



International Boundary and Water Commission United States Section

For immediate release
August 1, 2024

USIBWC Southeast Arizona Citizens Forum Public Meeting on August 15

The U.S. Section of the International Boundary and Water Commission (USIBWC) Southeast Arizona Citizens Forum board will host an in-person and virtual public meeting on Thursday, **August 15, from 4–6 p.m. MST**.

Crystal Cadillo, P.E., Civil Engineer with the USIBWC Construction Management Division, will present on the recent rehabilitation of the International Outfall Interceptor in Nogales, Arizona. The pipeline conveys wastewater from Nogales and Rio Rico, Arizona, and Nogales, Sonora, over a length of 9.9 miles from the U.S.-Mexico border to the Nogales International Wastewater Treatment Plant in Rio Rico.

Andres Rangel, Associate Director of the North America Development Bank, will discuss updates to the Estadio Pump Station project. Mr. Rangel's presentation will cover the status, planned works, and expected results of the project, providing a comprehensive overview of the progress and future developments.

The public meeting will be held in person at:

**Santa Cruz County North Facility – Tubac Community Center
50 Bridge Road
Tubac, Ariz. 85646**

The public meeting will also be held virtually: [Click here to join the meeting](#). If possible, it may be helpful for you to test connectivity on your own prior to the meeting by clicking on the “Join” link and ensuring your camera and microphone are functioning. Or join by phone: Call-in number +1 872-240-1286, Phone conference ID: 191 504 622#

For those connecting via phone, the presentations will be available before the start of the meeting. Go to the Southeast Arizona Citizens Forum page <https://www.ibwc.gov/citizens-forums>, and look for the link for the 8/15/2024 meeting.

If you would like to speak during the public comment period, please sign up ahead of time by contacting Frank Fisher at frank.fisher@ibwc.gov or 915-494-6027 by noon on August 13, 2024.

News Media Contacts:
Frank Fisher
frank.fisher@ibwc.gov
915-494-6027

SOUTHEAST ARIZONA CITIZENS FORUM

Thursday, August 15, 4–6 p.m. MST
Santa Cruz County North Facility – Tubac Community Center
50 Bridge Rd.
Tubac, AZ 85646

And via Teams Webinar

Agenda

- **Welcome and Introductions**
- **Opening Remarks – Co-chairs**
- **Update on recent Nogales International Outfall Interceptor rehabilitation completion - Crystal Cadillo / Civil Engineer / USIBWC**
- **Estadio Pump Station project updates – Andres Rangel / Associate Director / North American Development Bank**
- **Public Comment**
- **Board Discussion**
- **Suggested Future Agenda Items**

If you have a disability that you wish to self-identify confidentially that requires accommodation, please advise us ahead of time. For more information call 915-494-6027 or email frank.fisher@ibwc.gov.

Microsoft Teams meeting

Join on your computer, mobile app or room device: [Click here to join the meeting](#)

Meeting ID: 283 588 780 181

Passcode: p8vGNP

[Download Teams](#) | [Join on the web](#)

Or call in (audio only)

+1 872-240-1286

Phone conference ID: 191 504 622#



INTERNATIONAL BOUNDARY AND WATER COMMISSION

UNITED STATES SECTION

International Outfall Interceptor (IOI) Rehabilitation

Crystal Cadillo



NOGALES TRUNKLINE AND IOI

REHABILITATION

- Nine-mile sewer line carrying transboundary flows from Nogales, Sonora, MX combined with Nogales & Rio Rico, Arizona flows to the Nogales International Wastewater Treatment Plant (NIWTP)
- International Trunkline
 - 8,146 LF or 1.5 miles, MH#1-MH#27
- International Outfall Interceptor (IOI)
 - 38,290 LF or 7.3 miles, MH#27-MH#99
- Current pipeline built in 1971 was near end of service life
- Study assessed the conditions in 2005 and identified significant pipeline issues and deterioration
- Much of the pipeline lies underneath the Nogales Wash channel and Potrero Creek.

NOTE: The Trunkline is the portion of the original main collector line (built in 1951) that was removed and enlarged in the 1970's when the IOI was built and the NIWTP was relocated.

