders

### 3 REPORT

- Summarize Findings
- Meet with City to Review
- Present Findings to City Council

## Sanitary Sewer + Environmentally Sensitive Area + Construction Issues = WHKS Success



A 50-year old sewer line through Munn Woods, a beloved natural public area in Ames, was a prime candidate for inspection and repair.

A non-profit Friends of the Park group, neighbors, and people who enjoy the area inquired about the inspection plan and possible disturbances to their beloved woods.

The City asked WHKS to help with the public information effort. The more the two groups talked to each other - in extensive and numerous public meetings - the more they understood each other's concerns.



In the end, the two groups agreed to a crushed rock path into the woods that would accommodate the sewer vacuum truck. The design reduced grading and protected specimen trees. A stream crossing was constructed of stepping stones instead of concrete.

**Satisfied Client and Stakeholders = Successful Project!**

## Project Approach / Work Plan (Continued)

5. General summary of alignments to be analyzed: (Continued)
  - d. Alignment D-1: One of the two alignments recommended by the Property Owner's in their 7/12/21 presentation
    - i. Generally located north of the RR and Farm Creek well north of the wetlands and the majority of the floodplains
    - ii. Similar to Strand's Alignment E
  - e. Alignment E-3: One of the two alignments recommended by the Property Owner's in their 7/12/21 presentation
    - i. Same as Alignment D-1 with the exception of a shorter section in the middle of the alignment that is routed through the floodplain and not to the north like Alignment D-1
  - f. Alternate Alignment(s): Any potential alignment or combination of alignments that may be discovered during the 3rd party analysis
    - i. WHKS will keep an open mind and evaluate any additional alignments that may be discovered while being cognizant of the amount of effort and money that has been spent on this project to date. WHKS's intent is to provide an independent 3rd party review and work as closely needed with the existing firms as a team to choose an alignment that is truly in the best interest of the City for many years to come.
6. Analyze and compare each alignment with the following as the primary focus of concern:
  - a. Constructibility
    - i. Sewer and manhole depths
    - ii. LF of directional drilling/jack & bore
    - iii. Groundwater/de-watering
    - iv. Clearing & grubbing
    - v. Terrain
  - b. Easements
  - c. Construction costs
  - d. Environmental impacts
  - e. Farmland impacts
  - f. Residential impacts
  - g. Wildlife impacts
  - h. Accessibility for future maintenance

## How WHKS Is Helping Another Progressive Midwest Community:

A Profile of Rochester, MN



As a long-standing sanitary sewer consultant for the City of Rochester, WHKS has been the lead consultant for route analysis and design of:

- 66" Zumbro River Interceptor
- 60" 12th Street Bypass Trunkline
- Siphons crossing the Zumbro River, Soldiers Field, and Cascade Creek at Kutzky Park
- North Broadway Sanitary Sewer Relief Line
- 48" 1st Avenue Trunkline Phases 1, 2, 3 and 4
- 9 ½ St. Relief Line
- Cooke Park Trunk Line improvements
- 1st Avenue / Ramp #6 Relief Line
- Government Center Siphon/1st Avenue Relief Line
- Numerous sanitary sewer extensions



## Project Approach / Work Plan (Continued)

7. Conduct a LiDAR-based elevation check of the alternate alignments to verify elevations and depths in the previous reports and bring the level of detail of these alignments closer to Alignment B.
8. Perform any required wetland delineations and floodplain evaluations not already completed by the previous firms.
9. Perform any archaeological Phase I surveys (as needed) along the recommended routes that haven't already been completed by the previous studies.
  - a. WHKS doesn't recommend performing Phase 1 studies on all alignments. To narrow the alignments down to one or two options, Phase 1 investigations may be performed to determine if one is a viable alignment, without significant archaeological issues.
12. Assist the City and Strand with any unresolved US Army Corps of Engineers (USACOE) correspondence or investigations.
13. Personally meet with all property owners along the proposed alignments and document their comments and concerns.
14. Summarize the analysis and recommendation in a draft written report for review with the City.
15. Conduct a 90% progress meeting to meet with the City to review our findings, recommendations, and draft report.
16. Prepare a final bound written report of the third-party analysis, recommendation, and any public comments received during the conversations with affected property owners.
17. Attend a council meeting to present the final report and feedback received during the public hearing.

## Comparable Recent Experience of Similar Size and Scope

The following pages provide details of WHKS team experience for planning, design, and construction services for sanitary sewer projects.

## Experience in Developing Route Options, Environmental Impacts and Construction Issues

WHKS has extensive experience with evaluating and developing route alignment alternatives, considering constructibility, construction costs, and alternative methods of construction such as trenchless technology, if applicable.

Our Water/Wastewater Services Department has a proven track record for developing solutions for:

- Interceptor, trunkline, and gravity sewer planning and design
- Wastewater system master planning
- Collection system improvements
- Inflow/Infiltration (I/I) reduction programs

WHKS has a history of helping clients design and execute sanitary sewer projects using trenchless and innovative techniques to produce less environmental, technical, and social disruptions than may have been initially anticipated.

If required, we have a track record of successfully coordinating archaeological Phase 1a and environmental Phase 1 reviews and can provide environmental coordination, wetland delineation and mitigation, and endangered species review in-house.

During planning and design phases, we work to minimize construction, traffic, and community impacts. When issues are identified, we work with the client and stakeholders to discuss and evaluate solutions to minimize impacts.

