International Boundary and Water Commission
United States Section

For immediate release
August 6, 2025
TIME CHNAGE

USIBWC Southeast Arizona Citizens Forum Public Meeting in Tubac on August 12

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:
Tuesday, August 12, 2025, from 3-5 p.m. MST.

- **Francisco Morales, Project Manager, North American Development Bank**, will present on his agency's wastewater projects aimed at preventing transboundary flows in the Nogales, Arizona, area.

- **Joaquin Marruffo Ruiz, Border Programs Administrator, Arizona Department of Environmental Quality,** will provide an update on progress, challenges, and plans for the Oso Wash and Brickwood Canyon projects in Arizona.

The public meeting will be held in person at:
Tubac Community Center
Santa Cruz County, North Facility
50 Bridge Road, Tubac, AZ 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: +1 915-320-4718,,604116403# Phone conference ID: 604 116 403#

For those connecting via phone, the presentations will be available before the start of the meeting. Go to the USIBWC Citizens Forum page at https://www.ibwc.gov/citizens-forums-past-meetings/ and look for the Southeast Arizona Citizen Forum meeting.

If you would like to speak during the public comment period, please sign up by contacting Frankie Pinon at frankie.pinon@ibwc.gov or 915-832-4716 by noon on August 8, 2025.

Media Contact :

Frankie Pinon
frankie.pinon@ibwc.gov
915-832-4716

The USIBWC is dedicated to protecting Americans from exposure to Mexican sewage, maintaining and operating critical infrastructure, and ensuring the U.S. gets its fair share of water. We are committed to working with our federal, state, and local partners and our Mexican colleagues to spearhead these issues.

SOUTHEAST ARIZONA CITIZENS FORUM
TIME CHANGE
Tuesday, August 12, 2025, from 3-5 p.m. MST

Tubac Community Center
Santa Cruz County, North Facility
50 Bridge Road, Tubac, AZ 85646
And Via Teams

Agenda

- **Welcome and Introductions** – USIBWC Citizens Forum Board

  Francisco Morales, Project Manager, North American Development Bank: Agency projects aimed at preventing transboundary flows in the Nogales, Arizona, area.

- **Joaquin Marruffo Ruiz, Border Programs Administrator, Arizona Department of Environmental Quality:** Update on progress, challenges, and plans for the Oso Wash and Brickwood Canyon projects in Arizona.

- **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 915-832-4716 or email frankie.pinon@ibwc.gov

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Microsoft Teams meeting

Join on your computer, mobile app or room device: Click here to join the meeting.

Meeting ID: 294 983 852 575 3
Passcode: CH7Ui7SQ

Download Teams | Join on the web

Or call in (audio only)

+1 915-320-4718,,604116403#

Phone conference ID: 604 116 403#

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Oso Wash / Brickwood Canyon

08.12.25

Oso Wash / Brickwood Canyon

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Treated wastewater flows across border east of Nogales

By Nick Phillips • Nogales International

Feb. 13, 2020

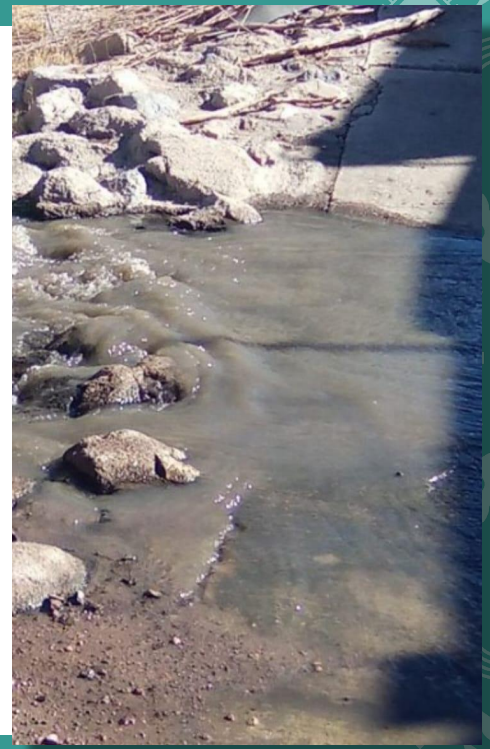
Treated wastewater from Nogales, Sonora has reportedly been flowing across the border at the location seen here for several years.
Photo courtesy of ADEQ

A federal environmental team was dispatched to Santa Cruz County this week in response to a report of wastewater flowing across the border from Mexico in an area several miles east of Nogales.

Sally Spener, spokeswoman for the International Boundary and Water Commission, said the investigators found bacteria in treated effluent flowing across the border at a rate of 80 liters per second, but determined that it wasn't raw sewage.

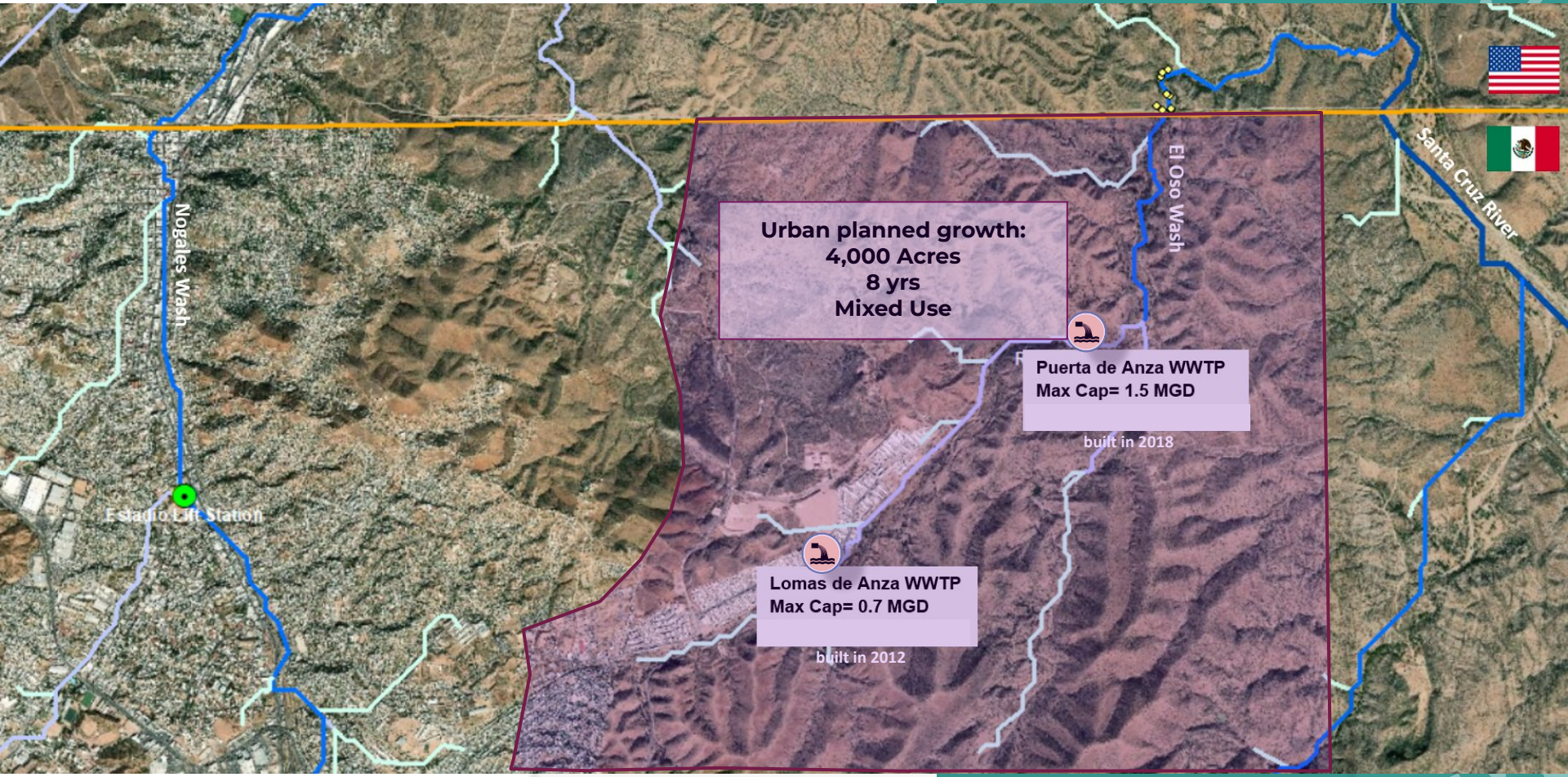
June 3, 2022 – Looking west.

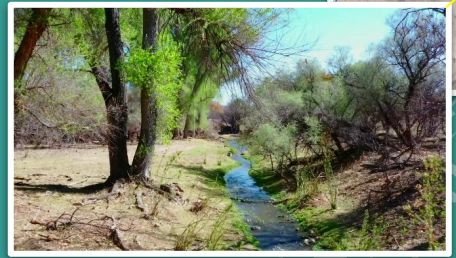
October 19, 2023 – Looking west.



Shotcrete coated riprap provides erosion protection for concrete apron and border metal wall.

