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CERTIFICATION PROPOSAL
WASTEWATER INFRASTRUCTURE PROJECT
MARATHON, TEXAS

CERTIFICATION PROPOSAL

WASTEWATER INFRASTRUCTURE PROJECT MARATHON, TEXAS

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EXECUTIVE SUMMARY

WASTEWATER INFRASTRUCTURE PROJECT **MARATHON, TEXAS**

The proposed Project consists of replacing the main trunk line that conveys wastewater to the wastewater treatment plant, as well as decommissioning of a lift station and extending wastewater collection infrastructure to provide first-time services to nine homes in Marathon, Texas (the "Project").

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Construction*	\$1,551,500	100.0
NADB-BEIF grant	\$1,551,500	100.0

* Includes costs related to construction, contingency, supervision and taxes.

CERTIFICATION AND FINANCING PROPOSAL

WASTEWATER INFRASTRUCTURE PROJECT MARATHON, TX

Project Type

The Project falls within the eligible sector of wastewater collection and treatment.

Project Location

The Project is located in the Town of Marathon in Brewster County, Texas, approximately 50 miles (80 km) from the U.S.-Mexico border and within the border region defined as 100 kilometers (62.5 miles) from the U.S.-Mexico International border.

Project Sponsor and Local Authority

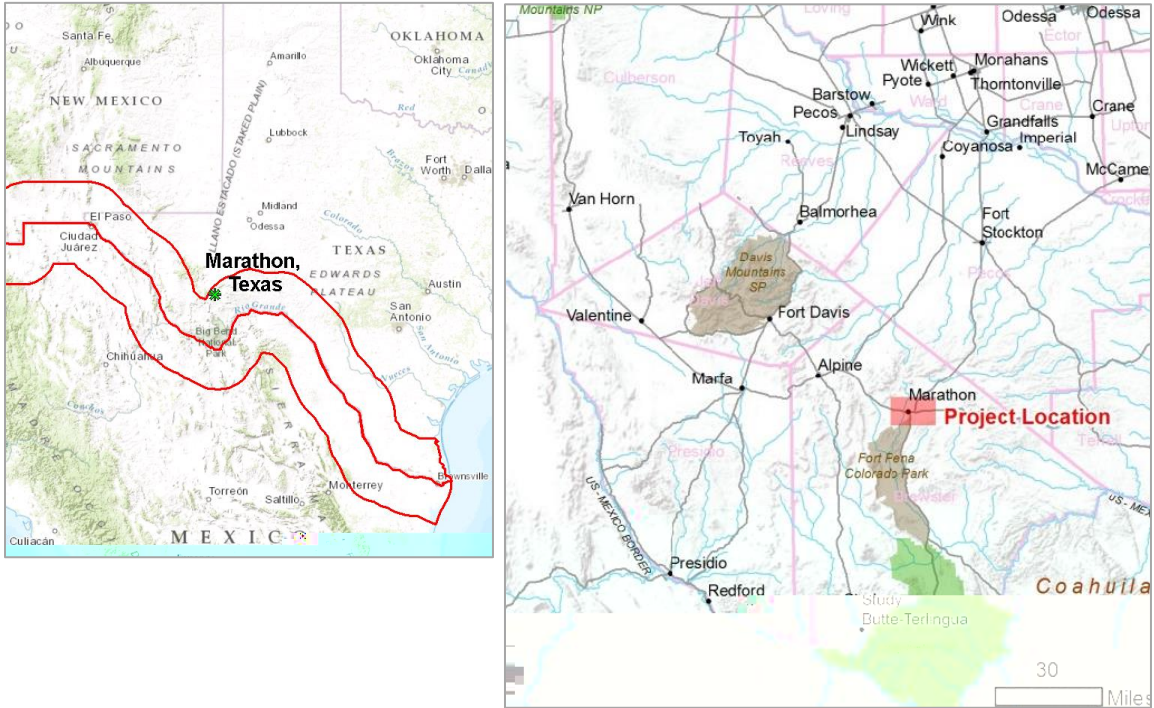
The Project sponsor is Marathon Water Supply and Sewer Service Corporation (MWSC or the “Sponsor”), a private, non-profit utility that is customer-owned and managed through an elected board for the purpose of providing services to the Town of Marathon, Texas. MWSC has the right to provide water and wastewater services through Certificate of Convenience and Necessity (CCN) No. 10234.