## Success of Previous Projects in Other Midwest Communities

**Rochester, MN**  
Since 1967

- Completed over **\$26.6 Million** in Trunkline Sewer Projects Since 2000 (Route location, planning, design, construction engineering)
- Currently preparing the City's **Wastewater Master Plan**
- City's "go to" sanitary consultant!

**Mason City, IA**  
Since 1948

- Completed City's I/I Reduction Program Phases 1-5
- Since 2007, have designed **\$18.7 Million** in sanitary sewer system improvements
- Planned and designed multiple projects at the City's WWTP

**Ames, IA**  
Since 2014

- Prime consultant for Sanitary Sewer System Evaluation Projects, Phases 2 and 3
- Projects have included work in **environmentally-sensitive** areas and creative construction/public outreach efforts to **facilitate consensus**

# 1ST AVENUE NE SANITARY SEWER RELIEF LINE

## ROCHESTER, MINNESOTA

WHKS evaluated alternatives and designed the 1st Avenue relief line in downtown Rochester, Minnesota. WHKS conducted a hydraulic analysis for sanitary sewer affected by the development along 3rd Avenue and 4th Street SE, which have sanitary sewer lines that flow to the siphon at the Government Center. Alternative alignments evaluated pipe elevations, available downstream sewer lines capacity, constructability issues, coordination with future projects, and provided cost opinions.

The selected alternative included re-routing the gravity sewer and Government Center siphon north along 1st Avenue NE and connecting to the existing 48"-inch diameter sewer trunk main at 1st Avenue and 1st Street NE. This option provides capacity for additional development south of 3rd Avenue and 4th Street and provides capacity for downtown development by relieving sanitary sewer flows on the existing trunk mains on Broadway Avenue.

To construct the relief line, an existing parking ramp was demolished and reconstructed. The construction of a new 6-story parking ramp provided an opportunity to construct part of a new sanitary trunkline along two blocks of 1st Avenue, accelerating the timeframe for design.

WHKS staff coordinated extensively with utility companies, stakeholders, and businesses, and other interested parties affected by the project. Specifically, WHKS coordinated with the City's parking enterprise and the City library staff to determine construction and phasing considerations to minimize disruption to City services.



*Project under construction*

### CLIENT NAME

City of Rochester, Minnesota

### CONTACT

Christopher Petree  
 Director of Public Works  
 201 4th Street S.E., Room 108  
 Rochester, MN 55904  
 (507) 328-2525  
 cpetree@rochestermn.gov

### CONSTRUCTION COST

\$8.2 M

### COMPLETION DATE

2017

### SERVICES PROVIDED

- Preliminary investigation and analysis
- Hydraulic analysis
- Alternative alignment evaluation
- Geotechnical investigation and tunneling analysis (by subconsultant)
- Topographic survey
- Utility coordination
- Multi-agency coordination
- Permitting
- Cost estimates

# 1ST STREET NW SANITARY SEWER DIVERSION

## ROCHESTER, MINNESOTA

The North Broadway reconstruction project replaced the existing sanitary sewer serving the Destination Medical Center (DMC) and downtown Rochester. During storm events, the sanitary sewer experienced surcharging and as development occurs in the DMC area, the surcharges were expected to increase. The project diverted the sanitary sewer and provided relief to the sewer north of downtown.

To help facilitate the new sewer design, the existing sewers were diverted to an existing 48" sanitary sewer line. The DMC diversion project redirected Broadway sewers to facilitate the construction on North Broadway.

WHKS conducted a preliminary analysis to reroute a sanitary line, completed a topographic survey of the corridor, and assisted the City with utility relocation requests and utility design meetings.

The route crossed a spur line and required coordination with the Canadian Pacific Railroad to discuss work on railroad property, permitting requirements, and construction schedule. WHKS also coordinated with Rochester Public Utilities to determine the extent of the water main replacement work.

During plan review, the City decided to close North Broadway Avenue to traffic during construction. WHKS prepared traffic control and detour and directional signing plans.

The project included the connection of all services along the corridor. Construction techniques used open-cut installation of the sewer main, with a jack and auger installation under the Canadian Pacific Railroad spur line. The project also included ADA-compliance review and sidewalk design, reconstruction of the curb and gutter, water main installation, and concrete roadway reconstruction.



### CLIENT NAME

City of Rochester, Minnesota

### CONTACT

Matt Crawford, P.E.  
 Public Works Department  
 201 4th St. SE, Room 108  
 Rochester, MN 55904  
 (507) 328-2400  
 mcrawford@rochestermn.gov

### CONSTRUCTION COST

\$1,827,225 (estimated)

### COMPLETION DATE

2020 - Design

### SERVICES PROVIDED

- Survey
- Sanitary sewer design
- Water main design
- Sidewalk design
- Traffic control plans
- Railroad coordination
- Utility coordination
- Permitting assistance
- Bidding assistance
- Construction administration

## NORTH BROADWAY SANITARY RELIEF SEWER ANALYSIS AND DESIGN, PHASE 3 AND 4

### ROCHESTER, MINNESOTA

The WHKS/CH2M Hill Team provided a preliminary design analysis to construct the North Broadway Sanitary Sewer Relief Line. The sanitary sewer relief line provides needed capacity in downtown Rochester from approximately 4th Street to 12th Street. The preliminary engineering alternatives considered alignments and extents based on surface and subsurface conditions that would impact cost and constructability. Known or suspected issues were abandoned gas stations, the potential for contaminated soils, the potential crossing of the DM&E Railway, and interference issues with many buried utilities and infrastructure. There were five alternate routes studied.

