

**Report to Congress for Future Water Resources Development (WRRDA 7001) Submission
Package**

Proposal Name: Midwest City Improvements to Water Related Infrastructure - Modification Project

Submission Date: 08/26/2019

Proposal ID Number: df5b5c9d-3675-4614-b6f0-9de0a8c53812

Purpose of Proposal: It is proposed that the original project authority be modified to increase the authorized federal project ceiling from \$2,000,000 to \$5,000,000 in order to complete the water related infrastructure improvements associated with Phase II of the Midwest City Booster Pump Station and Storage Tank Reconstruction Project. New authorization is needed to address the increase in construction costs since the original 2007 authorization. Fifteen years ago, after a clearwell roof collapsed, it was determined that assistance was needed to address the aging and deteriorated state of Midwest City's Booster Pump Station and two below ground clearwells. This event prompted Midwest City to seek federal assistance with the reconstruction of the original 1940's era booster station and water infrastructure system supported by a field of fifteen (15) deep municipal water wells. In August of 2018, the citizens of Midwest City voted to approve a general obligation bond issuance, a part of which was designated for Phase I of the Booster Pump Station and Storage Tank Reconstruction Project in the amount of \$5,560,000. Phase I includes reconstruction of the Booster Pump Station and one (1) 1.75-MG concrete storage tank. Phase II of the project, which is unfunded, includes the construction of the second water storage tank and the rehabilitation _ re-drilling of the fifteen (15) original municipal wells that feed the system. Of the 15, seven are currently non-operational due to high turbidity, equipment breakdown, or deterioration of trunk lines. The remaining wells are in marginal operating condition and do not work at capacity. Existing limitations only allow for adding water capacity _ pressure to the system during peak times of usage. Water resource consultants have evaluated the well system and have recommended re-drilling of all the wells to be compliant with all state and federal requirements. A well location map and storage tank renderings are attached.

1. Administrative Details

Proposal Name: Midwest City Improvements to Water Related Infrastructure - Modification Project

by Agency: City of Midwest City, Oklahoma

Locations: OK

POC Name: Grants Manager

POC Phone:

POC Email:

Date Submitted: 08/26/2019

Confirmation Number: df5b5c9d-3675-4614-b6f0-9de0a8c53812

Supporting Documents

File Name	Date Uploaded
Mayor Support Letter.pdf	08/23/2019
WaterWell-Improvements-Project-OpenStreetBkgrnd-20190820(r).pdf	08/23/2019
Phase II Renderings.pdf	08/23/2019
GarverUSACE Letter of Modification-GST and BPS-1.pdf	08/23/2019
ChamberSupport.pdf	08/23/2019

2. Provide the name of the primary sponsor and all non-Federal interests that have contributed or are expected to contribute toward the non-Federal share of the proposed feasibility study or modification.

Sponsor	Letter of Support
City of Midwest City, Oklahoma (Primary)	The City of Midwest City supports the Midwest City Water Related Infrastructure Modification Project being submitted to the U. S. Army Corps of Engineers for consideration of project modification under Section 7001 of WRRDA. Please see the attached support letter.

3. State if this proposal is for new feasibility study authority, a modification to an existing feasibility study authority, a modification to an existing USACE project authority, or a modification to an existing USACE Environmental Infrastructure Program authority. If it is a proposal for a modification to an existing study, project or program authority, provide the authorized water resources development feasibility study or project name.

[x] Modification to a USACE Project Authority : Water Resources Development Act of 2007 (P.L. 100-114) SECTION 5158. ADDITIONAL ASSISTANCE FOR CRITICAL PROJECTS. Section 219 of the Water Resources Development Act of 1992 (106 Stat. 4835; 110 Stat. 3757; 113 Stat. 334; 113 Stat. 1494; 114 Stat. 2763A-219; 119 Stat.2255) as amended - "MIDWEST CITY, OKLAHOMA - \$2,000,000 for improvements to water related infrastructure, the City of Midwest City, Oklahoma."

4. Clearly articulate the specific project purpose(s) of the proposed study or modification. Demonstrate that the proposal is related to USACE mission and authorities and specifically address why additional or new authorization is needed.