2.1.1. Project Description

Geographic Location

The Town of Marathon is located in the Big Bend region of Texas approximately 230 miles east of El Paso, Texas and 27 miles southeast of Alpine, Texas. Figure 1 shows the approximate location of the Project.

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General Community Profile

According to the 2010 census data in the U.S., the population of Marathon as a census designated place (CDP) is 546 residents. Marathon is a popular retirement community with a median age of 52.8. The median household income (MHI) for Marathon is US\$43,750, and 3.1% of its population lives below the poverty rate. In comparison, the MHI for state of Texas is US\$53,207 and 15.9% of the state population lives in poverty.³ The community's economic base consists mainly of tourism and agricultural production.

The status of public services in Marathon is described in Table 1 below.

³ Source: U.S. Census Factfinder, accessed July 28, 2017, https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml.

Water coverage	Approximately 90%		
Supply source	3 wells in the Marathon Aquifer, including one active, one auxiliary and one drilled well that is not operational		
Number of hookups	260 residential hookups		
Coverage	Approximately 85%		
Number of connections	241 residential connections		
Coverage	100%		
Treatment facilities			
	Marathon WWTP	Facultative lagoon	0.2 mgd
Collection coverage	100%		
Final disposal	City of Alpine Landfill		
Coverage	Approximately 85%		

* Water and wastewater coverage estimates provided by MWSC as of July 7, 2017.

** Wastewater treatment coverage equals the percentage of wastewater collected through the centralized collection system and treated by a centralized wastewater treatment facility.

Mgd = millions of gallons a day; WWTP = Wastewater treatment plant

Local Water and Wastewater Systems

MSWC reports providing water service to approximately 90% of residents, through 260 residential water hookups. Residents without access to the centralized drinking water system use private wells. As part of the development tasks for the Project, a water audit was conducted with the support of a grant from the U.S. Environmental Protection Agency (EPA). The audit found that MWSC’s rate of water production is approximately 83,500 gallons/day and that water losses in the system were within normal levels.

Wastewater collection infrastructure is available to 85% of residents, with service provided through 241 residential connections. Only a few areas within the community and some outlying areas use on-site wastewater disposal systems. Portions of the existing wastewater collection system (WWCS) were constructed nearly 50 years ago using 6- and 8-inch vitrified clay pipes that no longer have sufficient cover to protect the integrity of the pipe. The utility has been experiencing chronic issues with line breaks and sewage spills due to the age and deterioration of the pipes. In some cases, the system has backed up with raw sewage flowing into homes and businesses, exposing the public to serious health risks. The most acute problems are occurring in the segment of the main trunk line that runs from the First Street alleyway to the Marathon Wastewater Treatment Plant (WWTP).

Additionally, the utility has identified Fussy Flats and Loma del Chivo as the only remaining areas within the town limits that currently do not have access to the centralized wastewater system. However, because of the poor condition of the current system, MWSC has been unable to extend service to those areas.

The existing wastewater system requires one lift station to convey flows to the Marathon WWTP. The plant uses a facultative lagoon system and has the capacity to treat up to 200,000 gallons per day (gpd) of wastewater. The plant currently receives an average of 40,000 gpd, leaving sufficient capacity available for additional flows from new service connections. The WWTP is permitted to use the treated effluent discharge for irrigation. In 2003, MWSC received a grant from the Border Environment Infrastructure Fund (BEIF) to support a previous project that mainly consisted of improving and expanding the wastewater treatment plant. That project was successfully completed in 2006.

