PROPOSAL TO PROVIDE PROFESSIONAL DESIGN SERVICES FOR:

Independence Water System Study

Prepared for:
City of Independence
November 25, 2024

MSA

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November 25, 2024

Matthew Schmitz, City Manager
City of Independence
331 First Street East
Independence, IA 50644

Re: Proposal to Provide Design Services for Independence Water System Study

Dear Mr. Schmitz,

MSA Professional Services, Inc. (MSA) is a full-service engineering consulting firm dedicated to helping our clients successfully complete their projects. Our team brings a unique strength of engineering design experience to help the City of Independence successfully complete a comprehensive Water System Study. We appreciate the opportunity to describe our qualifications and would be pleased to work with the City.

MSA has worked with the City of Independence on several past efforts, including planning and GIS. We are grateful for the opportunity to assist the community with these efforts, and hope to showcase our capabilities within the Potable Water service line by submitting this proposal for your consideration.

Our team has immediate availability to complete this project starting in December 2024 and extending through Spring 2025. We believe our team is especially qualified to provide the required engineering services and to hit the ground running upon notice to proceed. As you review our proposal, please consider the following:

Facility Planning

Having a good plan is the first stage of any successful project! As such, MSA is well-versed in assisting our client communities with Preliminary Engineering Reports to develop the most cost-effective improvement alternative to serve customers well into the future. This important first step is critical to getting project design started off on the right foot.

Water System Experience

MSA has worked with many municipal clients on a wide range of potable water projects. Many of these projects have had similar design requirements, some of which are included in the enclosed proposal.

We are hopeful that the enclosed proposal meets your needs such that we can work together on this project. The staff and management at MSA take pride in meeting our clients' expectations. Feel free to contact us any time to further discuss how we can help you and your project.

Sincerely,
MSA Professional Services, Inc.

Sarah Fosbinder

Sarah Fosbinder, PE
Iowa Water Team Leader
(563) 584-2883 | sfosbinder@msa-ps.com

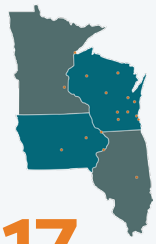
FIRM PROFILE

MSA Professional Services, Inc. (MSA) specializes in the sustainable development of communities. We achieve this by building honest, open relationships that go beyond the project to become a trusted source of expertise and support for immediate challenges and long-term goals. Big or small, we do whatever it takes to meet each need, working to make communities stronger in the process. **It's more than a project. It's a commitment.**

MSA's roots reach back to 1919. Our firm consists of 450+ engineers, architects, planners, landscape architects, funding experts, surveyors, GIS experts and environmental scientists. MSA excels at helping clients identify grant and funding sources and then delivering high-quality, cost-effective solutions.

WE'RE PROUD TO BE 100%
EMPLOYEE-OWNED

450+
TEAM MEMBERS



17
OFFICE LOCATIONS

ENABLING PEOPLE TO **POSITIVELY IMPACT** THE LIVES OF OTHERS SINCE 1919

33
INDUSTRY AWARDS EARNED SINCE 2017

$625+ MILLION
GRANTS & LOW-INTEREST LOANS
We've helped our clients secure to help offset the cost of infrastructure projects

CLIENT EXPERIENCE

As part of our ongoing quality assurance program, we periodically request feedback from clients and project stakeholders to create better project outcomes for you.

These easy-to-complete surveys offer you the opportunity to comment on several areas of our performance throughout the duration of your project, which in turn helps us adapt our processes to your unique needs. Your feedback is specific to your project, and is returned directly to the people working with you. We pledge to respond to any issues you identify as the project proceeds.

To the right, you'll find the percentage of clients who say MSA met or exceeded their expectations based on the following categories.

98% ACCURACY

96% HELPFULNESS

98% RESPONSIVENESS

98% SCHEDULE

99% QUALITY

97% SCOPE & FEES

ORGANIZATIONAL STABILITY AND FINANICAL STRENGTH

MSA is widely accepted as a very fiscally responsible and stable firm. We have been incorporated for more than 60 years. Financially, we remain very viable – our company value has continued to increase over the course of the past 10 years. If additional information is required to support this statement, please contact us.

MSA IS A PEOPLE COMPANY

We believe our success lies in the collaborative culture we've built around employee ownership and the shared vision and values that guide us forward. Employee ownership is the foundation upon which we conduct business, make decisions and collectively plan for the future. It allows us to remain an independent and enduring organization for as long as we choose, while supporting the individual goals of our team members. The result is a company that thinks and acts like owners — which drives the quality of projects and strength of relationships we're proud to pass along to our clients.

MSA'S EMPLOYEE STOCK OWNERSHIP PROGRAM

What is an ESOP?

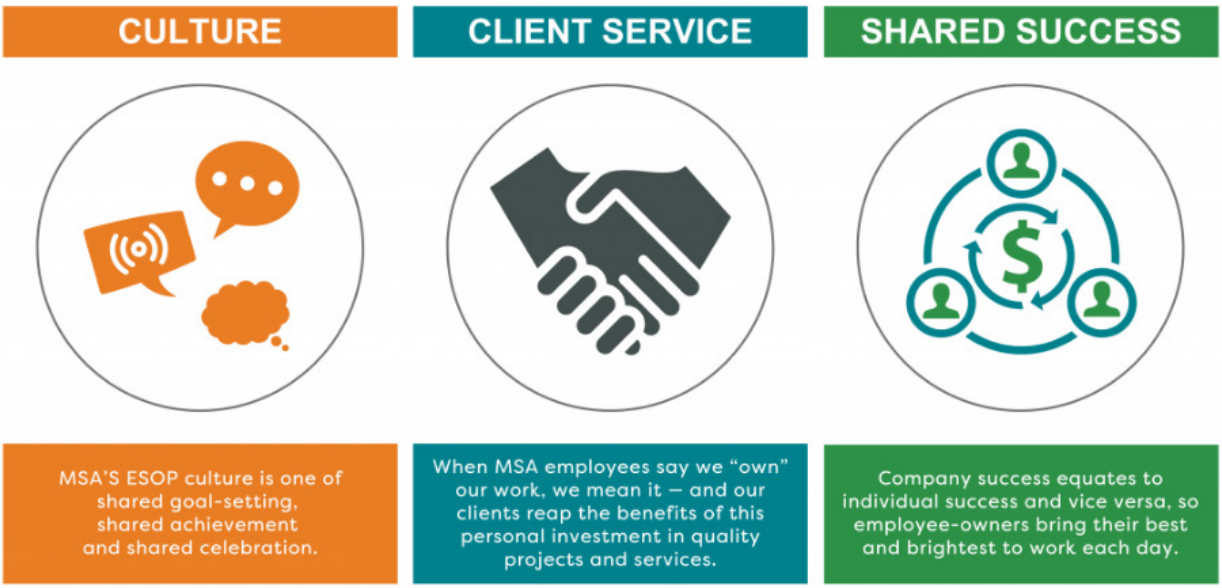
MSA employees own the company through an Employee Stock Ownership Plan (ESOP). ESOPs are a type of qualified retirement plan organized through a trust, a separate entity that buys, holds and sells company stock on behalf of its beneficiaries. Employees receive MSA stock in the form of company shares as a percentage of compensation, thus providing employee owners with an ownership stake in the organization.

How an ESOP works.

An ESOP is a retirement savings plan similar to a 401(k). Unlike a 401(k), employees do not contribute any money toward the company share they receive; MSA makes all the contributions. Each account value is tied to the share value of the company, not external securities. MSA's company stock is evaluated each year by an independent third-party appraiser, and any increase in value is redistributed to the beneficiaries — MSA employees.

