NORTH AMERICAN DEVELOPMENT BANK

PROJECT CLOSEOUT FACT SHEET

Project:	Replacement of the International Outfall Interceptor, Upgrade and Expansion of the International Wastewater Treatment Plant and Partial Replacement of the Wastewater Collection System		
Location:	Nogales, Arizona	Certification Date:	June 22, 2000
Type:	Wastewater	Operation Startup:	July 2009
Population Benefitted:	188, 837	Closeout Date:	July 2024

Pre-project Conditions

Nogales is in the County of Santa Cruz in the south-central region of the state of Arizona. The Nogales International Wastewater Treatment Plant (NIWTP) treats wastewater for the communities of Nogales, Arizona and Nogales, Sonora. The International Outfall Interceptor (IOI) transports wastewater originating in both communities to the NIWTP located in Rio Rico, Arizona. The plant is owned by the City of Nogales, Arizona and operated by the U.S. Section of the International Boundary and Water Commission (IBWC). In the late 1990s, structural and hydraulic capacity problems with the wastewater collection system was allowing excess amounts of raw sewage from Nogales, Sonora, to enter the system, resulting in wastewater overflows from the collection system to the environment. In addition, more stringent effluent quality standards were expected to be applied to the NIWTP discharge permit, requiring an upgrade to its treatment process.

Project Objective

Increase the capacity of the NIWTP to accommodate excess flows and upgrade its treatment process for nitrogen removal to meet the required concentrations for protection of aquatic life and water supply sources, as well as to replace the IOI and a portion of the wastewater lines in Nogales, AZ, in order to increase their hydraulic capacity and prevent wastewater spills and leaks, thus reducing potential exposure to untreated wastewater.

Project Scope

The project consisted of expanding the NIWTP, with an existing capacity allocation to both countries totaling 17.2 million gallons per day (mgd), to treat a total of 22.2 mgd and upgrading its Modified Ludzack-Ettinger (MLE) process to achieve the necessary nitrogen concentration levels, as well as constructing a new 8.9-mile interceptor with diameters ranging from 48 to 60 inches and replacing approximately 5,900 feet of the wastewater collection system in Nogales, AZ.

Project Results

Outputs	Indicator	Target in 2000 (certification)	Actual (2011)
Improved wastewater treatment system	number	1	1
Additional wastewater treatment capacity	million gallons a day (mgd)	5	0
Improved wastewater collection lines	miles	1.12	0.57

After certification, the estimated cost of the improvements to the NIWTP increased significantly based on a value engineering analysis of the conceptual design. A sonar inspection of the IOI also showed that its structural integrity was not at risk at that time and, therefore, a full replacement was not required. Since the primary purpose and highest priority of the project was to address the effluent quality of the NIWTP, the original scope of the project was reduced solely to the treatment plant improvements, while the replacement of the IOI would be postponed and rehabilitation of the wastewater lines would be carried out by the City under a separate project. A design-build contract for the wastewater treatment plant was awarded in December 2006, and construction was completed in July 2009. While the capacity of the plant was slightly decreased in size to 14.7 mgd, the treatment process was upgraded to include a biological nutrient removal (BNR) system aimed at meeting discharge requirements.

Outcomes	Indicator	Target in 2000 (certification)	Actual (2011)
Improved wastewater treatment	mgd	22.2	14.7

The treated effluent from the NIWTP is discharged into the Santa Cruz River, where it forms a perennial surface water stream extending 16 miles to the area of Tubac, Arizona, which is helping preserve an important riparian habitat and provide groundwater for downstream users.

Project Financing
(USD)

Sources of Funding	Estimated at certification	Actual Amount
NADBank BEIF construction assistance grant*	$ 42,220,508	$ 59,064,955
NADBank BEIF transition assistance grant**	683,492	440,000
Other sources***	3,198,000	5,700,000
Total	**$ 46,102,000**	**$ 65,204,955**

* Border Environment Infrastructure Fund (BEIF) funded by the U.S. Environmental Protection Agency (EPA) and administered by NADBank.
** BEIF transition assistance is used to help pay system debt associated with the project, so that user fees can be raised gradually to the level required to make the system self-sustaining.
*** Other sources included a loan contacted by the City of Nogales through the Arizona Water Infrastructure Finance Authority (WIFA) and a line-item appropriation grant from EPA.

In June 2000, EPA approved the NADBank's recommendation for a total of US$39.50 million in BEIF funds, consisting US$39.06 million in construction assistance and US$440,000 in transition assistance. In October 2001, EPA authorized an additional US$20.0 million in BEIF funds to help cover the increased construction costs.