Video provided by NADBank


Urban planned growth:
4,000 Acres
8 yrs
Mixed Use
Puerta de Anza WWTP
Max Cap= 1.5 MGD
built in 2018
Lomas de Anza WWTP
Max Cap= 0.7 MGD
built in 2012
Nogales Wash
El Oso Wash
Santa Cruz River
Estadio Lift Station



Drone image extracts
2020 and 2024
SCCSO and OOMAPAS
Site visits 2020 and 2023

Images Courtesy of Santa Cruz County

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

❖ DNA-based microbial source tracking analysis (Jun 2020)

Water & Energy Sustainable Technology Center

Concentrations of the fecal genetic markers in Oso wash

				Fecal marker	GC/mL	GC/100 mL	Fecal source
Volume filtered	250	mL		C.coccoides	1.11E+04	**1.11E+06**	
Ext. Volume	0.1	mL		BacHum	8.33E+00	**8.33E+02**	Human
Vol Examined	0.015	mL		Lachno	1.08E+02	**1.08E+04**	
fraction	0.15			BacR	1.92E+02	**1.92E+04**	Ruminant
Equiv. Vol.	37.5	mL					

Interpretation of results: Fluorescence growth curves typical of qPCR assays were observed for each fecal genetic marker in the sample from Oso wash indicating the presence of the specific fecal anaerobic bacteria associated with human and ruminant hosts. The field blank did not yield any fluorescent growth curve indicating that the markers were not present in the field blank. **Table 1** shows the relative concentrations of each marker expressed as genome copies per volume of water analyzed in milliliters (GC/mL and GC/100 mL) from Oso wash. **These results indicate high levels of human and ruminant fecal source contibution to the creek**. For comparison purposes, **Table 2** shows the relative concentration of each marker in urban sewage and the specificity of each assay to distinguish sources of human and ruminant fecal contamination in environmental waters.

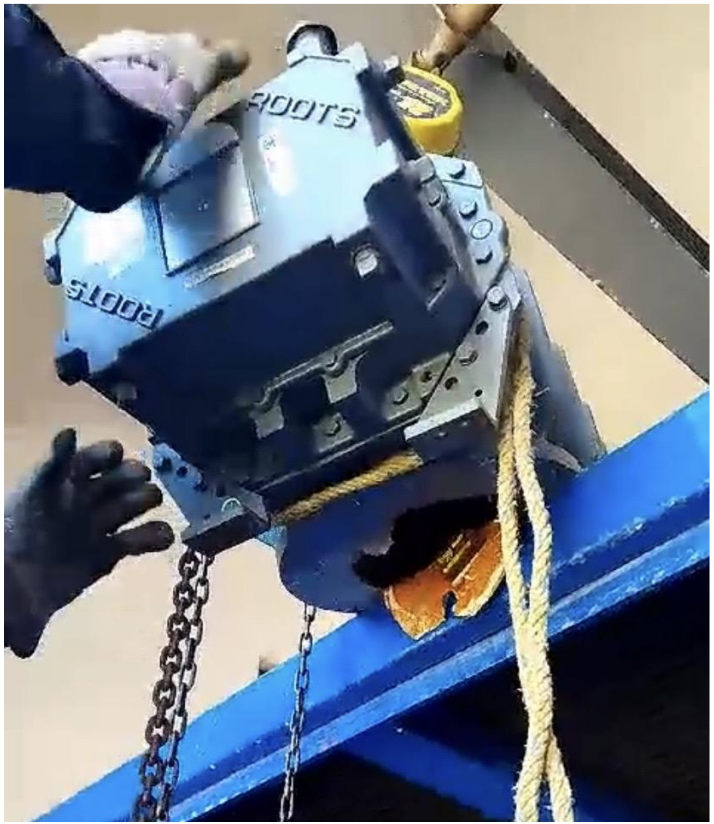
International Boundary & Water Commission
United States Section
Oso Wash Monitoring Report

Month	Date	Temp	pH	Cl2	Turbidity	NH4 mg/L	NO3 mg/L	TKN mg/L	ORP mg/L	TN mg/L	COD mg/L	E-coli MPN
March 2020												
	3/6/2020	14.4	7.49		4.17	2	1.35	2.62	164.7	8.26	15	>2419.6
	3/13/2020	14.6	7.52	0.05	3.12	1.9	8.87	8.42	171.2	14.6	164	>2419.6
	3/16/2020	23.5	7.51		31.9	1.42	1.77	2.07	-0.3	10.3	127	>2419.6
	3/20/2020	17.4	7.43		12.12	1.57	1.62	29.7	190.1	7.53	0	>2419.6
	3/27/2020		7.85	0.02		3.74	1.83	4.76	173.8	7.45	28	81
April 2020												
	4/3/2020	22.4	7.35	0.2	4.07	1.71	1.75	4.85	182.3	6.64	22	1553.1
	4/10/2020	20.2	7.59	0.15	5.44	2.19	3.04	3.59	226.7	6.64	33	
	4/17/2020	18.4	7.76	0.1	4.74	2.05	0.382	2.83	203.3	6.84	25	>2419.6
	4/24/2020	22.3	7.51	0.14	10.4	2.62	3.1	3.96	181.9	7.03	3	>2419.6
May 2020												
	5/1/2020	21.6	7.52	0.16	5.76	1.81	3.24	3.23	225.7	6.43	20	>2419.6
	5/8/2020	21.2	7.64	0.12						12.3	66	>2419.6
	5/10/2020	25.2	8.2	0.15						13.8	99	>2419.6
	5/15/2020	22.6	7.71	0.04						9.96	72	>2419.6
	5/22/2020	23.9	7.94	0.25						11	135	>2419.6
	5/29/2020	26.4	7.76	0.16						8.03	41	980.6
June 2020												
	6/5/2020	23.7	7.44	0.2						7	132	>2419.6
	6/13/2020	23.7	7.51	0.03	6.12	2.26	1.76	5.32	150.1	7.08	14	2419.6

E-coli Most Probable Number > 2,419.6

Images Courtesy of Santa Cruz County

❖ WWTP equipment purchase (2022)



❖ Oso Wash Hydrological Model (2024)

El Oso Wash Watershed and Ecohydrological Study of Restoration

By Laura M. Norman[1], Claudia Gil Anaya[2], Joaquín Marruffo[2], and Iván E. López-Castrillo[1]

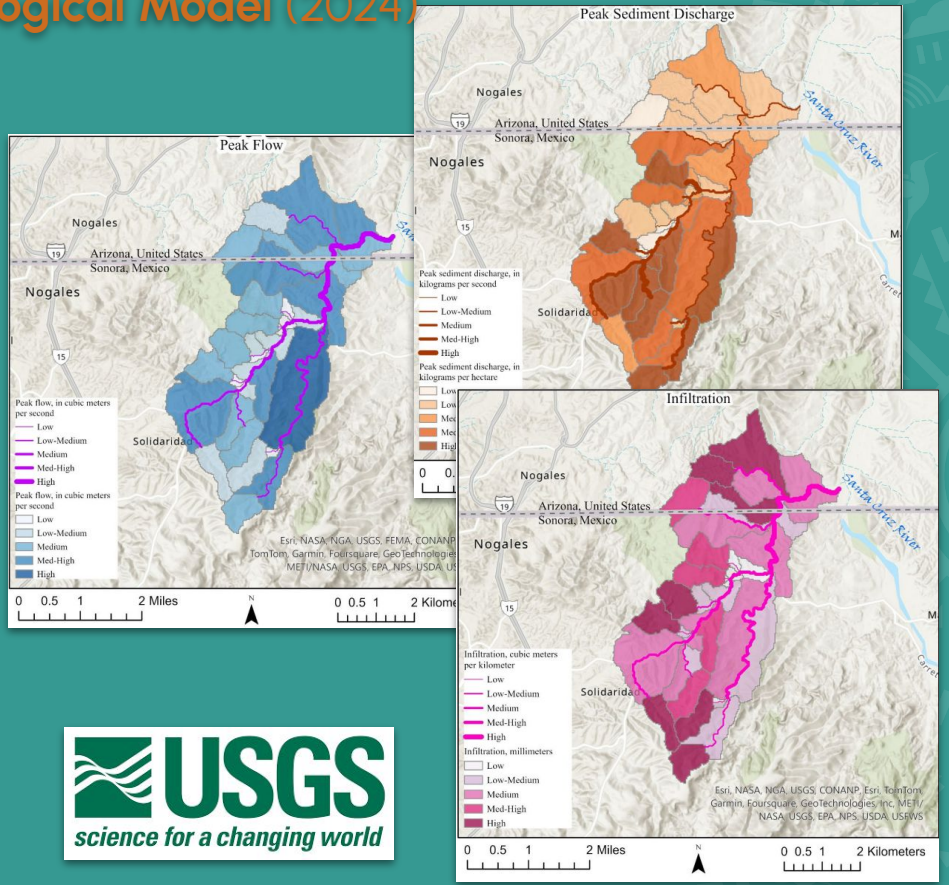
Introduction

A Collaborative Agreement between the U.S. Geological Survey (USGS) and the Arizona Department of Environmental Quality (ADEQ), dated May 26, 2023, was created with goals to (1) assess the current conditions of the El Oso Wash/Brickwood Canyon, located east of the City of Nogales, Arizona, draining from Sonora, Mexico, into the United States, and (2) develop at least three nature-based alternatives to reduce *Escherichia coli* levels.

The USGS has a long history of providing technical assistance for the purposes of assessing and documenting land-use change. Research conducted by the USGS' Aridlands Water Harvesting Study documented the generation of soil-water-carbon sponges created when structures made of earth, wood, debris, or rock are installed in dryland arroyos (Norman, 2021). In the Madrean Archipelago Ecoregion in southwest Arizona and parts of New Mexico, the USGS documented that riparian detention structures can support the development of freshwater, wetland-like sponges that facilitate adaptation of water-limited environments to mitigate climate change (Norman, 2020). Such structures help to restore and regulate stream temperature because of their ability to detain water, sequester carbon, and extend the longevity and area of green growth in riparian areas—with empirical science mimicking these same results in Oregon, Idaho, Wyoming, California, Nevada, Utah, and Colorado (Norman et al., 2022b). The model described below was used to provide estimates of rainfall distribution, stream discharge, sediment, and percolation/infiltration that can be used to identify where Natural Infrastructure in Dryland Streams (NIDS) will be most appropriately located. Various data sources were used to develop scenarios and impacts of proposed strategies to control stormwater and reduce pollution. The resulting model scenarios are described in this report.