It is proposed that the original project authority be modified to increase the authorized federal project ceiling from \$2,000,000 to \$5,000,000 in order to complete the water related infrastructure improvements associated with Phase II of the Midwest City Booster Pump Station and Storage Tank Reconstruction Project. New authorization is needed to address the increase in construction costs since the original 2007 authorization. Fifteen years ago, after a clearwell roof collapsed, it was determined that assistance was needed to address the aging and deteriorated state of Midwest City's Booster Pump Station and two below ground clear wells. This event prompted Midwest City to seek federal assistance with the reconstruction of the original 1940's era booster station and water infrastructure system supported by a field of fifteen (15) deep municipal water wells. In August of 2018, the citizens of Midwest City voted to approve a general obligation bond issuance, a part of which was designated for Phase I of the Booster Pump Station and Storage Tank Reconstruction Project in the amount of \$5,560,000. Phase I includes reconstruction of the Booster Pump Station and one (1) 1.75-MG concrete storage tank. Phase II of the project, which is unfunded, includes the construction of the second water storage tank and the rehabilitation _ re-drilling of the fifteen (15) original municipal wells that feed the system. Of the 15, seven are currently non-operational due to high turbidity, equipment breakdown, or deterioration of trunk lines. The remaining wells are in marginal operating condition and do not work at capacity. Existing limitations only allow for adding water capacity _ pressure to the system during peak times of usage. Water resource consultants have evaluated the well system and have recommended re-drilling of all the wells to be compliant with all state and federal requirements. A well location map and storage tank renderings are attached.

5. To the extent practicable, provide an estimate of the total cost, and the Federal and non-Federal share of those costs, of the proposed study and, separately, an estimate of the cost of construction or modification.

	Federal	Non-Federal	Total
Study	\$0	\$0	\$0
Construction	\$5,000,000	\$1,250,000	\$6,250,000

Explanation (if necessary)

PHASE II: Construct 1.75 MG pre-stressed concrete water tank - \$1,475,000. Re-drill fifteen (15) municipal water wells @ \$475,000 each - \$7,125,000; TOTAL: \$8,600,000. The proposed modification of \$5,000,000 and non-federal match of \$1,250,000 (\$6,250,000 total) will not meet the cost of the infrastructure needs identified in Phase II, however, it is the maximum the City of Midwest City can feasibly commit to matching at this time. It will however, go far in addressing the most vital infrastructure rehabilitation _ replacement areas of the water supply system. Additional phases may be proposed to address the expense over time.

6. To the extent practicable, describe the anticipated monetary and nonmonetary benefits of the proposal including benefits to the protection of human life and property; improvement to transportation; the national economy; the environment; or the national security interests of the United States.

This project is very important to the 58,000, and growing, community of Midwest City in providing operational efficiency and providing citizens with a resilient and sustainable water supply. The City's main water supply is treated surface water from Lake Thunderbird, while the groundwater supply infrastructure provides a drought-resilient supplemental supply. The potential exists for an interruption of production due to issues with Lake Thunderbird raw water quality, intake and _ or transmission challenges from the 19 miles of raw water pipeline, or at the water treatment plant itself. Completing both phases of the Water Booster Project will provide the City's water system the ability to supply average day demands for a two-day period in the event water production from Lake Thunderbird is interrupted. Currently the location of the Booster Pump Station is in very close proximity to Country Estates Elementary School, Midwest City High School, and abutting residential areas. The proposed improvements in Phase I will convert the outdated chlorine gas disinfection system to liquid sodium hypochlorite to provide the needed residual disinfectant and provide a higher level of safety to operators and the surrounding community. Improvements will also assist in sustaining Midwest City's Insurance Standard Office (ISO) Fire Protection Rating of 1. By completing Phase I and II of the Midwest City Booster Pump Station and Storage Tank Reconstruction project, the city will provide the utmost resiliency to its critical water infrastructure, providing a redundant and reliable water supply in cases of emergency, including natural hazards or malevolent acts, while also providing flexibility with operations and maintenance.

