Texas Water Development Board

OLA ID 1428876
PIF No. Not Assigned Yet
Entity Name: McAllen
Project Name: McAllen Citywide AMI/AMR Infrastructure Upgrade Project

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General Information

Project Information

Funding Type SWIFT

Contact Information

County Hidalgo

Entity Contact Information	Engineering Firm Contact Information
Name of Entity McAllen	Name of New Entity
Prefix Mr.	Prefix Mr.
First Name Mark	First Name Carlos
Last Name Vega	Last Name Gonzalez
Addr 1 1300 W Houston Ave	Addr 1 311 North 15th Street
Addr 2	Addr 2
City McAllen	City Mcallen
State TX	State TX
Zip 78501-5002	Zip 78501-4705
Phone (956) 681-1630	Phone (956) 681-1777
Fax (956) 681-1639	Fax (956) 681-1779
Suffix P.E.	Suffix P.E.
OrgName	OrgName
DeptName McAllen Public Utility	DeptName MPU - Utility Engineering
Title General Manager	Title Engineer
Email mvega@mcallen.net	Email cagonzalez@mcallen.net
	Firm Name McAllen Public Utility
Make Changes Y	Make Changes Y
No Entity TxWISE Id	No Engineering TxWISE Id

Service Area

Population Served 169,099

Project Description

Project Name McAllen Citywide AMI/AMR Infrastructure Upgrade Project

Where can Project be found in the most recent Regional Water Plan?
The project is described on page #: 5.3-119
The capital cost is listed on page #: 5.3-119

Region M - RIO GRANDE

Phase(s) Applied For
Planning N
Acquisition N
Design N
Construction Y

Emergency
Applicant/entity's water supply will last less than 180 days. N
Applicant has received or applied for Federal emergency funding. N
None of the above. Y

Agricultural Efficiency Project? N

Estimated average annual residential water bill $301.52
Annual Median Household Income $45,100

Project will produce water N
Project will conserve water Y
Please provide the volume of water anticipated to be produced or conserved by the project per decade:

2020	2030	2040	2050	2060	2070
590	663	736	809	882	954

Project will address water loss Y

Description of Proposed Project Components McAllen Public Utility (MPU) is proposing to implement an Advanced Metering Infrastructure System (AMI) as part of its long-term goal of water supply reliability and efficient water management. The project includes the upgrade of approximately 49,439 existing meters (domestic, irrigation and reuse) to smart meters with advanced metering capabilities. The infrastructure will be comprised of an AMI fixed network system that will integrate with existing utility software applications to automatically collect and store hourly consumption data. These upgrades will address water conservation by improving delivery efficiencies.

The project is expected to take between two and three years to fully implement with a total estimated cost of $20,133,645. The scope of work includes the following: a signal propagation study; an antenna and communication equipment upgrade; meter installation; upgrade to an AMI fixed-based network; interfacing AMI Software with MPU’s billing software; integration of AMI Software with a customer data portal to provide web-based access to MPU customers; and a

public awareness campaign which will include community outreach and customer communication.

The project, which is consistent with and contributes to the SWIFT priorities and the Region M Water Plan, will be a complete turnkey meter replacement to allow for complete AMI implementation throughout the City of McAllen.

By modernizing infrastructure through the installation of an AMI system, MPU is confident its efforts will enhance control and automation of network infrastructure via innovation, technology and information resulting in significant water savings.

Public Water Systems Served by the Proposed Project

Although we have emergency interconnections with the cities of Edinburg, Hidalgo and Mission, the McAllen public water system will be the primary beneficiary of this proposed AMI project

Readiness to Proceed to Construction

Preliminary planning or design work (30% of total project) has been completed or is not required. Y

Applicant is prepared to begin implementation or construction within 18 months of application deadline. Y

Applicant has acquired all water rights associated with the proposed project, or none will be required. Y

Estimated Costs

TWDB Requested Amount

Low-Interest Loan Amount $19174900.00

Deferred Loan Amount

Board Participation Amount

Local Contribution Amount

Other Amount $958745.00
Other Desc 5% Contingency

Total Estimated Project Costs $20133645.00
Anticipated Debt Service for 2018 Loan Closing is anticipated to be: OTHER-REQUEST
If not anticipating level debt service, please explain We anticipate debt service to be relatively level but we will consult with our financial adviser to develop detailed debt service calculation prior to submitting Financial Application

Additional Attachments

The following documents are attached after this page:

2021 Rio Grande Regional Water Plan Chapter 5.3 Recommended Water Management strategies pages 118-120.pdf
Total Estimated Project Costs AMI Infrastructure Upgrade Project.pdf

Advanced Water Conservation

This strategy includes methods and practices that either reduce demand for water supply or increase the efficiency of supply. These strategies include the BMP identified in the BMP Guide discussed in Subsection 5.2.5, Advanced Municipal Water Conservation. La Villa's 2011 GPCD was estimated at 108, and therefore the conservation WMS includes a 0.5 percent annual reduction in municipal use through the planning horizon.

McAllen

The City of McAllen has projected needs in every decade (Table 5.3-170); recommended WMSs are shown in Table 5.3-171.

