Organization

- The USI BWC is composed of the Office of the Commissioner, Operations Department, Engineering Department and the Administrative Department.
- The Nogales Field Office is part of the Operations Department, Operations & Maintenance Division.
Responsibilities & Mission of the Nogales Field Office

► To successfully manage Operations Department programs within the Field Office area of responsibility

► Provide initial assessments to other Departments and Divisions of issues and situations that may arise
Nogales Field Office Area of Responsibility

► Along U.S./Mexico Boundary from New Mexico Border to Lukeville, AZ.
► 229 Miles of Boundary jurisdiction
Nogales Field Office History

- USIBWC involved with the Nogales area since the establishment of Monuments in 1880s
- In the 1930’s the USIBWC oversaw the construction of the Nogales Wash tunnels and concrete lined portion of the Nogales Wash
- In the 1940’s and 50’s the USIBWC worked with the City of Nogales to establish the first Nogales International Wastewater Treatment Plant (NIWTP).
- In the late 1960’s and early 1970’s the USIBWC worked with the City of Nogales to relocate the NIWTP to its current location in Rio Rico and also build a new trunk line & IOI from the International Border to the new treatment facility
- In 1990 a field office was established in Rio Rico at the NIWTP to oversee the construction of the upgrade to the NIWTP and to perform other field office functions
Nogales Field Office Scope

- Operate & Maintain the Nogales International Wastewater Treatment Plant
- Demarcation of U.S./Mexico Border
- Coordination with Mexican Section
- Hydrographic monitoring & reporting of International wastewater flows
- Inspection and resolution of border encroachment issues
- Coordination with DHS on border fence
- Citizens Forum
- Coordination with stakeholders
- Determination of financial re-imbursements
1944 WATER TREATY

► Authorized Commission to give “preferential attention to the solution of all border sanitation problems”

► 3 international wastewater treatment plants were subsequently constructed:

  ▪ South Bay International Wastewater Treatment Plant - located in San Diego; treats sewage from Tijuana
  ▪ Nuevo Laredo International Wastewater Treatment Plant - located in Nuevo Laredo, Mexico; treats Mexican sewage
  ▪ Nogales international wastewater treatment plant (NIWTP) - located in Rio Rico, AZ; treats sewage from the U.S. And Mexico
Nogales International Wastewater Treatment Plant (NIWTP)

- Technology Upgrade completed June 2009
- Vastly improved effluent quality, Advanced treatment system (BNR)
- Funded by EPA/BECC grant
- 80% flow from Mexico
NI WTP History

- Original plant built in 1950s, located in downtown Nogales, AZ
- NI WTP was relocated to Rio Rico in 1972, capacity was increased
- In 1992 the NI WTP capacity and treatment technology were upgraded
- In 2009 NI WTP technology was upgraded and capacity was reduced
2009 NIWTP Upgrade

- Plant technology was upgraded to a Biological Nutrient Removal process (BNR)
- BNR converts ammonia to harmless Nitrogen gas
- Disinfection technology upgraded from Chlorine gas to Ultraviolet Light through direct funding by USIBWC & City of Nogales
- Previous plant could not remove ammonia, which is toxic to fish in Santa Cruz River
NIWTP Challenges

► BNR facilities are very expensive to Operate and Maintain
► BNR is an advanced treatment technology which requires highly skilled personnel to operate
► BNR process is much more sensitive to influent flow makeup
► NIWTP is a biological process and unable to treat contaminants such as metals entering the facility, this results in a pass through with the contaminants ending up in the effluent or the biosolids. These industrial pollutants can cause plant upsets and compliance issues
NIWTP Success

- Ammonia has been essentially eliminated from the NIWTP effluent
- CBOD and TSS has been significantly reduced in the effluent
- Turbidity levels (water clarity) has significantly improved
NI WTP Finances

- The NI WTP is operated by the USI BWC and receives reimbursement for O&M costs from Mexico and the City of Nogales, Arizona.
- The USI BWC does not own the influent wastewater, the NI WTP effluent or the biosolids generated.
- All potential revenues from any of these sources would go to their respective owners.
Land Boundary Monuments
Demarcation, Maintenance/Repair
Land Boundary Monuments

- The Nogales Field Office is responsible for 96 Monuments
- 82 Iron Monuments and 14 Masonry Monuments, all were installed in the 1800’s
- Monuments are the treaty recognized International Boundary
- The International Boundary is the line of sight from the tip of one monument to the next
- Only by the concurrence of the U.S. Commissioner and the Mexican Commissioner can a monument be moved, the new location then becomes the official International Boundary
Encroachment Investigations
Boundary Resurvey 1894
Ports Of Entry

The USI BWC places demarcation indicators at each Port of Entry (POE).

Some POEs are offset from the International Boundary by as much as 100 yards (Mariposa POE), but the demarcation is still the official dividing line between Mexico and the United States.
Sasabe Demarcation
Lukeville Demarcation
San Miguel Gate
Transboundary Sanitation

- Investigation of fugitive flows
- Technical Assistance
- Coordination with EPA/ADEQ/CI LA/Local Gov.
THANK YOU!!

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