The ESOP difference.

Being 100% employee owned means operating on a more holistic level. We believe in having open doors, open-book finances and encouraging all employees to bring their authentic selves, ideas and opinions to the company table. As ONE MSA, each individual is a key component of our firm's success — valued for their contributions and invested in as part of their personal and professional development.



Potable water is one of the core disciplines at MSA. At MSA, our team of water experts look to improve your water system beyond a single project. Our approach to water system improvements starts with listening to your needs and concerns. We then explore, brainstorm and model potential solutions that not only address permitting requirements, but that can cost-effectively enhance the operation of your system today and down the road. We have planned, designed and delivered construction services for every aspect of water systems, including wells, storage facilities, treatment systems, distribution systems and booster stations. Decades of helping clients develop and operate reliable water systems, along with good working relationships with the DNR and other regulatory agencies, allow us to find solutions that best meet your needs. Our comprehensive in-house expertise across a wide variety of disciplines allows us to develop water planning and design solutions in an all-inclusive manner, often saving you time and money in the process.

POTABLE WATER EXPERIENCE

Water Treatment

CLIENT	PROJECT
Bernard, IA	Iron and Manganese Removal
Dakota City, IA	Radium Removal
Farley, IA	Radium Removal
La Porte City, IA	Softening/Radium Removal
Tiffin, IA	Iron Removal and Softening
Brownsville, WI	Softening/Radium Removal
Fairwater, WI	Iron/Arsenic Removal
Laona, WI	Iron and Manganese Removal
Winneconne, WI	Well #1 Ion Exchange Softening/Radium Removal
Danvers, IL	Arsenic Removal

Reservoirs

CLIENT	CAPACITY (GAL)	TANK TYPE
Asbury, IA	500,000	Composite
Cascade, IA	400,000	Composite
Farley, IA	200,000	Spheroid
Hubbard, IA	200,000	Spheroid
La Porte City, IA	400,000	Composite
Princeton, IA	200,000	Spheroid
Lanark, IL	300,000	Spheroid
Mt. Zion, IL	1,000,000	Composite
Adams, WI	400,000	Spheroid
Barron, WI	400,000	Spheroid
Cambria, WI	200,000	Spheroid
Cottage Grove, WI	500,000	Spheroid

Well Rehabilitation

CLIENT	CAPACITY (GPM)
Farley, IA	150
La Porte City, IA	500
Richland Center, WI	750
Necedah, WI	700
Sauk City, WI	1,200

Booster Stations

CLIENT	CAPACITY (GPM)	STATION NAME
Asbury, IA	1,500	West Booster Station
Duluth, MN	3,000 3,000 2,200	Arlington West Duluth Highland
Baraboo, WI	2,500	Westside Business Park
Elroy, WI	1,000	Grove Street
Endeavor, WI	1,000	Industrial Park
Lake Delton, WI	2,000 2,000	Westside Booster Eastside Booster

Water Supply

MSA has completed several wells and/or well houses in Iowa. A sampling of those is listed below.

CLIENT	CAPACITY (GPM)
Asbury, IA	500
Cascade, IA	450
Dakota City, IA	250
Elgin, IA	200
Farley, IA	300
Ladora, IA	125
La Porte City, IA	500
Dane, WI	750
Elroy, WI	750
Hillsboro, WI	600
Horicon, WI	1,200
Lake Delton, WI	250

Water System Modeling with Multiple Pressure Zones

- Asbury, IA
- Cascade, IA
- Elkader, IA
- Elizabeth, IL
- Lanark, IL
- Mount Carroll, IL
- Port Byron, IL
- Salvation Army Depot, IL
- Savanna, IL
- Duluth, MN
- Two Harbors, MN
- Adams, WI
- Bangor, WI
- Baraboo, WI
- Cottage Grove, WI
- Land O'lakes, WI
- Necedah, WI
- Sun Prairie, WI
- West Baraboo, WI

WATER SYSTEM STUDIES WRITTEN BY KEY STAFF WITHIN LAST 5 YEARS

Farley, IA Water System Evaluation

The City of Farley was faced with the challenge of having wells with elevated levels of combined radionuclides exceeding the Maximum Contaminant Level. MSA Professional Services assisted the City by conducting a Water System Evaluation that was focused on evaluating the best alternatives for mitigating radium. Several alternatives were evaluated including rehabilitation of the existing wells, utilization of various treatment technologies, and the option of constructing one central treatment facility versus two dedicated treatment facilities. This water system evaluation led to the design and construction of two HMO radium removal facilities that provide customers with carcinogen-free drinking water.

REFERENCE INFORMATION:

Keith Mensen, Assistant Utilities Superintendent
City of Farley | (563) 744-3475
farleypublicworks@farleyiowa.com

Farley, IA Wells 2 and 3 Radium Removal

The City of Farley proactively addressed climbing radium levels at Wells 2 and 3 by proceeding with constructing a water treatment facility. This facility is similar to the Well 4 facility, utilizing a compartmentalized horizontal pressure tank with hydrous manganese oxide (HMO) addition. The facility incorporates gas chlorine disinfection as well as phosphate addition.

This new facility was situated within the City park, which is a popular destination for the area especially during baseball season! With the building being in such a prominent area, it was important to design a structure that could house treatment plant equipment without looking out of place. MSA's team consisted of architects and structural engineers to design a functional, yet attractive water treatment facility. The City loved the aesthetics of the water treatment building so much that they carried the same color scheme and materials throughout the remainder of the park buildings in their recent park improvement project!

REFERENCE INFORMATION:

Keith Mensen, Assistant Utilities Superintendent | City of Farley
(563) 744-3475 | farleypublicworks@farleyiowa.com

WATER SYSTEM STUDIES WRITTEN BY KEY STAFF WITHIN LAST 5 YEARS

Springville, IA Water System Evaluation

The City of Springville is a bedroom community near Cedar Rapids with tremendous growth potential. MSA conducted a comprehensive water system study for the community including analysis of water distribution system, water storage, treatment and groundwater supply source. The water system analysis included modeling of the system to identify areas of low flow and pressure. Alternative analysis to increase overall water system pressure and serve future growth included cost options to raise the existing elevated storage tank by adding a 50-ft section of column or to construct a new tank. MSA has also assisted in comprehensive planning including the evaluation of utility extensions south of Highway 151. The City is currently working towards a Developer's Agreement prior to moving forward with the design and construction of water system improvements.

REFERENCE INFORMATION:

Dee Wagaman, City Clerk | City of Springville
(319) 854-6428 | dwagaman@cityofspringville.us

Central City, IA Water System Evaluation

The City of Central City is a growing Iowa community that owns and operates a municipal water system. The City commissioned MSA to assist with a water system evaluation to look at the most cost-effective way to serve an area of new development west of Highway 13, as well as evaluated mitigation alternatives for an existing well with PFAS contamination. The water system study included comprehensive analysis of the water distribution system by modeling and identifying areas of low flow and pressure, analysis of water storage and groundwater source wells. MSA also worked with neighboring Pinicon Ridge Park to evaluate the possibility of connection to the City's water system. The recommendations of the evaluation included water main looping, new elevated storage tank, and new well and wellhouse.