Table 5.3-170 McAllen Existing Supply Balance (acft/yr)

MCALLEN	2020	2030	2040	2050	2060	2070
WUG Demand	39,787	48,510	57,403	66,492	75,765	84,820
Edinburg - Contract Demand	55	55	55	55	55	55
Hidalgo County Manufacturing – Contract Demand	300	300	300	300	300	300
Demand	40,142	48,865	57,758	66,847	76,120	85,175
Supplies	37,270	37,270	37,270	37,270	37,270	37,270
Need/Surplus	(2,872)	(11,595)	(20,488)	(29,577)	(38,850)	(47,905)

Table 5.3-171 McAllen Water WMS Supplies (acft/yr)

MCALLEN	2020	2030	2040	2050	2060	2070
Recommended WMS						
Advanced Municipal Water Conservation	0	3,558	8,804	15,340	22,992	28,889
AMI Project	1,140	1,140	1,140	1,140	1,140	1,140
Brackish Groundwater Desalination Plant	0	2,688	2,688	2,688	2,688	2,688
Conversion of Water Rights	0	0	2,968	3,622	5,223	8,370
ID Improvements - HCID No. 1	196	264	333	402	471	540
ID Improvements - HCID No. 2	29	204	378	552	727	901
ID Improvements - HCWID No. 3	1,672	1,672	1,672	1,672	1,672	1,672
ID Improvements - United ID	1,227	1,227	1,227	1,227	1,227	1,227
Raw Waterline Project	800	800	800	800	800	800
Municipal Drought Management	1,071	1,330	1,589	1,850	2,110	2,363
North WWTP Potable Reuse	0	3,880	3,880	6,060	6,060	6,060

MCALLEN	2020	2030	2040	2050	2060	2070
New Supplies from WMS	6,135	16,762	25,479	35,353	45,110	54,650
WUG Balance After WMS	3,263	5,167	3,191	3,976	4,460	4,945
Alternative WMS*						
Expand Existing Groundwater Supply	0	500	500	500	1,500	1,500
*Alternative WMS are evaluated in Section 5.4.						

Advanced Water Conservation

This strategy includes methods and practices that either reduce demand for water supply or increase the efficiency of supply. These strategies include the BMP identified in the BMP Guide discussed in Subsection 5.2.5, Advanced Municipal Water Conservation. McAllen's 2011 GPCD was estimated at 220, and therefore the conservation WMS includes a 1 percent annual reduction in municipal use.

AMI Project

Project Source

This strategy was submitted by McAllen to the RWPG during the 2021 regional water planning process.

Description

This strategy is to replace all existing manual meters that may be broken, malfunctioning, or inactive for two years with automated meter reading equipment within McAllen's distribution system.

Available Supply

McAllen estimates 360 to 385 million gallons of their current water losses can be conserved. For the intents and purposes of this plan, 380 million gallons or 1,140 acft/yr was used as the WMS yield.

Engineering and Costing

McAllen estimated the capital cost of this strategy at $25,043,000 in 2020, which is converted to 2018 dollars $24,206,000. Table outlines the project requirements and other cost metrics developed in the UCM, assuming one year of construction and standard financing parameters.

Implementation Issues

No implementation issues have been identified. Metering is recommended across the region to reduce system losses.

Table 5.3-172 McAllen – AMI Project Cost Summary

COST ESTIMATE SUMMARY	
McALLEN – AMI PROJECT	
Item	Estimated Costs for Facilities
Automated Metering Infrastructure	$24,206,000
CAPITAL COST	**$24,206,000**

COST ESTIMATE SUMMARY	
McALLEN – AMI PROJECT	
Item	Estimated Costs for Facilities
Automated Metering Infrastructure	$24,206,000
Interest During Construction (3 percent for 1 year with a 0.5 percent ROI)	$666,000
TOTAL COST OF PROJECT	**$24,872,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$1,750,000
O&M	
Automated Metering Infrastructure	$242,000
TOTAL ANNUAL COST	**$1,992,000**
Available Project Yield (acft/yr)	**1,140**
Annual Cost of Water ($ per acft)	**$1,747**
Annual Cost of Water After Debt Service ($ per acft)	**$212**
Annual Cost of Water ($ per 1,000 gallons)	**$5.36**
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	**$0.65**

Raw Waterline Project with HCID No. 1

Project Source

This strategy was submitted by the City of McAllen to the RWPG.

Description

This strategy is for the construction of a raw waterline from Hidalgo County ID No. 1 to the city's North WTP. The raw waterline would provide the WTP with a second source of raw water from the irrigation canal, an important redundancy that does not currently exist. A map of the proposed pipeline alignment is shown on Figure 5.3-13.

McAllen Public Utility
AMI/AMR Infrastructure Upgrade Project
Total Estimated Project Costs
January 31, 2021

	Meters to Install	Cost Per Meter	Total
Domestic			
5/8 Inch	40,657	$ 350	$ 14,229,950
1 Inch	2,441	$ 450	$ 1,098,450
1.5 Inch	540	$ 1,000	$ 540,000
2 Inch	1,140	$ 1,000	$ 1,140,000
Total Domestic Meters	**44,778**		**$ 17,008,400**
Irrigation			
5/8 Inch	1,914	$ 350	$ 669,900
1 Inch	1,822	$ 450	$ 819,900
1.5 Inch	212	$ 1,000	$ 212,000
2 Inch	317	$ 1,000	$ 317,000
Total Irrigation Meters	**4,265**		**$ 2,018,800**
Reuse			
1 Inch	382	$ 350	$ 133,700
2 Inch	14	$ 1,000	$ 14,000
Total Reuse Meters	**396**		**$ 147,700**
Total	**49,439**		**$ 19,174,900**
Contingency	**5%**		**$ 958,745**
Total Estimated Project Costs			**$ 20,133,645**

Submittal

I, Carlos Gonzalez, as the designated authorized representative of the McAllen, hereby approve and authorize the submission of this project information form to the Texas Water Development Board. I certify that all information contained herein is true and correct to the best of my knowledge. I understand the failure to submit a complete project information form by the stated deadlines may result in the withdrawal of the form without review.

Submitted by Carlos Gonzalez
Telephone Number (956) 681-1770
Submitted date 2021-02-01 13:42:41.067