

November 6, 2024

Mr. Peter Hartz, Manager
Watertown Wastewater Treatment Plant
800 Hoffman Drive
Watertown, WI 53094

Re: Request for Proposal (RFP) for Southwest Interceptor Extension – Phase 1 Route Refinement and Preliminary Design

Dear Mr. Hartz:

On behalf of Strand Associates, Inc.®, thank you for the opportunity to submit our proposal for the Southwest Interceptor Extension project. We are excited at the prospect of working once again with the City of Watertown. Selection of our firm will provide the City with an interceptor design that meets long-term capacity needs and provides a constructible, cost-effective solution. This is supported by the following factors:

- **Understanding of key technical issues provides the framework for a successful project.**
- **Familiar, trusted team provides the resources and local knowledge to deliver a streamlined project.**
- **Relevant railroad coordination, trenchless design, and environmental experience delivers full confidence in the management, design, and implementation of this project.**

Project Understanding and Approach

Understanding of Key Technical Issues Provides the Framework for a Successful Project

The City's proposed *Southwest Interceptor* extends from the existing Manhole 23B-004 at the Wastewater Treatment Facility and runs westerly to the intersection of Milford Street/Commerce Drive and then runs southwesterly within the Milford Street right of way to the southerly city limits. The proposed interceptor extension is approximately 5,800 linear feet in length and 24 inches in diameter. Additional capacity is needed in the city collection system because of development occurring in the southwesterly sanitary sewer service area. It is anticipated that this project will be split into two separate phases and will include Phase 1 – Route Refinement and Preliminary Design, and Phase 2 – Final Design and Permitting.

Goals for the project include the following:

- Route alignment that is sensitive to environmental assets and future development concerns along the corridor
- Evaluation of trenchless construction alternatives for the Union Pacific Railroad (UPRR) crossing
- Evaluation of trenchless and open-cut trench construction alternatives for crossings under the unnamed creek and wetlands
- Streamlined coordination with the UPRR and Wisconsin Department of Natural Resources (WDNR)



Existing MH 23B-004 looking west towards the proposed sewer alignment.



Existing MH 23A-091 at Milford/Commerce looking east towards the WWTP.

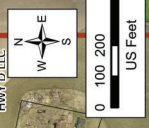


PROJECT LOCATION
WEST SIDE INTERCEPTOR
CITY OF WATERTOWN
JEFFERSON COUNTY, WISCONSIN



FIGURE 1
P240.929

- Legend**
- Proposed Interceptor
 - Sanitary Manholes
 - Water Main
 - Sanitary Sewer
 - Stormwater Manhole
 - Force Main
 - Inlet
 - Siphon
 - Stormwater Ditch
 - Interceptor
 - Stormwater Line
 - City Limits
 - Sanitary Lift Stations
 - DNR Wetland



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Thorough Approach Results in Cost-Effective Solutions Addressing Growing Capacity Needs

City Involvement

Our general philosophy and approach to project management is founded on strong communication with clients. We strive to collaborate frequently and, at the same time, keep the project focused and moving forward. We look to partner with the City to obtain design feedback throughout the entire project, including productive monthly design progress meetings. Our approach will combine our knowledge of the City's sewer collection system and operating preferences, and to provide an innovative design that meets the needs of the City.

Report Phase, Alternatives Analysis, and Preliminary Design

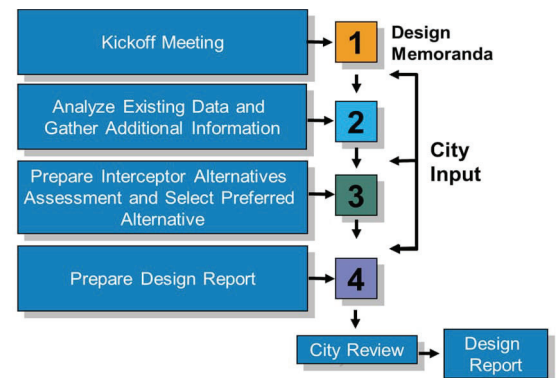
STEP 1 – Our project approach begins with a kickoff meeting of our team members with the City. The focus of the kickoff meeting will be to review available information and establish project objectives – the ‘needs’ and ‘wants’ – to begin the preliminary design process.