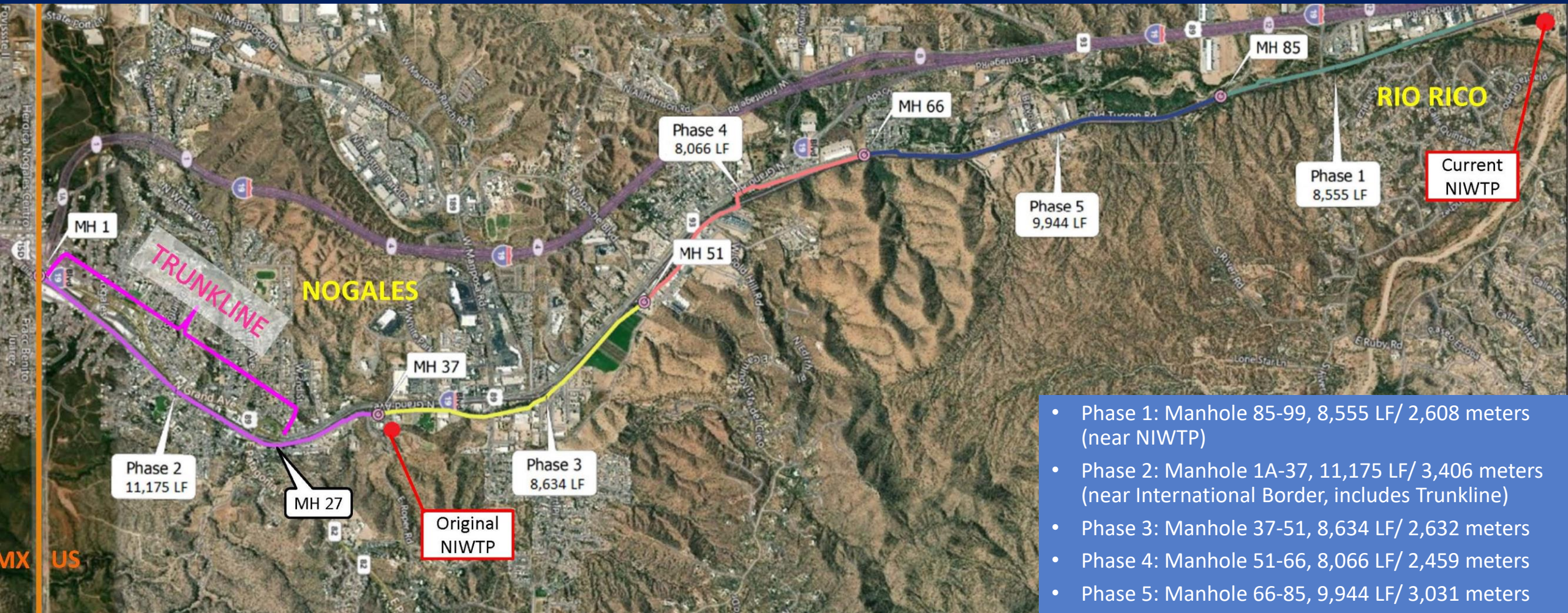
DESIGN CONTRACT

- Rehab necessary to extend service life of pipelines and reduce the risk of sewage spills from collapsed portions of the IOI
- Preserve roughly 12 millions gallons per day of treated water that contributes to the Santa Cruz River basin
 - Water for drinking, ranching, farming and other activities critical to the Arizona economy
 - Sustains habitat critical to migratory species
- Design Contractor: URS Group, Inc.
- Design Duration: May 2014 to June 2018
- Design Cost: \$781,275
- Post Design Support Cost: \$233,925
- Trenchless rehabilitation of sewer pipe ranging from 24-42 inches in diameter and 95 manholes
 - Cast-in-Place Piping (CIPP)
 - Manhole Epoxy Protective Lining
 - Carbon Fiber Coatings



NOGALES TRUNKLINE AND IOI

PHASES



- Phase 1: Manhole 85-99, 8,555 LF/ 2,608 meters (near NIWTP)
- Phase 2: Manhole 1A-37, 11,175 LF/ 3,406 meters (near International Border, includes Trunkline)
- Phase 3: Manhole 37-51, 8,634 LF/ 2,632 meters
- Phase 4: Manhole 51-66, 8,066 LF/ 2,459 meters
- Phase 5: Manhole 66-85, 9,944 LF/ 3,031 meters