REFERENCE INFORMATION:

Adam Griggs, Council Member | City of Central City
(319) 438-1713 | adamgriggs@centralcityia.gov

WATER SYSTEM STUDIES WRITTEN BY KEY STAFF WITHIN LAST 5 YEARS

Waucoma, IA Water System Evaluation

The City of Waucoma is a small rural community that owns and operates a municipal water system. With tight resources, the City runs the system off only one groundwater source well. The Iowa DNR continues to conduct system inspections and recommending a second water source to enhance system versatility. The City commissioned MSA to assist with the preparation of a water system analysis that encompassed all aspects of the water system including distribution system, groundwater source well, treatment, and storage. Various locations for a new well were evaluated. Discussions with local well drillers and the Iowa Geological Survey led to the ultimate recommendation to drill a second well within the Jordan aquifer.

REFERENCE INFORMATION:

Marlene Klemp, City Clerk | City of Waucoma
(563) 776-4064 | waucomacityclerk@gmail.com

Dakota City, IA Water System Evaluation

The City of Dakota City was experiencing issues with their existing groundwater source well, spurring the need for a Water System Evaluation as the first step in supporting SRF and CDBG funding applications. MSA assisted the City by conducting analysis of the City's existing water distribution system, water source supply, storage, and treatment. The results of the water system analysis determined that the existing groundwater wells were unreliable, with deteriorating water quality and production. To mitigate this issue, a new 250gpm deep well was recommended in the study. Additionally, it was recommended to upgrade the City's water treatment plant to help mitigate issues with aging equipment and operational concerns. This water system evaluation ultimately led to design and construction of a new well, Aerolator, and brine tank resulting in a more reliable water system to serve customers for the future.

REFERENCE INFORMATION:

Angelique Berry, City Clerk City of Dakota City | (515) 332-3083

WATER SYSTEM STUDIES WRITTEN BY KEY STAFF WITHIN LAST 5 YEARS

Tiffin, IA Water System Evaluation

The City of Tiffin has extremely hard water, with raw water hardness at 500-600 mg/L. Currently, the City of Tiffin is using an ion exchange process to remove radium and some hardness, reducing hardness to approximately 250 mg/L. As hardness of 250 mg/L is still considered very hard water, there have been complaints from customers about finished water quality.

The Iowa DNR has also imposed a chloride limit at the wastewater treatment facility. There is currently no wastewater treatment technology that can economically remove chlorides. As such, reduction of chlorides in the City's wastewater discharge must be accomplished by eliminating drinking water-softening processes that contribute chlorides to the water. Chlorides are being added to the water by the City's ion exchange process and by residential/commercial water softeners.

The City of Tiffin commissioned MSA to prepare a Preliminary Engineering Report (PER) in support of an IDNR Drinking Water State Revolving Fund Loan. A reverse osmosis treatment technology pilot test, as required by the IDNR, was conducted by Harn in conjunction with this PER effort. The recommendations of the PER are for the City to proceed with the design and construction of a reverse osmosis treatment facility to remove all contaminants, including chlorides and hardness. MSA is currently designing the City of Tiffin Reverse Osmosis Facility.

REFERENCE INFORMATION:

Doug Boldt, City Administrator | City of Tiffin
(319) 545-2572 | dboldt@tiffin-iowa.org

WATER SYSTEM STUDIES WRITTEN BY KEY STAFF WITHIN LAST 5 YEARS

Prairie City, IA Potable Water Projects

MSA has been in a close partnership with the City of Prairie City for many years. A significant initiative undertaken by the City with MSA was the examination of the City's potable water distribution system. At present, the City depends on a water source situated in a nearby community, with a trunk line of approximately 5 miles delivering water to the City's treatment plant. This arrangement, coupled with aging infrastructure, presents reliability and efficiency challenges. To tackle these issues, Prairie City commissioned MSA to perform a thorough analysis of the existing water system, determine recommended improvements, and explore alternative water sources.

MSA initiated the project by conducting a detailed investigation of the current water system. The objective of this study was to comprehend the infrastructure's present condition, pinpoint potential problems, and suggest solutions. The investigation determined that the City's water system was experiencing numerous breaks, had multiple dead-ends, and had undersized mains, which were incapable of supplying sufficient looping and fire flow to certain areas of the City.

In response to the water system study's findings, MSA planned the first of many phases of water main enhancements. These enhancements were designed to address the identified issues of aging and undersized mains. With the aid of SRF funding, the design incorporated looping and upsizing, which are vital for guaranteeing a dependable water supply to all areas of the City. Furthermore, the upgraded mains were designed to provide sufficient fire flow, thereby boosting the city's fire-fighting capabilities. The first phase of construction was completed in 2021 and the second phase is currently under design for anticipated construction in 2025.

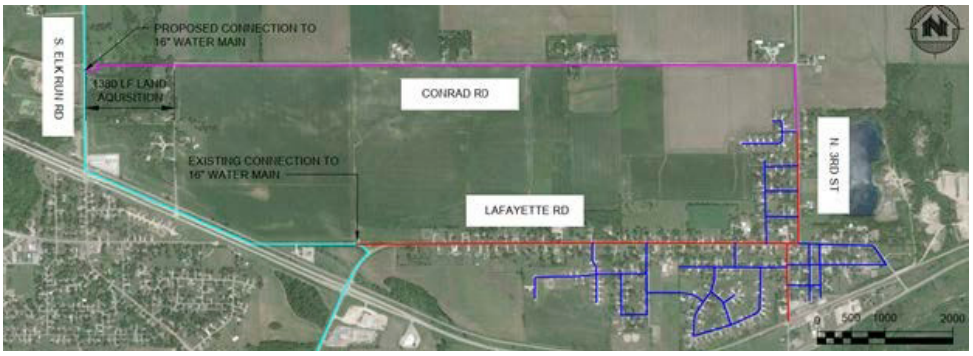
The collaboration between Prairie City and MSA has paved the way for substantial improvements in the City's water system. MSA is presently working on the design for the second phase of these enhancements. The comprehensive study and the subsequent design of water main enhancements are anticipated to boost the reliability and efficiency of Prairie City's water supply, particularly in the older parts of town. This project exemplifies MSA's dedication to assisting communities in enhancing their essential infrastructure.

REFERENCE INFORMATION:

Jerry Moore, City Administrator | CIty of Prairie City
(515) 994-2649 | jerry.moore@prairiecityiowa.us

WATER SYSTEM STUDIES WRITTEN BY KEY STAFF WITHIN LAST 5 YEARS

Raymond, IA Water System Evaluation

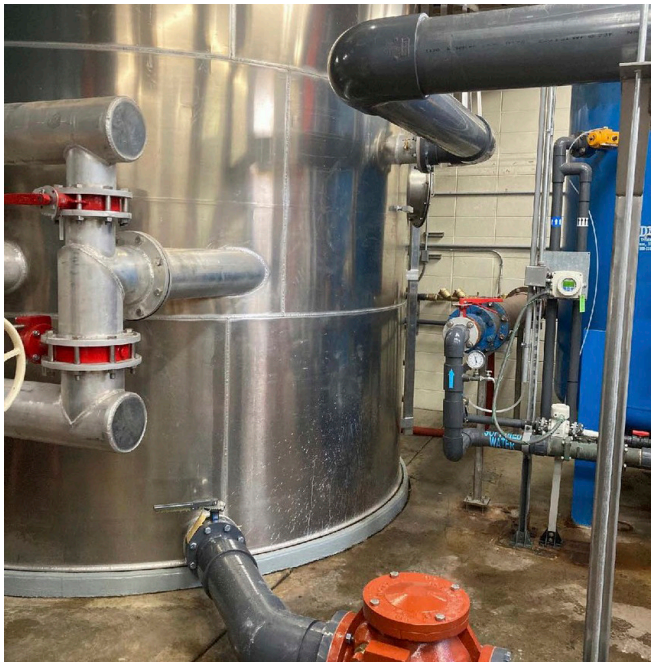


The City of Raymond purchases treated drinking water from Waterloo Water Works. Served by one long dead-end 8-inch water main from Waterloo, the residents at North 3rd Street observed low pressures, low flow, and poor water quality. Furthermore, one main break on the trunk line would leave all downstream customers without water until the break was fixed. MSA conducted a water system study including modeling the system to investigate the best alternative for providing enhanced water service to the customers within the City of Raymond. Based on cost analysis and long term benefit of the growing community, constructing a looped system along Conard Road was recommended over a booster station. The recommended water main loop and second connection with metering station allowed for enhanced versatility of the system. This water system study led to design and construction of the recommended alternative and supported an SRF funding application.

