

2021 Annual Report on Federally Funded Capital Projects



Photo: Cactus Pond Project Post-Construction 2020



**Southern Sandoval County
Arroyo Flood Control Authority**



Southern Sandoval County Arroyo Flood Control Authority

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BOARD OF DIRECTORS

Ronald Abramshe
John Chaney
Mark Conkling
James F. Fahey Jr.
Michael Obrey

EXECUTIVE ENGINEER

Charles Thomas, P.E.

March 5, 2021

During the past year, the COVID-19 pandemic has created many hardships and has been a unique and tragic challenge for the entire country. Similar to many entities, both public and private, the Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA) adjusted our work environment and work practices to maximize staff safety during the pandemic, while still moving projects forward to fulfill our mandate: the protection of lives and property from the impacts of flooding and intense storm events.

I am very pleased to report that despite the unique logistical challenges created by the pandemic, SSCAFCA was able to advance and complete several critical flood control projects throughout its jurisdiction. This booklet summarizes our activities over the past year. Inside you will find information on flood control projects and initiatives that are currently the focus of our organization.

We have included a summary of all the projects that have received, or are in the process of receiving, the benefit of federal funding, as well as a list of other projects that remain unfunded at the present time. We are very grateful for the federal support that has allowed these projects to move forward and we are pleased to be able to show you the progress we have made on those projects.

I hope that you find the information in this booklet informative and useful. As always, if you would like further details or information on any of the enclosed materials, we are available for further discussion.

Sincerely,

A handwritten signature in blue ink, appearing to read "James Fahey Jr.", written over a horizontal line.

James Fahey Jr., M.D.
Chairman, Board of Directors
SSCAFCA



Southern Sandoval County Arroyo Flood Control Authority

Flood Control Today - for a Safe Tomorrow



What is the Southern Sandoval County Arroyo Flood Control Authority?

The Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA) is an independent corporate political body with an elected board empowered to undertake the acquisition, improvement, maintenance and operation of flood and storm water control facilities on streams and watersheds which enter, originate or cross the Authority's facilities. SSAFCA was established in 1990 by New Mexico Statute Section 72-19-1 through 72-19-103



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THE MISSION OF SSSAFCA IS TO:

Protect citizens and property by implementing proven flood control solutions that:

- Manage our watersheds prudently for future generations
- Enhance the Quality of Life
- Create the most appealing multi-use facilities
- Set an example of quality, integrity, leadership, and professionalism
- Educate the public concerning flood hazards
- Administer public funds prudently

SSCAFCA Goals and Commitments:

GOAL #1: To provide flood protection up to the 100 year storm for the public health, safety and welfare of residents and properties within its boundaries.

GOAL #2: To recognize the value of land purchased or controlled for floodways as areas with multi-use potential.

GOAL #3: To reduce sediment and erosion within the boundaries of the flood control authority.

GOAL #4: To assist in the coordination of flood control with other entities for the common good of the public.

Unique Features of SSSAFCA's

Jurisdiction:

Natural Arroyo Systems

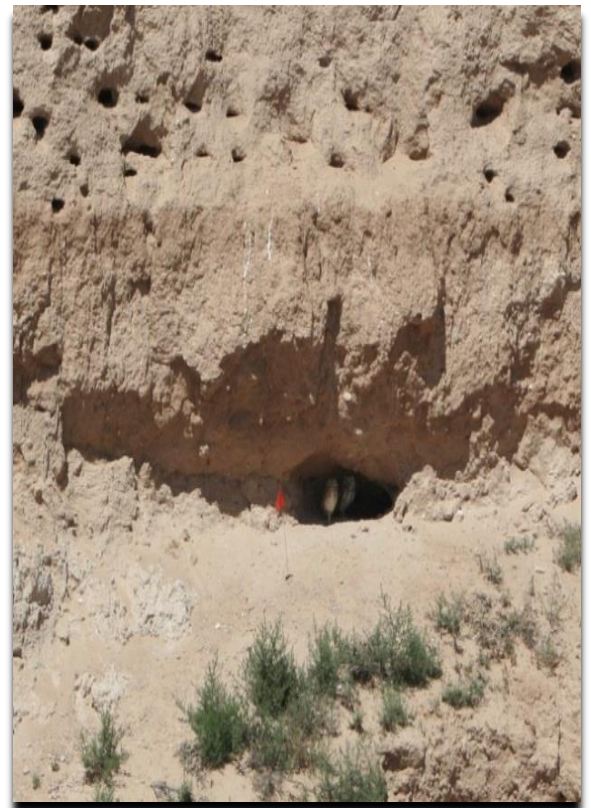
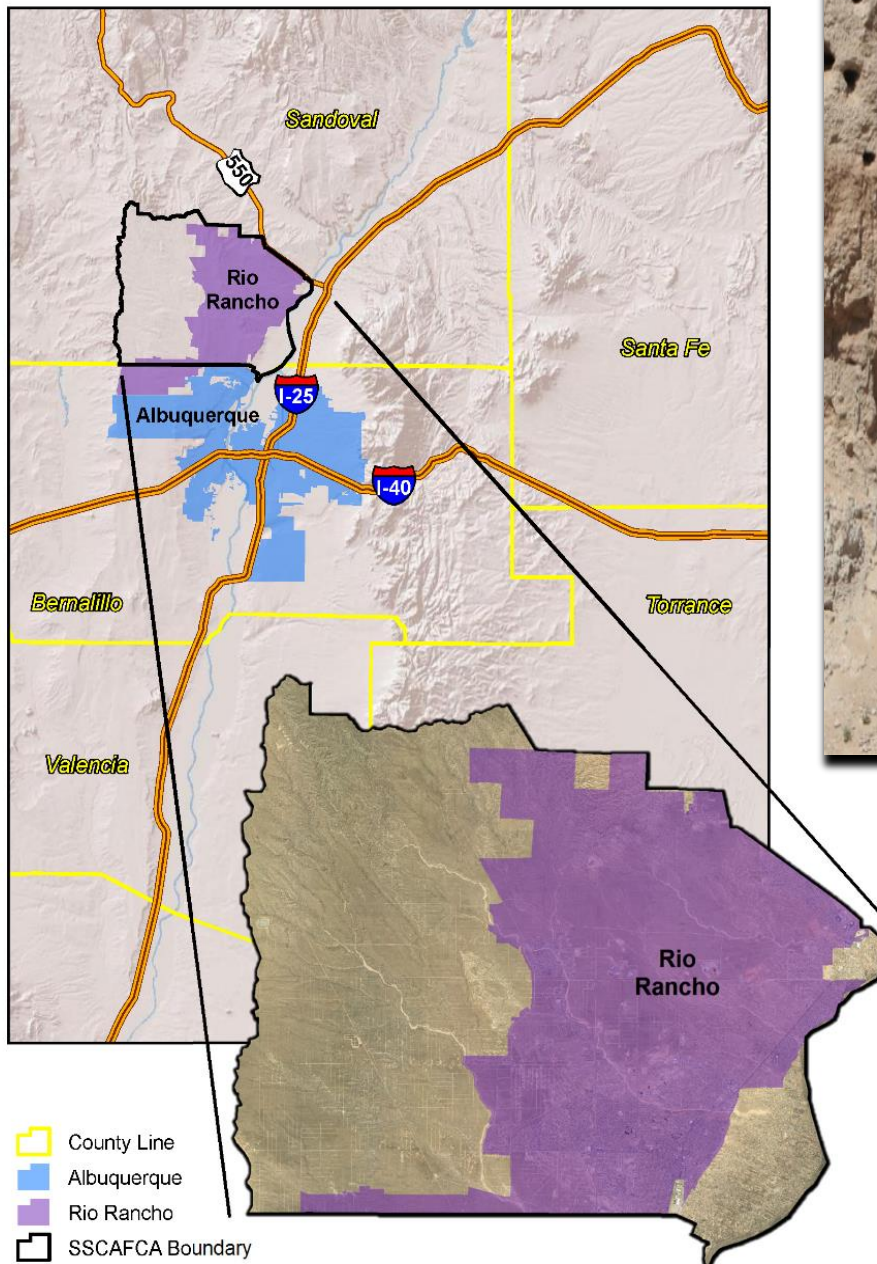
- Increased sediment and erosion
- Lateral channel movement
- Slower moving stormwater
- Improved Wildlife Habitat and corridors
- Opportunity for Multi-use facilities





