

2020 Annual Report on Federally Funded Capital Projects



Lomitas Negras Post-Construction 2020



**Southern Sandoval County
Arroyo Flood Control Authority**



Southern Sandoval County Arroyo Flood Control Authority

1041 Commercial Drive SE • Rio Rancho, NM 87124
Ph (505) 892-RAIN (7246) • Fax (505) 892-7241

BOARD OF DIRECTORS

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

EXECUTIVE ENGINEER

Charles Thomas, P.E.

April 24, 2020

The Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA) is very pleased to be able to provide this booklet for you and your staff. The booklet contains an update on flood control projects and initiatives that are currently the focus of our organization.

Calendar year 2019 was an exciting year for SSCAFCA, with several large projects, including our largest construction project to date, Phase Two of the Lomitas Negras Flood Control Project, moving successfully towards substantial completion.

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,

Michael Obrey
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. SSCAFCA was established in 1990 by New Mexico Statute Section 72-19-1 through 72-19-103



Southern Sandoval County Arroyo Flood Control Authority

Flood Control Today - for a Safe Tomorrow



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THE MISSION OF SSSCAFCA 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 SSSCAFCA's

Jurisdiction:

Natural Arroyo Systems

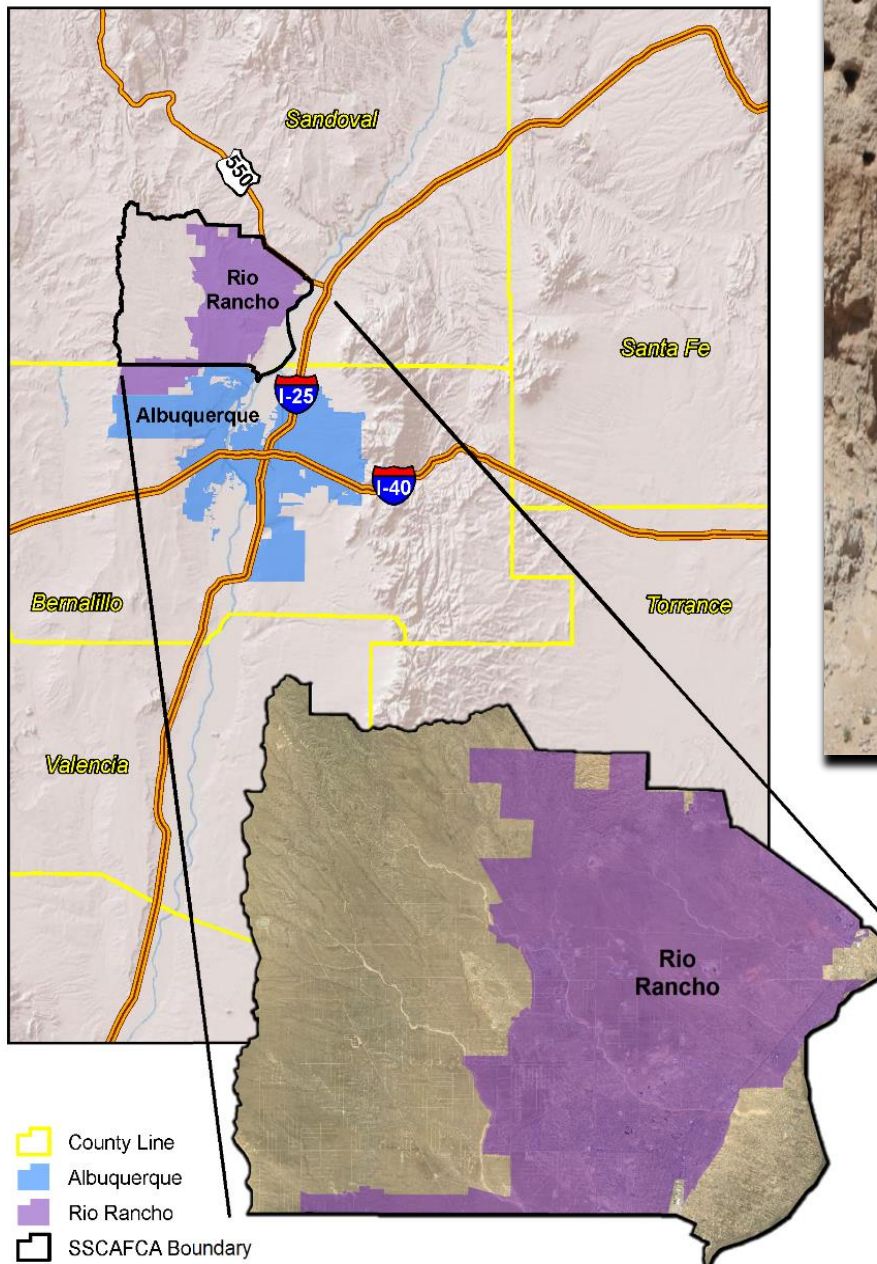
- Increased sediment and erosion
- Lateral channel movement
- Slower moving stormwater
- Improved Wildlife Habitat and corridors
- Opportunity for Multi-use facilities