Critical project issues included minimizing traffic and business impacts during the sanitary sewer construction. Broadway Avenue is the City's major local north-south arterial and posed traffic management challenges. Alternative traffic management concepts were developed, corresponding to the most favorable sewer system reconstruction approaches.

The Team reviewed the findings of the geotechnical report to determine construction methods for each alternate, including a detailed analysis of tunneling methods. Both open-cut and tunneling methods were used in the construction of the projects.

The design elements consisted of a 60-inch diameter sanitary sewer relocation, the replacement of other utilities, and replacement of streets and sidewalks. A 48-inch diameter sewer was constructed using a phased approach through an urban area.



### CLIENT NAME

City of Rochester, Minnesota

### CONTACT

Dillon Dombrovski, P.E.  
 City Engineer  
 201 4th Street SE  
 Room 108  
 Rochester, MN 55904  
 (507) 328-2525  
 ddombrovski@rochestermn.gov

### CONSTRUCTION COST

\$2.3 M (Phase 3)

### COMPLETION DATE

2009

### SERVICES PROVIDED

- Alignment analysis in an urban area
- Evaluation of impacts to utilities, traffic, and the public
- Phase 1 Environmental Assessment
- Sanitary sewer design
- Cost estimates

# CRESCENT VALLEY SANITARY SEWER EXTENSION

## LA CRESCENT, MINNESOTA

WHKS provided survey and design services for a sanitary sewer extension to serve approximately 14 properties in the Crescent Valley area that were annexed into the City of La Crescent.

During the preliminary engineering phase, the ultimate sanitary sewer service area was determined and sewer routing alternatives were prepared to include the current and future developments in the City. The routing options included a siphon, a gravity sewer along CSAH 25, and a gravity sewer in the low area southwest of the project site. WHKS performed topographic survey and met with property owners to identify the location of the existing on-site treatment (septic) systems.

WHKS assisted the City with preparation of the preliminary assessment roll and the initial public hearing. During this phase, WHKS prepared a summary letter to address the preliminary engineering items and the Minnesota Statue 429 Assessment requirements.

WHKS prepared final plans and specifications and the documentation required for obtaining property easements. The work included water main design for the areas of East Lane and West Lane.



### CLIENT NAME

City of La Crescent, Minnesota

### CONTACT

Bill Waller  
 City Administrator  
 315 Main Street  
 P.O. Box 142  
 La Crescent, MN 55947-0142  
 (507) 895-4668  
 bwaller@cityoflacrescent-mn.gov

### CONSTRUCTION COST

\$879,407

### COMPLETION DATE

2012

### SERVICES PROVIDED

- Feasibility study
- Survey
- Sanitary sewer and water main design
- Assessment assistance
- Easement preparation
- Bid phase services
- Cost estimates
- Construction survey
- Construction administration

## SANITARY SEWER EXTENSION TO SERVE MANTOR DRIVE

### MANTORVILLE, MINNESOTA

WHKS provided engineering services for the construction of a sanitary sewer to serve the Mantor Drive area in Mantorville. The initial feasibility study evaluated a larger region to determine the service area and estimate construction costs.

The project included extending the sanitary sewer to 18 homes that were experiencing older, failing septic systems. A grinder pump system was the most feasible option due to the site and building locations. A gravity sewer was constructed for the discharge of the grinder pump and for future development. The gravity sewer crossed a stream and was within close proximity to a historic site.

WHKS assisted the City with funding and grant applications. The City received a 50% grant from the State while the other half was funded through the Clean Water Fund.



*Mantor Drive*

#### CLIENT NAME

City of Mantorville, Minnesota

#### CONTACT

Camille Reber

City Clerk

21 5th Street East

Mantorville, MN 55955

(507) 635-5170

creber@kmtel.com

#### CONSTRUCTION COST

\$440,000

#### COMPLETION DATE

2010

#### SERVICES PROVIDED

- Feasibility study
- Sanitary sewer design
- Cost estimates
- Funding application assistance

# SLATTERLY PARK WEST 10TH STREET SE SANITARY SEWER RELIEF LINE IMPROVEMENTS

## ROCHESTER, MINNESOTA

WHKS conducted a preliminary analysis and provided final design services to upsize the existing sanitary sewer main based on the findings of the Rochester PA3 (Downtown Area) Capacity Study.

The analysis provided the City with two alignment options. WHKS recommended the 9-1/2 Street SE alignment which addressed the need to increase sanitary sewer trunk line capacity in the Slatterly Park West area. Corresponding traffic impacts, minimizing road closures, and utility relocations were resolved during final design.

WHKS coordinated with City staff, City Council, Olmsted Medical Clinic, and project area residents throughout the project.

### CLIENT NAME

City of Rochester, Minnesota

### CONTACT

Dillon Dombrovski, P.E.  
City Engineer  
201 4th Street SE  
Room 108  
Rochester, MN 55904  
(507) 328-2525  
ddombrovski@rochestermn.gov

### CONSTRUCTION COST

\$1.2 M

### COMPLETION DATE

2015

### SERVICES PROVIDED

- Sanitary sewer design
- Topographic survey
- Permit application assistance
- Bid letting assistance



## Experience of Recent Projects of Similar Size and Scope

WHKS team members participated in the design of the projects listed in the preceding section.