STEP 2 – This step includes analyzing existing data and gathering additional information. This will be achieved by reviewing the planning information already completed by the City, gathering our existing utility and base mapping information already on file, discussing the project with key stakeholders, and conducting site visits to review existing conditions.

STEP 3 – With the new information in hand, the team will prepare an assessment of interceptor routing alternatives for City review and, together, select a preferred route.

Components of the alternatives analysis will include items such as environmental considerations, depth of sewer, potential utility conflicts, constructability, soil/bedrock and water table location, number of needed easements, bypass pumping requirements, costs, and other relevant items. Initiating coordination with Jefferson County, utility companies, WDNR, and other project stakeholders will be critical during this step and will continue throughout the project. After a route is selected, we will prepare preliminary plan and profile drawings and an opinion of probable construction cost (OPCC) for the project.

STEP 4 – The final step in the report phase is to prepare a design report documenting key considerations, cost estimates, features, and design parameters for the recommended design. Our staff will make a formal presentation of the report to the City.



Thorough Interceptor Routing Analysis Produces the Most Desirable Alignment

To assist the City in choosing the ideal alignment, we will provide a simple yet effective alignment alternative comparison. We recently provided a similar comparison for the City's Allerman Lift Station and Force Main project. A summary of key considerations in evaluating the alternatives for this project include:

- Easement acquisitions
- Consideration of trenchless construction under UPRR
- Potential impacts to environmental resources
 - Wetlands
 - Unnamed Creeks
 - Northern Long-Eared Bat
- Maintenance access
- Construction costs/constructability

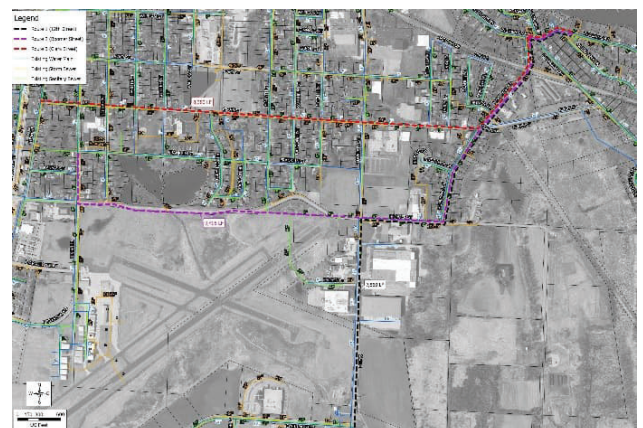


Figure used for the Allerman lift station force main routing analysis.

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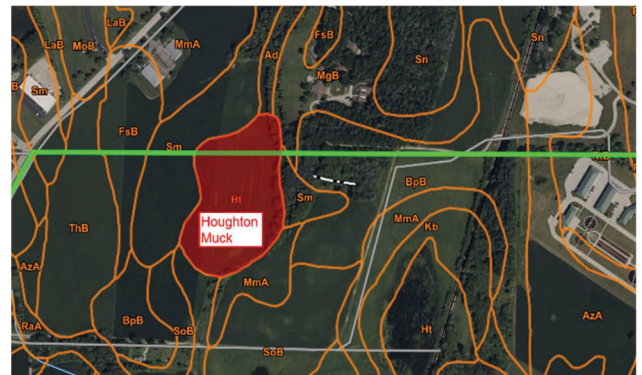
Constructible Design Produces Seamless Transition to Construction

Trenchless Construction – The crossing of the UPRR tracks will require trenchless construction. Trenchless construction can be challenging because of limited space for launch and retrieval shafts adjacent to the railroad tracks. We recognize the importance of understanding existing soil and groundwater conditions for trenchless construction during the design process. Our experience includes the design of utilities and casing pipes using horizontal directional drilling (HDD), microtunneling, and multiple auger bore and jack methods of construction for pipes ranging from 4 to 101 inches in diameter on 10 projects under railroads in the last 4 years.