This study focuses on methodologies to reduce or remove the *E. coli* to levels permitted by State and Federal authorities. A natural or low area impact (footprint) is desirable. Various data sources were used to develop scenarios and impacts of proposed strategies to control stormwater and reduce pollution. USGS developed a baseline scenario using the Kinematic Runoff and Erosion (KINEROS) within the Automated Geospatial Watershed Assessment (AGWA) tool to provide estimates of rainfall distribution, stream discharge, sediment, and percolation/infiltration that can be used to identify where best management practices can be most beneficial (Burns et al., 2004; Goodrich et al., 2012). The sediment transport could be considered an indicator of how *E. coli* might be conveyed through the system.

[1] U.S. Geological Survey, Western Geographic Science Center, Tucson, AZ 85719
[2] Arizona Department of Environmental Quality, Tucson, AZ 85701



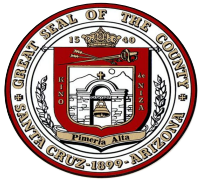
USGS
science for a changing world

SONORAN
INSTITUTE

Water Use Alternative Analysis in advance of future flows from Oso Wash

One of the objectives of this study is to identify and propose concrete actions that allow to improve the operational efficiency of the wastewater treatment plants in Nogales, Sonora to have the effluent comply with the standards.

Binational Taskforce



US Army Corps of Engineers®

North American Development Bank

Current Situation

- Additional connections to the planned ones (2020-2025) have exceeded the wwtp capacity for treatment.
- Nogales Sonora water utilities (OOMAPAS) has expressed their inability to address the current situation with the existing conditions.

Solutions

1. For the US side of the Oso Wash, continue advancing in the development of a nature-based contingency system to restore the riparian ecosystem of the SCR.

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2. Nogales Sonora needs to expand the treatment capacity for this area:
    - Expanding the existing wwtp capacity
    - Require the construction of wwtp to the new developments as the area grows.
3. Implement nature based solutions in the Mexican portion of the Oso Wash.

Thank you

Joaquin Marruffo Ruiz
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520.628.6744

Second Presentation

Addressing Environmental Issues on the U.S.-Mexico Border

July 15, 2025

NADBank

Established in 1994

- **Mandate:** Develop and finance environmental infrastructure along the U.S.-Mexico border to improve the well-being of the population:
  - Projects located within 100 km north and 300 km south of the border that
  - Provide loans and grants for their implementation
  - Offer technical assistance for project development
- **Structure:** Owned and governed equally by the Governments of the United States and Mexico
- **Offices:** San Antonio, TX and Ciudad Juarez, CHIH
- **Ratings:** Aa1 – Moody's; AA – Fitch

Governance

Board of Directors

- NADBank has a ten-member, binational Board of Directors, with an equal number of representatives from each country.

U.S. Members	Mexico Members
Secretary of the Treasury	*Secretary of Finance and Public Credit (SHCP)*
Secretary of State	*Secretary of Foreign Affairs (SRE)*
Administrator of the Environmental Protection Agency	*Secretary of the Environment and Natural Resources (SEMARNAT)*
U.S. Border State Representative	*Mexican Border State Representative*
U.S. Border Public Representative	*Mexican Border Public Representative*

Jurisdiction

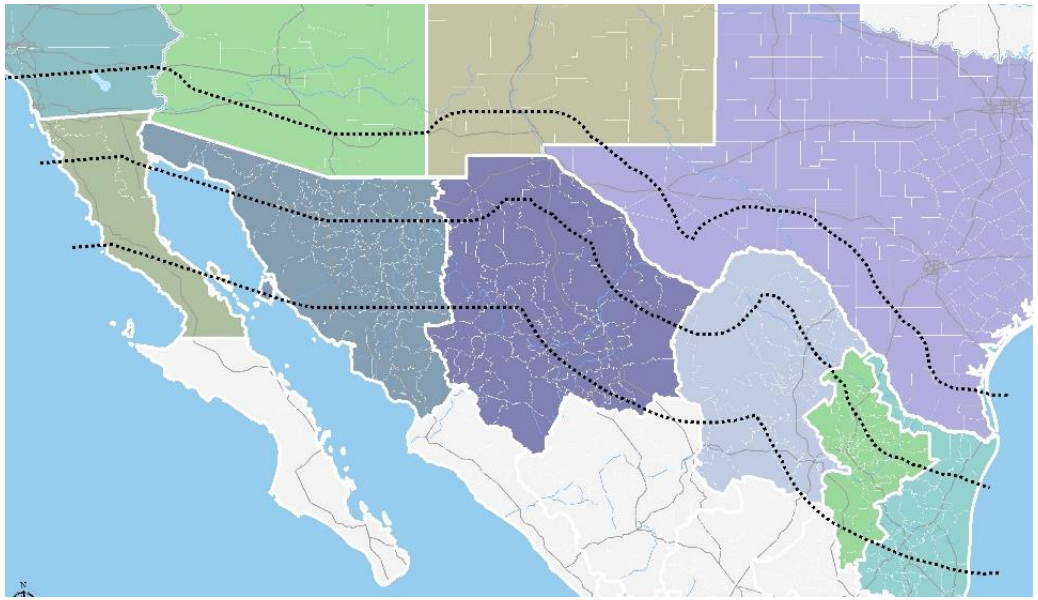
U.S.- Mexico Border Region

- Eligible projects must be located within **100 km north** and **300 km south** of the U.S.-Mexico border

  - **U.S. Border**
    - 41 counties in four states
    - Population: 6.34 million (2.05% of U.S. population)

  - **Mexican Border**
    - 220 municipalities in six states
    - Population: 16.41 million (14.61% of Mexican population)

Geographic Jurisdiction



Population within Jurisdiction

United States

State	Population
Arizona	912,519
California	3,197,461
New Mexico	179,579
Texas	2,049,360
Total	6,338,919

Mexico

State	Population
Baja California	3,151,135
Chihuahua	2,974,318
Coahuila	1,774,565
Nuevo León	4,614,869
Sonora	1,646,690
Tamaulipas	2,248,745
Total	16,410,322