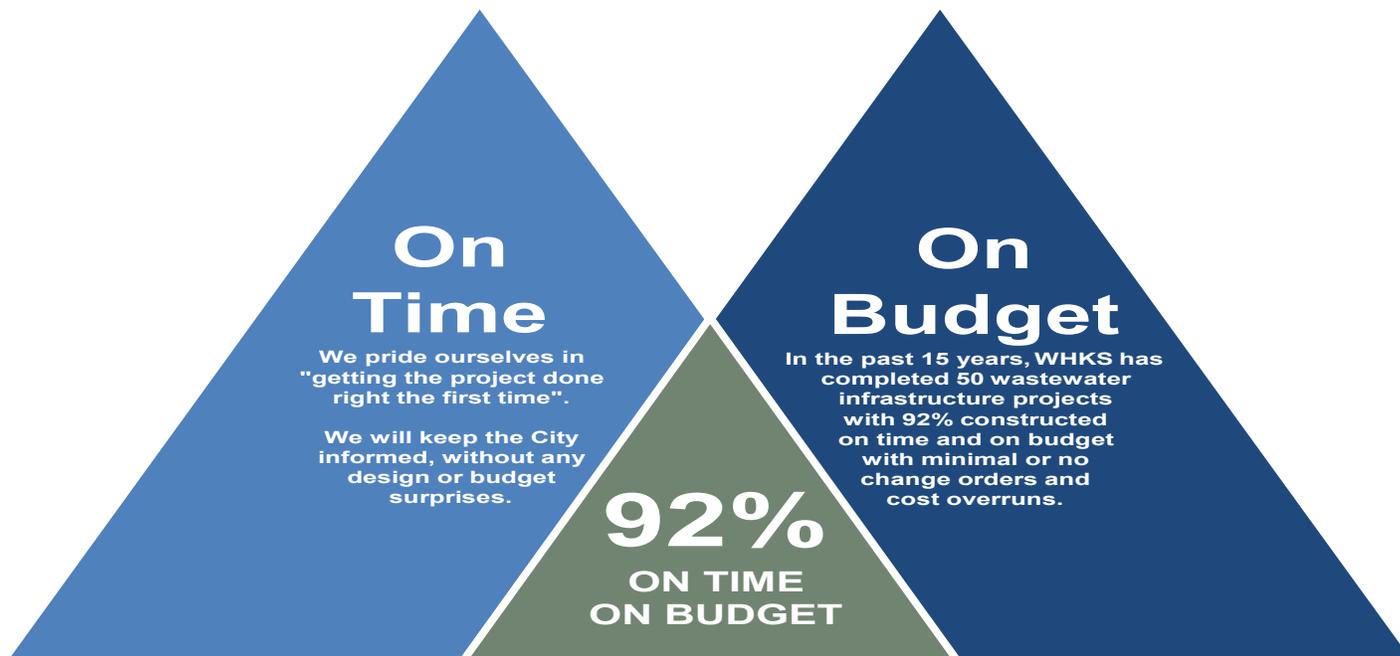
### Key Personnel

The following table provides an overview of the key team members and their primary areas of responsibility and experience.

WHKS Team Member	Experience Leveraged to Washington Farm Creek Trunk Sewer	
<b>Scott Hunt, P.E.</b> Project Manager	» Sanitary sewer system planning, design, and construction	» Alignment / routing analysis » Local / City coordination
<b>Angie Kolz, P.E.</b> Project Engineer	» Collection system planning, design, and construction, including alignment analysis	» I/I Reduction » GIS
<b>Bill Angerman, P.E.</b> Project Principal	» Wastewater and sanitary sewer system planning, design, and construction	» Alignment / routing analysis » Master planning
<b>Jim Loehr</b> Technical Advisor	» Sanitary sewer system planning/design » Field Investigations	» Constructibility reviews » Construction engineering services

## Ability to Meet Schedule and Budget on Similar Projects

We understand the City of Washington wishes to move forward with consultant selection and the Notice to Proceed to keep the project moving. WHKS is ready and available to complete this analysis to meet the City's expectations for a recommendation in early 2022.



### Professional Qualifications and Design Experience

Resumes of our key staff members are provided in the following section.

### Workload Capacity and Ability to Provide a Range of Personnel for Tasks

WHKS can begin work on this project upon Notice to Proceed. WHKS has the staff capacity, availability, and flexibility in our workload to complete the analysis.

## Scott L. Hunt, P.E.

### Municipal Project Manager



Scott L. Hunt, P.E. is the Springfield Municipal Team Lead. He manages projects related to preliminary studies and facility plans for municipal water and wastewater projects. Mr. Hunt specializes in the design and construction administration of water supply, treatment, and distribution systems as well as wastewater collection, pumping, and treatment systems.

As a previous employee for the Illinois Environmental Protection Agency, Mr. Hunt is well-versed with the permitting and evaluation processes for water and wastewater improvement projects.

Mr. Hunt effectively communicates with municipal clients, developers, contractors, and regulating authorities. He has an extensive background conducting public meetings and public hearings.

#### » EDUCATION

B.S. Degree in Civil Engineering from Southern Illinois University at Carbondale, 1993

#### » REGISTRATION

Licensed Professional Engineer: Illinois

#### » PROFESSIONAL EXPERIENCE

WHKS & Co. (2021-Present)

Hurst-Rosche, Inc. (1999-2021)

Illinois Environmental Protection Agency (1995-1999)

#### » PROFESSIONAL ACTIVITIES

- Member, American Society of Civil Engineers
- Member, American Water Works Association

#### » TECHNICAL EXPERIENCE

- Wastewater collection, pumping, and treatment systems
- Water supply, treatment, distribution, pumping, and storage facilities
- Municipal wells
- Construction administration
- Grant and loan applications
- Regulatory permitting

## Scott L. Hunt, P.E.

### SELECTED PROJECT EXPERIENCE

#### 1999-2021

##### **Rend Lake Conservancy District 18-Inch Water Main Alignment Evaluation, Easements, and Design for West Frankfort, Illinois**

Project manager for studying available alignments for a 20,000 LF finished 18-inch water line from West Frankfort, IL to Johnson City, IL, along existing railroad right-of-way and an overhead electrical easement. The project included working with City land acquisition staff, easement and permitting assistance, public outreach, evaluation of wetlands and environmental impacts, preparation of design documents, and construction phase engineering services.