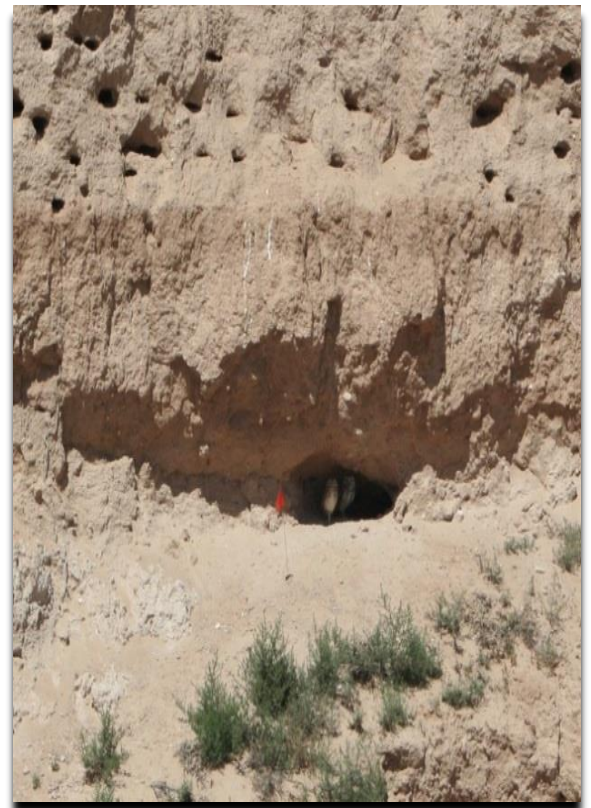


Southern Sandoval County Arroyo Flood Control Authority

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 SSSCAFCA'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.



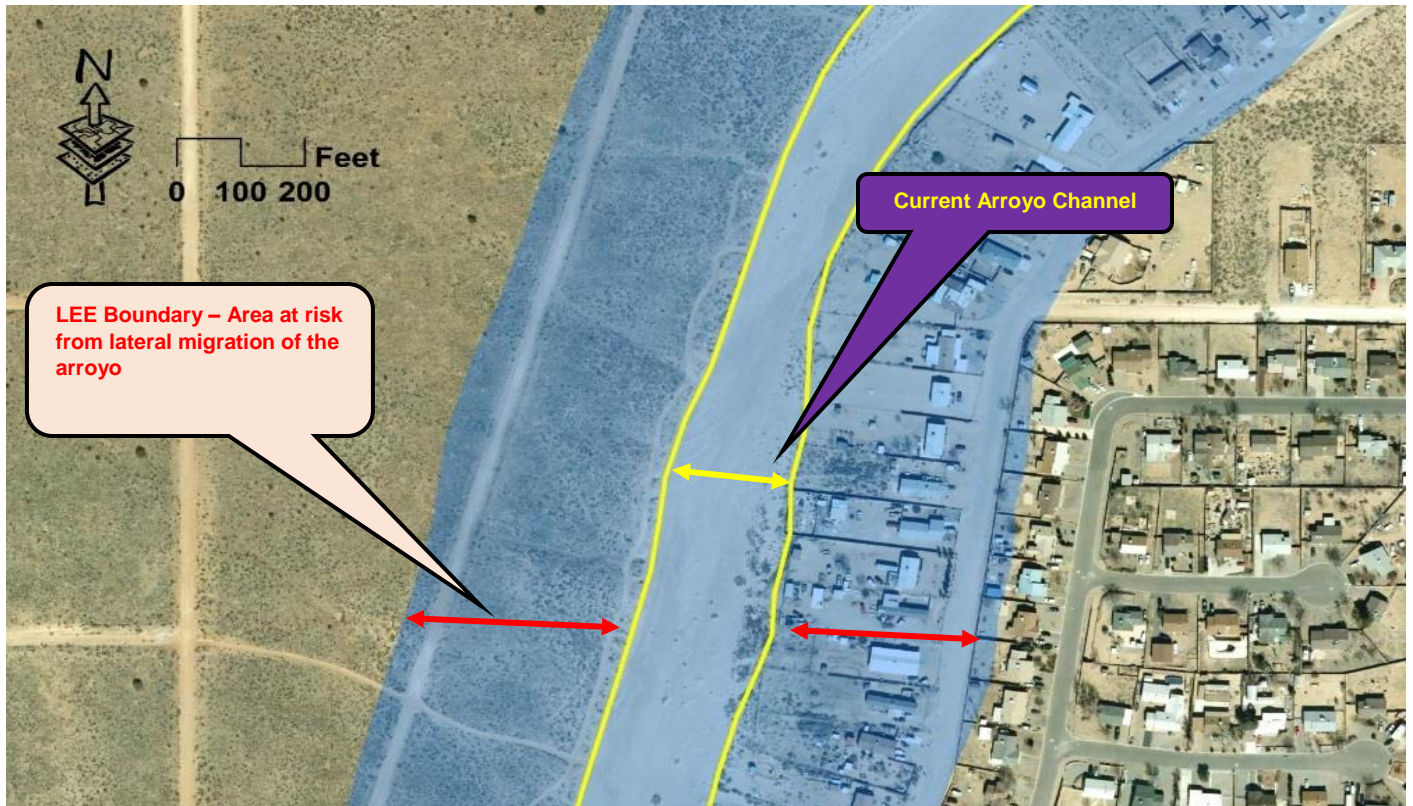
SSCAFCA Location Map





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.scafca.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:

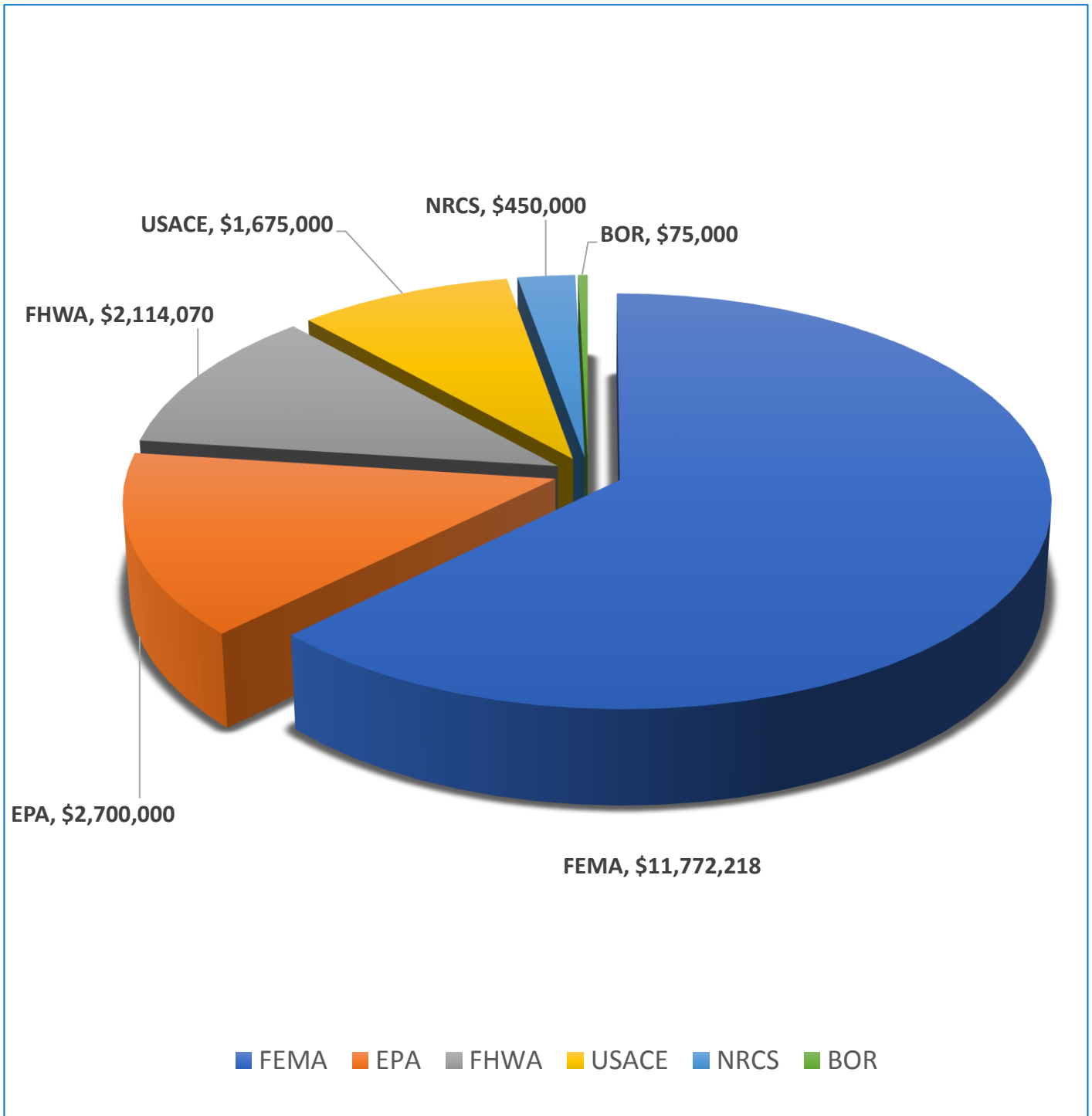
1. **Be Prepared.** Before we seek funding to complete a project, SCAFCA completes a detailed plan of the project, sometimes including a full design. This includes completing a cost-benefit analysis to verify that the benefit provided by the project will exceed the cost of development.
2. **Engage our 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 SCAFCA to take a project from grant award to completion is only 23.0 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 SCAFCA 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 SCAFCA that these partnerships with federal agencies continue.



Federal Fund Portfolio (2012 – 2020)*

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



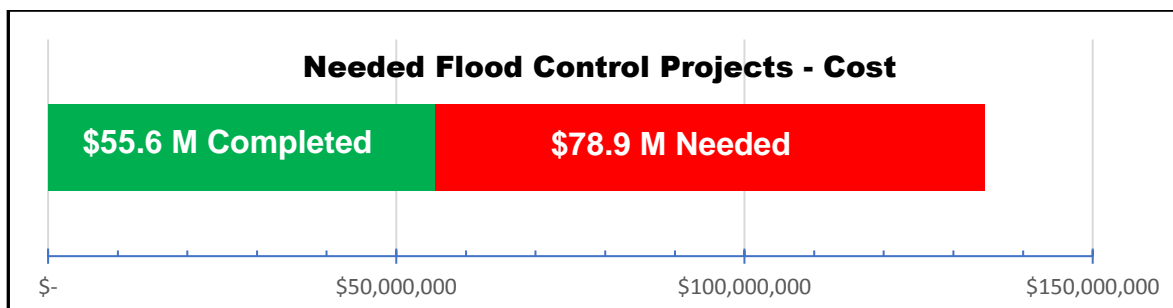
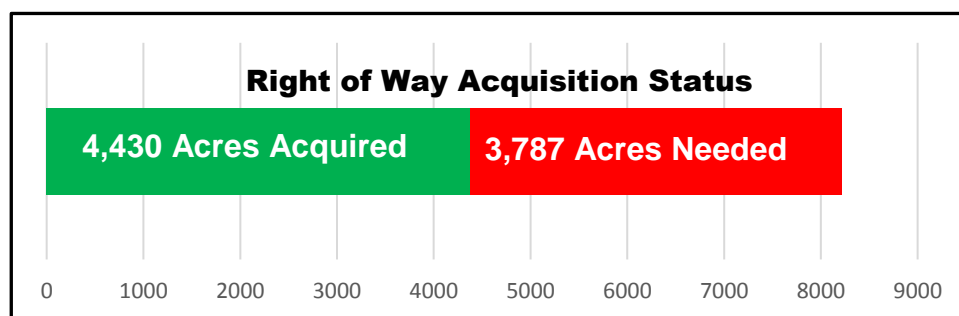