To address the most acute problems in its wastewater system, MWSC is proposing a project to replace a section of the wastewater trunk line, which will also allow it to provide first-time wastewater services to unserved areas of Fussy Flats and Loma del Chivo, as well as eliminate the need for the lift station. Because of the wastewater spills in populated areas and backing up into Marathon homes and businesses, the proposed Project was ranked as a Category I priority under the U.S. Mexico Border Water Infrastructure Program.

Project Scope and Design

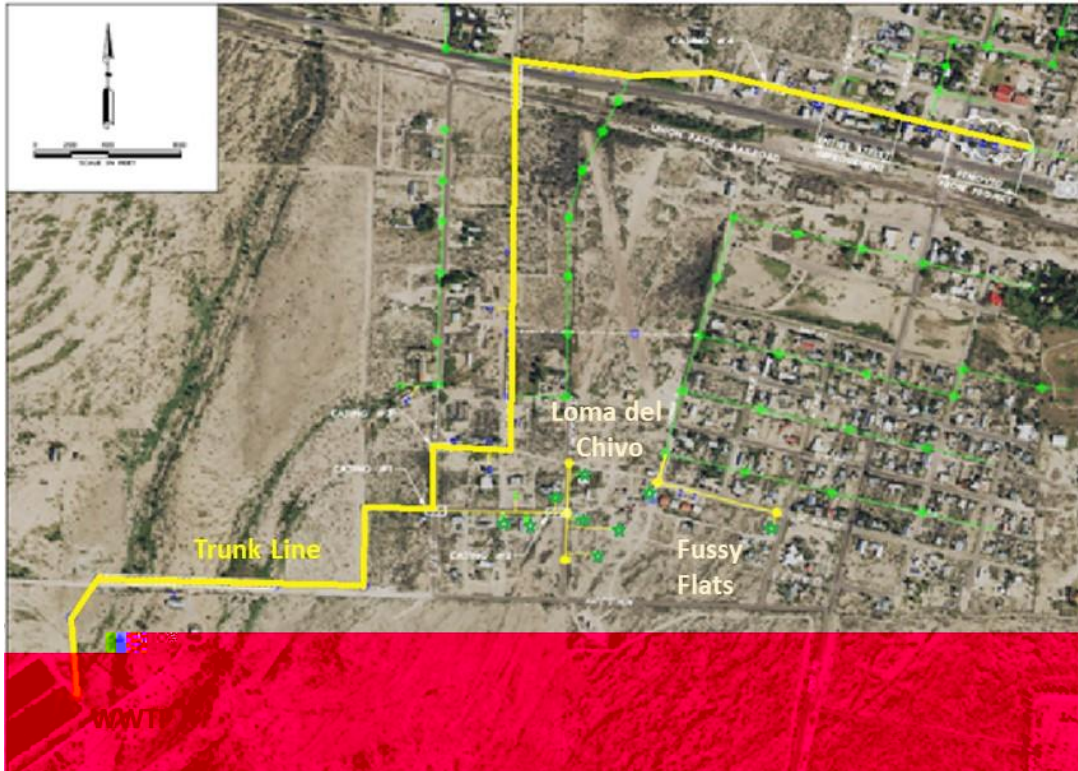
The proposed Project consists of improvements and expansion of the wastewater system in Marathon, Texas. The main components of the Project are described below:

- Replace approximately 8,800 linear feet of the collector main from the First Street alleyway to the Marathon WWTP, using 8- and 10- inch PVC pipe.
- Reconnect 46 existing services to the new trunk line.
- Connect nine (9) residences to the wastewater collection system, including the construction of approximately 3,700 linear feet of new laterals along southeast Sixth Street, Anderson Street and southwest Seventh Street, using 8-inch PVC pipe.
- Decommission nine (9) septic systems.
- Decommission the lift station.

The alignment of the new trunk line has been modified to allow the only lift station to be decommissioned, which will represent a significant savings in operations and maintenance (O&M) expenses for the utility. The modified alignment also makes it possible to extend the collection infrastructure to Fussy Flats and Loma del Chivo, the only areas within town that currently do not have access to the wastewater system.