REFERENCE INFORMATION:

Nancy Miebach, City Clerk | City of Raymond
(319) 232-6153 | cityofraymond@mchsi.com

Dakota City, IA Water Treatment System Improvements



The City of Dakota City was in need of an upgrade to their existing water system infrastructure. MSA assisted the community from planning phases and funding efforts through to the successful construction of a two-phase water system improvement project. By phasing the improvements, the City was able to take advantage of two rounds of Community Development Block Grant funding totaling $600,000!

Phase 1 of the project addressed the City's concerns over their groundwater source well. The existing wells were unreliable, with deteriorating water quality and decreasing production rates. The City was in need of additional well capacity that they could count on, therefore a new 250gpm deep well was drilled and the old well was abandoned.

Phase 2 of the project addressed the aging infrastructure within the water treatment facility, originally constructed in 1977. The treatment system was updated by installed a new Aerolater and constructing a new brine tank for the ion exchange softening system. The design specifically addressed the operator's concerns regarding the aerator freezing and leaking by fully enclosing the aerator within the peak of a new roof section. The project also included upgrades to the process piping, high service pumps, HVAC, electrical and controls.

REFERENCE INFORMATION:

Angelique Berry, City Clerk | City of Dakota City | (515) 332-3083

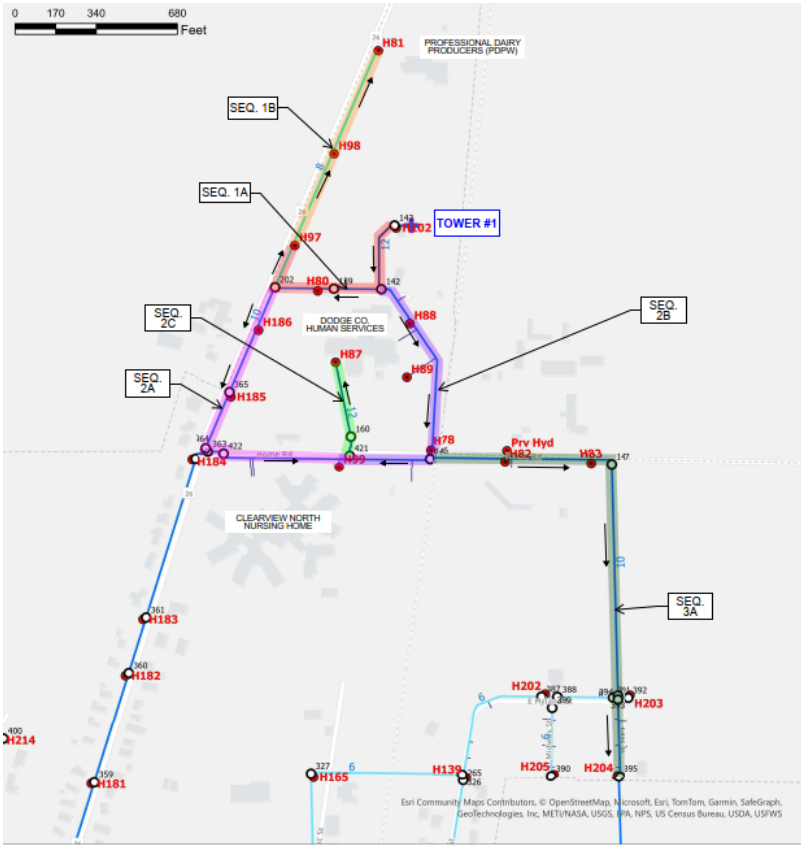
WATER SYSTEM STUDIES WRITTEN BY KEY STAFF WITHIN LAST 5 YEARS

Juneau, WI Uni-directional Flushing Plan

The City of Juneau, is a small community in Wisconsin that was experiencing low to no chlorine residual at sampling locations within their water distribution system. Instead of pursuing costly treatment alternatives, the City first chose to try increasing the level of water distribution system maintenance. Uni-directional flushing is a common maintenance practice that is used to scour the interior of water mains and remove accumulated debris and/or biofilm that is creating a chlorine demand. MSA assisted in developing a Uni-Directional Flushing Plan for the City utilizing a WaterCad model to help identify the flow of water through the distribution system.

The uni-directional flushing plan for Juneau included a report summarizing uni-directional flushing program, assumptions, and 45 detailed flushing sequences. Each flushing sequence included a step-buy-step guide accompanied by a GIS-based map showing which valves and hydrants to open, close, and monitor.

The City of Juneau spent three weeks implementing all 45 sequences of the uni-directional flushing plan, closely following the report completed by MSA. They amount of build-up that was flushed from the distribution system was impressive! The City intends to have this uni-directional flushing plan on the shelf to implement on an annual basis to keep bio-film build up at bay, optimize water quality, and improve chlorine residuals within the water system.



	DESIGN DATA					VALVING (POST SEQUENCE)		FIELD DATA		
Sequence ID	Pipe Size (in)	Length(ft)	Design Flow Rate (gpm)	Valves IDs (Closed)	Flushing Hydrant	Valves to Open After Flush	Valves to Remain Closed	Flow Rate (gpm)	Notes (Turbidity, Chlorine Residuals):	Duration (min)
1A	12,10,8	1031	2010	365	H97	none	365			
1B	8	900	940	365	H81	365	none			
2A	10	1302	1470	146	H99	146	none			
2B	10	841	1470	422 147	H99	422 147	none			
2C	12	389	2010	146	H87	none	146			
3A	10	2093	1470	146 395 391	H204	395	391 146			

REFERENCE INFORMATION:

Alex Smudde, Lead W/WW Operator
City of Juneau
(920) 386-4815 | asmudde@cityofjuneauwi.gov

La Porte City, IA Water System Improvements

The City's Water Utility had been ordered to complete an evaluation and assessment of its water system by the Iowa Department of Natural Resources. The study needed to include the management, operations and technical aspects of the system. The City hired MSA to assist in the creation of the water system appraisal. MSA completed the following:

- A preliminary engineering analysis of the water system
- A standard operating procedure for the system
- A preventative maintenance plan
- An emergency response plan
- A water rate analysis

MSA compiled all the data and plans to create a Capital Improvements Plan. A number of the plan's capital and operational improvements were needed to become compliant.

MSA also completed the design of the first phase of water system improvements. The design included a new composite elevated water tank to provide water storage. This approach utilizes the composite strength of concrete with the tensile strength of steel to minimize operational and maintenance costs over the life of the tank.

Additionally, the plan called for an upgrade to the existing radium removal facility. The facility utilized many components of the existing treatment works, but added more efficiencies into the process.