7. Does local support exist? If 'Yes', describe the local support for the proposal.

Yes

Local Support Description

Extensive local support for the project was demonstrated by the citizens of Midwest City with the recent General Obligation Bond Election approving \$5,560,000 in bond funds for Phase I of the replacement of the aging Booster Pump Station and supporting infrastructure. Support letters from the Mayor of Midwest City, Garver, and the Midwest City Chamber of Commerce are attached.

8. Does the primary sponsor named in (2.) above have the financial ability to provide for the required cost share?

Yes

Primary Sponsor Letter of Support

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Mayor Support Letter.pdf



MAYOR
100 N. Midwest Boulevard
Midwest City, Oklahoma 73110
mayor@midwestcityok.org
Office: 405-739-1204 / Fax: 405-739-1208
www.midwestcityok.org

August 12, 2019

U. S. Army Corps of Engineers
441 G Street N.W.
Washington, D.C. 20314-1000

To Whom It May Concern:

In reference to the notice by the U.S. Army Corps of Engineers in the Federal Register on April 29, 2019, I wish to convey full support of the proposed modification by the City of Midwest City of their water related infrastructure project authorized under Section 219 of Public Law 110-114 (the Water Resources Development Act of 2007) increasing the authorization total from \$2,000,000 to \$5,000,000, to allow Midwest City to pursue critical water related infrastructure improvements.

The City of Midwest City, a community of 58,000, has been pursuing federal assistance for more than 12 years, shortly after a portion of one of its clearwell's roof collapsed into the clearwell, requiring it to be taken out of service. This incident was a distinct wake-up call highlighting the larger issue of critical infrastructure making up the city's water supply system that had far exceeded its intended lifespan and needed replacement. A priority project in a recent general obligation bond election, funding for the first phase of the Water Booster Station Reconstruction was approved by a public vote of the citizens of Midwest City. The city council and citizens are in agreement that critical improvements to our existing water supply system are needed now.

While the GO bond will not fully fund all the necessary components of the project, it will address the immediate measures of reconstructing the booster pump station, new chemical feed system and constructing one of two storage tanks. A second water storage tank and improvements to the deteriorating water supply infrastructure feeding the system were not included. The expense of these needed components compel the City of Midwest City to request a cost modification to its original authorization to seek federal assistance in completing this vital water infrastructure project. The city commits to the required 25% cost share.

On behalf of our community, I respectfully request that this proposed modification be considered for inclusion in the 2020 Annual Report to Congress. Thank you.