Decommissioning entails the removal of sludge from the septic systems and lift station by a hauler licensed by the Texas Commission on Environmental Quality (TCEQ). The sludge will be removed and taken to a location that is permitted to receive such waste. Thereafter, the septic tanks are typically crushed and the holes filled with sand to the surface level of the natural ground or, in some cases; the septic tank must be completely removed from the property.

Figure 2, below, shows the general layout of the Project components.



Construction of the Project is intended to begin the first quarter of 2018 and take approximately 12 months to complete. Table 2 shows the proposed schedule for Project implementation milestones.

Procurement	Initiate: 1 st quarter 2018
Construction period	Complete within one year of notice to proceed.

2.1.2. Technical Feasibility

Design Criteria

The Project design conforms to the standards for wastewater systems recommended by the TCEQ in chapter 217 of *Design Criteria for Domestic Wastewater Systems*. The design criteria provide

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guidelines for sewer sizing, pipe slopes, minimum pipe cover, manhole spacing, pipe bedding, etc.
These guidelines ensure that the wastewater collection system

2.1.4. Management and Operations

The operation and management of the proposed Project will be the responsibility of MWSC. The utility will ensure that sufficient resources, training, and staff are available for the proper operation and maintenance of the new infrastructure. Since the wastewater will flow by gravity through the wastewater collection system, typical maintenance will be limited to periodic line flushing. The new lines should require significantly less O&M than the existing lines, due to their larger diameter and increased slope. Additionally, the elimination of the lift station will decrease O&M demands. Finally, the new infrastructure will meet TCEQ's standard criteria for wastewater systems. These criteria have been developed to help to ensure that the system's longevity and reliability while remaining cost effective.

MWSC provides both water and wastewater services, and has established procedures for operations and maintenance of both. It has two operators, both of whom work on water and wastewater systems. One operator has D-level licenses for both systems, and the other has a B-level license for water and D level for wastewater. Both operators take regular training courses to maintain their licenses, which requires 30 hours of training every three years. MWSC is fully staffed, and has a good record for retaining its operations staff. The Project Sponsor successfully completed another project funded through BECC and NADB and continues to operate it satisfactorily.

The water audit conducted for the Project documented the efficient use of water resources and effective fiscal management of the system. The wastewater services will be supported by existing user rates, which average around US\$36.00 a month for residential users. The utility's O&M budget and procedures have been reviewed and are considered sufficient to absorb the Project without any modification to the rate structure.

2.2.

2.2.1. Compliance with Applicable Environmental Laws and Regulations

Applicable Laws and Regulations

Since the Project will be receiving federal funds, it is subject to the National Environmental Policy Act (NEPA) environmental clearance process (42 USC §§4321-4370f). To be eligible for funding from the U.S.-Mexico Border Water Infrastructure Program, all projects must obtain a Finding of No Significant Impact (FONSI). EPA Region 6 completed the environmental review and clearance process for this Project, in accordance with the regulations of the NEPA Council on Environmental Quality (Title 40 CFR §§1500.1-1508.28) and with EPA NEPA regulations (40 C.F.R. Part 6).

The Clean Water Act (CWA) is the primary law regulating public wastewater systems. In accordance with the CWA, all discharges are regulated through the EPA's National Pollutant Discharge Elimination System (NPDES). The TCEQ monitors and inspects all point discharges of the WWTP to verify compliance with the requirements established in its permit.⁴ MWSC is currently

⁴ Source: <https://www.tceq.texas.gov/permitting/wastewater>.

in full compliance with its permit, and this Project will not affect its requirements under the permit.