For the first time in Iowa, a new municipal well was constructed using reverse circulation drilling for the new deep well. This technology produces no sediment runoff from site. As a result, onsite detention is eliminated, costs are reduced and streams are protected.

A series of water distribution improvements were also completed. Improvements included installation of a new water main under the Wolf Creek, utilizing horizontal directional drilling methods. Finally, the distribution system was combined into one pressure zone, eliminating booster pumps and the costs associated with running them.

MSA helped the City obtain a $755,000 grant from the Iowa Jobs grant program to help fund the improvements. The remainder of the project was funded with a low interest loan through the State Revolving Fund program. MSA assisted with funding administration through the duration of the project.

REFERENCE INFORMATION:

Casey Stika, Water Operator | City of La Porte City
(319) 342-3139 | stika_c22@hotmail.com

Cascade, IA Water System Improvements

The City of Cascade hired MSA to assist in proactively analyzing the existing water system deficiencies and vulnerabilities to maintain the system and to make improvements necessary to accommodate the community's anticipated growth. Our team studied the current system and growing City needs and identified numerous facilities that needed improvement because they already were sub-standard or would soon require improvements to prepare for future growth.

After a number of options were prepared by MSA and discussed at length with City staff and the Council, the agreed upon improvements to the system included:

- 400,000-gallon composite elevated storage tank
- A new 450-gpm well and well house
- 4,000 linear feet of water main replacements
- Replacing the aged water infrastructure in the City's downtown area
- Installing a 1,400-foot horizontal directional drill under the Little Mquoketa River
- Installing three pressure reducing valve stations to maintain system pressures

Throughout the process MSA coordinated with the Iowa Department of Transportation, Iowa DNR, private property owners, the county engineer's office and local utility companies to facilitate the design and construction of the above improvements.

To date, our team has completed a number of the improvements listed above including the composite water tower, well and well house, system improvements and pressure reducing stations.

REFERENCE INFORMATION:

Phil Gehl, Public Works Director | City of Cascade
(563) 495-2413 | cascadepw@netins.net

Farley, IA Well No. 4 Radium Treatment Facility

The City of Farley, Iowa, drilled a new well (Well No. 4) into the Jordan aquifer in March 2007 to accommodate additional water demands due to a bio-diesel facility coming to the City. After five years of operation, the water at Well 4 began to routinely violate the maximum contaminant level (MCL) for combined radium levels, reaching levels as high as twice the maximum contaminant level. In 2013, the Iowa DNR issued a violation notice for exceeding the limit for combined radium, and a compliance schedule was attached to their renewed permit to address elevated radionuclide concentrations at Well 4.

The City of Farley has been a loyal client for many years, so they knew they could trust MSA to help mitigate the problem. An MSA design team consisting of team members from four different MSA offices collaborated to design a hydrous manganese oxide (HMO) pressure filter treatment facility. This method of treatment was the most cost-effective solution, as identified in the Preliminary Engineering Report that MSA prepared on the City's behalf.

This new facility was situated on a City-owned parcel adjacent to the existing Well House 4 and elevated storage tank on the west side of the City. Fitting the treatment facility on this existing parcel was no easy feat, as there is very limited land space at this location. The City incorporated SCADA system improvements, tying both the water and wastewater systems together as part of this project.During design, the operator expressed concern that the HMO mixers might be too noisy. To address these concerns, MSA was able to organize an onsite demonstration by the mixer equipment supplier.

MSA assisted with getting this project on the State Revolving Fund (SRF) Intended Use Plan, and the City was thrilled to learn that this project will receive 75% loan forgiveness. Eligibility requirements for the 75% SRF loan forgiveness program included projects that address human health risks such as radium removal in public drinking water.

REFERENCE INFORMATION:

Keith Mensen, Assistant Utilities Superintendent | City of Farley
(563) 744-3475 | farleypublicworks@farleyiowa.com

Asbury, IA Water System Improvements

The City of Asbury lies directly west of the City of Dubuque and serves as a bedroom community for many of the area residents. As late as the 1990s, the City was without a municipal water system serving its residents. Instead, a series of small, private water systems served the individual subdivisions that made up the community. As the community began to experience rapid growth, the Iowa Department of Natural Resources (IDNR) began to question the viability of the disconnected hydro pneumatic systems to serve the growing community and threatened action that would have led to a moratorium on growth in the community.

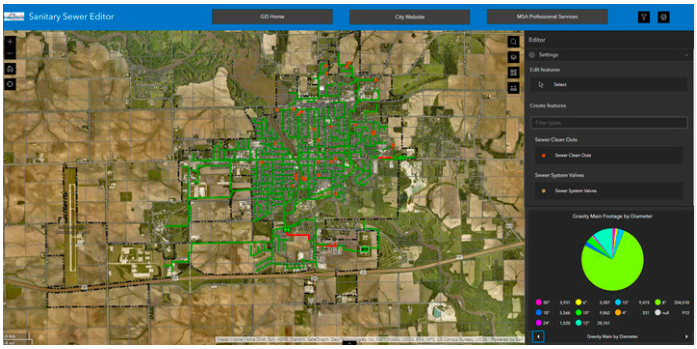
The City hired MSA to develop a systematic improvement plan that included a single, interconnected city-wide system that would keep pace with future City growth. To accomplish this, MSA helped facilitate the acquisition of the individual systems and designed and constructed a number of improvements. Today, the City continues to make improvements to continue to proactively accommodate a growing population which today stands at 5,500 people. Over the past 20 years, MSA has had the fortune to address nearly every element of the water system including:

- The design and construction of two elevated storage tanks totaling 1.1 million gallons of storage capacity
- The construction or rehabilitation of four communities wells with water production capacity of more than 1,300 gallons per minutes
- The creation of three pressure zones with multiple pressure reducing stations and a 1,500 gpm booster station.
- Water treatment at each of the well locations
- The replacement or extension of more than 25 miles of water main ranging in diameter from 6-inch to 16-inch.
- Creation of a Supervisory Control and Data Acquisition (SCADA) system

REFERENCE INFORMATION:

Beth Bonz, City Administrator | City of Asbury
(563) 556-7106 | ebonz@cityofasbury.com

Independence, IA ArcGIS Online System



MSA inventoried all sanitary and water system assets for the City of Independence. Assets were located in the field and mapped using high accuracy GPS. Those that were inaccessible in the field were located from existing maps. Pipes were digitized according to existing maps and recent project plans to account for proper flow direction. Pipes were also attributed with their size and material. MSA implemented an ArcGIS Online asset management system in 2022 to replace their existing GIS platform, which was not meeting the City's needs for data control and field access. Users access the GIS with tablets, smartphones or traditional computers to interact with various apps that provide the ability to either view or edit infrastructure information, depending on a user's access rights. The ArcGIS Online platform met the City's long-term goals of expansion of GIS to other departmental data across the city. The ArcGIS Online apps provided live statistics to aid in maintenance tasks and reporting requirements such as manhole condition and gravity main footage by material or diameter.

City staff continue to use the GIS on mobile devices to locate water and sanitary system assets in the field and have since acquired their own GPS to continue data updates in house, which MSA facilitated. New initiatives to grow their platform include collecting stormwater infrastructure and building public facing data such as zoning. MSA has been selected to create an ArcGIS Hub page for the City to begin hosting open data and public web applications. Overall, the GIS enables the City of Independence to improve City infrastructure management and better utilize staff time and resources.