Southern Sandoval County Arroyo Flood Control Authority

SSCAFCA's has over 510,000 feet of channel in its jurisdiction and of that only 7% or approximately 33,103 feet is hard-lined channel. The majority of SSSAFCA's water conveyance systems are natural sandy sided and sandy bottom arroyos. Natural arroyos allow for infiltration of rain and snow melt into the ground with the possibility of recharging the aquifer. Another advantage of a natural arroyo is the reduced speed at which the stormwater travels down the arroyo unlike a hard-lined channel. On sunny days, citizens can enjoy taking a hike in an arroyo or spend time at a multi-use facility where soccer fields reside in a dam basin. Natural arroyos provide habitat to a wide variety of species, including burrowing owls, pictured here, along with corridors for wildlife to travel.



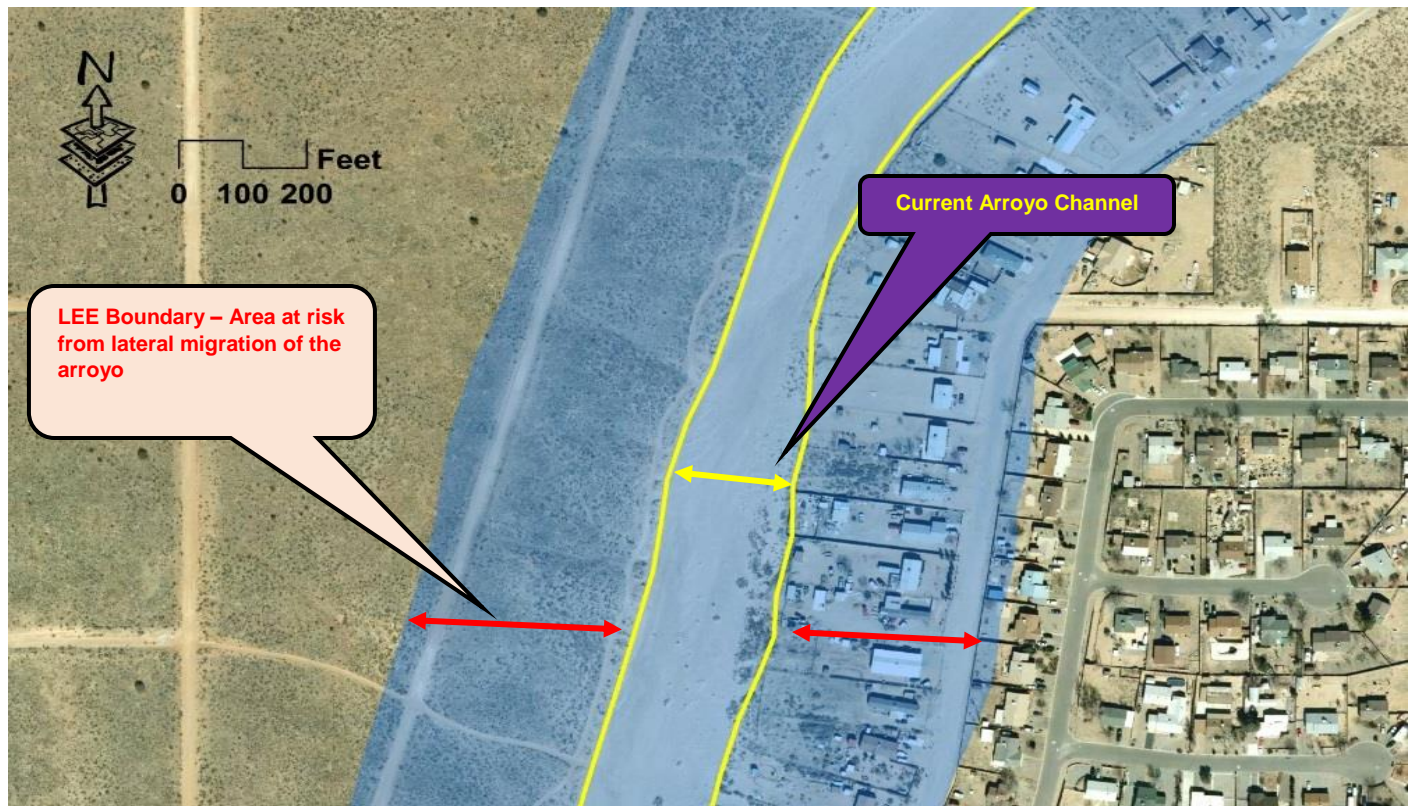
SSCAFCA Location Map



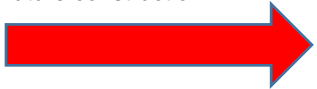
Southern Sandoval County Arroyo Flood Control Authority

Erosion Hazards:

Although the natural arroyos have many benefits for the community, storm flows will contain large amounts of sediment. The sediment can quickly clog culverts and crossing structures expanding the flooded area. Rapidly moving stormwater has undercut roads and culverts impacting infrastructure. SSCAFCA has established a Lateral Erosion Envelope (LEE Line), similar to the FEMA Erosion Hazard Area, adapted to our arid environment, to protect citizens from building too close to the edge of an arroyo.



