### NOTICE OF OPEN MEETING OF THE SAN ANTONIO REGIONAL FLOOD PLANNING GROUP

Region 12 02/21/2023 3:00 PM

TAKE NOTICE that a meeting of the San Antonio Regional Flood Planning Group as established by the Texas Water Development Board will be held on Tuesday, February 21, 2023, at 3:00 PM, in-person at the San Antonio River Authority, located at 100 E. Guenther St and virtually at https://meet.goto.com/762659381.

### Agenda:

- 1. (3:00 PM) Roll Call
- 2. Public Comments limit 3 minutes per person
- 3. Approval of the Minutes from the Previous San Antonio Regional Flood Planning Group Meeting
- 4. Communications from the Texas Water Development Board (TWDB)
- 5. Chair Report
- 6. Subcommittee Updates
- 7. Discussion and Appropriate Action Regarding Filling the Existing Vacancy for the Water Utilities Interest Group
- 8. Election of Officers for the 2023 Executive Committee
- 9. Discussion and Appropriate Action Regarding Technical and Outreach Committee Membership
- 10. Presentation by San Antonio River Authority on Draft Floodplain Maps
- 11. Presentation by Technical Consultants Regarding Tasks 11-13 Schedule and Progress
- 12. Regional Liaison Update
- 13. Public Comments limit 3 minutes per person
- 14. Date and Potential Agenda Items for Next Meeting
- 15.Adjourn

If you wish to provide written comments prior to or after the meeting, please email your comments to khayes@sariverauthority.org or physically mail them to the attention of Kendall Hayes at San Antonio River Authority, 100 E. Guenther, San Antonio, TX, 78204 and include "Region 12 San Antonio Flood Planning Group Meeting" in the subject line of the email.

Additional information may be obtained from: Kendall Hayes, (210) 302-3641, khayes@sariverauthority.org, San Antonio River Authority, 100 E. Guenther, San Antonio, TX 78204.

### AGENDA ITEM NO.3 – APPROVAL OF THE MINUTES FROM THE PREVIOUS SARFPG MEETING

## Meeting Minutes Region 12 San Antonio Regional Flood Planning Group Meeting Monday, December 19, 2022 2:30 PM

### San Antonio River Authority

### **Roll Call:**

Voting Member	Interest Category	Present (x) /Absent () /
		Alternate Present (*)
Brian Yanta	Agricultural interests	X
David Wegmann	Counties	X
Derek Boese	River authorities	X
Doris Cooksey	Electric generating utilities	X
Deborah (Debbie) Reid	Environmental interests	X
Nefi M. Garza	Flood districts	X
Cara C. Tackett	Industries	X
Jeffrey Carroll	Municipalities	X
Robert Reyna	Municipalities	X
John Paul Beasley	Public	X
Suzanne B. Scott	Nonprofit	X
Jose Reyes	Small Business	X
David Mauk	Water districts	*Hayli Hernandez
Steve Clouse	Water utilities	X

Non-voting Member	Agency	<u>Present(x)/Absent()/</u>
		Alternate Present (*)
Marty Kelly	Texas Parks and Wildlife Department	X
James Blount	Texas Division of Emergency Management	X
Jami McCool	Texas Department of Agriculture	X
Jarod Bowen	Texas State Soil and Water Conservation	X
	Board	
Kris Robles	General Land Office	X
Anita Machiavello	Texas Water Development Board (TWDB)	X
Susan Roberts	Texas Commission on Environmental	
	Quality	

### Quorum:

Quorum: Yes

Number of voting members or alternates representing voting members present: **14** Number required for quorum per current voting positions of 14: 8

All meeting materials are available for the public at: <a href="http://www.region12texas.org">http://www.region12texas.org</a>.

### **AGENDA ITEM NO.1: ROLL CALL**

Ms. Kendall Hayes, San Antonio River Authority, called the role and confirmed a quorum.

### AGENDA ITEM NO.2: PUBLIC COMMENT – LIMIT 3 MINUTES PER PERSON

No public comments.

### AGENDA ITEM NO.3: APPROVAL OF THE MINUTES FROM THE PREVIOUS SAN ANTONIO REGIONAL FLOOD PLANNING GROUP MEETING (REGION 12)

Mr. Wegmann motioned to approve the minutes. Ms. Reid seconded the motion, motion passed

### AGENDA ITEM NO.4: COMMUNICATIONS FROM THE TEXAS WATER DEVELOPMENT BOARD (TWDB)

Ms. Anita Machiavello provided an update from TWDB. The deliverable date for the final regional flood plans is January 10<sup>th</sup>, 2023. She reminded the RFPG that, per RFPG Bylaws, a notice needs to be sent 30-days prior to the meeting when annual officer elections will take place.