Eligible Sectors

Project Types

WATER

- Drinking
- Wastewater
- Conservation
- Stormwater

SOLID WASTE

- Municipal
- Industrial
- Recycling

AIR QUALITY

- Mobility
- Paving
- Border crossings
- Industrial emissions

SUSTAINABLE ENERGY

- Generation
- Storage
- Efficient use

SUSTAINABLE CITIES

- Urban development
- Sustainable buildings
- Industrial parks

SUSTAINABLE PRODUCTION

- Green manufacturing and products
- Food value chains

CLIMATE CHANGE

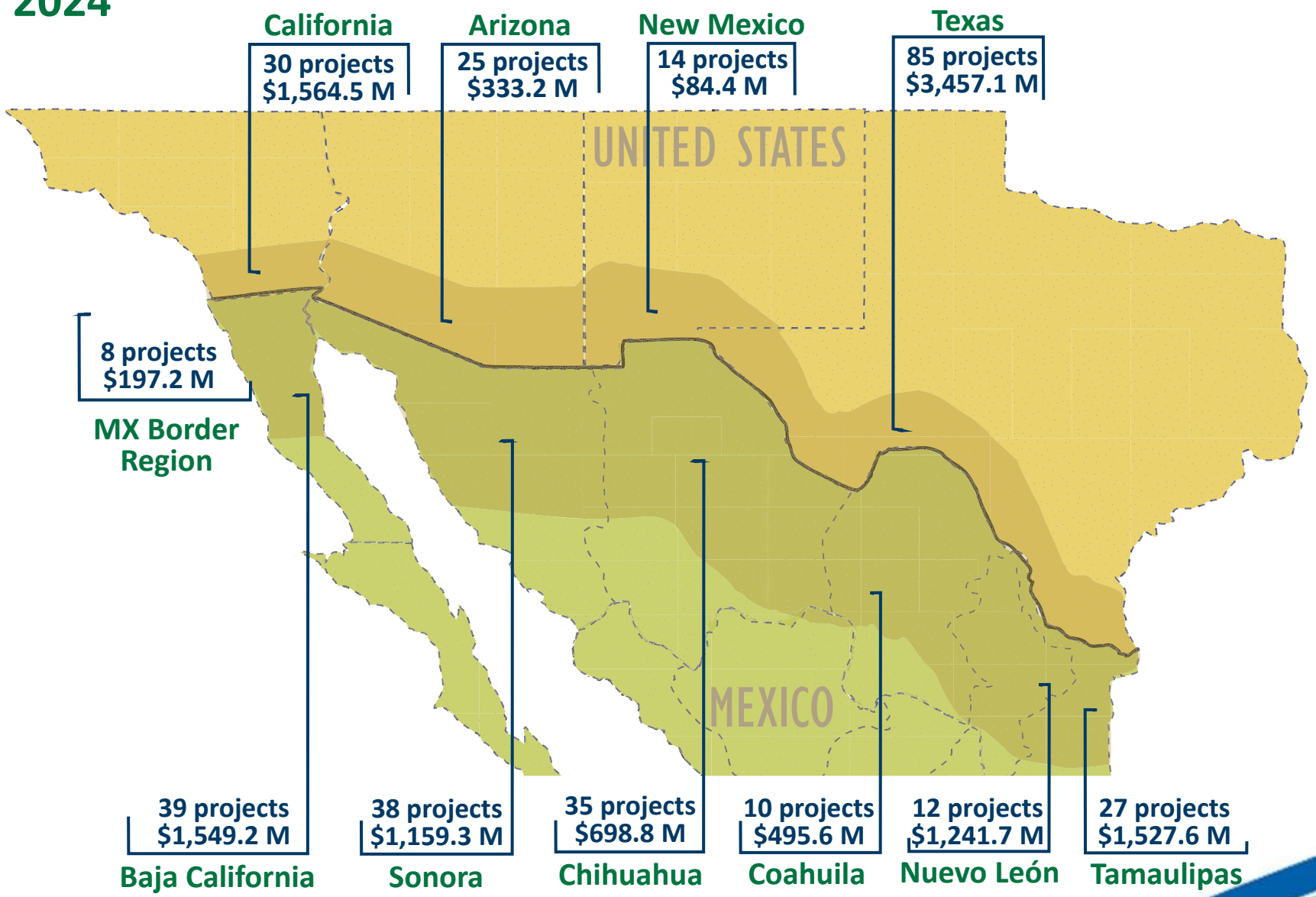
- Mitigation
- Adaptation

Certified Projects with Financing

December 31, 2024

Projects: 323

Total investment: US$12.3 billion

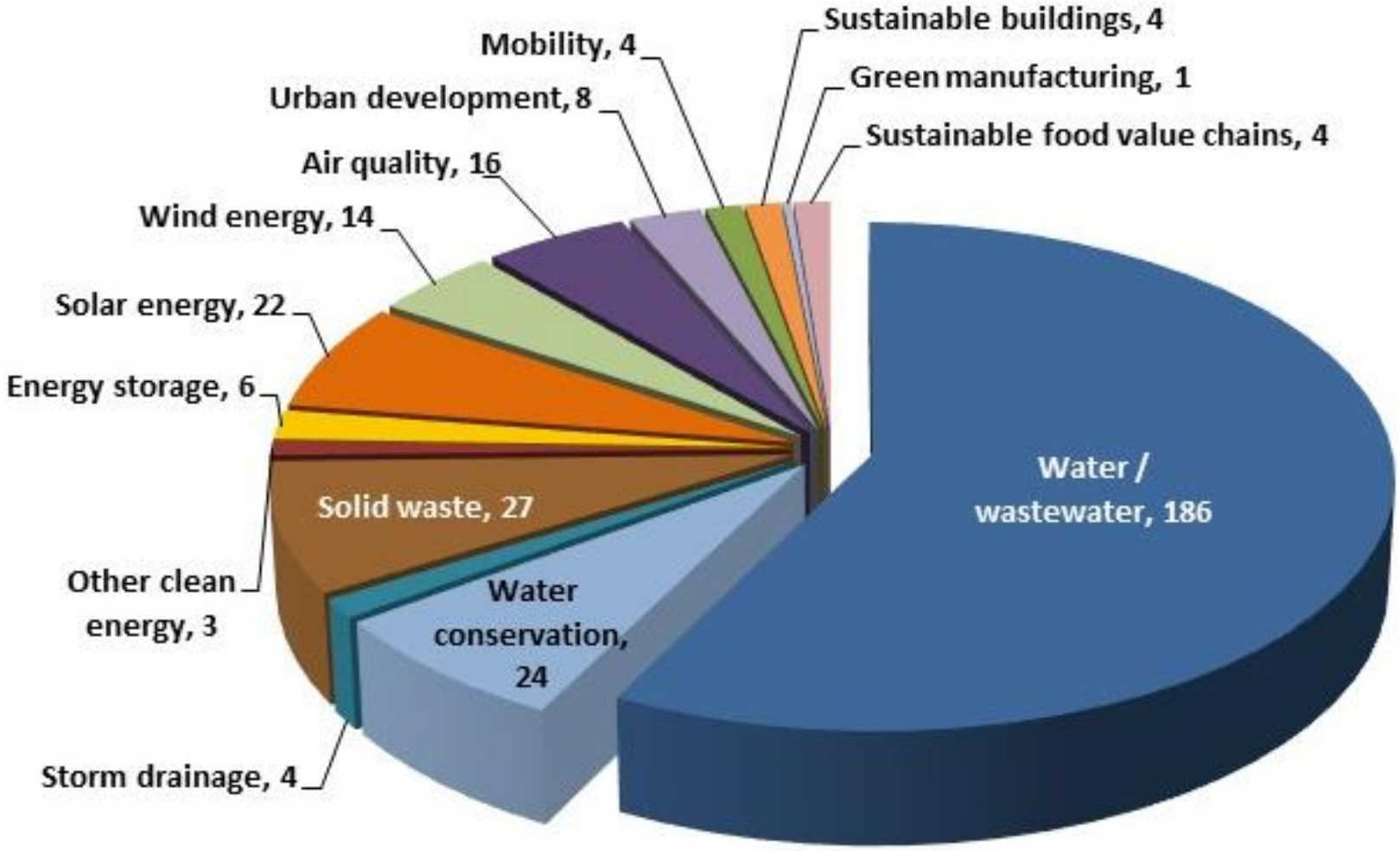


Projects Funded by Project Type

December 31, 2024

323 projects

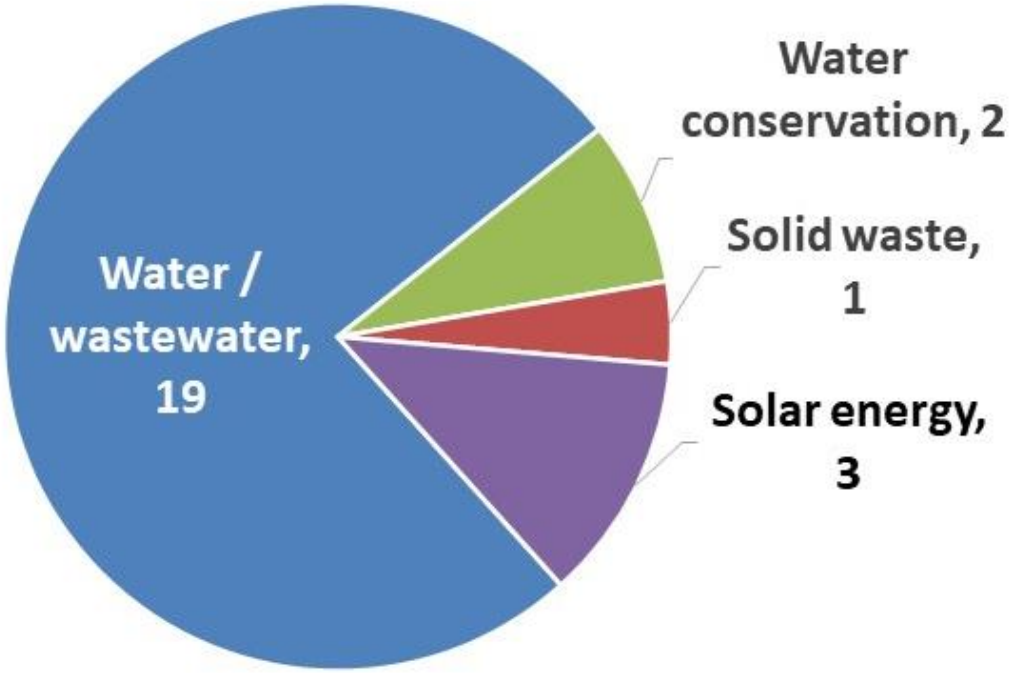
US$12.3 billion total investment



Arizona

December 31, 2024

- **25** projects certified and financed
  25 projects completed and in operation
- **US$209.1 million** in financing contracted
  US$209.1 million disbursed (100%)



US$ Million

Community	No. of Projects	Financing Contracted
Bisbee	2	$ 12.3
Douglas	2	11.3
Gadsden	1	1.3
Nogales	4	63.3
Patagonia	3	2.0
Picture Rocks	1	58.9
San Luis	1	0.5
Sierra Vista	1	2.3
Somerton	2	4.7
Tombstone	1	0.5
Tucson	2	40.7
Whetstone	1	0.5
Willcox	1	4.7
Yuma County	3	6.1