##### **Deer Run Raw Water Intake and Finished Water, Raw Water and Sanitary Sewer Transmission Mains for the City of Hillsboro, Illinois**

Project manager for assisting the City and the local mine to provide raw water, finished water and sanitary sewer to a new 2,000+ acre coal mine site. The work included the design of a 7MGD pump station, 22,000 LF of 24-inch raw water transmission line; 16,000 LF of 12-inch finished water line; sanitary sewer lift station and 8,000 LF of sanitary force main along an existing railroad and City right-of-ways and state highways. The work also included a new pump station building, easement and permitting assistance, public outreach, evaluation of wetlands and environmental impacts, preparation of design documents, and construction phase engineering services.

##### **Ameren/City of Hillsboro 36-Inch Sanitary Sewer Alignment Evaluation for the City of Hillsboro, Illinois**

Project manager for assisting the City and Ameren to evaluate various alternatives for relocating the City's main 36-inch trunk line sewer around Ameren's coal tar deposit. Provided technical support for various alignments as well as cost estimates and environmental and property owner impacts for each alternative. The work included preparation for and attendance at numerous meetings regarding the engineering design on behalf of the City.

##### **Wastewater System Improvements for the Village of Donnellson, Illinois**

Project manager for sanitary sewer collection system and wastewater treatment plant rehabilitation.

##### **Sanitary Sewer Collection System Capacity, Management, Operation, and Maintenance (CMOM) Reports for the Cities of Girard, Raymond, and Hillsboro, Illinois**

Project manager for CMOM reporting.

##### **Water and Wastewater System Improvements for the Village of Raymond, Illinois**

Project manager for wastewater treatment plant trickling filter, numerous water and sewer main, water tower repainting, and well designs.

##### **Septic System Improvements at Beaver Dam State Park, Royal Lakes, Illinois**

Project manager for septic system recirculation system.

##### **Wastewater Improvements at Southern Illinois University at Edwardsville**

Project manager for wastewater treatment plant sludge drying bed rehabilitation.

Additionally, Mr. Hunt has been the project manager for numerous sanitary sewer extensions and lift stations for the Cities of Hillsboro, Fillmore, Raymond, Girard, Collinsville and Vandalia, Illinois.

## William K. Angerman, P.E.

**Executive Vice President, Chief Operating Officer,  
Water and Wastewater Engineer**



William K. Angerman, P.E. is the Executive Vice President and Chief Operating Officer at WHKS. He serves as principal in charge on all water resources, environmental engineering, and water and wastewater projects for the firm.

His wastewater project experience includes facility treatment planning, design and construction, sewer planning and design, inflow and infiltration (I/I) studies, data collection, and GIS database development.

Mr. Angerman also designs, evaluates and reviews projects concerning open channel flow, water and sewer pumping plants, piping systems, and subsurface drainage. He has designed pipeline systems for both water and wastewater projects, including water storage towers and distribution systems.

His municipal project experience covers the planning and design of streets, trails and parking areas, urban transportation studies, and residential and commercial site development as well as stormwater and sanitary master planning projects.

Mr. Angerman is an effective communicator and participates in city council and zoning board presentations, meetings and public hearings for a wide variety of infrastructure and improvement projects. He is skilled in navigating the regulatory permitting process as well as assisting with grant and loan funding.

### » EDUCATION

B.S. Degree in Civil Engineering from Michigan Technological University, 1994

### » CONTINUING EDUCATION

**Presenter:** Minnesota Wastewater Association: I/I Rehabilitation Techniques used in Rochester, Minnesota, January 2010

**Presenter:** Minnesota Wastewater Association: I/I Field Rehabilitation Techniques, July 2010

**Presenter:** Iowa Water Pollution Control Association Annual Conference: I/I Data Collection, Analysis, and Reduction, June 2009

**Presenter:** Iowa DNR Region 2: Mason City's I/I Removal Program, April 2010

**Presenter:** IAWEA Conference, March 2013 and Minnesota Wastewater Operators Association Conference 2014: Smoke Testing for Indirect Cross Connections: What Works and What Doesn't

**Guest Speaker:** Minnesota Dept. of Health Southeast District Water Operators School: 4th Street SW (St. Marys) Water Reservoir, Rochester, Minnesota, March 2014

**Presenter:** SE Minnesota Wastewater Operators Section Meeting: Dredging Lake Zumbro, February 2018

### » REGISTRATION

Licensed Professional Engineer: Minnesota, Iowa, Illinois, and Wisconsin

### » PROFESSIONAL EXPERIENCE

WHKS & Co. (1994-Present)

### » PROFESSIONAL ACTIVITIES

- Member, American Society of Civil Engineers
- Member, American Water Works Association
- Member, Minnesota Society of Professional Engineers

### » TECHNICAL EXPERIENCE

- Wastewater collection, pumping, and treatment systems
- Wastewater Facility Operations and Maintenance (O&M) manuals
- Water supply, treatment, distribution, pumping and storage facilities
- Water storage tank evaluations
- Municipal wells
- Trenchless pipeline installation
- Utility master planning
- Subdivision review
- Environmental assessment worksheets
- Grant and loan applications
- Regulatory permitting

## William K. Angerman, P.E.

### SELECTED PROJECT EXPERIENCE

#### **Sanitary Sewer Collection System Master Plan for the City of Byron, Minnesota**

Project manager for master planning, design and construction administration for the development of approximately 1,300 acres of residential, commercial, golf course and industrial development. Analysis included evaluating capacities of the City's existing interceptor sewers and lift stations and providing locations and sizing for the future interceptor sewers and lift stations.