Independence, IA Downtown Plan

The Independence downtown district was once its economic hub, home to bustling businesses and ornate buildings — many listed on the National Register of Historic Places. While its bones retain much of the historic character, buildings need renovation, commerce is dwindling, and many business owners are nearing retirement with no succession plan — and no online presence, unable to compete in a thriving e-commerce era or with three retail markets within a one-hour drive. Downtown is also bisected by the Wapsipinicon River and located within a FEMA-designated floodplain. This is detrimental because floodplain locations do not qualify for critical funding dollars such as Community Development Block Grants (CDBG) commonly utilized for renovation, infrastructure upgrades and revitalization projects such as this. The city is also restricted from building new businesses or structures within the floodplain.

Recognizing a list of challenges, Independence leaders sought a new direction for the future of the City's downtown, with goals of fostering growth, development and resilience. MSA was asked to study and develop an Independence Downtown Plan to serve as a living guide to improve and attract business, spur commercial investment, incentivize long-range economic planning, attract young professionals and revitalize the downtown corridor.

Among many public engagement tools in the process, an ArcGIS crowdsourcing app was also used as an engagement tool. This GIS-driven application was custom configured for Independence and provided citizens with an online map and icons to geographically pinpoint opportunities, areas needing improvement, or community assets related to buildings and roads; ADA and multi-modal improvements; community assets and historical preservation.

While reviewing existing conditions in downtown Independence, MSA utilized Retail MarketPlace, a database identifying supply and demand gaps in retail sales and consumer spending developed by Esri. This helped the team analyze spending trends within 5-, 30-, and 45-minute drive times from Downtown Independence and determine what local demand exists, what unmet demand is going to neighboring retail markets and what amount in overall retail trade is being spent by residents outside the City of Independence — in this case, an estimated $15 million.

All of this data and public feedback informed the development of the Independence Downtown Plan document, with chapters dedicated to Urban Design (aesthetics, streetscaping and accessibility), a Revitalization Plan (flood zone challenges, recreational opportunities and ideas for improvements in four core sectors), and Action and Implementation Plan (goals-setting, action steps, budgetary and zoning impacts, and funding resources).

Since completion and adoption of the plan, multiple campaigns to restore historic buildings have commenced, the City has successfully pursued several Catalyst state grants to revitalize key buildings in the downtown, new owners have joined the downtown marketplace, and the community has a clear set of short-, medium- and long-range goals to continue improving and revitalizing the picturesque heart of their community.

ORGANIZATIONAL CHART

Our team is staffed to handle the needs of your project. We are a group of experienced water engineers and surveyors backed by more than 425 other technical specialists who are accustomed to working together on similar projects. Our familiarity with each other will enable us to meet your workload and timeline requirements. **We have chosen a team that reflects the needs for this project, including familiarity with similar-sized projects, and the expertise to explore all viable alternatives.**

Sarah Fosbinder, PE
Team Leader | Project Manager
Lead Water Engineer

Clint Wienen, PE
QA/QC | Technical Support

Jim Holz, AICP
Client Liaison

Tara Walters
Funding

Kayci Terveer, EIT
Water Modeler

Lance Teunissen, PE
Electrical and Controls Engineer

Jim Holz, AICP

CLIENT LIAISON

Years of Experience: 34

Jim will facilitate a thorough evaluation of major milestones and deliverables (including the final plan) to make sure that each meet the project goals.

Jim has been involved in all aspects of community development projects, including the conception, financing and implementation of planning efforts. While at MSA, he and the MSA funding experts have secured more than $60 million in grant funding for our community clients.

Education

B.S., Geography/Land Use Planning
Northern Arizona University

Certifications

American Institute of Certified Planners

Selected Project Experience

- LMI Survey, Independence, IA
- Downtown Plan, Independence, IA
- ArcGIS Online, Independence, IA
- GIS Services 2023, Independence, IA
- GIS Stormwater and Public Configuration, Independence, IA
- Comprehensive Plan, Park & Open Space Plan, Bike & Pedestrian Plan, and Memorial Park Master Plan, Waverly, IA SouthTown Master Planning and Preliminary Design for North Ridge Trail, Kalona, IA
- Downtown Master Plan, Ely, IA
- Comprehensive Plan, Solon, IA APA-IA Award Recipient
- Comprehensive Plan, Wilton, IA
- Community-Wide Survey, Strawberry Point, IA
- Community Survey and Mapping, Oxford Junction, IA
- Comprehensive Plan, Keota, IA
- Community-Wide Survey, Wheatland, IA
- Comprehensive Plan, Elgin, IA
- Downtown Master Plan, Dubuque, IA
- Urban Renewal Plan, Donahue, IA
- Comprehensive Plan, Donahue, IA
- Urban Renewal Plan, Asbury, IA
- Strategic Planning, Albany, IL
- Strategic Planning, Grand Mound, IA
- Strategic Planning, Keithsburg, IL
- Comprehensive Plan, Central City, IA
- Neighborhood Stabilization Plan, Oelwein, IA

Sarah Fosbinder, PE

TEAM LEADER | PROJECT MANAGER

LEAD WATER ENGINEER

Years of Experience: 19

Sarah will serve as the project manager and lead water engineer for this project.

Sarah brings an array of municipal engineering experience to this project. She has served as a project engineer on several infrastructure improvement projects that have included sanitary sewer conveyance, wastewater treatment, water distribution, storage, supply and treatment. Her involvement in such projects consists of preliminary engineering reporting, data analysis, design engineering, project permitting, specification preparation, construction observation and project management.

Education

B.S., Civil and Environmental Engineering
University of Wisconsin-Platteville

Registration

Professional Engineer, IA, WI, IL

Selected Project Experience

- Water System Studies:
  - Asbury, IA
  - Farley, IA
  - Waucoma, IA
  - Raymond, IA
  - Clarinda Correctional Facility
  - Springville, IA
  - Central City, IA
- Briarwood Subdivision Water Connection, Dubuque Water Department, IA
- Eagle & Althauser Water and Sewer Reconstruction, Dubuque, IA
- Sanitary Sewer Extension Planning, Springville, IA
- Sanitary Sewer Rehabilitation, Oxford Junction, IA
- UW-Platteville Water Main Pipe Bursting, Platteville, WI
- Radium Removal Facility, Farley, IA
- Asbury Standpipe Reconditioning, Dubuque, IA
- Sanitary Sewer Rehabilitation, Clarence, IA
- Water System Improvement Project, Cordova, IL
- Wastewater Treatment Facility, Wheatland, IA
- Water System Improvements, Asbury, IA

Clint Wienen, PE

QA/QC AND TECHNICAL SUPPORT

Years of Experience: 20

Clint will provide QA/QC and technical support for this project.

In his 20 years at MSA, Clint has led the technical design of numerous water and wastewater facilities. Clint has expertise in several aspects of design including process mechanical, HVAC, plumbing, site/civil and utility design.