Homes built too close to an arroyo are at risk. Identifying the LEE Line can prevent this from happening with future construction.



See Appendix A for detailed maps of our watersheds and flood control assets.
Additional information is available at our website – www.sscafca.org.



Federal Funding – Local Benefits

Executive Summary:

Since 2012, the Southern Sandoval County Arroyo Flood Control Authority has completed several projects that have benefited from federal funding with additional projects that are funded and are currently in design or construction. These projects would not have been possible to complete within this timeframe without the inclusion of federal funding and we feel that it is important to let all of our federal partners know of the success that we have achieved by working together. In order to achieve the milestones that we have accomplished so far, we have taken a strategic approach to project funding and development which is based on three guiding principles:

1. **Be Prepared.** Before we seek funding to complete a project, SSCAFCA completes a detailed plan of the project, sometimes including a full design. This includes completing a cost-benefit analysis to verify that the benefit provided by the project will exceed the cost of development.
2. **Engage our Community.** Whether it is ensuring we have met with local residents or working with other state and local partners to secure matching funds, we want to make sure we are proceeding with a project that is fully funded and has broad local support.
3. **Be Efficient.** In today's economy, we understand that every dollar, federal or otherwise, is a precious resource and we strive to ensure the funding is spent in a timely and effective manner. For the list of projects included in this report, ***the average time for SSCAFCA to take a project from grant award to completion is under 23 months - less than two years.*** We feel this demonstrates the success of our strategic approach.

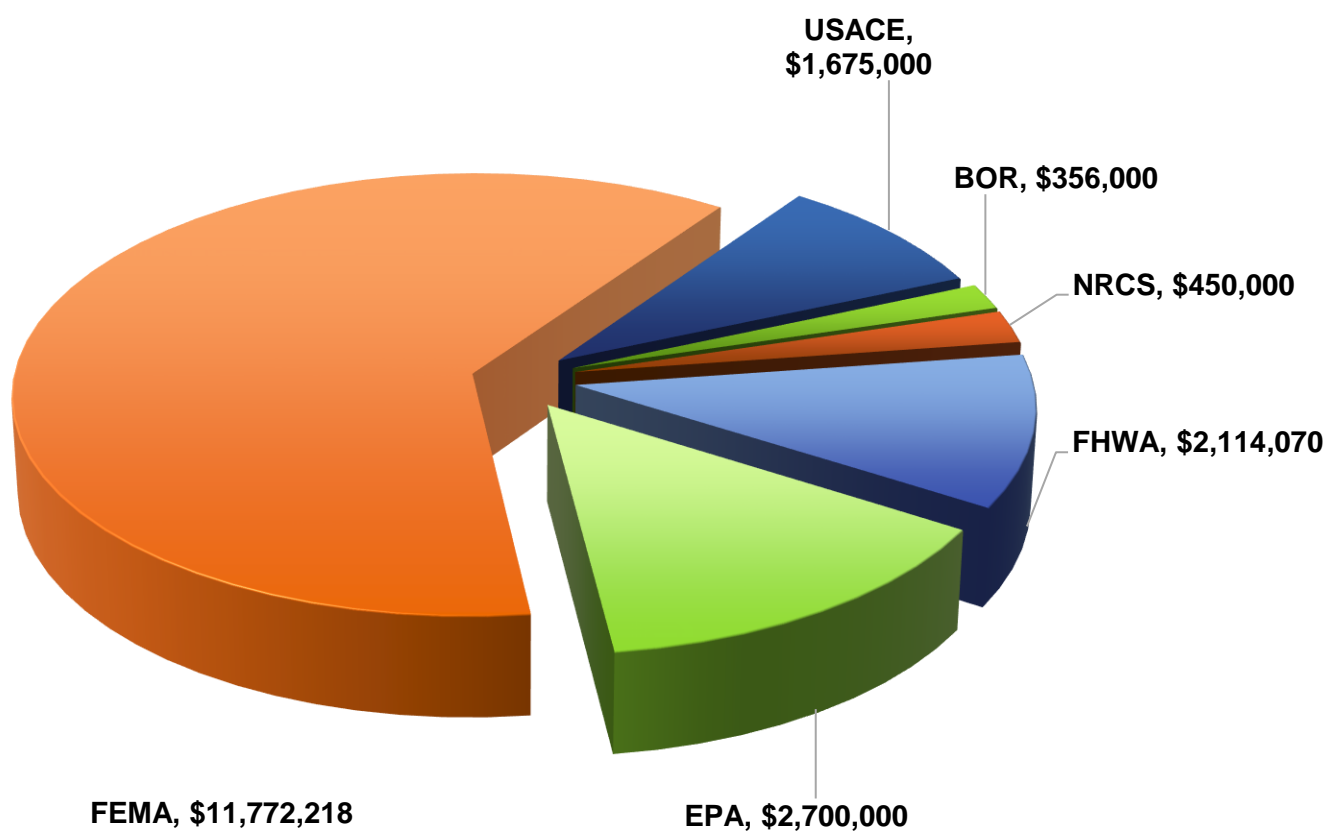
In addition to providing details of the flood control projects that SSCAFCA has successfully advanced using federal partnership, we have also provided three graphics on the following page showing where we have achieved these partnerships and, more globally, showing why it is critical to SSCAFCA that these partnerships with federal agencies continue.