Trenchless construction will be required under UPRR railroad tracks. Pilot Tube Guided Auger Boring (PTGAB) may be required at this crossing.

Groundwater and Soil Conditions – The proximity of the unnamed creeks and wetlands will certainly mean high groundwater levels are likely to be encountered throughout the corridor. Obtaining geotechnical borings during final design will be critical to understand the extent of groundwater and existing soils to be encountered during construction. A preliminary review of the National Resources Conservation Services' web soil survey shows Houghton Muck through a segment of the proposed interceptor route. Houghton soils consist of deep, very poorly drained soils formed in herbaceous organic materials in depressions and floodplains.



Sewer alignment may encounter poor organic soils, including Houghton Muck.

Unnamed Creek Crossings and Wetland Impacts

– Preliminary site walkthroughs and evaluation of the WDNR Surface Water Data Viewer indicate that significant sections of the corridor will likely be identified as wetlands. In addition, the proposed interceptor route crosses an unnamed creek in two separate locations. On previous similar creek crossing projects, the flow was low enough that the contractor was able to dam the creek and bypass pump around the open sewer trench. The City will need to obtain both **waterway and wetland** disturbance permits from the WDNR and receive a concurrence letter from the U.S. Army Corps of Engineers (ACOE). Our preliminary review indicates the unnamed creeks are not navigable waterways, nor special resource waters. This would indicate the City would be able to obtain a General Permit from the WDNR and ACOE for the creek crossings. Below is a breakdown of the General Permit process through the WDNR.



Wetlands and wetland indicator soils are consistent throughout the interceptor corridor.

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WDNR General Permit Process:

1. Review the appropriate *General Permit Checklist* to determine if the City's project meets the requirements.
2. Use the [WDNR Water ePermitting System](#) to begin and complete a General Permit application.
3. The WDNR has 30 days to review the application for completeness and notify the applicant. The WDNR can request additional information one time within these 30 days, which would pause the 30-day period until all information requested is received.
4. After the 30-day total review time, the WDNR will communicate a permit decision to the City.

The creek crossings and wetland impacts will be an item to discuss further with the WDNR and City during the final design phase to find the preferred approach for these crossings.

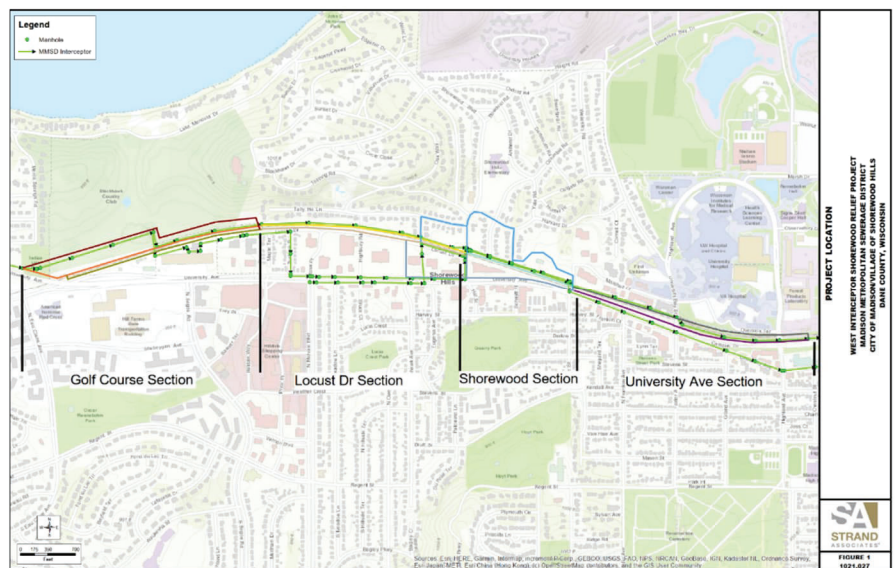
Firm Qualifications and Project Experience

Comprehensive Interceptor and Force Main Experience Delivers Full Confidence in the Management, Design, and Implementation of this Project

Our experience developing plans and designs for wastewater conveyance systems varies from projects that include sanitary flow monitoring, sanitary service area determination, and sanitary interceptor sizing, to extension and/or reinforcement of existing collection systems. In recent years, we have planned and designed more than 400 miles of sanitary sewer and pressure mains. This section describes two of our linear interceptor projects.