Education

B.S., Civil Engineering, University of Wisconsin-Platteville

Registration

Professional Engineer, IA, IL

Selected Project Experience

- High Street Water Main Improvements, Elkader, IA
- Water Treatment Facility, Grand Mound, IA
- Water Treatment Facility, Spring Valley, IL
- Water Treatment Facility, Bureau Junction, IL
- La Salle County Nursing Home Water Treatment Facility, Ottawa, IL
- Mark Water Treatment Facility, Mark, IL
- Northwest Lift Station, Asbury, IA
- Hales Mill Lift Station, Asbury, IA
- Charles City Road Pump Station, Nashua, IA
- Labounty Pump Station, Nashua, IA
- Sanitary Sewer Rehabilitation Project, Baxter, IA
- South Main Street Lift Station, Elkader, IA
- Meadows Pump Station, Asbury, IA
- Main Lift Station, Elkader, IA
- Distal Lift Station, Elkader, IA
- Center Street Pump Station, Mount Carroll, IL
- Bowen Street Pump Station, Savanna, IL
- Main Pump Station, Savanna, IL
- East Lift Station, Lanark, IL
- Dakota City Well and Water Treatment Facility, Dakota City, IA
- Tiffin Reverse Osmosis Treatment Facility, Tiffin, IA

Tara Walters

FUNDING ADMINISTRATION

Years of Experience: 6

Tara will provide funding services as needed for this project.

Tara is an experienced planner with a passion for helping people and communities to prosper. She is eager to assist communities with navigating the complexities of state and federal funding requirements and has aided many municipalities in receiving grant funds. Her knowledge of Illinois and Iowa programming, along with strong organization and interpersonal skills make her a great asset to the MSA Funding Team, among other project teams at the firm.

Working as a planner, she has experience in grant writing, grant administration, project management, land use development, comprehensive planning, economic development, transportation planning, community development, public engagement, hazard mitigation planning, watershed planning, GIS analysis, environmental review, and trail/greenway planning. Tara is an experienced CDBG grant administrator in Illinois and Iowa.

Education

M.S., Urban and Regional Planning, The University of Iowa
B.A., Anthropolgy, Augustana College

Selected Project Experience

- Park Master Planning, Mt. Carroll, IL
- Freeport Downtown ADA Accessibility CDBG Grant Administration, Freeport, IL
- Comprehensive Plan Update, Milan, IL*
- IDOT Safe Routes to School Program, Warren, IL*
- IDOT Safe Routes to School Program, Moline, IL*
- DCEO Rebuild IL Regional Economic Development Grant Administration, Growth Corporation, Mt. Carroll, IL
- Trail Improvements IDNR Open Space and Land Acquisition and Development (OSLAD) Program, Rapids City, IL*
- Quad Cities Iowa/Illinois MPO Extreme Weather and Transportation Resilience Study, Quad Cities, IL/IA*

**Denotes experience prior to MSA.*

Kayci Terveer, EIT

WATER MODELING

Years of Experience: 6

Kayci will provide water modeling services for this project.

Kayci serves as project designer on a variety of municipal infrastructure projects, supporting clients across Iowa, Minnesota, Wisconsin, and Illinois. Kayci's responsibilities include collaboration with the design team, project design and drafting, and plan preparation.

Education

B.S., Civil Engineering,Iowa State University

Registration

Engineer in Training, IA

Selected Project Experience

- Water Modeling:
  - Springville, IA
  - Savanna, IL
  - Central City, IA
  - Prairie City, IA
  - Durant, IA
  - Mount Carroll, IL
  - Elizabeth, IL
- 2nd Street Water Main Replacement, Durant, IA
- Sanitary Sewer Rehabilitation, Oxford Junction, IA
- Water Main Replacement & Looping, Phase 1 & 2, Mt. Carroll, IL
- Wacker and Oakton Lift Station Upgrades, Savanna, IL
- Reconstruction Project No. 1, Moline, IL
- Yankee Avenue Water/Sewer Extension Study, Durant, IA
- Downtown Sidewalk and Streetscape - Phase 1, Elizabeth, IL
- Locust Street Sanitary Sewer Rehabilitation, Elizabeth, IL
- Wacker and Oakton Lift Station Upgrades, Savanna, IL
- GIS Development and Implementation, Savanna, IL
- Water Main Extension, Stockton, IL
- Florian Avenue Rehabilitation, Mt. Zion, IL

Lance Teunissen, PE

ELECTRICAL AND CONTROLS ENGINEER

Years of Experience: 25+

Lance will provide electrical and control engineering services for this project.

Lance has more than 25 years of industrial, water, and wastewater experience. He has been involved in the planning, design, and construction of a wide spectrum of water and wastewater projects including both SCADA systems and electrical distribution design. He has been involved in all aspects of process instrumentation and electrical distribution design for water and wastewater facilities and has been the lead designer for over 15 years on projects of all sizes. This experience includes programmable logic controllers, supervisory control and data acquisition, primary instrumentation and sensing devices, networks, and electrical distribution solutions for many Midwest clients.

Education

B.S., Pulp and Paper Engineering, Western Michigan University

Registration

Professional Engineer, WI, MN

Selected Project Experience

- Municipal Well No. 3 and SCADA Upgrades, Belleville, WI
- Municipal Well No. 3, Wellhouse and Treatment Facilities and SCADA Upgrades, Omro, WI
- Municipal Wellhouse No. 4 Reconstruction and SCADA Upgrades, Sauk City, WI
- Municipal Wellhouse No. 4 and Water Treatment Plant and SCADA Upgrades, Albany, IL
- Municipal Wellhouses No. 4 and No. 5 and SCADA Upgrades, Stockton, IL
- Wellhouse Improvements, Knight, WI
- Well Improvements, Devil's Lake State Park, WI
- SCADA Improvements, Cleveland, WI
- Utilities SCADA System, Marion, WI
- SCADA Improvements, Cleveland, WI

PROJECT UNDERSTANDING

MSA met with City officials to discuss community goals for enhancement to the City of Independence water system. The initial discussion surrounded the development of an interactive water system model, but it was quickly realized that there is a need for a more comprehensive water system study. The City is repairing water main breaks currently, with a goal of developing a prioritized water system preliminary engineering report for use in planning and budgeting improvements in the coming years.

The City of Independence owns and operates a water system having one pressure zone, distribution piping, four groundwater supply wells, and three elevated storage tanks. Some issues identified by the City needing to be addressed by a water system evaluation include:

- Undersized water mains
- Dead end water mains
- Aging water mains with repairs
- Low pressures in the northeast area
- Accommodations for future growth
- Limited well control functions
- Storage tank freezing
- Water quality concerns

The approach to addressing these water system issues are three-fold:

A Preliminary Engineering Report (PER) is a comprehensive analysis that summarizes current conditions, identifies deficiencies, and develops alternatives for improvements for each water system component: distribution system, source supply wells, treatment, and storage. A PER is the very first step toward supporting an application for State Revolving Funds (SRF) and must follow the DNR's specified format. MSA has written numerous PERs for client communities, as detailed within this proposal.

A Water System Model using Bentley WaterGEMS software will be developed using the water system GIS data that the City already has in place. The water model will be built as an accurate representation of the City's system, adding well pumps, water towers, and assigning max and average water demands at each node. The water model will be calibrated based on hydrant flow testing. Exhibits showing the water system existing pressures and fire flow capabilities are created from this model to incorporate within the PER. Recommendations for improvement will also be modeled, so the City can visually see how pressures and flows will improve. Having a water model will benefit the City for years to come, as this is something that can be continually referenced in the future as the City grows. For instance, if a new large industrial user is planning to locate in Independence, this could be added to the model to analyze the impact to the system as a whole.

A Uni-Directional Flushing Plan was also requested by the City to enhance water distribution system maintenance. Settled debris and biofilm can accumulate with water distribution piping that is difficult to remove without uni-directional flushing at high velocities. It is important to remove as much debris and biofilm from the system as possible, to reduce the impacts to water quality and chlorine demand. MSA will prepare a step-by-step unidirectional flushing plan by using GIS mapping and water modeling. Each flushing sequence will be accompanied by written directions with exhibit showing which valves to open/close, and which hydrant to flush from.