Southern Sandoval County Arroyo Flood Control Authority

Federal Fund Portfolio (2012 – 2021)*

**Includes recently awarded projects and in-kind services*



■ FHWA ■ EPA ■ FEMA ■ USACE ■ BOR ■ NRCS

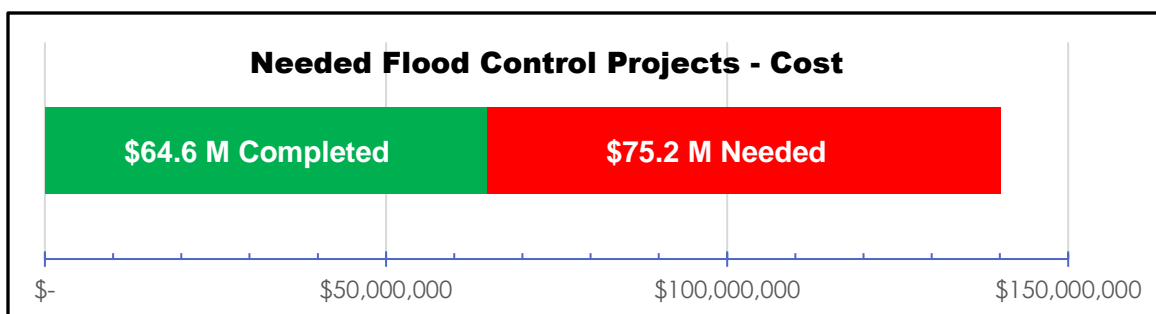
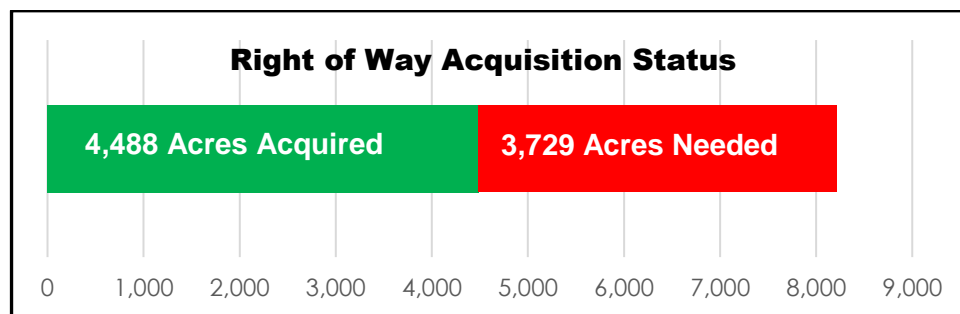


Future Projects

As noted earlier in this document, SSCAFCA came into existence in 1990. Although we have been able to accomplish a significant amount of flood control improvements, the local communities began developing decades, and in some cases centuries, before our arrival. This has left SSCAFCA in the unenviable position of trying to retrofit needed drainage improvements into the existing communities as well as planning for future growth.

The following charts identify SSCAFCA's current status in terms of acquiring both the property needed for our projects and completing all of the flood control projects that we have identified as critical to ensure protection of the citizens, property and infrastructure within our jurisdiction.

At an average cost of \$10,000 per acre, the right of way needs currently total almost \$40 million alone. The base cost of the right of way combined with the funding needed for flood control projects, brings our total fiscal need for the next 15-20 years to over \$115 million, far beyond the limited bonding capacity authorized by law for our agency, which currently only generates approximately \$2 million annually for capital projects.



Southern Sandoval County Arroyo Flood Control Authority

Federally Funded Projects

Project Name	Federal Fund Source	Federal Share	Project Cost	Award Date	Completion Date	Project Status
Lower Montoyas Water Quality Improvements	EPA Clean Water State Revolving Fund	\$2,000,000	\$2,138,190	3/5/2013	10/7/2015	COMPLETE
Harvey Jones Channel Improvements	FHWA Transportation Improvement Program	\$600,000	\$1,343,330	10/9/2013	5/22/2015	COMPLETE
Black Arroyo Bridge & Trails, Phase 1	FHWA Transportation Alternative Program	\$620,480	\$1,115,036	8/8/2014	4/13/2016	COMPLETE
Alberta Road Drainage Improvements	FEMA Hazard Mitigation Grant	\$1,171,445	\$1,811,422	2/4/2015	3/31/2017	COMPLETE
Black Arroyo Bridge & Trails, Phase 2	FHWA Transportation Alternative Program	\$351,422	\$469,703	9/11/2015	8/8/2017	COMPLETE
Montoyas Bank Stabilization	FEMA Hazard Mitigation Grant	\$274,538	\$472,131	9/15/2015	7/15/2016	COMPLETE
Lisbon Channel Access & Trail Improvements	FHWA Transportation Alternative Program	\$542,168	\$689,501	3/1/2017	10/9/2018	COMPLETE
Lomitas Negras Flood Control, Phase 2	FEMA Hazard Mitigation Grant	\$4,064,881	\$5,419,841	3/15/2017	2/6/2020	COMPLETE
Cactus Ponds Flood Control	FEMA Pre-Disaster Mitigation	\$1,405,805	\$1,874,407	2/2/2018	5/29/2020	COMPLETE
Upper Bosque de Bernalillo	FEMA Pre-Disaster Mitigation	\$395,605	\$527,473	11/12/2019	12/26/2020	COMPLETE
Lisbon Dam & Channel Improvements	FEMA Hazard Mitigation Grant	\$1,221,253	\$1,744,648	3/1/2018	N/A	ACTIVE
Natural Playa Preservation	EPA Clean Water State Revolving Fund	\$700,000	\$700,000	10/11/2016	N/A	ACTIVE
Lower Montoyas Bank Stabilization	FEMA Hazard Mitigation Grant	\$3,238,691	\$4,318,254	6/29/2020	N/A	DESIGN
SSCAFCA Watershed Conservation Plan	NRCS WFPO	\$450,000	\$450,000	Pending	N/A	PENDING
Industrial Park WQ @ Tortugas Arroyo	USACE - Section 595 Program	\$1,500,000	\$2,000,000	Pending	N/A	PENDING



Southern Sandoval County Arroyo Flood Control Authority

Cactus Ponds Flood Control Project



Photo# 1 – Cactus Ponds Pre-Construction 2020

Project Cost: \$1,874,407



Photo# 2 – Cactus Ponds Post-Construction 2020



Southern Sandoval County Arroyo Flood Control Authority
**Upper Bosque de Bernalillo Flood
Mitigation Project**