NOGALES TRUNKLINE AND IOI

CONSTRUCTION PROJECTS

PHASES 1-3 CONTRACT

- Rehab of 5.3 Miles of piping and 56 manholes
- Wash repairs at MH #86 and #93 for IOI protection
- Contractor: SAK Construction
- CM Contractor: CDM Smith
- Construction Start: April 25, 2022
- Substantial Completion: August 14, 2023
- Construction/CM Cost: \$16.7M
- Completion Dates Per Phase:
 - Wash Repairs – June 2022
 - Phase 1 – August 2022
 - Phase 3 – December 2022
 - Phase 2 – May 2023

PHASES 4-5 CONTRACT

- Rehab of 3.4 Miles of piping and 38 manholes
- Contractor: SAK Construction
- CM Contractor: Arcadis
- Construction Award: September 30, 2022
- Construction Start: August 15, 2023
- Substantial Completion: June 21, 2024
- Construction/CM Cost: \$17.6 million
- Completion Dates Per Phase:
 - Phase 5 – November 2023
 - Phase 4 – April 2024



Epoxy Coating MH85



NOGALES TRUNKLINE AND IOI

OLD VERSUS NEW CONDITIONS - IOI

<p>MH 96 → MH 97 PRE-CIPP EXISTING CONDITION: EXPOSED REINFORCING (MH 96 to 97 at 0')</p>	<p>MH 96 → MH 97 POST-CIPP</p>	<p>MH 13 → MH 14 PRE-CIPP EXISTING CONDITION: DEBRIS/ENCRUSTATION AT JOINT (MH 13 to 14 at 212')</p>	<p>MH 13 → MH 14 POST-CIPP</p>
<p>300.3 FT. 01:20 PM 03/01/24 PRE-CIPP</p>	<p>54 → 55 POST-CIPP</p>	<p>0.0 FT. 12:40 PM 03/07/24 PRE-CIPP</p>	<p>68 → 69 POST-CIPP</p>
<p>EXISTING CONDITION: ERODED INVERT & EXPOSED REBAR WITH INFILTRATION (MH 54 to 55 at 300')</p>		<p>CIPP EXISTING CONDITION: HOLE WITH INFILTRATION (MH 68 TO 69 AT 1')</p>	



NOGALES TRUNKLINE AND IOI

USIBWC OWNERSHIP TRANSFER

- Nogales Wastewater Improvement Act of 2023
- City of Nogales signed Intergovernmental Agreement (IGA) to transfer IOI to USIBWC on 4/11/2024
- Takes effect once USIBWC receives funding for O&M, planned in Fiscal Year 2025
 - Senate Appropriations Committee working on adding \$2.5 million to budget for one year of O&M





NOGALES TRUNKLINE AND IOI

INTERGOVERNMENTAL AGREEMENT HIGHLIGHTS

USIBWC Requirements

- IOI becomes federal property
- Transfer of all IOI City easements to USIBWC
- 100% operation and maintenance of pipe and manholes
- Conduct annual inspections
- Regularly schedule cleaning
- Repair IOI as needed
- Review and approve permit requests
- Inspect and approve construction of new lateral connections

City of Nogales Requirements

- Guaranteed sewage capacity of 4.84 MGD
- Provide details of all contributing laterals to IOI
- Maintains laterals connected to IOI, including Rio Rico lateral
- Continue notifications of sewer overflows in IOI
- Assistance with services during IOI repairs
- Submit permit application to USIBWC for new lateral connections



NOGALES TRUNKLINE AND IOI

USIBWC O&M NEEDS

- USIBWC to outsource O&M for contracted services
- Additional capital projects:
 - Purchase equipment for IBWC inspection activities
 - Install flow meters and telemetry to monitor lateral flows
 - Install locking manholes and sewage overflow detectors
 - Construct new operator building and equipment shed



NOGALES TRUNKLINE AND IOI

ADDITIONAL OWNERSHIP REQUIREMENTS

- Legislation included construction and O&M of a debris screen
- Protect the rehabilitated pipe from damage due to debris and illegal activity
- Preliminary plans:
 - Multiple screens required
 - Proposed location closest to border
- Requires significant coordination





QUESTIONS?