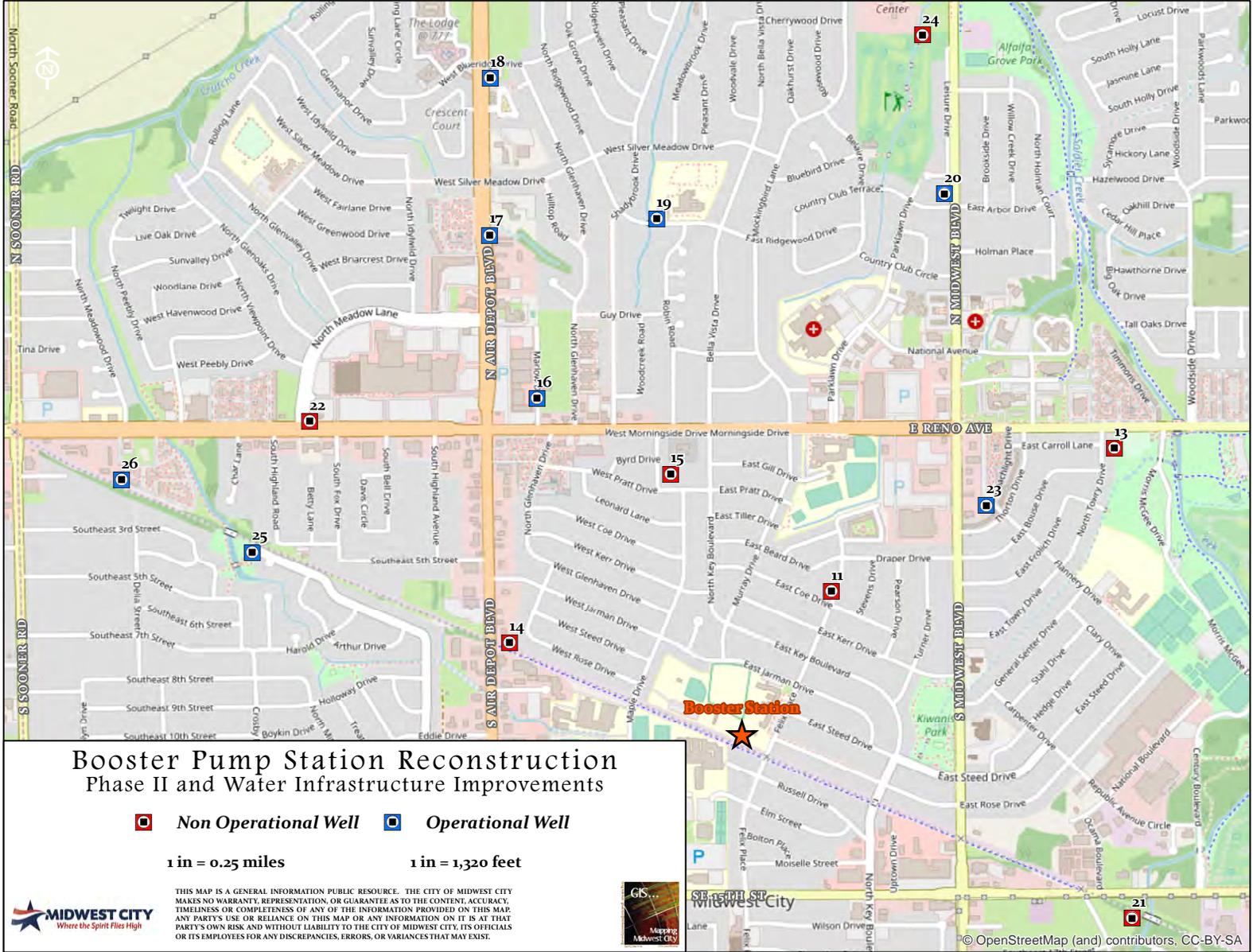
Sincerely,

Matthew D. Dukes, II, Mayor
City of Midwest City, Oklahoma

Map Document

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WaterWell_Improvements_Project_OpenStreetBkgrnd_20190820(r).pdf