#### **South Sanitary Sewer Service Area Analysis for the City of Byron, Minnesota**

Principal in charge for a sanitary sewer service area analysis that evaluated options for expanding sanitary sewer services to a new sewershed.

#### **East Lane Sanitary Sewer Extension for the City of La Crescent, Minnesota**

Project manager for extension of sanitary sewer to serve East Lane in the Crescent Valley area.

#### **1st Avenue NE Relief Sanitary Sewer for the City of Rochester, Minnesota**

QA/QC for alternative evaluation, hydraulic analysis, and design for the 1st Avenue relief line microtunnel and gravity relief line in downtown Rochester. Phases A, B, C, and D.

#### **East Zumbro River Sanitary Sewer Interceptor for the City of Rochester, Minnesota**

Project manager for a 66"-diameter interceptor sewer along the Zumbro River from 37th Street NW to 13th Street NW.

#### **North Broadway, Phases Three and Four, Sanitary Interceptor Sewer Analysis and Design for the City of Rochester, Minnesota**

Principal in charge for a 60-inch and 48-inch diameter interceptor sewer through residential and urban areas in the City. The project involved detailed alignment analysis and open cut and tunneling construction methods.

#### **Sanitary Sewer Master Plan for the City of Rochester, Minnesota**

Principal in charge and QA/QC for development of a new sanitary sewer wastewater master plan.

#### **Sanitary Sewer on 12th Street North for the City of Rochester, Minnesota**

Project manager for design of a 60"-diameter interceptor sewer from West Silver Lake Drive NE to Second Avenue NW and along 2nd Avenue to Cascade Creek.

#### **Slatterly Park West Sanitary Sewer Relief Line Improvements for the City of Rochester, Minnesota**

Principal in charge for analysis and design to upsize existing sanitary main, evaluation of storm sewer, and interceptor sewer preliminary design and routing.

#### **Gilmore Valley Sanitary Sewer Planning and Lift Stations for the City of Winona, Minnesota**

Project manager for providing sanitary sewer service to Gilmore Valley. Design included interceptor sewer sizing, lift station feasibility, project staging, river crossing analysis, and the design of two new pre-packaged lift stations that included one lift station pumping to the other.

#### **NW Interceptor Sewer, Phase 2, for the City of Zumbrota, Minnesota**

Principal in charge for reconstruction of the 18 and 21-inch diameter northwest interceptor sanitary sewer main and the replacement of all associated manhole structures.

## Angela C. Kolz, P.E.

Senior Associate, Water and Wastewater Practice Lead



Angela C. Kolz, P.E. is a Senior Associate, Water and Wastewater Practice Lead, and Ames Municipal Team Lead at WHKS. She has experience in a broad range of public works improvements, including drainage design and evaluations, stormwater management, sanitary and water systems, and feasibility studies.

Ms. Kolz has been involved in numerous comprehensive inflow and infiltration (I/I) reduction studies and design projects in Iowa and Minnesota. Her I/I project experience focuses on risk analysis of collection system defects, trenchless and cost-effective rehabilitation techniques, and both public and private sector programs. Her extensive field work includes sanitary sewer flow monitoring, mapping and GIS database improvements, manhole observations, flow measurements, and smoke testing.

Her wastewater experience includes the evaluation, design, and construction engineering of wastewater treatment plants, biosolids handling, and sanitary sewer collection systems, including lift station pumping and controls.

Ms. Kolz also provides construction engineering services, including coordinating activities during construction, observation of work, preparation of pay estimates, change orders, and project closeout documents.

Ms. Kolz is an effective communicator, and has a diverse background in working with municipal clients, City Councils, contractors, and regulating authorities. She is experienced with environmental and historic review processes, and the regulatory permitting processes required for municipal projects, including State Revolving Fund (SRF) and Community Development Block Grant (CDBG) funding.

Publications co-authored by Ms. Kolz include "Chemical Treatment Technologies", Remediation Technologies for Soils and Groundwater (American Society of Civil Engineers), "Degradation and Metabolite Production of Tylosin in Anaerobic and Aerobic Swine-Manure Lagoons", Water Environment Research (Water Environment Federation), and Sorption of Tylosin onto Swine Manure, Chemosphere.