Project Cost: \$527,473

Photo# 1 – Upper Bosque Pre-Construction 2020



Photo# 2 – Upper Bosque Post-Construction 2020

Southern Sandoval County Arroyo Flood Control Authority

Future Needs

Project Name	Description	Estimated Project Cost
Barranca Water Quality Facility	Construct an adverse grade water quality facility to remove trash and debris prior to discharging storm flows to the Rio Grande.	\$2,100,000
Thermopylae Diversion Drainage Project	Divert flows from three arroyos to the Calabacillas to protect downstream infrastructure including a regional high pressure natural gas line.	\$2,200,000
Arroyo Access & Trails System	Acquisition and conservation of over 87 miles of arroyo bank to be used as access and for recreational trail systems, connecting the high mesa with the Rio Grande Valley.	\$10,153,000
High Range Pond	Construct a large detention facility to reduce downstream flow rates and protect downstream infrastructure including Loma Colorado Road and Idalia Road crossings.	\$3,322,696
Black Arroyo Wildlife Park Dam	Construct an off-channel flow reduction facility to protect downstream infrastructure including the Rust medical Hospital	\$5,330,000
City Center Dam & Multi-Sport Facility	Construct a 650 acre-foot detention facility with dual use as a multi-sport facility for youth sports.	\$8,100,000
Badger Dam	Construct a detention facility to protect downstream infrastructure including a regional high pressure natural gas line.	\$2,670,000
Unser Dam	Construct a detention facility to protect downstream infrastructure and provide trail connectivity to a 1,000+ home subdivision.	\$1,270,000
Upper Venada Off-Channel Detention Facility	Provide a series of off-channel flow reduction and debris removal facilities to protect downstream infrastructure and improve water quality.	\$7,173,000
North Hills Water Quality Facility	Construct a large off-channel detention basin to reduce peak flows in the Montoys to protect downstream flood control infrastructure.	\$2,245,000



Barranca Flood Mitigation and Water Quality Project

Project Site Map



1 inch = 800 feet



0 487.5 975 ft

Date: 2/23/2021

Southern
Sandoval
County
Arroyo
Flood
Control
Authority



- Acquired, Fee Simple
- Acquired, Easement
- Other, <Null>
- Planned Acquisition, <Null>

- SSCAFCA boundary
- Parcels CORR



Barranca Flood Mitigation and Water Quality Project

SSCAFCA is proposing to reduce floodwater impacts which flow from the City of Rio Rancho into the Rio Grande. Storm flows from the Barranca Arroyo discharge directly to the Rio Grande without any treatment or attenuation. The Barranca Flood Mitigation and Water Quality Project will remove debris and contaminants from storm flows as well as consolidate storm flows from three separate tributaries to protect adjacent and downstream infrastructure.

Total Cost: \$2,100,000

Objective:

To protect adjacent and downstream infrastructure and provide water quality treatment to remove debris and sediment from entering the Rio Grande.

Description

The Barranca Watershed covers an area over 11 square miles that can generate flows exceeding 3,840 cubic feet per second in the 100-year storm event. The watershed contains residential, commercial and industrial properties that can discharge a wide variety of contaminants in storm flows. Flows in the Barranca Arroyo ultimately discharge to the Rio Grande. The majority of the storm flows in the Barranca Watershed, approximately 90%, do not currently receive any treatment.

SSCAFCA is proposing to construct a water quality facility in the main stem of the Barranca Arroyo modelled after the existing water quality structure currently in place in the Montoyas Arroyo, which has proven to be successful at mitigating downstream flows and improving water quality.

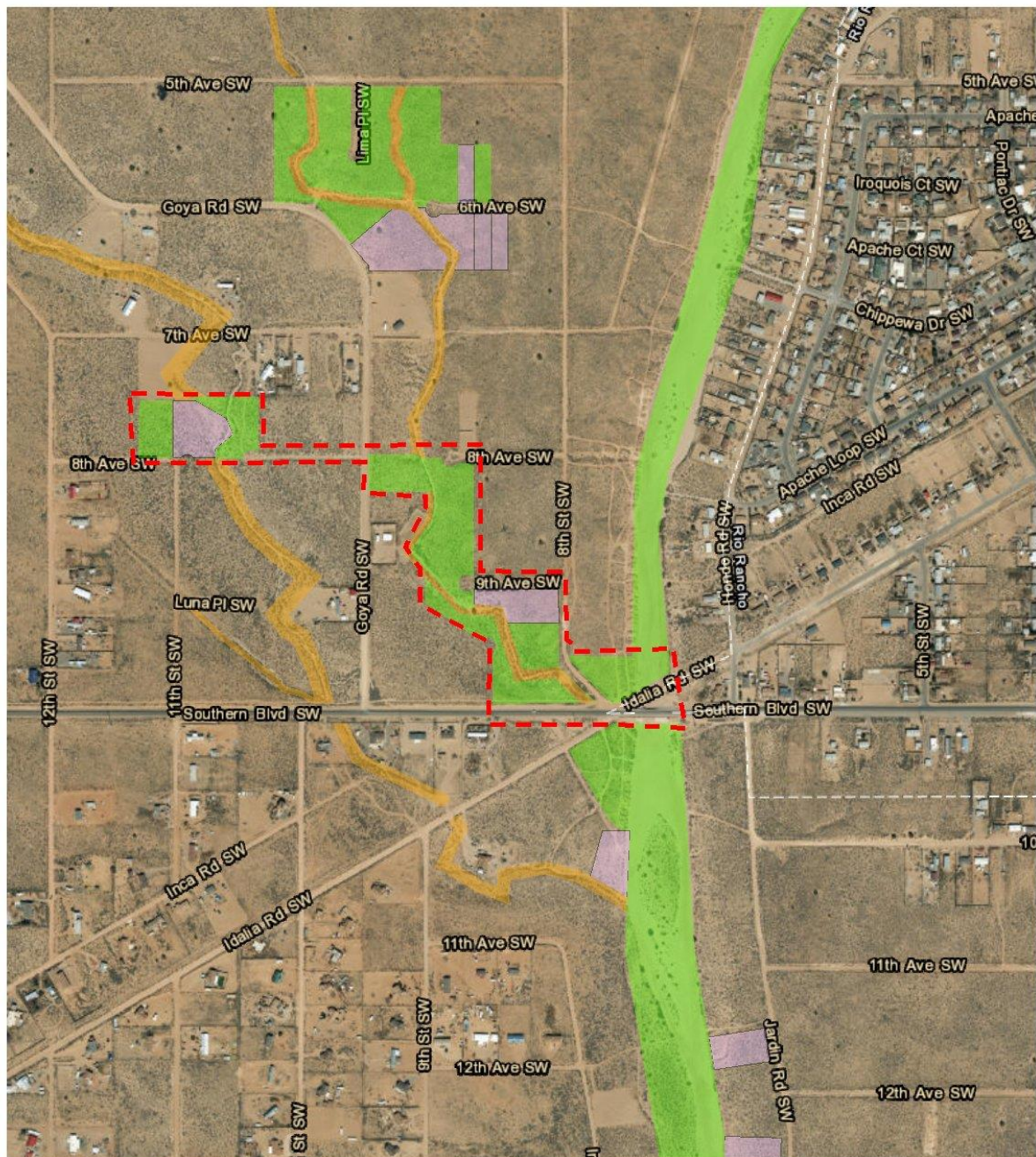
Pictures show existing Lower Montoyas structure to be used as a template