SCOPE OF SERVICES

The project consists of completing a Potable Water System Evaluation Report (Water Preliminary Engineering Report [PER]) for the City of Independence, IA in accordance with the requirements of the Iowa DNR to support a future State Revolving Fund loan application.

A comprehensive water system model will be created in conjunction with the PER to assist in the analysis of water system flows and pressures.

A uni-directional flushing plan will be created to assist the City in maintenance efforts, with the intention of removing build-up within the water distribution system that may be contributing to reduced water quality.

MSA proposes to provide services as set forth below.

ADMINISTRATION AND CLIENT MEETINGS

Project Management/Administration

- Manage and coordinate project team, budget and schedules.
- Manage and coordinate project invoicing and administration.

Client and IDNR Correspondence

- Provide communication with Owner and Iowa DNR on project as appropriate.

Site Visit and Existing Conditions Review Meeting

- Attend one meeting with City staff to visit existing water facilities (supply, treatment, storage and distribution) and discuss existing conditions.

Alternatives Selection Meeting

- Attend one meeting with City staff and elected officials to discuss alternatives and identify recommendations.

Council Meeting (1)

- Attend council meeting to discuss final report and resulting recommendations.

Quality Assurance/Quality Control

- Employ documented quality-assurance/quality-control procedures throughout project.

FUNDING SUPPORT

Planning & Design Loan Application

- Assist the City in applying for a Planning and Design Loan through the State Revolving Fund to pay for engineering fees.
  - (1) SRF P&D Loans are 0% interest for 3 years, then rolled into the SRF construction loan.

Intended Use Plan Application

- Assist the City in preparing a State Revolving Fund Intended Use Plan Application, which serves as a placeholder for projects planning to utilize SRF funds. This IUP application will be submitted in conjunction with:
  - Preliminary Engineering Report
  - SRF Environmental Review Checklist
  - Viability Assessment (to be completed by City)

EXISTING FACILITIES EVALUATION

Background Information, Service Area and Land Use

- Review background and historical data.
- Operator's information and recommendations.
- Service Area and Land Use.
  - Demographic data
  - Economic data
  - Environmental background
  - Description of nature and extent of area to be served during planning period (20 years)
  - Review soil and groundwater conditions.

Source Water Supply Analysis

- Review existing capacity and water quality from the City's existing wells.
- Compare water 'pumped' to water 'sold' to determine water loss.

Operational Controls Analysis

- Review existing control system and identify deficiencies.

Water Treatment Analysis

- Review water quality and compare to Iowa DNR and US EPA standards.
- It is assumed that City of Independence is responsible to provide drinking water in compliance with Primary Drinking Water Standards. The analysis will also evaluate water quality testing to date with Secondary Drinking Water Standards, as well as associated impacts on adjacent utilities.

Water Storage Analysis

- Review existing capacity of elevated water storage
- Identify deficiencies, compare to Iowa DNR requirements.

Distribution System Analysis

- Review existing water system maps and provide summary of pipe sizes, materials, and dead ends.
- Consider Operator recommendations and include in analysis as appropriate.

WATER SYSTEM MODEL

- MSA will use the City's current GIS water system database, previously prepared by MSA, to create the WaterCAD model.
  - MSA will add each water supply well using pump curve data provided by the City.
  - MSA will assign water demands throughout the water model based on water usage data provided by the City.
  - MSA will add water storage tanks to the model, using City information on high water level, low water level, storage volume, tank diameters and elevations.
- City to provide hydrant flow test data (most current, or conduct new testing as part of this effort) to aid in calibrating the Water Model (adjustment of C-values to account for friction loss); (1) MSA will direct City staff of locations to complete hydrant flow field calibration tests. City Staff to complete work and provide results.
- City topography is to be based on available state contour data (e.g. LIDAR); no field topography survey work is included in this scope of work.
- Utilize Water Model to identify existing fire flow and static system pressures, provide exhibits.

- Utilize Water Model to identify deficiencies and develop recommendations for improvement
- Provide projected fire flows and static system pressures (after improvements), provide exhibits

PROPOSED ALTERNATIVES

Projected Water Usage

- Project City's water usage based on 20-year population projection and future land use.

Water Storage

- Develop alternatives for the City to consider improving water system storage, address pressure concerns, alleviate freezing concerns.

Distribution System

- Develop a priority list of distribution system improvements for the City to consider improving water pressure and quality based on planning period and water system model.

Operational Controls

- Develop alternatives for improved water system control features.

Water Supply

- Develop alternatives to accommodate 20-year design projections for water demand.

Treatment System

- Develop alternatives for the City to consider improving water treatment facilities.

Engineers Opinion of Costs

- Develop cost estimates for proposed alternatives.

PRELIMINARY ENGINEERING REPORT

Preliminary Engineering Report

- Summary of analysis (as identified above) in accordance with DNR reporting requirements.
- Describe recommended improvements, including cost estimates.
- Describe possible funding sources, including Iowa DNR DWSRF Loan program and any eligible grants.

UNI-DIRECTIONAL FLUSHING PLAN

- Provide a report summarizing uni-directional flushing program, assumptions, and detailed flushing sequences.
- Provide GIS-based maps showing valves and hydrants to open, close, and monitor for each flushing sequence.

DELIVERABLES

MSA will provide the following deliverables:

- Water System Preliminary Engineering Report (PER): two (2) paper copies and one PDF file for Owner's review and use, along with one (1) PDF file to the Iowa DNR.
- Unidirectional Flow Plan (UDF): two (2) paper copies and one PDF file for Owner's review and use.

ADDITIONAL SERVICES

Services that are not included in the above Scope of Services can be provided under separate contract or by amending the scope and fee listed in this Agreement. Examples of additional services that may be needed or desired for completion of the project include:

- GIS Updates.
- Municipal Advisor Services.
- Grant writing/funding application preparation or Environmental reviews.
- Funding applications and administration beyond the SRF P&D and Intended Use Plan.
- Topography survey or boundary survey, design, permitting, bidding and construction services.
- Additional meetings not specifically listed in the scope.
- WaterCAD water age or surge analysis evaluations.
- Treatment system pilot testing.
- Major report revisions related to changes in scope after final report preparation.

OWNER'S RESPONSIBILITIES

- Owner is responsible for accuracy and completeness of the information provided to MSA.
- Owner to provide MSA with full information as to Owner's requirements for the project.
- Owner to operate Owner's systems (hydrants, valves, manholes, etc.) as needed for MSA to obtain required information for the completing project.
- Owner to provide hydrant testing data
- Owner to provide well pump curves
- Owner to provide a summary the past three (3) years of drinking water billed
- Owner to provide water usage history for highest water users in the community
- Owner to provide the past three (3) years of Drinking Water Monthly Operating Reports.
- Owner to provide most recent IDNR Inspection Report
- Owner to provide documentation of water main breaks/repairs
- Owner to provide timely response to questions and review of engineering submittals (preliminary and final reports).
- Owner to complete Viability Assessment.
- Owner to authorize submittal of necessary submittals and pay associated fees.

ESTIMATED FEE

Phase/Task	Total
Water Preliminary Engineering Report	$22,500
Water Modeling	$10,000
Unidirectional Flushing Plan	$35,000
TOTAL	**$67,500**

IT'S MORE THAN A PROJECT. IT'S A COMMITMENT.

INDEPENDENCE WATER SYSTEM STUDY
CITY OF INDEPENDENCE NOVEMBER 25, 2024

MSA

www.msa-ps.com