West Interceptor Shorewood Sewer – Madison Metropolitan Sewerage District (MMSD), Madison, WI

We are assisting the MMSD on the West Interceptor Shorewood Relief project that is under construction. Areas along the south and west edges of Lake Mendota are served by the West Interceptor and West Interceptor Relief sewers. Original sections of the two interceptors were constructed in 1916, 1932, and 1959, with sections now reaching capacity. An additional relief sewer was added between Walnut Street and Indian Hills Park to accommodate flows through 2070. This corridor has many challenges that extend through the City of Madison and Village of Shorewood Hills, including a busy traffic corridor along University Avenue, Wisconsin and Southern Railroad (WSOR) crossings, proximity of the University of Wisconsin Hospital, a commuter bike route, and a crowded utility corridor. We served as the Lead Engineer on this project that includes a significant public involvement, community, and agency coordination process, detailed alternatives analysis, environmental evaluations, soil borings, arborist review, permitting, and detailed interceptor design, including trenchless construction through the challenging WSOR railroad corridor.



West Interceptor Shorewood Relief preliminary alignment alternatives.

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Canadian Pacific and Kansas City Railway Crossing - Sanitary Sewer Construction – Dubuque, IA

From 2011 through 2022, we designed construction of approximately 6,000 lineal feet of sanitary sewer, including 36-inch and 24-inch interceptor sewer, and 15-inch, 12-inch, and 8-inch local sewers, over multiple construction phases. Pipe materials consisted of ductile iron, polyvinyl chloride (PVC) and fiber reinforced polymer (FRP) sewer. The final phase of construction included the trenchless construction (via microtunneling) of a 48-inch steel casing pipe and 36-inch Hobas sanitary sewer carrier pipe beneath the Canadian Pacific Kansas City Railway.



Thirty-six-inch Hobas FRP Sanitary Sewer.



Forty-eight-inch microtunneling machine used for steel casing installation beneath CPKC railway.

Project Team

Familiar, Trusted Team Provides the Resources and Local Knowledge to Deliver a Streamlined Project

Our familiar project team has a combination of City experience, knowledge, and credentials and is committed to providing a project that will meet the City's needs. **All team members are in our Madison office**, enhancing the effectiveness and efficiency of our team communications.

Project Manager

Eric D. Vieth, P.E., Senior Associate, has been involved in small- and large-diameter sanitary sewer conveyance projects for the last 20 years. Eric has been involved in numerous trenchless projects involving HDD, cured-in-place pipe (CIPP) rehabilitation, auger boring, pilot tube guided auger boring (PTGAB), and microtunneling. Eric served as the Project Manager for the \$70 million Upper Bee Branch Creek Restoration Project in Dubuque, Iowa. The final phase of that project included trenchless construction of six, 8-foot-diameter steel culverts beneath the Canadian Pacific Kansas City Railway (CPKC) yard and 48-inch steel casing pipe installed via microtunneling techniques with a 36-inch sanitary sewer carrier pipe. This project required extensive coordination with railroad staff and consultants, right-of-way acquisition, easement acquisition, and assistance with the City/Railroad Construction and Maintenance Agreement. Eric has also worked with the CSX Railroad, CN Railway, Wisconsin Southern Railroad, and UPRR on several trenchless utility projects for our municipal clients.



Eric is currently serving as the Project Manager for the City of Watertown's Allerman Lift Station and Force Main Preliminary Engineering project.

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Quality Control Engineer

Thomas G. Stetzer, P.E., ENV SP, will provide quality control review services for this project. Tom is a Professional Engineer in Wisconsin and has more than 18 years of municipal and utility engineering experience. Tom has led the design effort on a diverse range of sanitary sewer projects ranging from 8-inch local sewers to 63-inch interceptors. Tom has recent experience working with MMSD staff on the West Interceptor Shorewood Relief Sewer, Pump Stations (PS) 13 and 14 Improvements, Northeast Interceptor – Truax Extension Relief Sewer, PS 12 Force Main and Interceptor Relocation, Monona Southeast Interceptor Relocation, and PS 7 Improvements. Tom understands the level of detail that goes into interceptor design projects.