Environmental Studies and Compliance Actions

In accordance with NEPA regulations, an Environmental Information Document (EID) was developed and submitted in May 2015 for EPA review. The EID evaluates the potential environmental impacts that would result from the implementation of the alternatives considered, including the proposed action. The proposed Project is evaluated to identify potential environmental consequences and measures for mitigating potential effects are established. If the Project's environmental impacts are determined to be immaterial then a FONSI is issued. The EID addresses each of the following environmental areas:

- Air quality, odors and greenhouse gas emissions;
- Noise impacts;
- Water quality, hydrology and floodplain impacts;
- Biological resources and wetland impacts;
- Cultural and historic resource impacts;
- Geology and soils impacts;
- Municipal and public service impacts;
- Public health, hazards and waste management;
- Socioeconomic conditions;
- Land use and planning;
- Transportation and circulation;
- Utilities and service systems; and
- Environmental justice.

Based on the findings and conclusions of the EID, EPA Region 6 prepared an Environmental Assessment (EA) and a FONSI, which were issued on February 16, 2016.

Compliance Document

An EPA FONSI was issued February 16, 2016.

Pending Environmental Tasks and Clearances

There are no pending environmental tasks or authorizations.

2.2.2 Environmental Effects / Impacts

Existing Conditions and Project Impact – Environmental

Most of the existing wastewater collection system was constructed in 1970 using 6- and 8-inch diameter vitrified clay and has reached the end of its useful life. Due to its age, the pipeline has deteriorated leading to chronic issues with pipe breaks and sewage spills. Additionally, because

of the poor condition of its wastewater collection infrastructure, the utility has been unable to connect the few remaining homes within the town limits that do not currently have access to the sewer system.

The proposed Project will help address these issues and thus have a positive impact on the environment. Replacing the trunk line from the downtown commercial area to the wastewater treatment plant will eliminate leakage, line breaks and spills, as well as provide the capacity needed to connect existing homes in the unserved areas of town. Moreover, by eliminating line breaks and inadequate on-site sanitary systems, the risks of human contact with untreated wastewater will also be eliminated.

The environmental and human health outcomes anticipated for the Project include:

- Prevent uncontrolled wastewater discharges due to line breaks, sewage backups and spills.
- Provide first time access to wastewater collection and treatment services to nine homes.
- Eliminate approximately 2,000 gallons per day of untreated or inadequately treated wastewater.⁵

Mitigation of Risks

The environmental studies developed for the Project have not identified any significant risks or concerns, since the Project will be constructed in previously disturbed areas. No specific efforts are required to protect special habitats for endangered or threatened species in the Project area. If threatened or endangered species are encountered during construction, then work will cease immediately until appropriate mitigation measures can be implemented.

Minor adverse effects are anticipated during construction, but those impacts can be managed with best management practices. Potential construction impacts include:

- Local air quality will be temporarily impacted by increased dust, emissions of carbon monoxide, nitrous oxide and sulfur dioxide emissions due to vehicles and equipment used during construction.
- Noise levels may be elevated during construction activities, but this impact will be of short duration and concentrated in the work area. There will also be temporary roadway blockages, as well as the presence of workers in the area.
- Surface water quality could be temporarily impaired by storm water runoff carrying additional sediment and waste from the construction site.

By following best management practices, the temporary impacts due to construction will be minimized. Therefore, the long-term environmental impacts resulting from Project implementation will be positive overall.

⁵ Calculated considering 9 homes not currently connected to the system, at a rate of 100 gallons per capita per day and 2.27 persons per household, according to U.S. Census data.

Natural Resource Conservation

This Project contributes to improved water and energy resource management and conservation. Eliminating the lift station will result in energy savings associated with its operation. During the development phase for this Project, a water audit was conducted to help the utility identify areas for improved water management and operational efficiency.

No Action Alternative

The no-action alternative was not considered viable. Failing to implement the Project will result in unreliable wastewater services with an unacceptably high risk of system failure and would prevent the utility from extending service to additional areas in the future.

Existing Conditions and Project Impact – Human Health

Waterborne diseases are caused by pathogenic microorganisms that are transmitted as a result of inadequate wastewater disposal practices or unsafe water supplies. An individual may become ill after drinking water that has been contaminated with these organisms; eating uncooked foods that have been in contact with contaminated water; or through poor hygiene habits that contribute to the dissemination of diseases by direct or indirect human contact. Limited information is available from the Brewster County Health Department related to incidence rates for water-borne diseases. The health statistics documented for this area are presented in Table 3.