Thermopylae Diversion Drainage Project

Project Site Map



1 inch = 800 feet



Date: 11/20/2020

Southern
Sandoval
County
Arroyo
Flood
Control
Authority



- Acquired, Fee Simple
- Acquired, Easement
- Other, <Null>
- Planned Acquisition, <Null>
- SSCAFCA boundary



Thermopylae Diversion Drainage Project

SSCAFCA is proposing to divert the drainage from Tributary C and Tributary D through the construction of a lined diversion channel. This project will safely route existing flows to the Calabacillas Arroyo.

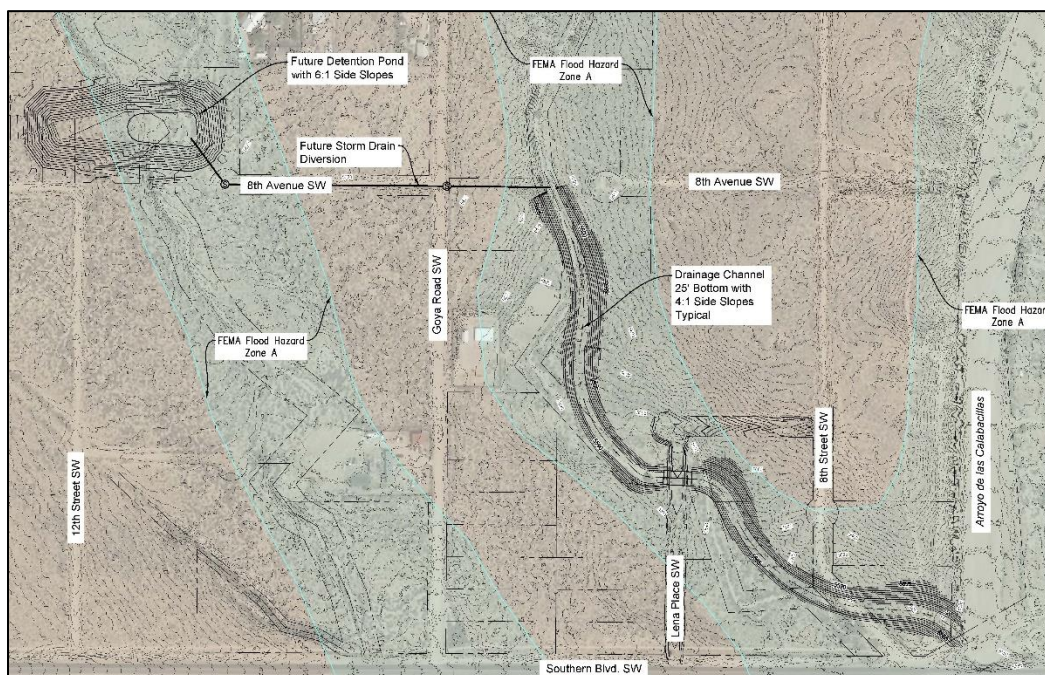
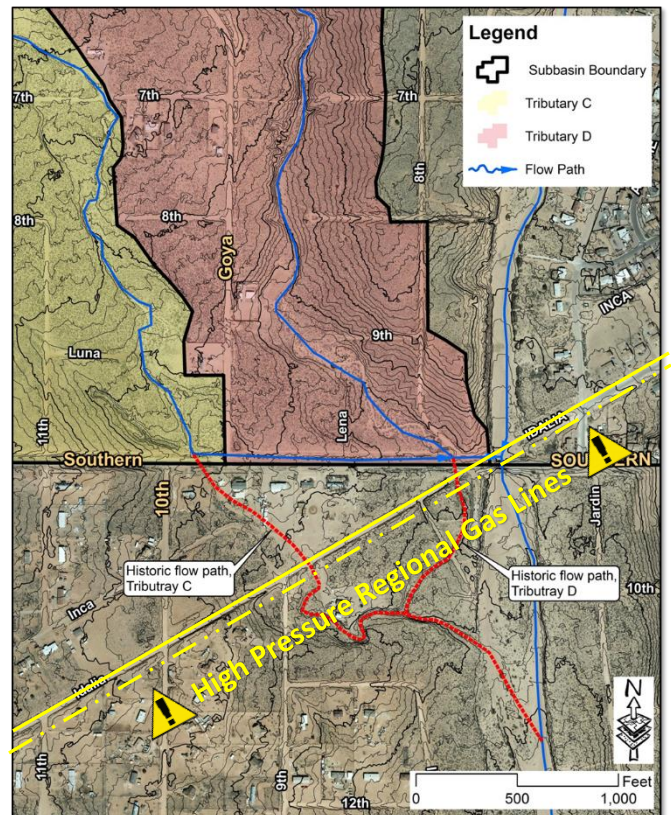
Total Cost: \$2,200,000