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES SECTION

CONSTRUCTION MANAGEMENT DIVISION

4191 N. Mesa
El Paso, TX 79902

Crystal Cadillo, PE
(915) 832-4159

crystal.cadillo@ibwc.gov



Feedback, comments, questions,
opinions to:

forms.office.com/g/tZNR9Cv0qL

Interested in getting
the latest news from
the USIBWC?

Scan this QR code to
get on our email list
to receive press
releases and Citizen
Forum notices.



Follow us on X and LinkedIn!



@usibwc



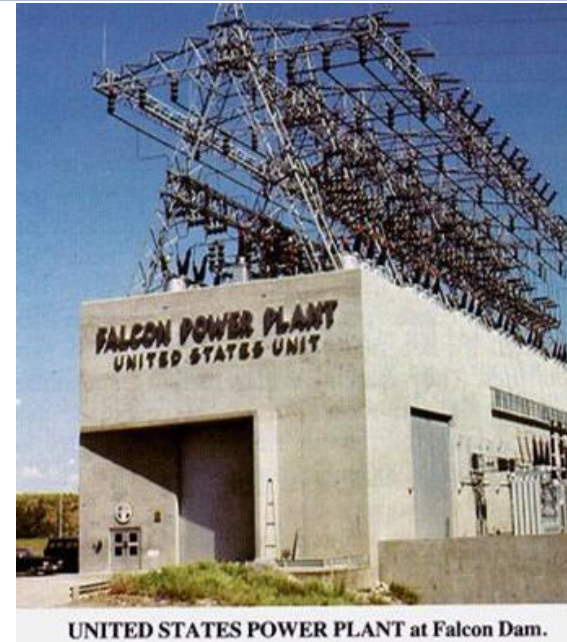
@usibwc



OUR INFRASTRUCTURE

The International Boundary and Water Commission is responsible for **applying the boundary and water treaties** between the United States and Mexico. The USIBWC has a broad range of responsibilities, including:

- **Flood Control:** More than 500 miles of levees and 20,000 acres of flood plain
- **Water Delivery:** Ensure compliance with the 1906 Convention and 1944 Water Treaty for the Rio Grande and Colorado River
- **Dams and Hydroelectric Power Plants:** Manage two international dams with hydroelectric plants and four diversion dams
- **Sanitation:** Border sanitation with two international wastewater treatment plants in San Diego, CA and Nogales, AZ
- **Boundary Demarcation:** Maintain two international bridges and almost 800 monuments, markers and buoys that demarcate the U.S.-MX border



UNITED STATES POWER PLANT at Falcon Dam.





MAJOR ONGOING PROJECTS

- South Bay International Wastewater Treatment Plant (SBIWTP)
- Colorado River Conservation Projects (Minute 323)
- Nogales International Outfall Interceptor (IOI)
- Nogales International Wastewater Treatment Plant (NIWTP)
- Upper Rio Grande: Sunland Park Levee Construction
- Lower Rio Grande: Edinburg Levee Construction and Arroyo Colorado Sediment Removal
- Amistad Dam Seepage Correction
- Heavy Equipment Replacement
- Mercedes, TX Field Office Administrative Building

San Diego Yuma Nogales Up. Rio Grande Presidio Amistad Falcon L. Rio Grande



USIBWC staffing at 12 offices in the border region and Washington D.C.:

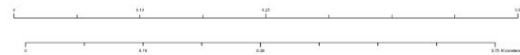
- 300 authorized positions
- 1/3 of employees at or near retirement age



NIWTP



Nogales International Wastewater Treatment Plan (NIWTP) of the U.S. Section of the International Boundary and Water Commission



GIS Section
Master Planning Office
International Boundary and Water Commission
U.S. Section
Date Issued: 6/16/2024 3:01 PM



NIWTP PURPOSE

- Apply provisions of 1944 Water Treaty between U.S. and Mexico
- Apply Minutes 206,227, 261, 276 and 294
- Protect the Health & Safety of Ambos Nogales residents through safe and effective international wastewater treatment