Future Projects

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 and 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	N/A	ACTIVE
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
Upper Bosque de Bernalillo	FEMA Pre-Disaster Mitigation	\$395,605	\$527,473	11/12/2019	N/A	DESIGN
Lower Montoyas Bank Stabilization	FEMA Hazard Mitigation Grant	\$3,238,691	\$4,318,254	Pending	N/A	PENDING
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
Lomitas Negras Phase II Project

Photo# 1 - Lomitas Negras Pre-Construction 2016



Project Cost: \$5,371,841.80

Photo# 2 - Lomitas Negras Post-Construction 2020





Southern Sandoval County Arroyo Flood Control Authority

Lomas Negras Phase II Project

Photo# 1 - Lomas Negras Pre-Construction 2016



*Project Removed the
Enchanted Hills Elementary
School from the Floodplain*

Photo# 2 - Lomas Negras Post-Construction 2020



Southern Sandoval County Arroyo Flood Control Authority

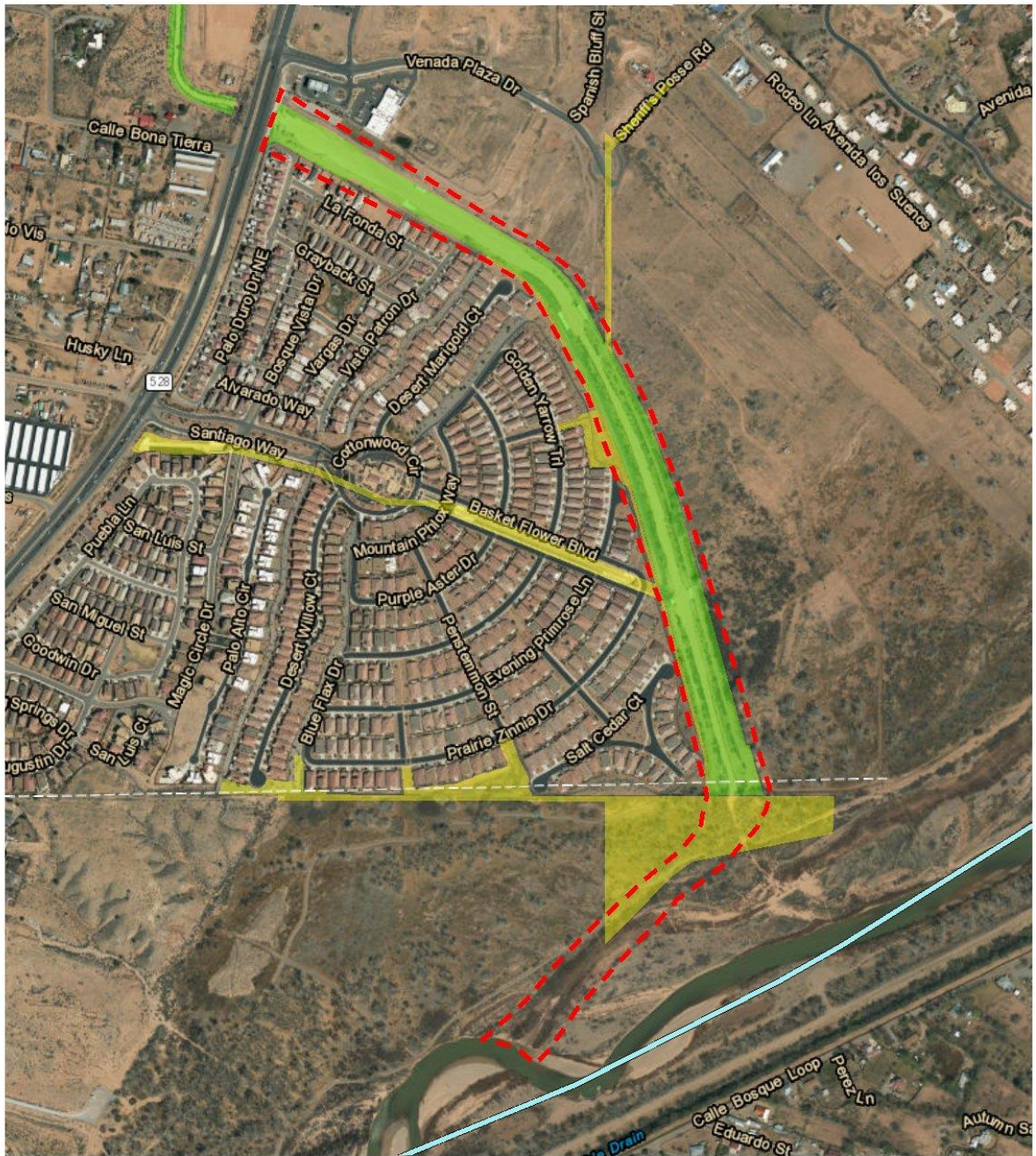
Future Needs

Project Name	Description	Estimated Project Cost
Lower Venada Bank Stabilization	Construct bank and levee protection to protect over 1,000 existing and future homes from flooding and damage from erosion	\$4,475,000
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
Middle Venada 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
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

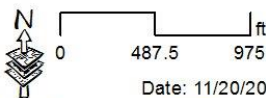


Lower Venada Bank Stabilization Project

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



Lower Venada Bank Stabilization Project

SSCAFCA is proposing to realign the vertical grade of the arroyo to prevent ongoing deposition of sediment with the channel, which will be secured with grade control structures along the entire length. The project will also include the construction of hardened bank protection to eliminate erosion that threatens adjacent housing.