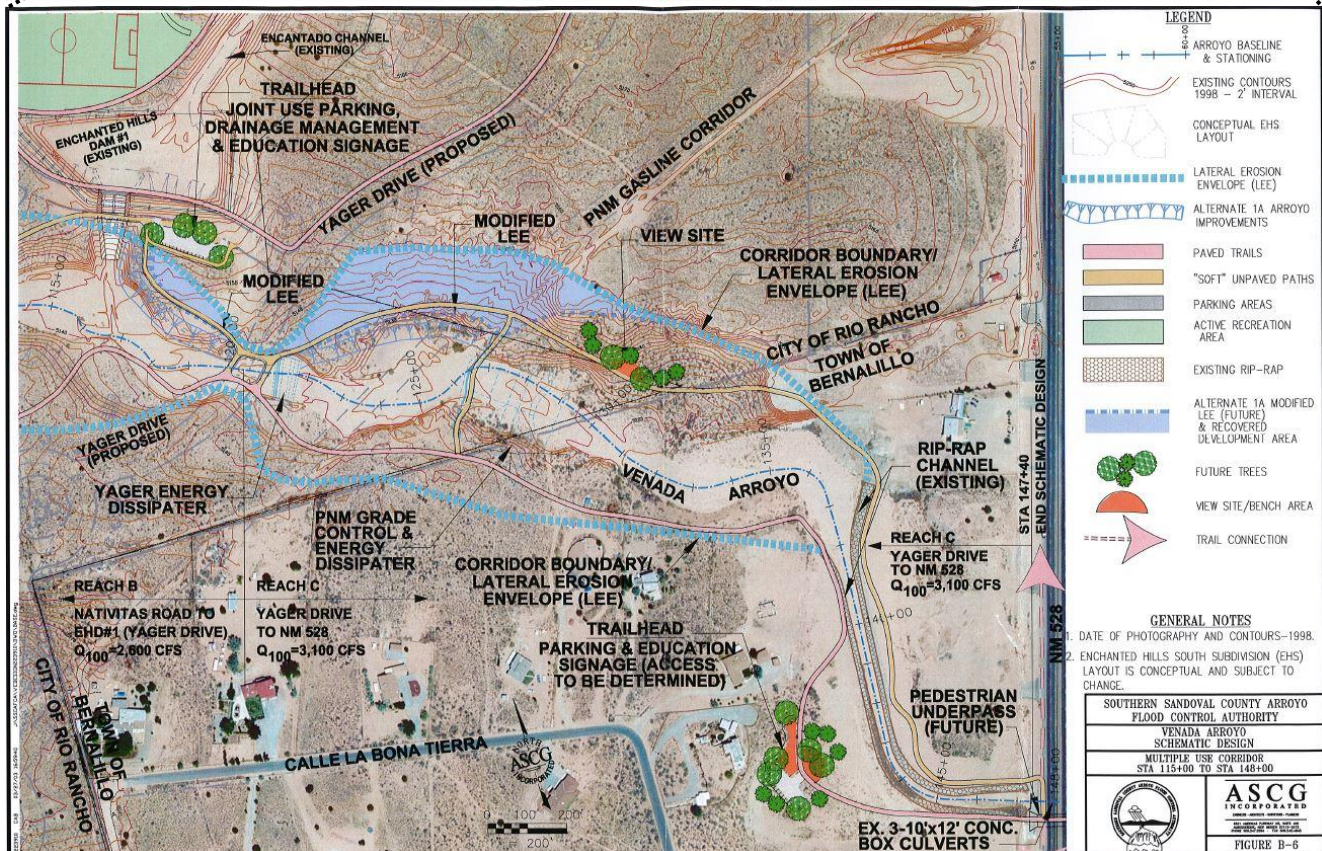
Objective:

To protect local residences, Southern Blvd. and two regional high-pressure natural gas lines from damage due to flooding.

Description:

Two major basins within the larger Calabacillas Watershed converge at this location. The two basins combine to drain over eight (8) square miles and will generate combines flows of up to 3,540 cubic feet per second (cfs) in the 100-year, 24-hour event. The historic flow path for these two basins has been cutoff by a significant amount of infrastructure, both above and below ground. On the surface, the construction of Southern Blvd. blocks both natural arroyo systems and creates uncontrolled diversion and flooding. Downstream of Southern Blvd., several homes have been constructed with the traditional flow path, so installation of properly sized culverts underneath Southern is not feasible. Below ground, two regional gas lines, (20" and 16" respectively) serve all of northern New Mexico, blocking the preferred flow-path both horizontally and vertically due to the depth of their construction.







Arroyo Access and Trails System

SSCAFCA manages over one hundred miles of active arroyos and their tributaries. Many of the arroyos have limited access for maintenance activities. The arroyo beds also serve as thoroughfares for the local population.

Total Cost: \$10,153,000

Objective:

To create grade separated trails adjacent to our arroyo systems that will improve access for maintenance and arroyo drainage improvements. The access trails can also be used by the local population instead of travelling within the arroyos themselves to protect them from the dangers of flash flood events. Reduction of traffic within the arroyos will also help maintain and conserve critical habitat for indigenous plants and animals. Where appropriate, pedestrian bridges will be added to create safe arroyo crossing options.



Description:

The five major arroyo systems can be joined by connecting paths to create over eighty-seven miles of open space trails that will connect the Rio Grande Valley with the high mesa highlands. The watersheds contain areas of urban development, rural development and agriculture as well as currently undeveloped open space. Due to the nature of our semi-arid environment, many of our arroyos are deeply incised with sheer walls that prevent access for maintenance and can prevent emergency egress to escape flood events. Accelerated erosion and damage to habitat caused by uncontrolled vehicular use will be reduced. Because the majority of the arroyos are unlined, the soil can remain muddy and unsafe for travel for many days, causing many vehicles to become stuck and at risk from an oncoming flash flood.



Appendix



**SOUTHERN SANDOVAL COUNTY ARROYO
FLOOD CONTROL AUTHORITY
(SSCAFCA)**

BOARD OF DIRECTORS

John Chaney
Mark Conkling
James F. Fahey Jr.
Michael Obrey

EXECUTIVE ENGINEER

Charles Thomas, P.E.

RESOLUTION 2021-05

**A RESOLUTION OF SUPPORT FOR LEGISLATIVE AND CAPITAL FUNDING
PRIORITIES FOR FEDERAL PROGRAMS IN FEDERAL FISCAL YEAR 22 (FFY 22)**

WHEREAS, SSCAFCA is empowered and directed to acquire, equip, maintain and operate a flood control system for the benefit of the authority and the inhabitants thereof, pursuant to Section 72-19-1 through 72-19-103 NMSA 1978; and

WHEREAS, SSCAFCA is empowered to protect from such floods or storm waters the water courses, watersheds, public highways, life and property in the authority, pursuant to Section 72-19-1 through 72-19-103 NMSA 1978; and

WHEREAS, the Municipalities within SSCAFCA's jurisdiction contain significant residential, commercial and industrial development completed prior to the existence of SSCAFCA which is at risk of flooding and damage; and

WHEREAS, SSCAFCA has insufficient bonding capacity to complete needed critical flood mitigation and drainage improvement projects in a timely fashion; and

WHEREAS, SSCAFCA has adopted an Infrastructure Capital Improvement Plan by Resolution 2020-16 that identifies the most significant capital projects for funding and completion; and

WHEREAS, multiple Federal Agencies operate funding programs that provide resources for flood mitigation and drainage improvements to local entities such as SSCAFCA; and

WHEREAS, SSCAFCA desires technical and fiscal support from certain Federal Agencies to complete specific capital improvement priorities and objectives.