Impact in Arizona

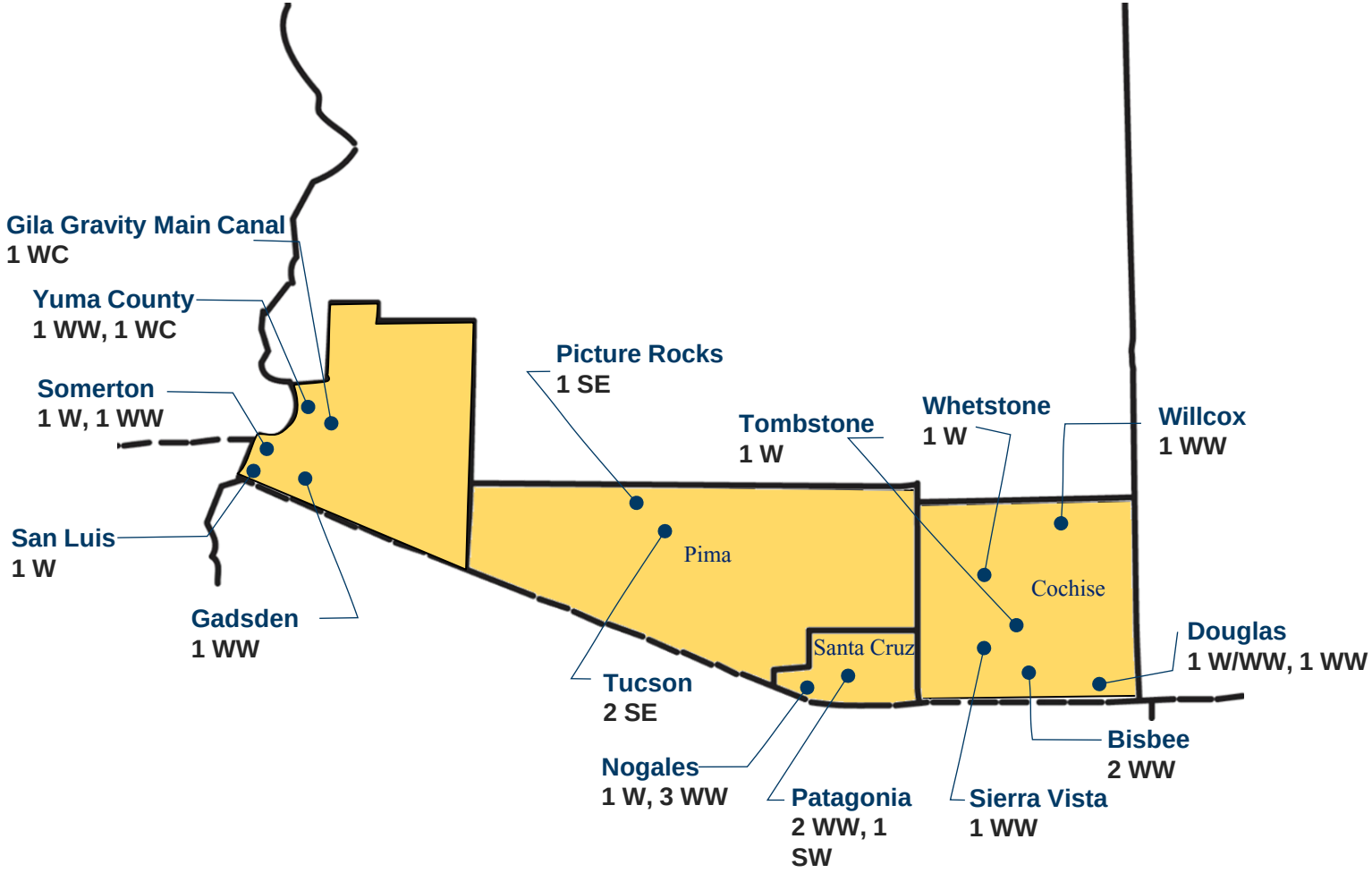
December 31, 2024

- **5.44 million gallons a day** of new or improved wastewater treatment capacity
- **52,583 acre-feet/year** in water savings in irrigation districts
- **37.6 MW** of installed **solar generation capacity**, which is helping prevent the emission of approximately **49,477 metric tons/year of CO_2**, equivalent to removing 10,661 passenger vehicles from the roadways
- **1** sanitary landfill expanded

Participation in Arizona

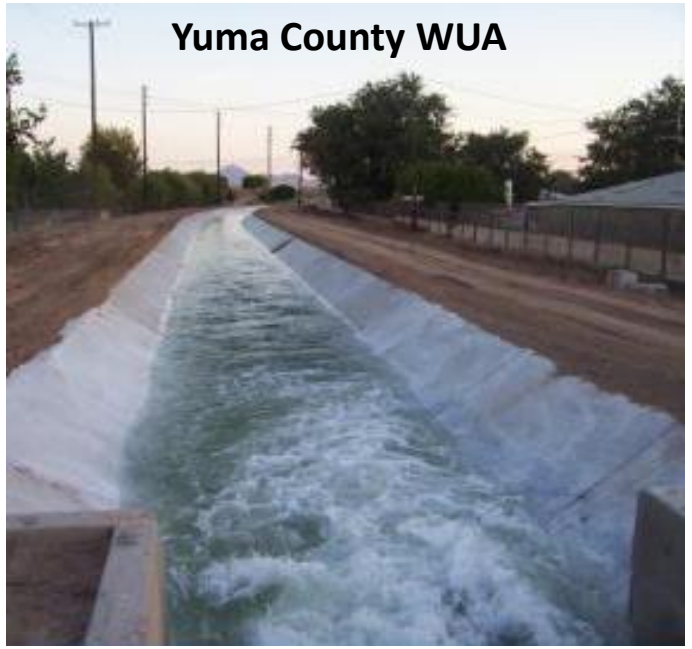
December 31, 2024

- **25** projects financed
- **US$209.1 million** in financing contracted



SE = Solar energy
SW = Solid waste
W = Water
WC = Water conservation
WW = Wastewater

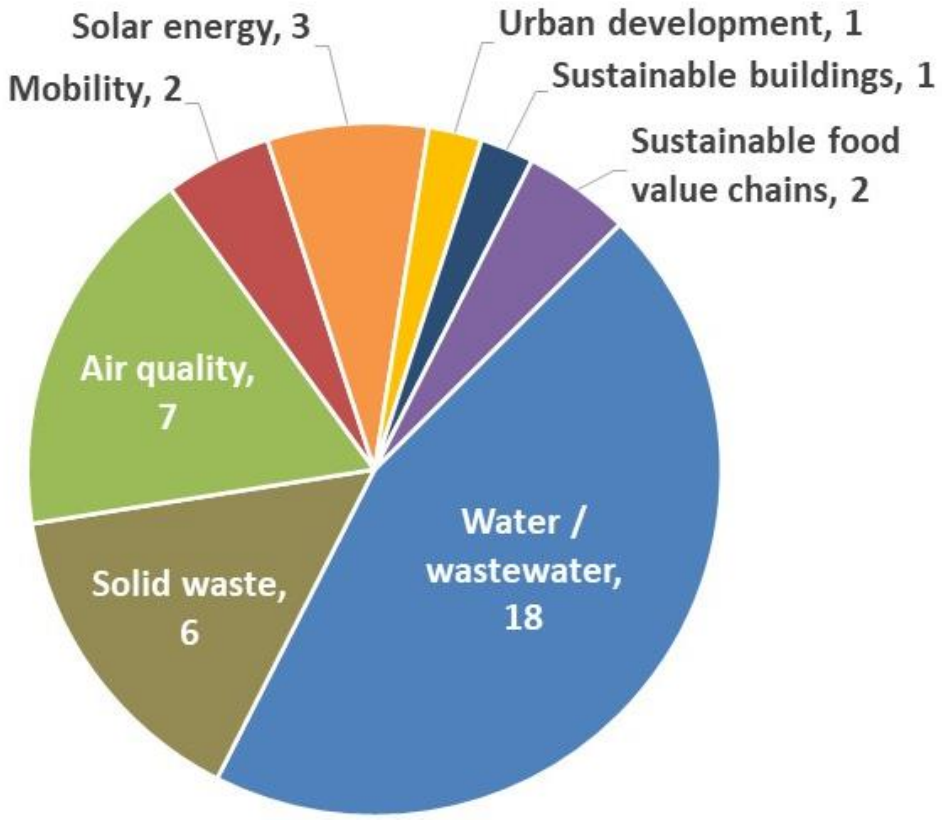
Projects in Arizona



Sonora

December 31, 2024

- **40** projects certified and financed
  33 projects completed and in operation



- **US$435.9 million** in financing contracted*
  US$424.4 million disbursed (97.4%)

US$ Million

Community	No. of Projects	Financing Contracted
Agua Prieta	4	$ 4.8
Benjamín Hill	1	100.0
El Sásabe	1	0.4
Hermosillo*	8	127.0
Ímuris	1	0.5
Magdalena de Kino	1	0.5
Naco	4	2.3
Nogales	7	58.1
Pitiquito	1	66.0
Puerto Peñasco	2	4.4
San Luis Río Colorado	9	69.5
Sonoyta	1	2.3

* Includes the participation of public transportation companies in 2 border-wide low-emission bus programs.