Total Cost: \$4,475,000

Objective:

To improve the Lower Venada Channel to protect over 1,000 existing and future homes from damage caused by flooding and bank erosion, inundating properties or undercutting home foundations.



Description:

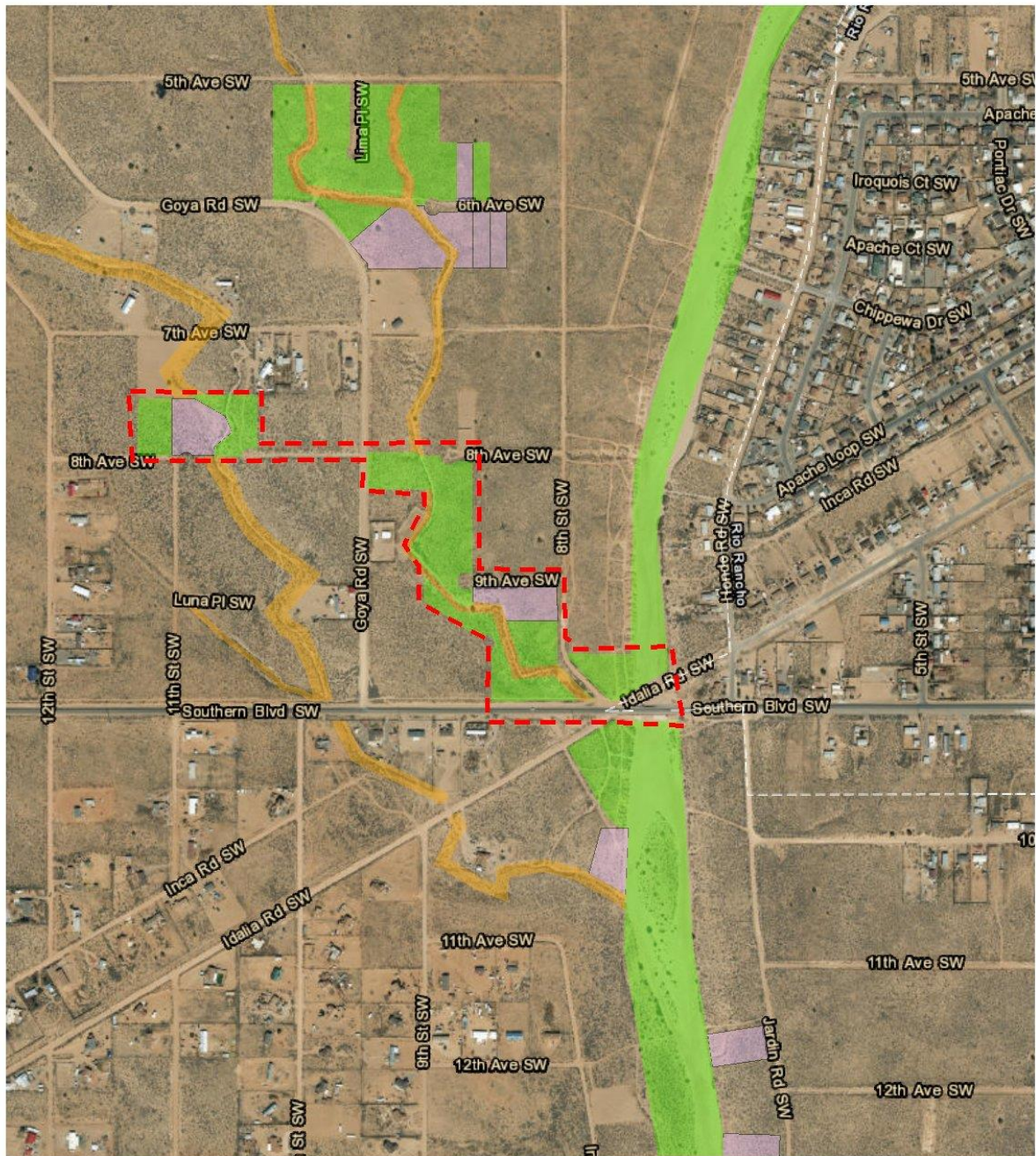
The Lower Venada Channel drains the entire Venada Watershed, an area over 16 square miles that can generate flows exceeding 3,150 cubic feet per second in the 100-year storm event. Flows in the Venada Channel ultimately discharge to the Rio Grande. The portion of the channel located downstream of State Highway 528 is unlined and undersized due to aggradation of sediment within the channel.

SSCAFCA is proposing to realign the vertical grade of the arroyo to prevent ongoing deposition of sediment with the channel, which will be secured with grade control structures along the entire length. The project will also include the construction of hardened bank protection to eliminate erosion that threatens adjacent housing.



Thermopylae Diversion Drainage Project

Project Site Map



1 inch = 800 feet








0 487.5 975 ft

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.