**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE
SOUTHERN SANDOVAL COUNTY ARROYO FLOOD CONTROL AUTHORITY THAT:**

1. SSCAFCA is seeking guidance and information from the Federal Emergency Management Agency (FEMA) on the operation and application of the Building Resilient Infrastructure and Communities (BRIC) Program.
2. SSCAFCA is seeking guidance and support for funding to construct pedestrian bridges to cross arroyos and provide a safe alternative to residents crossing through the arroyos at grade in multiple locations.

3. SSCAFCA is seeking funding support from the Land and Water Conservation Fund (LWCF) for the construction of dependable access routes adjacent to our major arroyos that may also be used as recreational trails to support the health and wellbeing of our residents.
4. SSCAFCA is seeking funding support from Section 595 - Western Rural Water of the Water Resources Development Act (WRDA) to support environmental infrastructure that will capture and remove trash, debris and excessive sediment from storm flows in the Venada Arroyo and reduce environmental degradation of the Rio Grande.
5. SSCAFCA is seeking funding support from FEMA for the Thermopylae Diversion Drainage Project to contain and direct storm flows to the Calabacillas Arroyo and protect human life, at risk residential properties, a major arterial road and two regional High-Pressure Gas lines from damage due to flooding.
6. SSCAFCA is seeking funding support for the acquisition of real property adjacent to our active arroyos as a method of flood mitigation and conservation of critical habitat.

PASSED, ADOPTED AND SIGNED by the Board of Directors of SSCAFCA this 21st day of January, 2021.

**SOUTHERN SANDOVAL COUNTY
ARROYO FLOOD CONTROL AUTHORITY**

By: 
JAMES FAHEY, Jr. M.D.
Chairman, Board of Directors

ATTEST:


MICHAEL OBREY
Secretary



SSCAFCA Boundary

Drainage ROW

- SSCAFCA Fee Simple
- SSCAFCA Easement

Arroyo

Hardened Channel

- Other
- SSCAFCA

Soft Channel

- Other
- SSCAFCA

Stormdrain

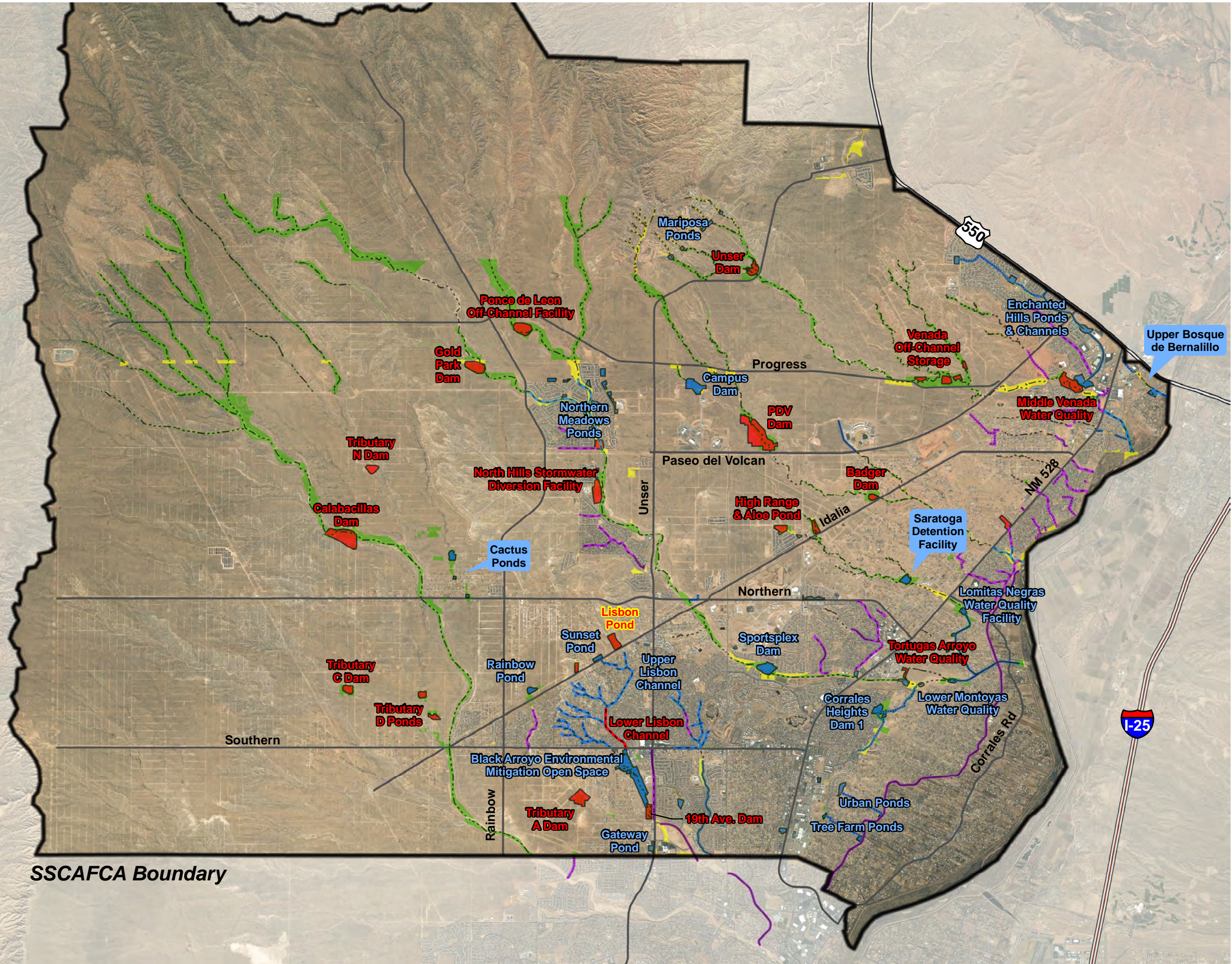
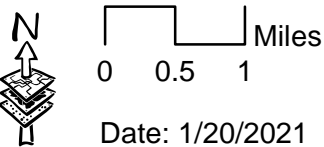
- Other
- SSCAFCA

Pond/Dam

- SSCAFCA, existing
- SSCAFCA, proposed

Completed in 2020

Project in progress





“Flood control today, for a safer tomorrow”



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Arroyo Flood Control Authority
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Rio Rancho, NM 87124
www.sscafca.org**