### » EDUCATION

B.S. Degree in Civil Engineering from Iowa State University, 2002

M.S. Degree in Civil Engineering from Iowa State University, 2004

### » CONTINUING EDUCATION

American Society of Civil Engineers: GIS Applications for Water, Wastewater, and Stormwater Systems

Iowa Water Environment Association: Nutrient Reduction Annual Conference, 2016 Wastewater Funding and Treatment Options, 2017

University of Wisconsin: Nutrient Removal Engineering: Phosphorus and Nitrogen in Wastewater Treatment

Iowa State Revolving Fund Sponsored Projects, 2017

### » REGISTRATION

Licensed Professional Engineer: Iowa and Minnesota

### » PROFESSIONAL EXPERIENCE

WHKS & Co. (2005-Present)

### » PROFESSIONAL ACTIVITIES

- Member, Iowa Water Environment Association
- Member, National Society of Professional Engineers
- Member, Minnesota Society of Professional Engineers (MnSPE)
- MnSPE Southeast Chapter MathCounts Coordinator, 2005-2016
- MnSPE Review Course Instructor, Water and Wastewater

### » TECHNICAL EXPERIENCE

- Nutrient reduction planning and design
- Wastewater collection, pumping, and treatment systems
- Wastewater collection system evaluation and rehabilitation
- Private sector programs for I/I reduction
- Flow monitoring
- GIS infrastructure management of public utilities
- Stormwater conveyance design
- Water supply, distribution, pumping, and storage facility evaluation
- Regulatory permitting
- Computer modeling
- Construction administration
- On-site observation

## Angela C. Kolz, P.E.

### SELECTED PROJECT EXPERIENCE

#### **County Road 3 Sanitary Sewer Lift Station, Force Main, and Gravity Flow Sewer for the City of Byron, Minnesota**

Project engineer for sewer sizing and flow data analysis.

#### **Southeast Sanitary Sewer Extension Study for the City of Mantorville, Minnesota**

Project engineer for sewer sizing and flow data analysis for a sanitary sewer extension to serve properties south of the Zumbro River and east of Highway 57.

#### **1st Avenue NE Relief Sanitary Sewer for the City of Rochester, Minnesota**

Project manager for alternative evaluation, hydraulic analysis, survey, and design for the 1st Avenue relief line microtunnel and gravity relief line in downtown Rochester. Phases A, B, C, and D. The project included an extensive analysis of several blocks of downtown infrastructure including existing storm sewer.

#### **Comprehensive Plan for Sanitary Sewer Capacity for the City of Rochester, Minnesota**

Assistant project manager for preparation of a high level strategic planning document that will assist the City in making decisions for future investment in the trunk sewer system in support of growth beyond the current system's capacity.

#### **Cooke Park Sanitary Sewer Relief Line Project for the City of Rochester, Minnesota**

Project engineer for preliminary and final sizing and design of the Cooke Park sanitary sewer relief line.

#### **DMCC Infrastructure Planner Services, Rochester, Minnesota for Kimley-Horn and Associates, Inc.**

Project engineer for the development of methodology for identifying capacity-related and age-related improvements to the sanitary sewer, water, and storm sewer systems related to DMC development.

#### **Prairie Crossing Lift Station Analysis for the City of Rochester, Minnesota**

Project manager for flow modeling and system analysis that was performed of the lift stations, force mains, lift station sewer service areas, downstream sewer service area, and downstream sanitary sewer line capabilities.

#### **Sanitary Sewer Master Plan for the City of Rochester, Minnesota**

Project manager for development of a new sanitary sewer wastewater master plan.

#### **Sanitary Sewer on 12th Street North from 2nd Avenue to Cascade Creek for the City of Rochester, Minnesota**

Design engineer for Montana flume flow metering site on a 60" diameter interceptor.

#### **Slatterly Park West 10th Street SE Sanitary Sewer Relief Line and Storm Sewer Improvements for the City of Rochester, Minnesota**

Project engineer for preliminary analysis and design for upsizing the existing sanitary sewer main based on PA 3 (Downtown Area) Study. The storm sewer system was evaluated due to documented stormwater ponding issues. The work also included interceptor sewer preliminary design and routing.

#### **Overmeyer Drive Sanitary Sewer Analysis for the City of Algona, Iowa**

Assistant project manager for preparation of an Engineer's Report which identified problem areas in the sewershed and helped determine possible impacts to the sanitary sewer capacity. This project included an elevation survey of residential basements, review of sewer televising data, and smoke testing of the collection system along Overmeyer Drive.

## James M. Loehr

### Sanitary Technical Advisor



James M. Loehr is the Sanitary Sewer Technical Advisor to WHKS. Mr. Loehr also conducts field, development, and safety training for WHKS construction personnel and conducts on-site construction visits.

During his 39-year tenure with the City of Rochester, Minnesota Department of Public Works, Engineering Division, Mr. Loehr held various positions in the following departments:

- Survey and Materials Testing (1975-1979)
- Construction Inspection (1979-1993)
- Office and Assessment Manager (1993-1999)
- Water Quality Protection Program Manager (1999-2014)

He assisted with the development and implementation of the following City of Rochester initiatives:

- Special Assessment Abatement Program
- Alternative Connection Charge Policy
- Substandard Roadway Charge Policy
- Water Quality Protection Program Policies

Mr. Loehr established and maintained relationships with City personnel in multiple departments, utility companies, consulting engineers, and contractors. He has an extensive background performing construction observation services for projects of varying complexities and has provided observation and documentation to Federal and State project audit standards. He is experienced in corresponding with affected property owners, residents, neighborhood associations, and city councils during the project implementation, design, and construction phases.

As Project Manager for the City's Water Quality Protection Program, Mr. Loehr was responsible for the preparation and oversight of the City's 6-year, \$80 million Sewer and Water Capital Development Program and management of the City's Water Quality Protection Program. During his career, Mr. Loehr has amassed an extensive and diversified infrastructure design and construction background, and is experienced with the review of project plans for conformance to standards and specifications.