2011	1	10.8
2012	5	52.3
2013	3	31.3
2014	2	20.7
2015	4	41.0

Transboundary Effects

No negative transboundary impacts are anticipated from the Project, which is located approximately 50 miles north of the U.S.-Mexico border.

2.3.

The total estimated cost of the Project is US\$1,551,500, which includes construction, supervision, and contingencies. The Sponsor requested a BEIF grant to support implementation of the Project. Based on a thorough analysis of both the Project and Sponsor, NADB has determined that the Project meets all BEIF program criteria and is recommending that EPA approve a BEIF grant of up

to US\$1,551,500 for its construction. Table 4 presents the total Project costs, as well as the sources of funds.

Construction*	\$1,551,500	100
	\$1,551,500	
NADB-BEIF (grant)	\$1,551,500	100
	\$1,551,500	

*Includes costs related to construction, contingency, supervision and taxes.

During project development, the Sponsor obtained a \$40,000 loan to cover part of the design costs of the Project.

BECC published the draft Certification Proposal for a 30-day public comment period beginning October 6, 2017. The following Project documents are available, upon request, for public access:

- Marathon Preliminary Engineering Report, Wastewater Collection System Improvements, developed by Arcadis U.S., Inc., May 14, 2015.
- Finding of No Significant Impact, Wastewater Infrastructure Construction Project proposed by Marathon Water Supply and Sewer Service Corporation, U.S. Environmental Protection Agency, February 16, 2016.
- Construction Plans for Sanitary Sewer System Improvements, developed by S&B Infrastructure, July 2017.
- Public Participation Report, including public meeting minutes, pictures and materials.

The public comment period ended on November 5, 2017, with no comments received.

MWSC has conducted outreach efforts to communicate the Project goals, benefits, costs and impacts. These public outreach efforts meet the requirements of the BEIF program. Activities such as the involvement of a local steering committee, public meetings and access to appropriate Project information were conducted as described in the Public Participation Plan.

On June 17, 2014, MWSC formed a steering committee to develop the public participation plan. It meets periodically to help MSWC disseminate information regarding the Project. Technical and financial information about the Project has been made available to the public and presented to the community during public meetings held on July 24, 2014, and October 5, 2017.

Community residents were notified of the public meetings through the local newspaper, *Alpine Avalanche*, as well as fliers posted in public locations within Marathon and fliers distributed along with utility bills. There were 25 attendees at the first public meeting and nine attendees at the second meeting. Both meetings were held at the Marathon community center. The meetings provided an opportunity for area residents to comment and ask questions. Surveys were also collected at the public meeting to gauge public opinion of the Project. No opposition to the Project was detected from the surveys.

All media outlets in the area are regional in nature. Marathon does not have its own newspaper or publications. The Project was promoted using flyers at local businesses and inserts in monthly bills from the utility. A media search for news articles related to the Project was performed and the following articles were found:

- *Big Bend Now* (December 1, 2016) – “Marathon Water Supply awarded more than \$230,000 in grants.” Describes the system deficiencies and the PDAP grants awarded to support the water audit and project design.
<http://bigbendnow.com/2016/12/marathon-water-supply-awarded-more-than-230000-in-grants/>
- *Alpine Avalanche* (September 22, 2016) – “Loan OK'd for Marathon sewers.” Describes system deficiencies and a loan made to MWSC to help cover design costs.
http://www.alpineavalanche.com/news/article_62680360-80e6-11e6-89fc-5386e20afb33.html
- *Big Bend Now* (September 15, 2016) – “Marathon gets public works grant.” Highlights the loan taken by MWSC to complement the PDAP grant for project design.
<http://bigbendnow.com/2016/09/marathon-gets-public-works-grant/>

No opposition to the Project was detected from the media search. Overall, the reaction to the Project has been positive. The Project Sponsor has complied with all funding program requirements related to public participation.