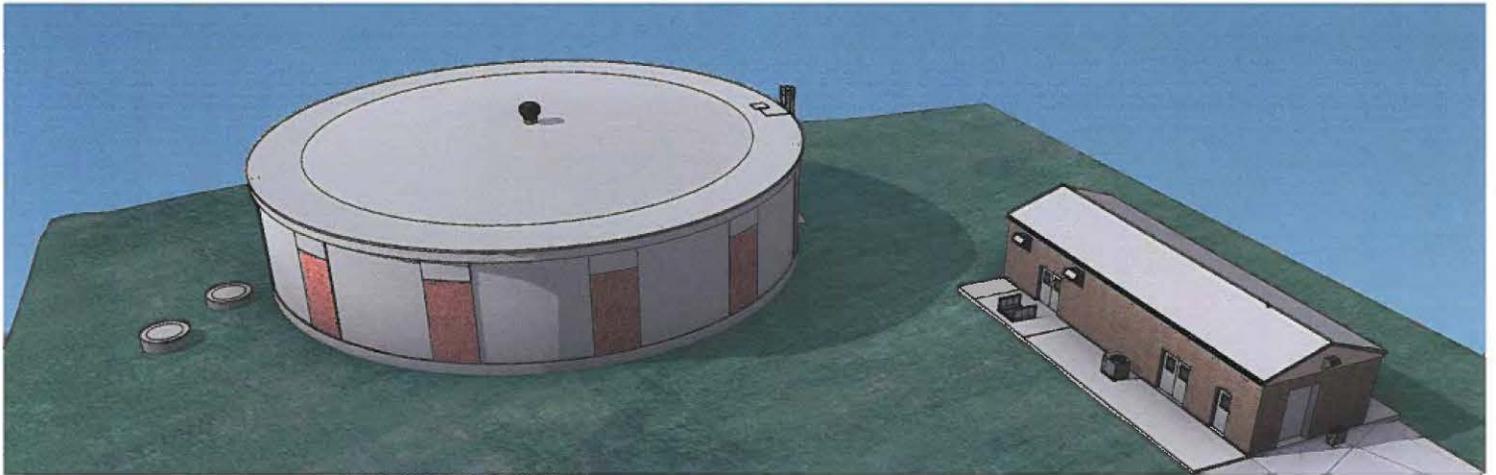


Additional Proposal Information

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Phase II Renderings.pdf

**Booster Pump Station &
Storage Tank Reconstruction Project – Phase 2
Midwest City, Oklahoma**

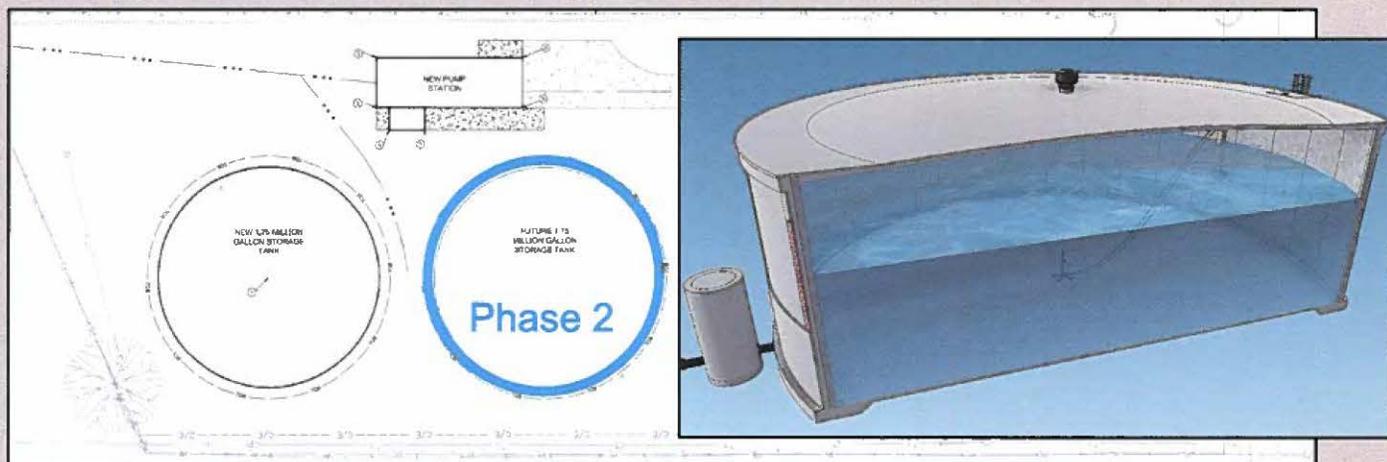


December 18, 2018



Phase 2 Improvements

- Ground Storage
 - 1.75-MG pre-stressed concrete tank
 - Tank mixers



Existing Infrastructure



Additional Proposal Information

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GarverUSACE Letter of Modification_GST and BPS_1.pdf



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www.GarverUSA.com

CELEBRATING
ONE HUNDRED YEARS
1919 to 2019 

August 20, 2019

U.S. Army Corps of Engineers
441G Street N.W.
Washington, D.C. 20314-1000

Re: Modification by the City of Midwest City to their water related infrastructure improvements authorized under Section 219 of Public Law 110-114

To whom it may concern:

This correspondence is to support the proposed modification by the City of Midwest City (City) to their water related infrastructure improvements authorized under Section 219 of Public Law 110-114 (the Water Resources Development Act of 2007) to increase the authorization total from \$2,000,000 to \$5,000,000. Garver has been working with the City of Midwest City to identify infrastructure weaknesses and provide recommendations for improvements in support of a dependable drinking water supply for the citizens of the City, many of whom support operations in military or civilian service at Tinker Airforce Base. This funding modification request will allow Midwest City to complete Phase II of the Water Booster Station, critical water supply projects. Phase II of the Water Booster Station includes the second of two proposed Water Storage Tanks, as well as the rehabilitation or redrilling of approximately 15 wells in various stages of need that feed into the existing system.

