

RECLAMATION

Managing Water in the West

Water Infrastructure Improvements for the Nation Act of 2016 (Pub. L. 114-322), Title I Water Resources Development Section 4009(a):

Desalination Project Feasibility Study Review Findings

August 2019

Prepared for

United States Congress

Prepared by

**U.S. Department of the Interior
Bureau of Reclamation**

Mission Statements

The Department of the Interior conserves and manages the Nation's natural resources and cultural heritage for the benefit and enjoyment of the American people, provides scientific and other information about natural resources and natural hazards to address societal challenges and create opportunities for the American people, and honors the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities to help them prosper.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Eligible Projects

This report is being provided in accordance with Water Infrastructure Improvements for the Nation (WIIN) Act of 2016 (Pub. L. 114-322), Title I Water Resources Development Section 4009(a). The purpose of this report is to provide a summary of each of the review findings for ocean or brackish water desalination project feasibility studies that have been reviewed and found to meet the established requirements as defined in the Bureau of Reclamation (Reclamation) Manual Directives and Standards WTR-11-01 and section 4009(a) of the WIIN Act. The following list of completed feasibility studies is provided:

- North Alamo Water Supply Corporation (Texas), Energy-Efficient Alternatives for Brackish Groundwater Desalination
- West Basin Municipal Water District (California), Ocean Water Desalination Project

Summary of Results

This report includes a brief one-page summary of the results of each feasibility study review under WTR 11-01, including the following determinations:

- The feasibility study report meets the requirements of a feasibility study as defined under WTR 11-01, and complies with applicable Federal laws and regulations.
- The project is technically and financially feasible and provides a Federal benefit in accordance with the reclamation laws.

Project specific reports are provided to summarize the results of each feasibility study review, provide a brief project description, and identify conditions.

North Alamo Water Supply Corporation

Project Sponsor: North Alamo Water Supply Corporation

Location: Edinburg, Texas

Project: Energy-Efficient Alternatives for Brackish Groundwater Desalination

Total Estimated Project Cost: \$23,023,803

Review Completed: February 1, 2019

Project Description: North Alamo Water Supply Corporation evaluated alternatives for its current reverse osmosis membrane system in order to reduce the cost of brackish groundwater desalination. The proposed project includes replacing reverse osmosis membranes with nanofiltration membranes at the Water Supply Corporation's brackish groundwater desalination plants. The replacements will result in increases in permeate production and substantial reductions in energy consumption. Upgrading existing facilities to nanofiltration will provide the Water Supply Corporation with a cost-effective and energy-efficient way to advance the development of drought-proof water supplies.

Feasibility Study Review Finding: The feasibility study report meets the requirements of a feasibility study as defined under WTR 11-01. The feasibility study, and the process under which the study was developed, each comply with Federal laws and regulations applicable to feasibility studies of desalination projects. The project is technically and financially feasible and provides a Federal benefit in accordance with the reclamation laws.

Funding Conditions:

- Reclamation will include North Alamo Water Supply Corporation's project on a publicly available list of projects that have a completed feasibility study that has been determined to meet program requirements. The list will be available on the Reclamation website.
- The project sponsor is eligible to apply for funding through an annual competitive funding opportunity announcement, but the total Federal funding received towards the planning, design, and construction of this project may not exceed 25 percent of the total cost of the project or \$20 million, whichever is less.
- Planning, design, and construction activities completed prior to the enactment of the WIIN Act on December 16, 2016 or that are outside of the scope of the project described in the completed feasibility study are not eligible for funding.
- Prior to receiving Federal funding, the project must comply with all applicable environmental laws, including the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.).
- Prior to receiving Federal funding, the project sponsor must demonstrate that it is financially capable of funding the non-Federal portion of project construction costs and all necessary project operation, maintenance, and replacement costs, pursuant to Reclamation Manual Directives and Standards WTR-11-02.
- Prior to receiving Federal funding, the project sponsor will provide documentation that the project is included in a State approved plan as part of its application for funding.

West Basin Municipal Water District

Project Sponsor: West Basin Municipal Water District

Location: Carson, California

Project: Ocean Water Desalination Project

Total Estimated Project Cost: \$404,257,000

Review Completed: December 12, 2018

Project Description: West Basin Municipal Water District provides wholesale potable water to 17 cities in southwest Los Angeles County. The District considered the feasibility of developing an ocean water desalination facility. Components include an intake pump station, a pretreatment system to remove large particles and suspended solids, reverse osmosis desalination treatment to remove dissolved salt from the seawater, post-treatment water conditioning facilities, final product water storage, desalinated water pump station, and brine discharge pump station. The project will help the District ensure future water supply reliability for service area customers by adding a locally produced, drought-proof potable water source to the District's water supply portfolio.

Feasibility Study Review Finding: The feasibility study report meets the requirements of a feasibility study as defined under WTR 11-01. The feasibility study, and the process under which the study was developed, each comply with Federal laws and regulations applicable to feasibility studies of desalination projects. The project is technically and financially feasible and provides a Federal benefit in accordance with the reclamation laws.

Funding Conditions:

- Reclamation will include West Basin Municipal Water District's project on a publicly available list of projects that have a completed feasibility study that has been determined to meet program requirements. The list will be available on the Reclamation website.
- The project sponsor is eligible to apply for funding through an annual competitive funding opportunity announcement, but the total Federal funding received towards the planning, design, and construction of this project may not exceed 25 percent of the total cost of the project or \$20 million, whichever is less.
- Planning, design, and construction activities completed prior to the enactment of the WIIN Act on December 16, 2016 or that are outside of the scope of the project described in the completed feasibility study are not eligible for funding.
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- Prior to receiving Federal funding, the project sponsor will provide documentation that the project is included in a State approved plan as part of its application for funding.