Impact in Sonora

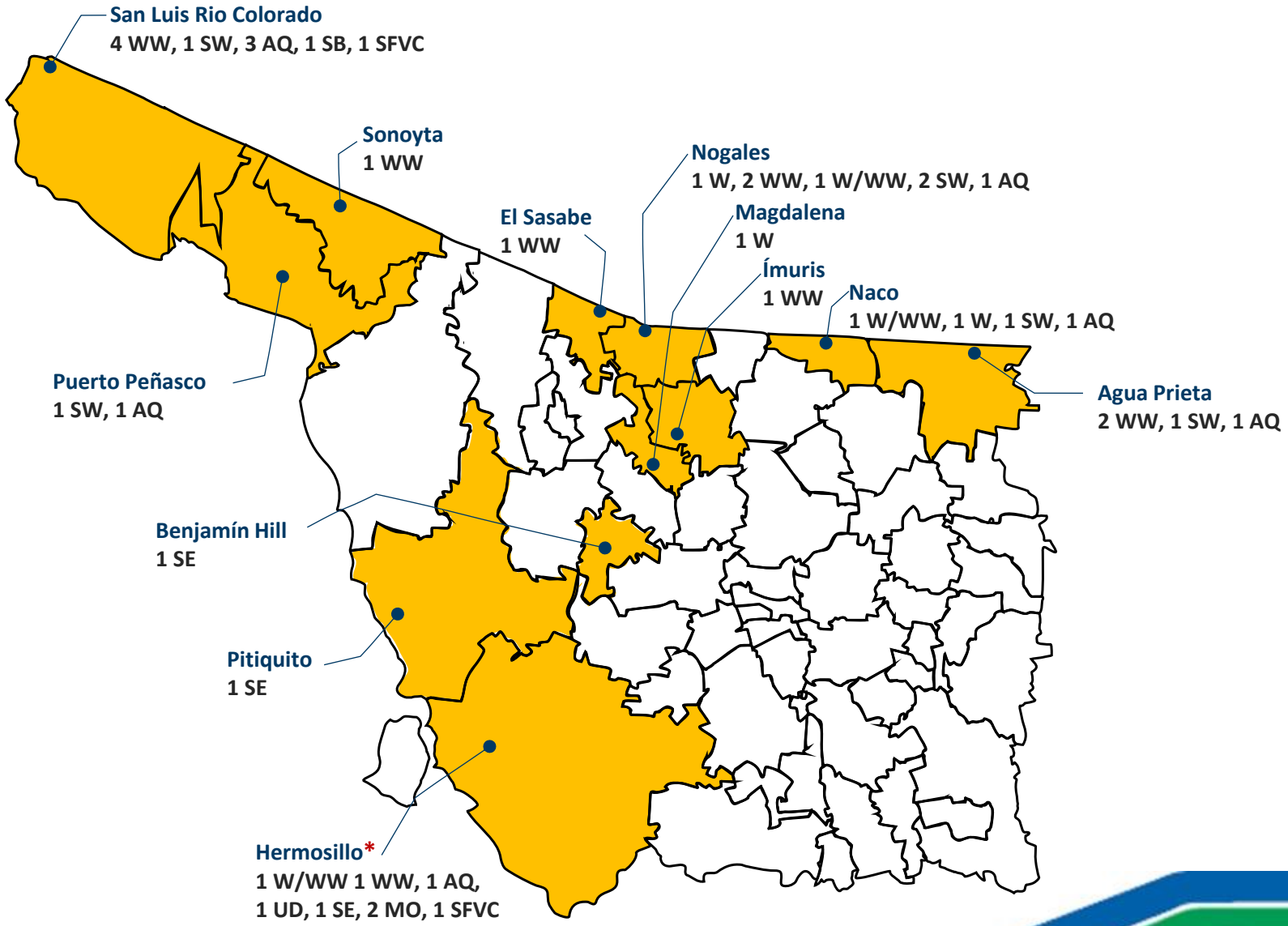
December 31, 2024

- **82 million gallons a day** of new or improved wastewater treatment capacity
- **5** sanitary landfills constructed, **1** sanitary landfill expanded, and **1** open-air dumpsite closed
- Approximately **3 million square meters** of streets paved or rehabilitated to reduce vehicular dust (PM_{10})
- **1 new border crossing**, relocating commercial traffic outside a densely-populated urban area, thus expediting traffic flows at both bridges and reducing idling times, fuel consumption and exhaust emissions
- **567.5 MW** of installed solar generation capacity, which is helping prevent the emission of approximately **742,992 metric tons/year of CO_2**, equivalent to removing 160,092 passenger vehicles from the roadways
- **70** low-emission buses in circulation

Participation in Sonora

December 31, 2024

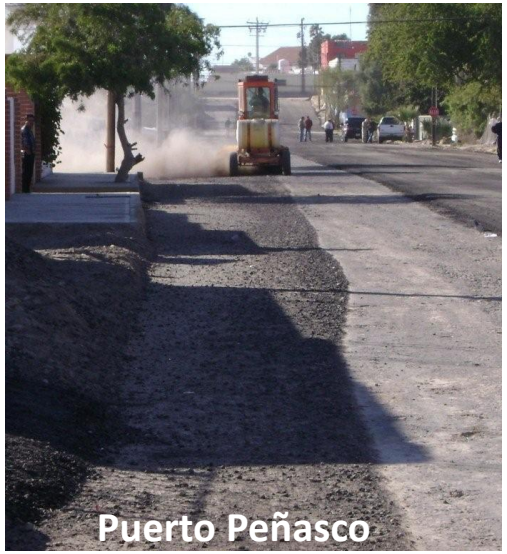
- **40** projects certified and financed
- **US$435.9** million in financing contracted

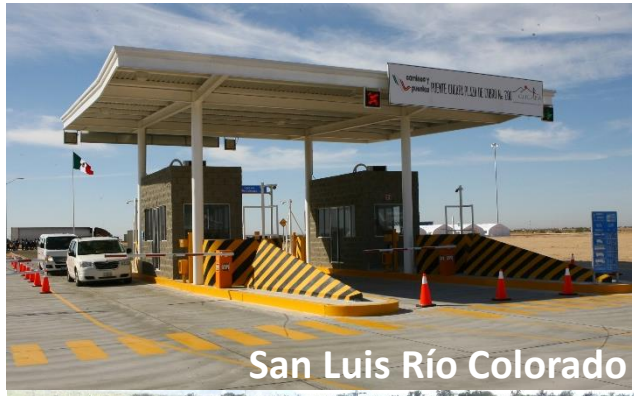


AQ = Air quality
MO = Mobility
SB = Sustainable buildings
SE = Solar energy
SFVC = Sustainable food value chain
SW = Solid waste
UD = Urban development
W = Water
WW = Wastewater

* Includes participation in two border-wide public transportation projects

Projects in Sonora





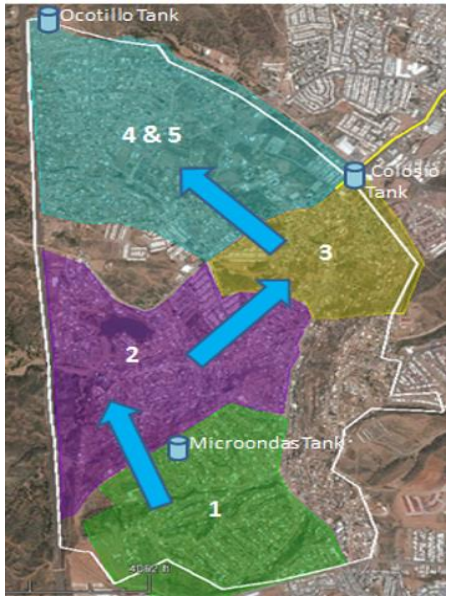
NOGALES Projects Under Development

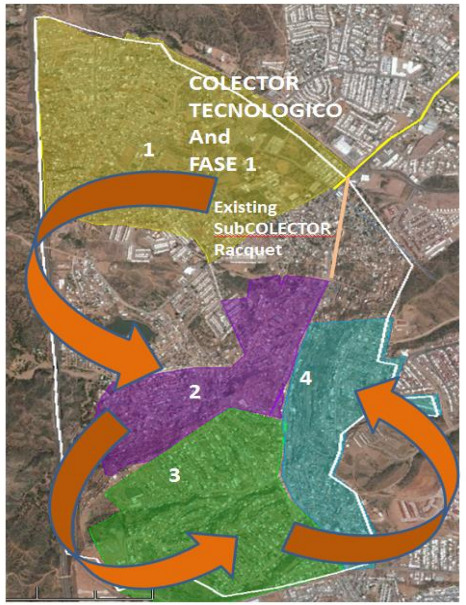
Technical Services & Grants

SN Nogales DW & WWC Southwest Colonias Expansion

Sponsor:	OOMAPAS Nogales
Estimated Cost:	US$ 10.5 M
NADB Funding:	BEIF US$ 5.3 M
Funding Partners:	CONAGUA; CEA; OOMAPAS: US$ 5.2 M
Expected Results:	Mitigate risk untreated WW discharges into the Arroyo Los Nogales

Metric	Unit	Value
Population benefited	population	16,701
New residential DW hookups installed	connections	2,350
New access to WWC services	connections	3,506
Drinking water distribution lines installed	miles	19.11
New WWC lines installed	miles	23.45
Improved WW lift stations	number	1
Improved WW lift station capacity	mgd	12.6
WW discharges eliminated	mgd	0.93