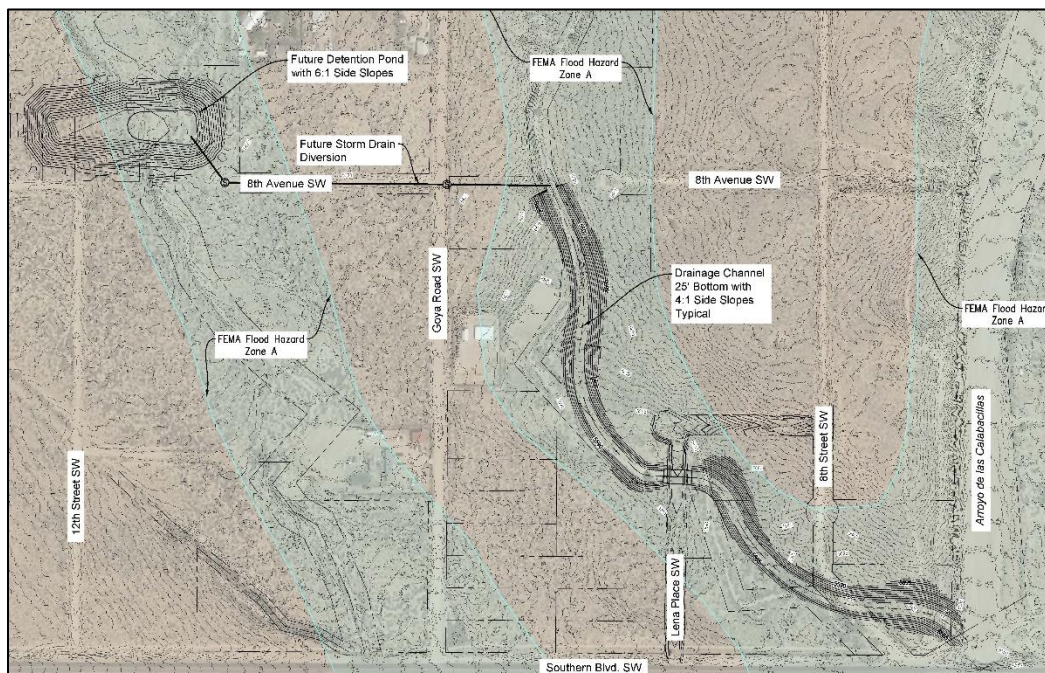
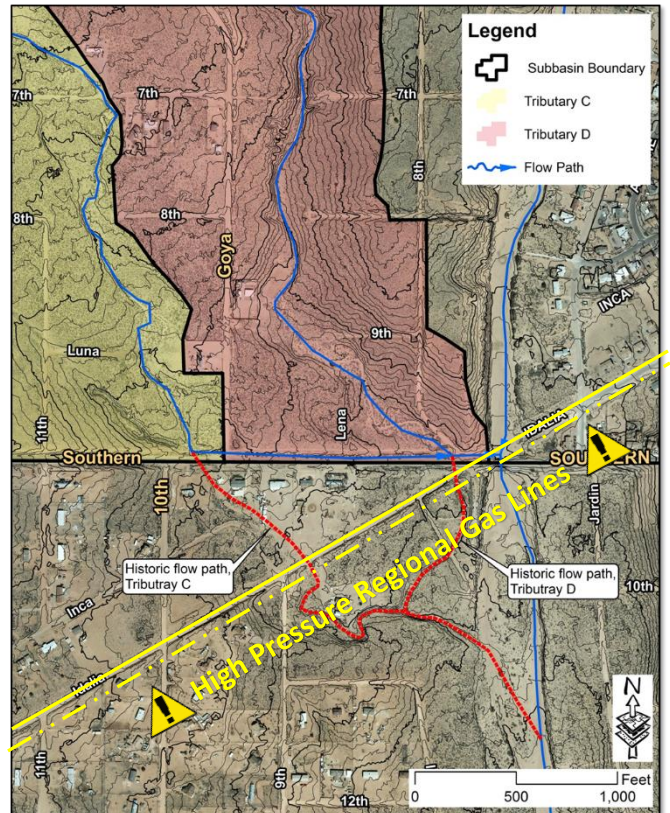
Total Cost: \$2,200,000

Objective:

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

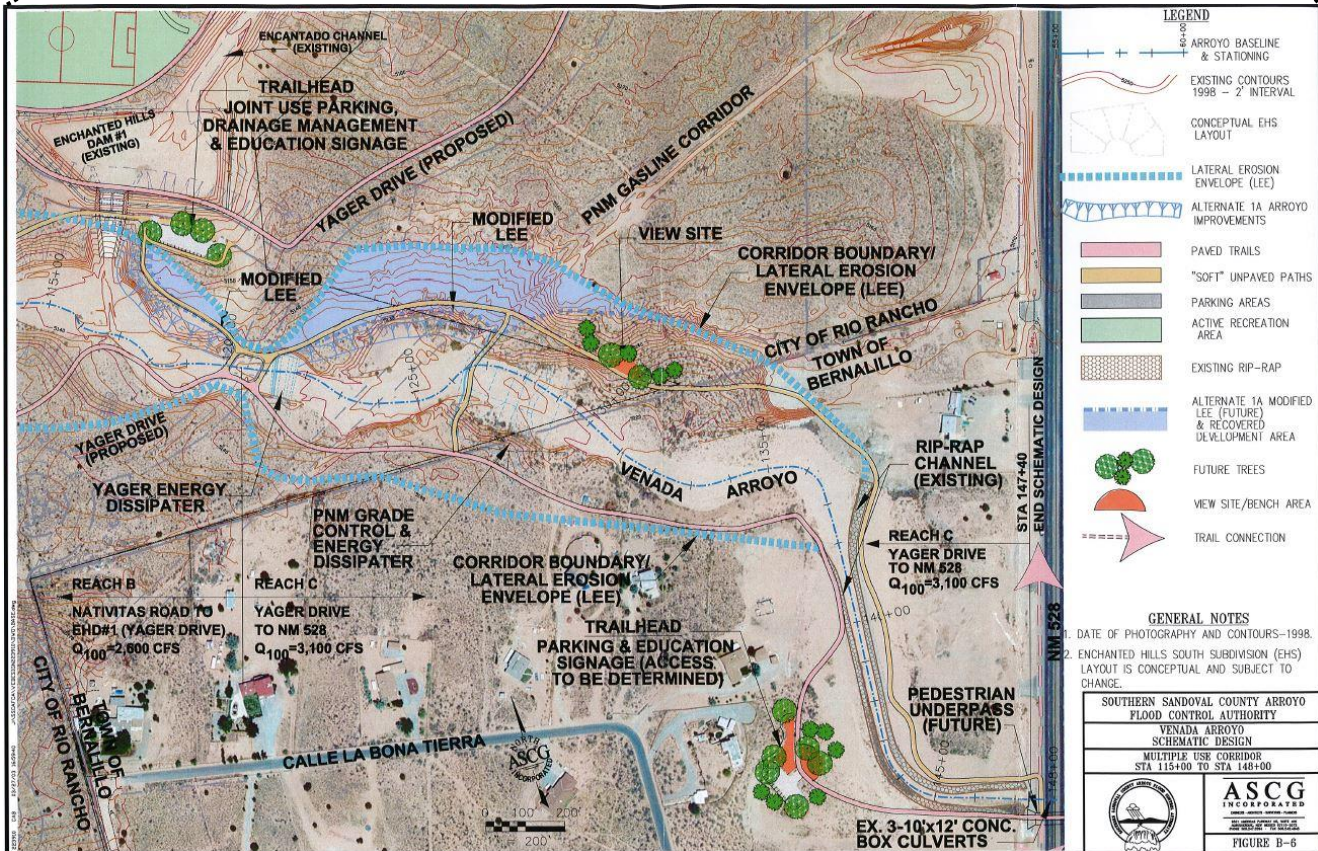
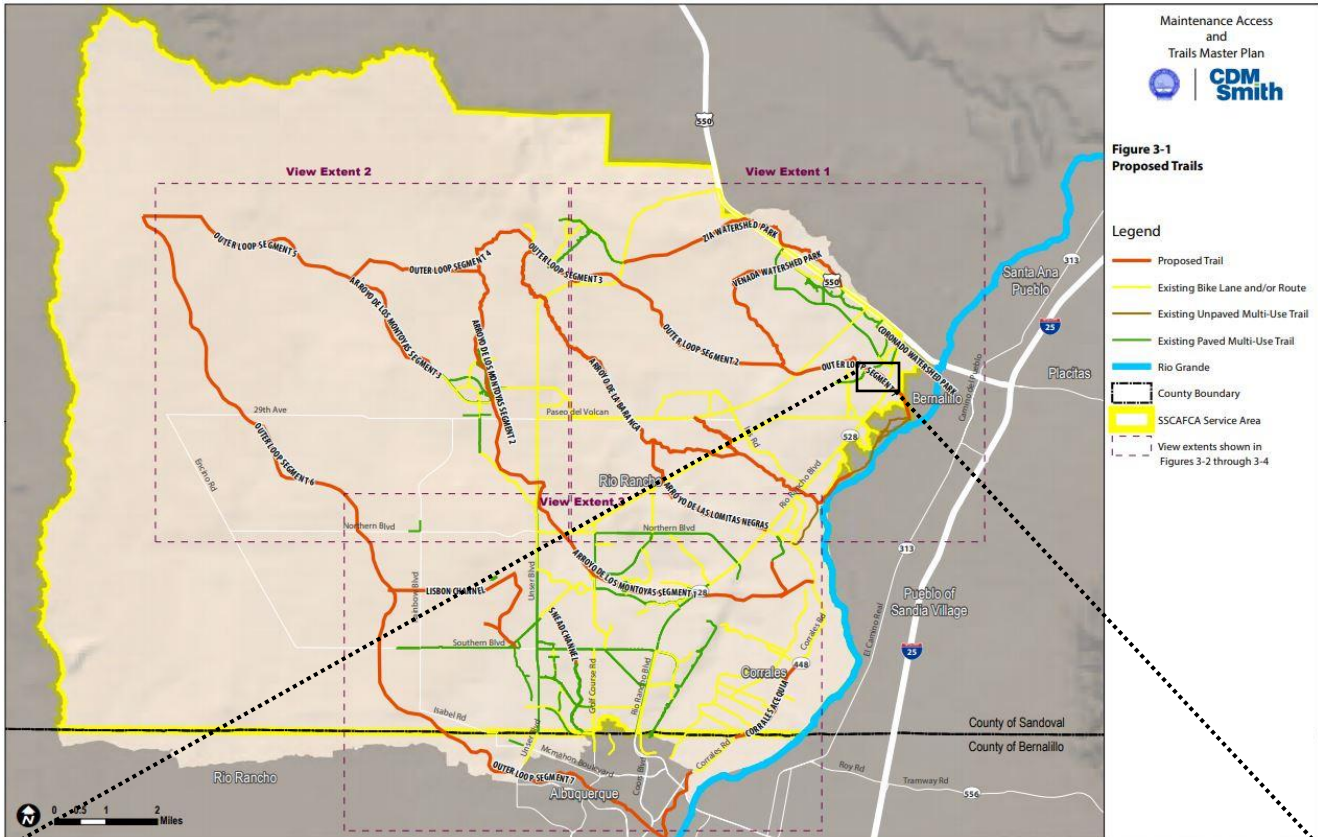
Description:

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) that serve all of northern New Mexico, block the preferred flow-path both horizontally and vertically due to the depth of their construction.





Arroyo Access and Trails System





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 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)**

RESOLUTION 2020-05

BOARD OF DIRECTORS

John Chaney
Mark Conkling
James F. Fahey Jr.
Steven M. House
Michael Obrey

EXECUTIVE ENGINEER

Charles Thomas, P.E.