NIWTP PARAMETERS

- ~80% of Influent flow originates in Nogales, Sonora Mexico, remainder is United States contribution
- Water is treated to United States Clean Water Act standards and to Federal and State discharge requirements
- Influent from Mexico is conveyed to NIWTP through 9 mile International Outfall Interceptor (IOI)
- Treatment capacity is 14.74 Million Gallons Per Day (MGD)
- NIWTP is routinely well above capacity ranging from 100% to 120% resulting in no system redundancy ability
- NIWTP was upgraded in 2009 and is 75% of way through life cycle





CIP EVALUATION SCOPE

- USIBWC Contracted for a WWTP Capital Improvement Plan (CIP)
- The Contractor will be performing a Wastewater Treatment Asset Management Plan (AMP), including the NIWTP and SBIWTP starting in August 2024. The AMP will include an updated 5-year capital improvement plan (CIP) and a projection of long-term renewal and replacement (R&R) funding needs.
- In advance of this future work, IBWC authorized the contractor to conduct a high-level review of both facilities to identify critical needs to include in the current 5-year CIP projections for 2024-2028



NIWTP CIP EVALUATION OVERVIEW

The NIWTP is an advanced wastewater treatment facility with the following design capacities:

- Treatment capacity: 14.7 million gallons per day (mgd)
- Hydraulic capacity: 34 mgd

Originally constructed in 1970 with upgrades in 1990 and 2009. Major processes and facilities include:

- Headworks with settling basins, screening, grit removal and odor control
- Biological Treatment with three bioreactors, aeration blowers, and glycerin feed system
- Final Clarifiers with three tanks and return sludge pumping
- Final Effluent with five traveling bridge filters and ultraviolet (UV) disinfection
- Biosolids with rotary drum thickeners, aerobic digester lagoon, belt presses, and polymer feed
- Support facilities include electrical distribution, back-up generators SCADA, buildings, roads, and levees



NIWTP CIP CONTRACTOR KEY FINDINGS

- The NIWTP consistently operates at 16 -18 mgd (up to 20% above the design treatment capacity)
 - The treatment processes lack redundancy making the plant vulnerable to critical equipment failures and process upsets
 - Tanks and equipment cannot be taken out of service for proper maintenance
- Wet weather flows routinely exceed the 34 mgd hydraulic capacity
 - The headworks is overwhelmed resulting in debris accumulating in downstream processes which impacts performance and damages equipment
- The solids handling processes are inadequate for the new requirement to haul dewatered solids to a remote landfill in Tucson
 - Currently high transport and disposal costs up to \$3MM annually



NIWTP CIP CONTRACTOR RECOMMENDATIONS

- Complete an Engineering Alternatives Analysis Study (\$750K)
 - Essential to fully evaluate the Headworks capacity shortfall and the best approach to Solids Handling
- Plan immediately to add 4th Bioreactor and Final Clarifier (\$23.8MM)
 - Current treatment process is performing well, and expansion is necessary to provide redundancy
 - Facilities Plan may recommend additional expansion and/or process enhancements
- Provide a replacement Polymer System for the Belt Presses (\$800K)
 - Necessary to maximize current dewatering performance
- Total opinion of cost: \$25MM to \$29MM



NIWTP FY-25 CAPITAL PLAN (PENDING FUNDING)

FY25

1. **NTP:** Replace Diffusers Train #2, install Blower #5 \$832
2. **NTP:** Construct Fourth Bioreactor \$14M
3. **NTP:** Clarifier #1 Rehabilitation \$500k
4. **NTP:** Sludge Dryer Alternatives \$5.2M
5. **NTP:** Polymer Injection System Replacement \$100k
6. **NTP:** Replace Aerobic Digester Aerators \$175k
7. **NTP:** Rehab Underdrains, Media Bed & Mechanical Works on Filters 1 thru 5 \$1.945M
8. **NTP:** Replace SCADA Field Hardware \$475,763
9. **NTP:** Replace SCADA Servers & Software \$297,352