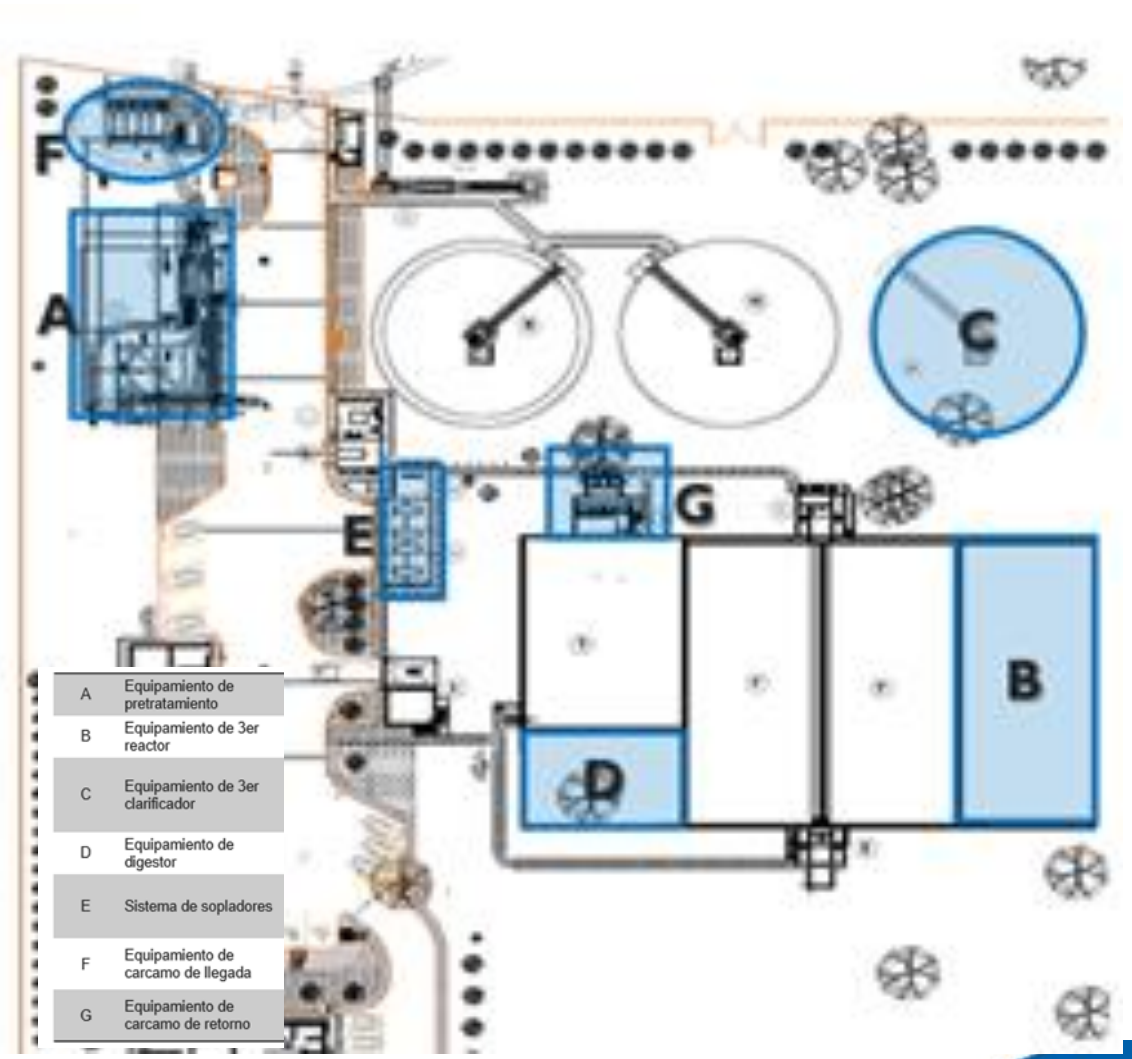
SN Nogales DW & WWC Southwest Colonias Expansion

SN Nogales Los Alisos WWTP Expansion – Module 3

Sponsor:	OOMAPAS Nogales
Estimated Cost:	US$ 2.5 M
NADB Funding:	BEIF US$ 1.25 M
Funding Partners:	CONAGUA; CEA; OOMAPAS: US$ 1.25 M
Expected Results:	Reduce transboundary untreated WW discharges into the U.S.

Metric	Unit	Value
Population benefited	population	47,520
Improved access to WWC services	connections	12,500
WW discharges eliminated	mgd	2.5
Additional WW treatment capacity	mgd	2.5

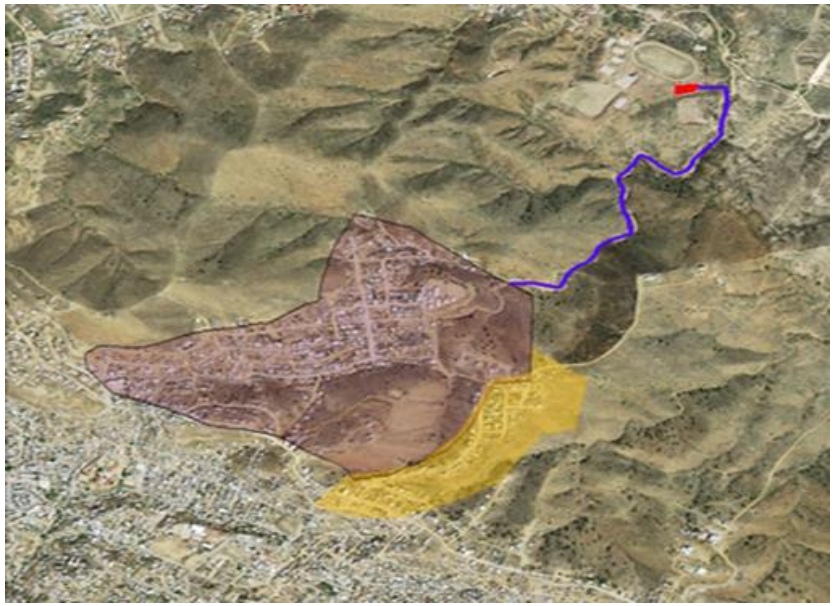
SN Nogales Los Alisos WWTP Expansion – Module 3



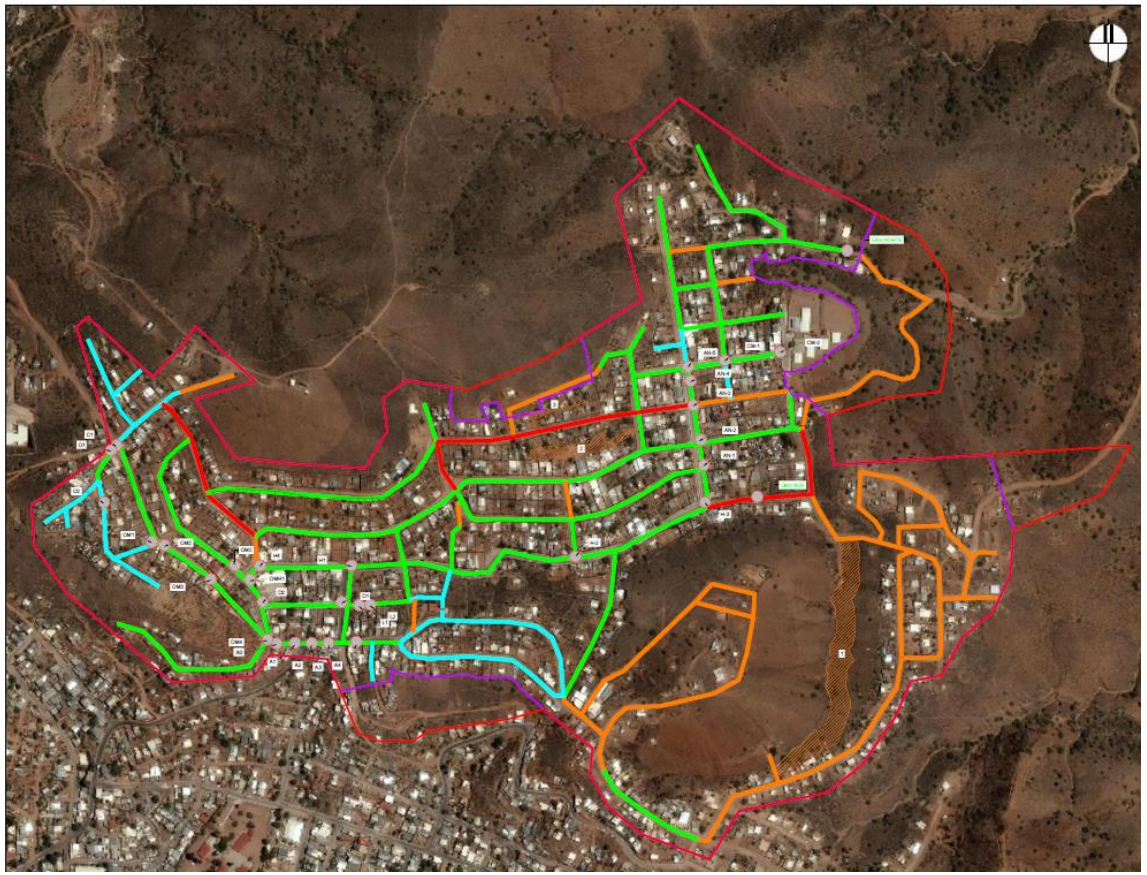
SN Nogales Colinas del Sol & Colonia B Vista WWC & WWTP

Sponsor:	OOMAPAS Nogales
Estimated Cost:	US$ 5.5 M
NADB Funding:	BEIF US$ 2.75 M
Funding Partners:	CONAGUA; CEA; OOMAPAS: Pending
Expected Results:	Eliminate untreated WW discharges into a transboundary watershed

Metric	Unit	Value
Population benefited	population	6,500
Improved access to WWC services	connections	812
New access to WWC services	connections	813
New WWC lines installed	miles	2.53
WW discharges eliminated	mgd	0.41
New WW treatment capacity	mgd	0.47



SN Nogales Colinas del Sol & Colonia B Vista WWC & WWTP



SN Nogales Mascareñas WWC & WWTP

Sponsor:	OOMAPAS Nogales
Estimated Cost:	US$ 2 M
NADB Funding:	BEIF US$ 1 M
Funding Partners:	CONAGUA; CEA; OOMAPAS: US$ 1 M
Expected Results:	Eliminate untreated WW discharges into a transboundary watershed

Metric	Unit	Value
Population benefited	population	1,140
New access to WWC services	connections	285
New WWC lines installed	miles	3.26
WW discharges eliminated	mgd	0.11
New WW treatment capacity	mgd	0.19