**A RESOLUTION OF SUPPORT FOR LEGISLATIVE PRIORITIES FOR THE 2020
LEGISLATIVE SESSION CAPITAL FUNDING PRIORITIES FOR FEDERAL PROGRAMS
IN FISCAL YEAR 20 (FFY 20) AND FISCAL YEAR 21 (FFY 21)**

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 2019-13 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 supports prudent and timely planning for resilient flood mitigation that advances preservation of natural systems and seeks partners and support for watershed planning efforts in the Middle Rio Grande Valley from the United States Army Corps of Engineers (USACE),

the Natural Resource Conservation Service (NRCS) and the Federal Emergency Management Agency (FEMA).

4. 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 well-being of our residents.
5. SSCAFCA is seeking funding support from Section 4008 in the Water Resources Reform and Development Act of 2014 (P.L 113-121) (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.
6. 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.
7. 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.

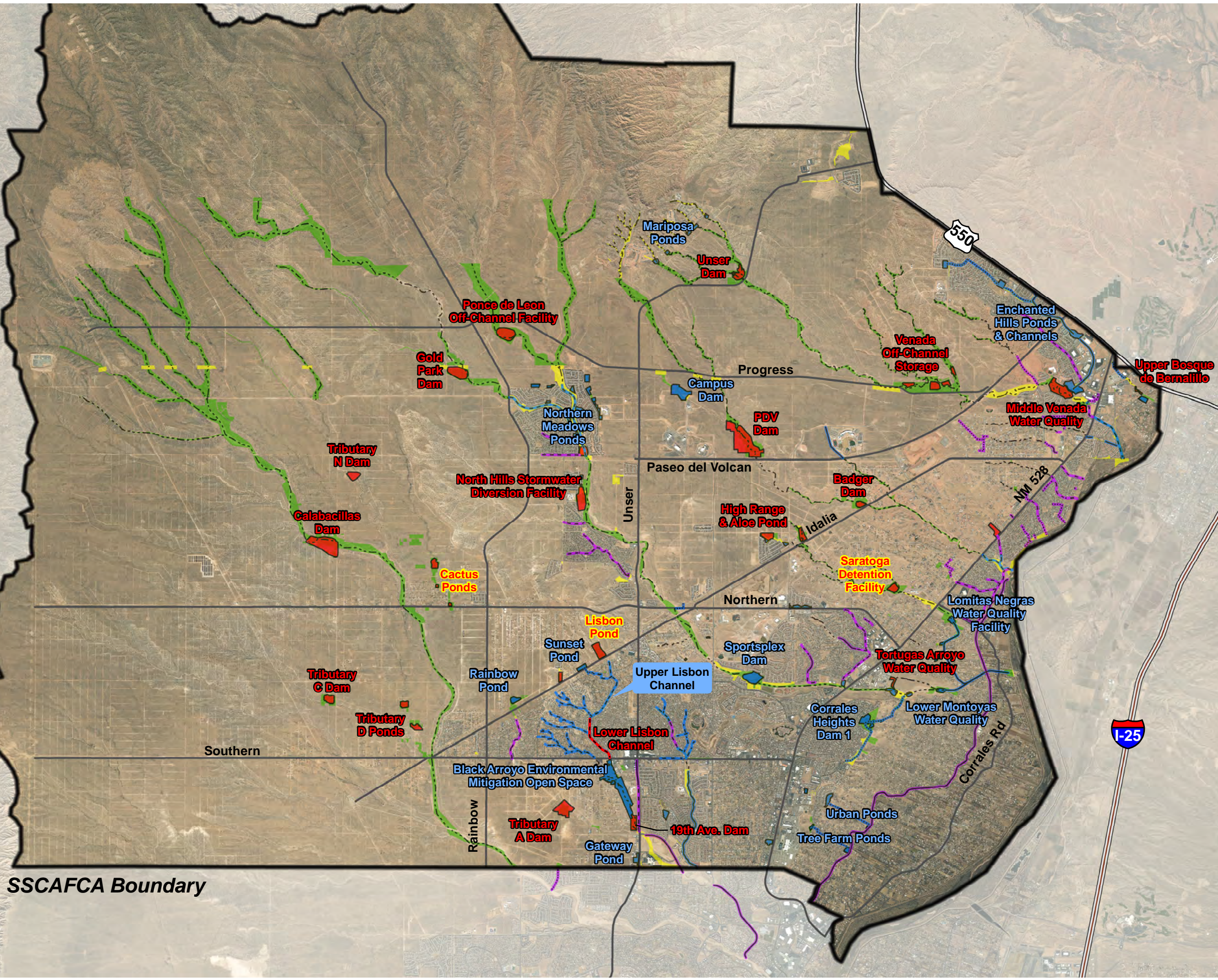
PASSED, ADOPTED AND SIGNED by the Board of Directors of SSCAFCA this 20th day of February, 2020.

**SOUTHERN SANDOVAL COUNTY ARROYO
FLOOD CONTROL AUTHORITY**



By: 
MICHAEL OBREY
Chairman, Board of Directors


ATTEST:


STEVEN M. HOUSE
Secretary





Drainage ROW



-  SSCAFCA Fee Simple
-  SSCAFCA Easement

 Arroyo



Hardened Channel

-  Other
-  SSCAFCA

Soft Channel

-  Other
-  SSCAFCA

Stormdrain

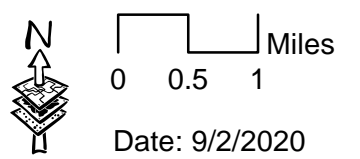
-  Other
-  SSCAFCA

Pond/Dam

-  SSCAFCA, existing
-  SSCAFCA, proposed

 Completed in 2019

 Project in progress



SSCAFCA Boundary



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



Lomitas Negras Pre-Construction 2016