Project Engineers

Andrew B. Constant, P.E., ENV SP, will serve as a project engineer and perform any necessary hydraulic calculations. Andy has been with our firm for 10 years and has gained extensive experience in the design and construction observation of numerous sewer interceptor, force main, and pumping station projects. Andy's experience includes design of various collection system projects for Cottage Grove, La Crosse, NEW Water, Merrimac, Onalaska, Watertown, and Whitewater, Wisconsin; the Fox Metropolitan Water Reclamation District, Illinois; Dubuque, Iowa; and the Morgantown Utility Board, West Virginia. Andy has extensive experience in hydraulics, layout, and rehabilitation of all elements of wastewater collection systems and pumping stations, which will enable him to bring a well-rounded approach to this project.



Andy is currently serving as the Lead Design Engineer for the City of Watertown's Allerman Lift Station and Force Main Preliminary Engineering project.

Dakin J. Coons, P.E., will serve as a project engineer and perform the interceptor design. Dakin has been with our firm for more than 5 years and has experience providing sewer interceptor, force main, and sanitary lift station design and preparing permit applications for local, state, and federal agencies. Dakin also has extensive knowledge of AutoCAD Civil 3D, MicroStation, and Revit. Dakin has provided collection system design services for the Algoma Sanitary District, Manitowoc, Whitewater, Lancaster, Brooklyn, and MMSD.



Project Schedule

The schedule presented below illustrates a task breakdown of the Phase 1 project.

Southwest Interceptor Design - Watertown, Wisconsin											
Scope	Jan-25			Feb-25			Mar-25				
Phase 1 - Route Refinement and Preliminary Design											
Kickoff Meeting											
Existing Data Review and Base Map Update											
Stakeholder and Agency Coordination											
Routing Analysis and Refinement											
Preliminary Report Submittal											
Progress Meeting 1 (Preliminary Report)											
Preliminary Sewer Design and OPCC											
Progress Meeting 2											
Final Report Submittal											
Presentation at Public Works Meeting											

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Level of Effort

Design Experience and Understanding of Project Challenges Provides Appropriate Level of Effort

The table below represents the anticipated level of effort for the Phase 1 scope services for this project. A thorough and detailed routing analysis and preliminary design is a critical component of this project and having an appropriate level of effort applied during this stage will help set up the remainder of the project for success.

Southwest Interceptor - Phase 1 – Route Refinement and Preliminary Design City of Watertown January 2025 - March 2025								
Task	Project Manager	Project Engineer	Quality Control	Project Engineer	CAD Tech	Office Production	Total Hours	Task Subtotal
	Vieth	Coons	Stetzer	Constant				
Overall Project Management	4					2	6	\$1,300
Kickoff Meeting	4	4					8	\$1,700
Data Collection, Existing Documentation Review, and Base Map Updates	4	8		2			14	\$2,700
Stakeholder and Agency Coordination (UPRR, Jefferson County, WDNR)	4	8					12	\$2,300
Routing Analysis and Refinement	4	8	2	2	4		20	\$4,000
Preliminary Report	4	8	1	1		2	16	\$2,900
Progress Meeting No. 1	4	4					8	\$1,700
Preliminary Sewer Design (Plan and Profile Drawings) and OPCC	4	20	2	1	4		31	\$5,700
Progress Meeting No. 2	4	4					8	\$1,700
Final Report	4	8	1			2	15	\$2,800
Presentation of Final Report at Public Works Meeting	4	4					8	\$1,700
Total Hours	44	76	6	6	8	6	146	\$28,500

We have a history of successfully working with the City and look forward to helping the City with its collection system engineering needs. If there are any questions after reviewing the enclosed information, please call.

Sincerely,

STRAND ASSOCIATES, INC.®



Eric D. Vieth, P.E., Senior Associate
Project Manager



Andrew B. Constant, P.E., ENV SP
Project Engineer

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