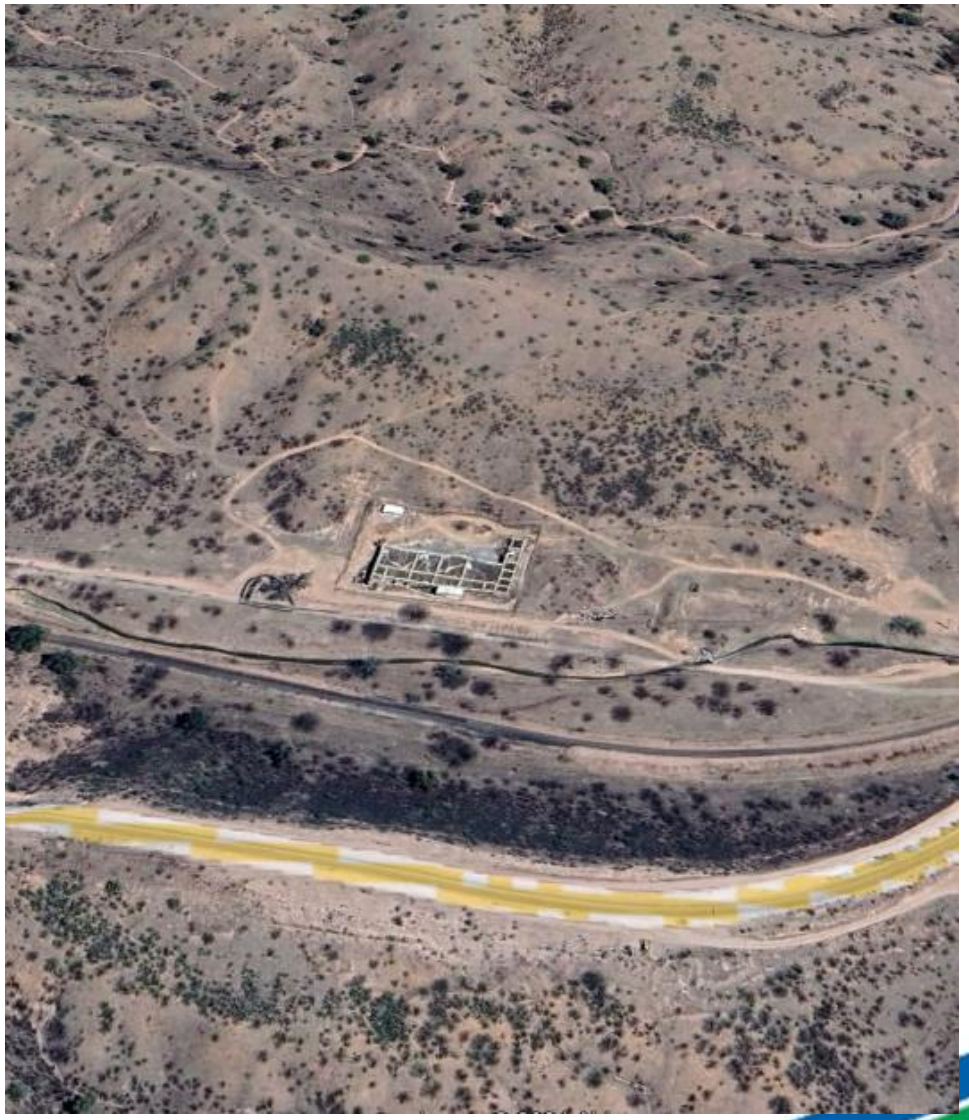
SN Nogales Mascareñas WWC & WWTP

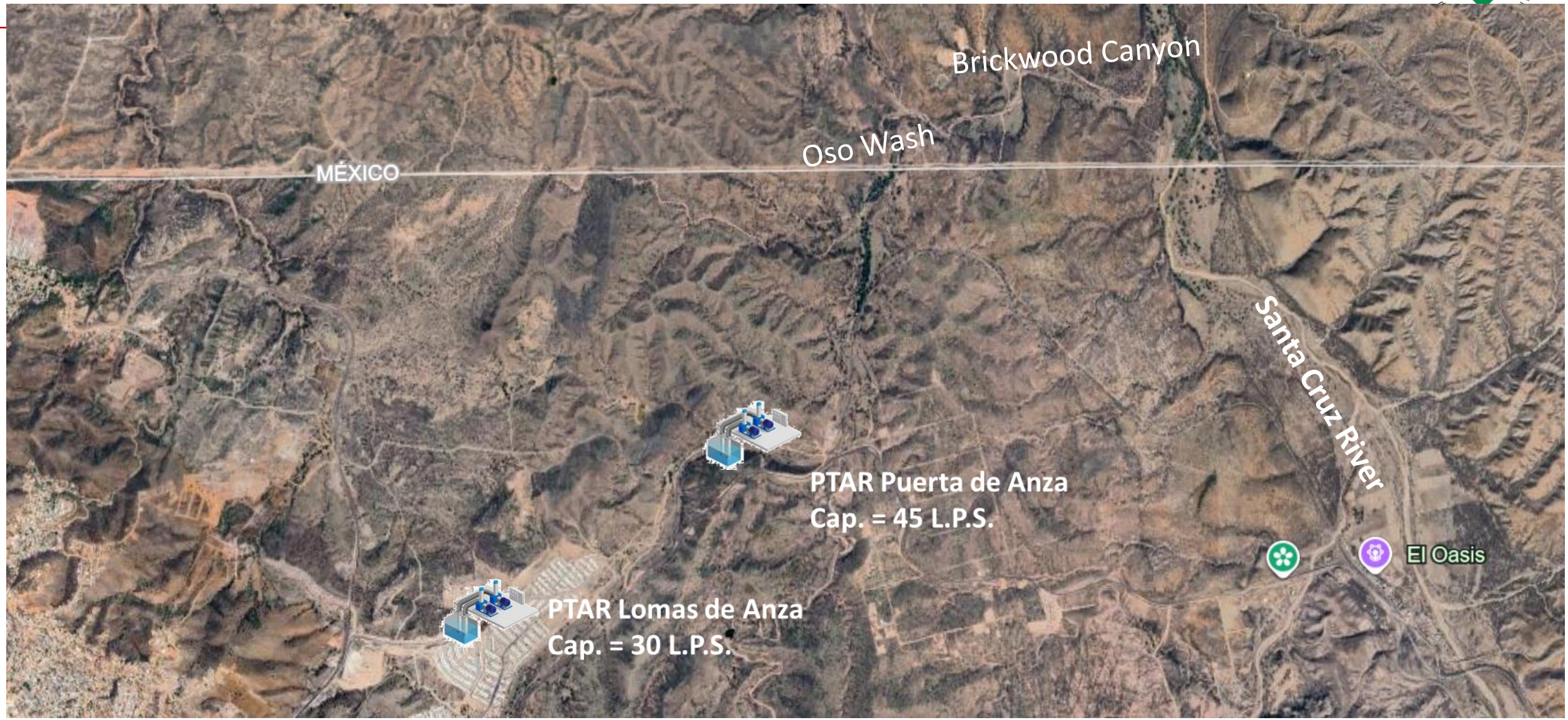
SN Nogales LAnza & PAnza WWTPs Rehabilitation

Sponsor:	OOMAPAS Nogales
Estimated Cost:	US$ 3 M
NADB Funding:	BEIF US$ 1.5 M
Funding Partners:	CONAGUA; CEA; OOMAPAS: Pending
Expected Results:	Eliminate inadequately treated WW into the Oso Wash

Metric	Unit	Value
Population Benefited	population	33,565
Improved access to WW services	connections	9,072
Improved WW Treatment	mgd	1.7
Risk of potential WW discharges eliminated	mgd	1.7

SN Nogales LAnza & PAnza WWTPs Rehabilitation




Brickwood Canyon
Oso Wash
MÉXICO
Santa Cruz River
PTAR Puerta de Anza
Cap. = 45 L.P.S.
El Oasis
PTAR Lomas de Anza
Cap. = 30 L.P.S.

SN Nogales Relocation of Arroyo Los Nogales Collector

Sponsor:	OOMAPAS Nogales
Estimated Cost:	US$ 1.5 M
NADB Funding:	BEIF US$ 1.5 M
Funding Partners:	CONAGUA; CEA; OOMAPAS: US$ 0 M
Expected Results:	Mitigate risk of untreated WW discharges into Arroyo Los Nogales

Metric	Unit	Value
Population benefited	population	50,000
Improved access to WWC services	connections	25,000
Improved WWC lines installed	miles	1.39
Risk of potential WW discharges eliminated	mgd	2.64

SN Nogales Relocation of Arroyo Los Nogales Collector

SN Nogales Ruíz Cortines Collector Rehabilitation

Sponsor:	OOMAPAS Nogales
Estimated Cost:	US$ 2.5 M
NADB Funding:	BEIF US$ 0 M
Funding Partners:	SIDUR: US$ 2.5 M
Expected Results:	Mitigate risk of untreated WW discharges into Arroyo Los Nogales

Metric	Unit	Value
Population benefited	population	95,000
Improved access to WWC services	connections	12,126
Improved WWC lines installed	miles	3.53
Risk of potential WW discharges eliminated	mgd	5.02

SN Nogales Ruíz Cortines Collector Rehabilitation

SN Nogales Downtown WWC Rehabilitation

Sponsor:	OOMAPAS Nogales
Estimated Cost:	US$ 2 M
NADB Funding:	BEIF US$ 1.5 M
Funding Partners:	CONAGUA; CEA; OOMAPAS: Pending
Expected Results:	Mitigate risk of untreated WW discharges into Arroyo Los Nogales

Metric	Unit	Value
Population benefited	population	15,000
Improved access to WWC services	connections	5,500
Improved WWC lines installed	miles	4.43
Risk of potential WW discharges eliminated	mgd	0.79