The City utilizes both surface water and groundwater to provide a high-quality, reliable water supply for its residents. The City's main supply is treated surface water from Lake Thunderbird at the water treatment plant (WTP). However, the City's groundwater supply infrastructure supports the surface water by providing a drought-resilient supplemental supply. Additionally, Lake Thunderbird is a water supply reservoir that has been stressed by recent drought conditions resulting in concerns with the City's water supply from a quantitative, as well as qualitative perspective.

The City's groundwater wells consist of in-line wells that pump directly into the water distribution system, as well as a collection of wells that convey flow to a booster pump station and two ground storage tanks. The ground storage tanks and booster pump station are key components of the system for providing emergency storage and supplementing supply during peak demand times, or if a major outage brought the WTP offline.

During a recent study to design improvements to the booster pump station, there were eleven (11) active wells that convey flow to the two ground storage tanks at the booster pump station. Additionally, there were four (4) wells that were inactive pending well and/or piping rehabilitation. The total capacity of the active wells was approximately 4.4 millions gallons per day (MGD), which is

approximately 75% of the average day demand for the system. Redrilling or rehabilitating the 15 wells will bring the system to 100% capacity and fully redundant to the WTP.

The existing booster pump station has two 1.5-MG ground storage tanks that were constructed during the 1940s and 1950s. These tanks have reached the end of their effective useful life. The existing tanks will be replaced with two 1.75-MG tanks to allow for inspection, cleaning, and rehabilitation of either tank without losing the booster pump station, while providing sufficient storage for a redundant system.

The potential exists for an interruption of WTP production due to issues with Lake Thunderbird raw water quality, intake and/or transmission challenges from many miles of a raw water pipeline, or at the WTP itself. Completing both phases of the Water Booster Project will provide the City's water system the ability to supply average day demands for a two-day period in the event production at the surface WTP is interrupted. Additionally, as part of the initiatives of the American Water Infrastructure Act of 2018 (AWIA) to identify areas of risk and means of providing resiliency to our most critical water infrastructure, this project will provide a redundant and reliable supply in the cases of emergency, including natural hazards, malevolent acts, and flexibility with operations and maintenance.

It is important to the City to provide its citizens a resilient and sustainable water supply and to do so will require both phases of the project to be completed. For this reason, we support the City of Midwest City's request to modify their water related infrastructure improvements authorization to increase the authorization total from \$2,000,000 to \$5,000,000.

If you have any questions, please contact me at 405-329-2555 or memach@garverusa.com.

Sincerely,

GARVER



Mary Elizabeth Mach, P.E.
Senior Project Manager
Water Team Leader

Additional Proposal Information

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ChamberSupport.pdf



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www.midwestcityok.com

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Mr. Wade Moore,
Member-at-Large
Mr. Randy Smith,
Member-at-Large
Ms. Danita Rose,
Member-at-Large

June 24, 2019

To Whom It May Concern,

The Midwest City Chamber of Commerce wholeheartedly believes quality of life programs are vital to growth, economic development, and success of communities. The reconstruction of the Midwest City Booster Pump Station and the surrounding infrastructure will sustain maximum daily water consumption and water pressure which serves to retain Midwest City's Insurance Standard Office (ISO) Fire Protection Rating of 1, and provide quality water service to citizens.

Midwest City is the home of Tinker Air Force Base. Civil Service and military families seek communities offering quality city services, strong neighborhoods, diverse recreational activities, culture, education, shopping and dining. We know by addressing critical infrastructure needs, the City of Midwest City will continue to be an attractive draw to future families moving to Tinker Air Force Base.

We enthusiastically support the City of Midwest City's application for assistance with the reconstruction of this vital water infrastructure project. Thank you for your consideration. Please feel free to contact me if you have any questions.

Respectfully,

Bonnie Cheatwood
Executive Director
Midwest City Chamber of Commerce