#### » EDUCATION

A.A. Degree in Engineering Technology from Rochester Community College, Rochester, Minnesota

#### » PROFESSIONAL EXPERIENCE

WHKS & Co. (2014-Present)

City of Rochester, Minnesota (1975-2014)

#### » PROFESSIONAL ACTIVITIES

- Member, North American Society of Trenchless Technology
- Board of Directors, Midwest Society of Trenchless Technology

#### » TECHNICAL EXPERIENCE

- Assists with plan and specification preparation, construction observation, documentation, and construction administration for the following types of projects:
  - Water supply, distribution, and storage facilities
  - Wastewater collection and pumping systems
  - Streets and parking areas
- Trenchless construction methods
- Trenchless rehabilitation methods
- Special assessments
- Public involvement and public facilitation
- Inflow and infiltration investigation and remediation
- Municipal budgeting and Capital Improvement Planning
- Project implementation, design, and construction

## James M. Loehr

### SELECTED PROJECT EXPERIENCE

#### **County Road 3 Sanitary Sewer Lift Station, Force Main and Gravity Flow Sewer for the City of Byron, Minnesota**

Project manager for construction of a sanitary sewer lift station, force main, and gravity flow sanitary sewer.

#### **1st Avenue NE Relief Sanitary Sewer for the City of Rochester, Minnesota**

Technical advisor for alternative analysis for the 1st Avenue relief line microtunnel and gravity relief line in downtown Rochester.

#### **1st Street NW Sanitary Sewer Diversion for the City of Rochester, Minnesota**

Project manager for survey and final design for rerouting a sanitary sewer line entering North Broadway at 3rd Street NW, and connecting to the existing 48" sanitary sewer at 1st Street North with connections of all service along the corridor to the new sewer main.

#### **Comprehensive Plan for Sanitary Sewer Capacity for the City of Rochester, Minnesota**

Project manager for preparation of a high level, strategic planning document that will assist the City in making decisions for future investment in the trunk sewer system in support of growth beyond the current system's capacity.

#### **DMCC Infrastructure Planner Services, Rochester, Minnesota for Kimley-Horn and Associates, Inc.**

Project manager for the development of methodology for identifying capacity-related and age-related improvements to the sanitary sewer, water, and storm sewer systems related to development.

#### **Sanitary Sewer Master Plan for the City of Rochester, Minnesota**

Technical advisor for development of a new sanitary sewer wastewater master plan.

While employed by the City of Rochester, Minnesota, Mr. Loehr served the City in the following capacities:

Mr. Loehr was the project manager for the extension of City water and sewer utilities under the City's Water Quality Protection Program (WQPP), providing service to 1,500 properties in and surrounding the City of Rochester that were previously served by private wells and septic systems. As part of WQPP, he was responsible for project development, public involvement, preparation and review of feasibility reports, plans and specifications, bidding processes, construction administration, and utility connection assistance and administration.

During his tenure as the Water Quality Protection Program Manager, Mr. Loehr successfully directed the planning, implementation, design and construction of over \$110 million in projects, including the following major developments:

- |   |                |
|---|----------------|
| • Water Quality Protection Program, Sanitary Sewer, and Water Extensions          | \$38.0 million |
| • Waste Water Treatment Plant Interceptor (84" dia.)                              | \$12.0 million |
| • Phases 1-4, East Zumbro River Sanitary Sewer Relief Line (48" - 66" dia.)       | \$17.2 million |
| • Phases 1 and 2, Kings Run Sanitary Sewer Relief Line (24" - 60" dia.)           | \$ 7.4 million |
| • Phases 1-3, Hadley Valley Trunk Line Sanitary Sewer (36" and 42" dia.)          | \$ 4.7 million |
| • Essex Park Lift Station and Force Main (24" dia.)                               | \$ 7.1 million |
| • Reconstruction of 1st Avenue SW and Sanitary Sewer Relief Line (24" - 42" dia.) | \$ 4.0 million |
| • Reconstruction of 6th Street SW   | \$ 2.5 million |
| • Kutzky Sanitary Sewer Relief Line   | \$ 3.2 million |
| • 50th Avenue NW, 2.0 MG Hydro-pillar High Level Water Tower                      | \$ 3.6 million |

## Firm Profile



engineers + planners + land surveyors

For 73 years, WHKS has successfully delivered successful transportation and municipal infrastructure improvement projects to cities, counties, state agencies, and private clients. WHKS has an excellent reputation for providing quality services, delivering innovative design solutions, meeting aggressive project schedules, and maintaining project budgets.

WHKS provides planning, surveying, design, and construction services for:

- » Wastewater treatment/collection systems
- » Water treatment, distribution, and storage systems
- » Streets, streetscapes, roadways and highways
- » Public utility systems
- » GIS and mapping
- » Hydraulics, hydrology, stormwater management, and drainage facilities
- » Funding assistance
- » Traffic planning and management
- » Bridges and culverts
- » Land development, subdivision layout, and commercial/industrial site design
- » Construction observation and administration
- » Site plan and plat review
- » Zoning/ordinance updates and review
- » Boundary, route, right-of-way, and topographic survey
- » Master Plan development
- » Community planning
- » Recreational and bicycle trails, park facilities (including fields)
- » Wetland delineation
- » Environmental services
- » Special assessments
- » Rate and utility studies

### Contact Information for Proposal

Scott Hunt, P.E.

WHKS & Co.

3695 S. 6th Street Frontage Road

Suite A

Springfield, IL 62703

217.483.9457, shunt@whks.com

www.whks.com

### WHKS Office Locations:

- » Mason City, IA
- » Ames, IA
- » West Des Moines, IA
- » Rochester, MN
- » East Dubuque, IL
- » Springfield, IL

**Office Location  
Responsible for /  
Managing the Project:**  
Springfield, IL