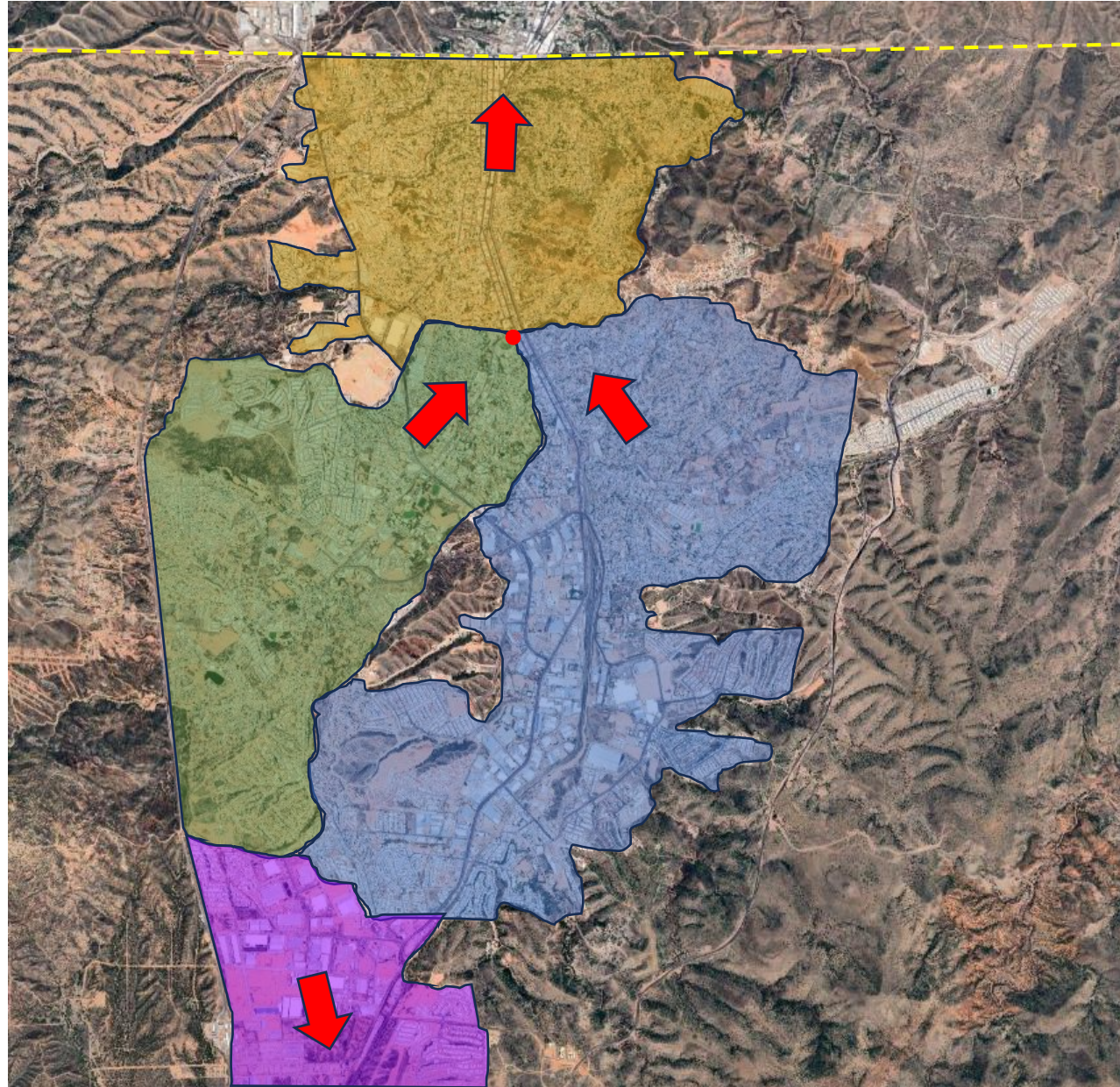
TOTAL- \$23.5M



**Technical
Services
&
Grants**

Southeast Arizona Citizens Forum U.S. Section of the IBWC

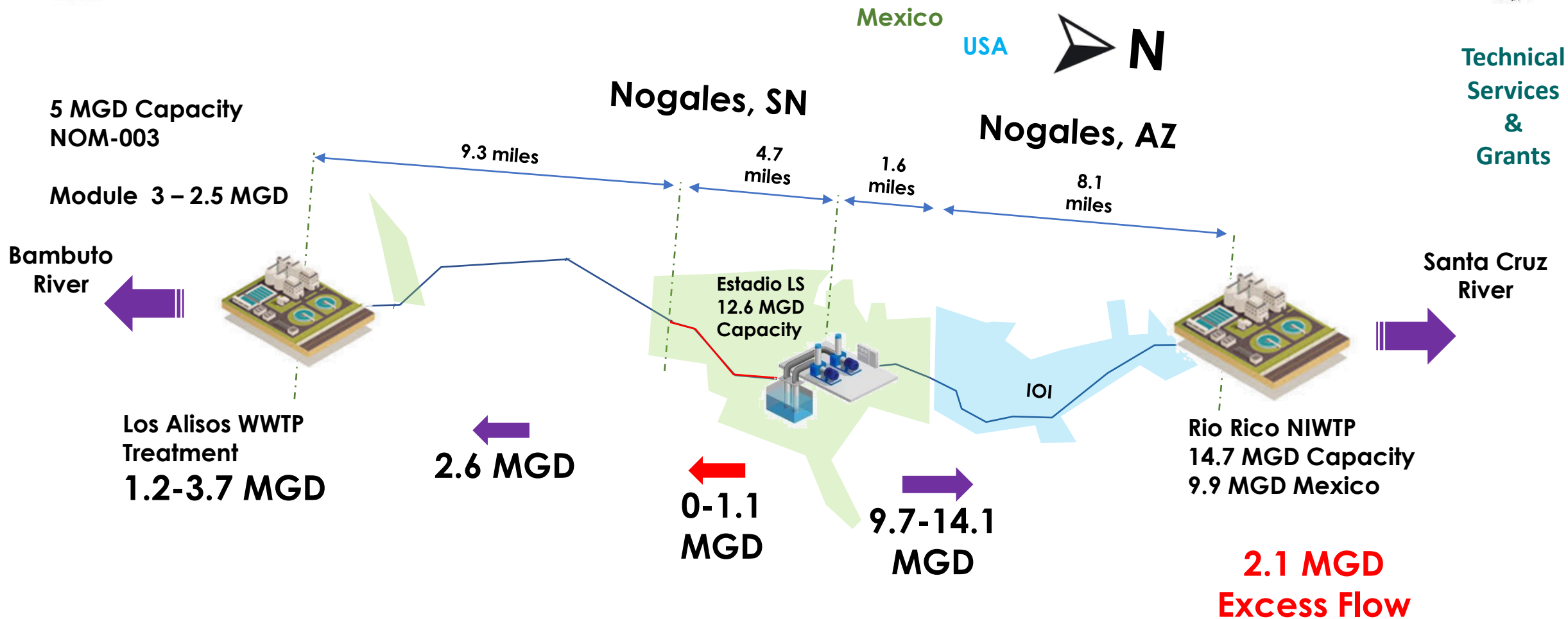
**Tubac, Arizona
August 15, 2024**



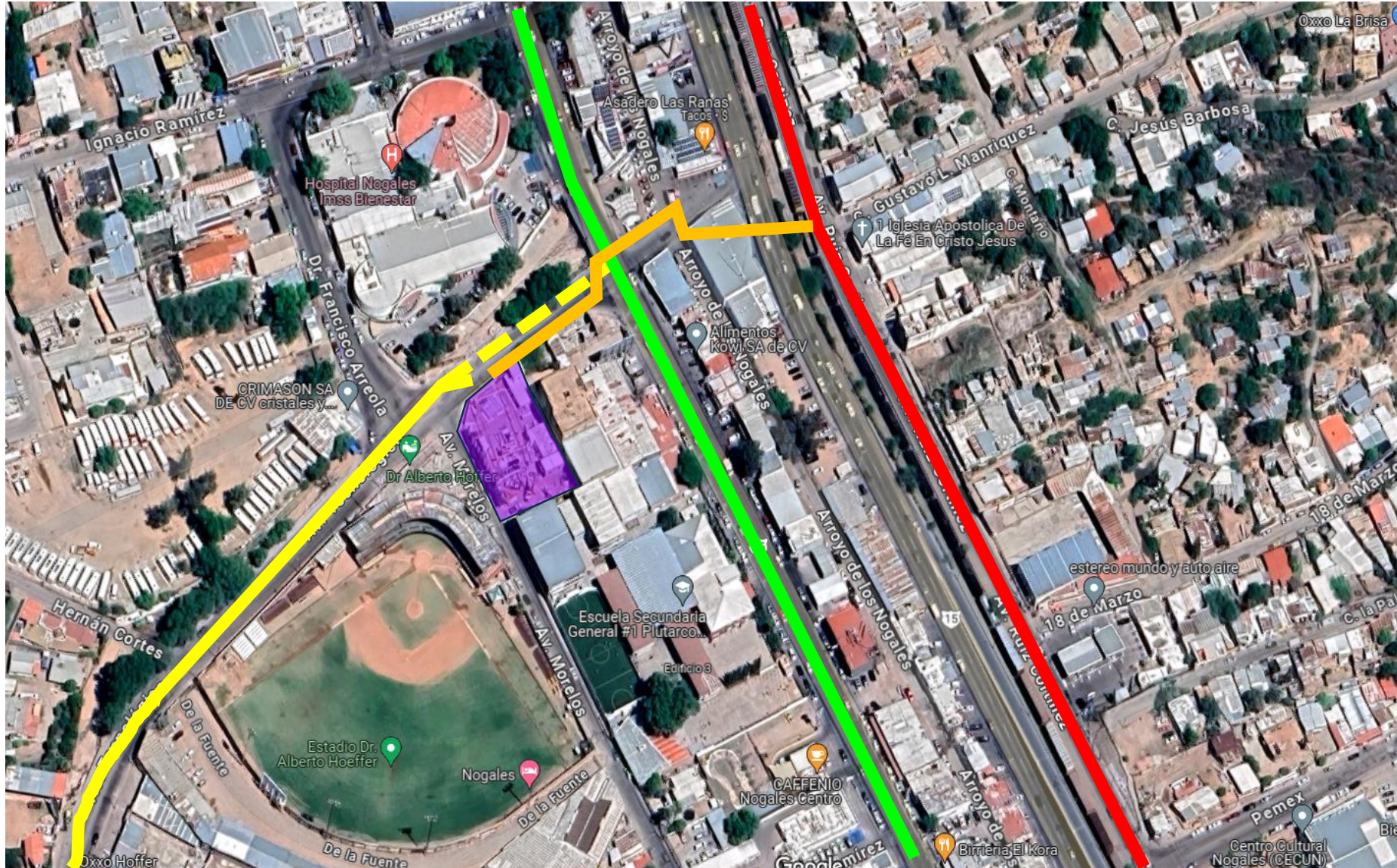
Technical
Services
&
Grants



Nogales, SN Wastewater Flows Year 2023



Technical
Services
&
Grants



Technical
Services
&
Grants



Estadio Lift Station Rehabilitation First Phase



- ◆ Sedimentation chamber
- ◆ Tecnológico collector connection
- ◆ Ruíz Cortines collector connection
- ◆ Traveling Cranes
- ◆ Traveling Cranes structure
- ◆ Disinfection/sanitation chamber
- ◆ Completion: June 2023
- ◆ Cost: ≈US\$850,000



Technical
Services
&
Grants



Estadio Lift Station Rehabilitation Second Phase



- ◆ Installation of several valves
- ◆ Installation of electrical control
- ◆ Installation of Electrical emergency equipment (diesel)
- ◆ Completion: September 2023
- ◆ Cost: ≈US\$1,300,000



Technical
Services
&
Grants



Estadio Lift Station Rehabilitation Third Phase



- ◆ Pumps monitoring system
 - Software
 - Equipment and cables
 - Completion: 8 weeks from NTP
 - Cost: ≈US\$100,000

- ◆ Pumps holding structures reinforcement
 - Civil works
 - Power control panels
 - Flow meter
 - Completion: TBD
 - Cost: ≈US\$135,000



Technical
Services
&
Grants



**Technical
Services
&
Grants**

Southeast Arizona Citizens Forum U.S. Section of the IBWC

**Tubac, Arizona
August 15, 2024**