### **AGENDA ITEM NO.5: CHAIR REPORT**

Chair Boese notified the RFPG that the River Authority will be holding public meetings for the newly developed draft floodplain maps. He then recognized Mr. Clouse for his service to the RFPG and thanked him for his time on the planning group. Planning group members spoke to Mr. Clouse's expertise and leadership in San Antonio.

### AGENDA ITEM NO.6: REVIEW PUBLIC COMMENTS ON THE DRAFT SAN ANTONIO REGIONAL FLOOD PLAN

Mr. Ron Branyon, Technical Consultant, presented on how the received public comments were acknowledged and integrated, when appropriate, into the final flood plan. His presentation is available on the Region 12 website at <a href="region12texas.org">region12texas.org</a>.

### AGENDA ITEM NO.7: DISCUSSION AND APPROPRIATE ACTION TO APPROVE THE FINAL SAN ANTONIO REGIONAL FLOOD PLAN

Mr. Garza motioned to adopt the Final Regional Flood Plan and allow the technical consultants to make appropriate edits as discussed today and any non-substantive changes. Mr. Wegmann seconded the motion, motion passed.

### AGENDA ITEM NO.8: REGIONAL LIAISON UPDATE

Ms. Cooksey stated that Region 11 is meeting on January 4<sup>th</sup> to adopt the final flood plan.

### AGENDA ITEM NO.9: PUBLIC COMMENTS – LIMIT 3 MINUTES PER PERSON

No public comments

### AGENDA ITEM NO.10: DATE AND POTENTIAL AGENDA ITEMS FOR NEXT MEETING

Technical Committee will meet February 09, 2023, at 1:00 PM. The RFPG will meet February 21, 2023, at 3:00 PM.

### **AGENDA ITEM NO.11: ADJOURN**

Ms. Reid motioned to adjourn. Mr. Wegmann seconded the motion, motion passed.

## AGENDA ITEM NO.7 – DISCUSSION AND APPROPRIATE ACTION REGARDING FILLING THE EXISTING VACANCY FOR THE WATER UTILITIES INTEREST GROUP

Nominee: Donovan Burton, SAWS

### SAN ANTONIO REGIONAL FLOOD PLANNING GROUP

**Nomination for Interest Group (check one):** 

X Water Utilities

Pursuant to official Bylaws and Guiding Principles adopted by the San Antonio Regional Flood Planning Group (SARFPG), nominators shall provide information regarding the nominee's current employer, and provide a description of the nominee's experience that qualifies him/her for the position in the interest group being sought to represent. Please refer to section 361.11 (e) (see addendum) of the Texas Administrative Code for the definitions of the interest categories represented on the SARFPG.

### **NOMINATOR**

NAME: Steven M. Clouse

**ADDRESS:** Removed in Public Meeting Materials

PHONE: Removed FAX: NA EMAIL: Removed

OCCUPATION: Senior Vice President/Chief Operating Officer, San Antonio Water

<u>System</u>

### **NOMINEE**

NAME: <u>Donovan S. Burton</u>

ADDRESS: Removed in Public Meeting Materials

PHONE: Removed FAX: NA EMAIL: Removed

**INTEREST AREA: Water Utilities** 

**COUNTY:** Bexar

OCCUPATION: Senior Vice President, Water Resources & Governmental

Relations, San Antonio Water System

## PLEASE GIVE A BRIEF DESCRIPTION OF THE NOMINEE'S EXPERIENCE THAT WOULD QUALIFY HIM/HER FOR THE POSITION (please use additional pages if needed):

Donovan Burton's responsibilities at SAWS include a broad array of water planning and water resources protection and implementation. As a part of these responsibilities, he oversees the programs that administer our duties related to the TPDES MS4 Permit, of which we are a copermittee with the City of San Antonio. In the Industrial Storm Water Program, staff visits over 800 manufacturing locations ranging from small to large sites to oversee the use of Best Management Practices (BMPs) to reduce pollutants in Storm Water runoff. The impervious cover from these sites contribute directly to the water quantity and quality of the flood waters from each facility.

Burton also oversees the programs related to the Edwards Aquifer Recharge Zone Protection. We implement the Aquifer Quality Ordinance which has impervious cover limits restrictions, based on land use, as well as buffer zone requirements around floodplain areas. There are over 1,500 total Permanent Best Management Practices (BMPs) permittees that are regulated as part of the program. Our group also participates heavily in the City development process, including making recommendations in zoning cases regarding impervious cover limits, buffering, and treatment of the stormwater runoff. We also review the State application for developing on the recharge zone which is overseen by the Texas Commission on Environmental Quality.

Donovan's knowledge and experience level coordinating local, state, regional and federal water initiatives has continued for over two decades. His duties at SAWS also include being the primary liaison between State, Federal and Regional governmental and legislative entities, having overseen state and executive initiatives for over 16 years at SAWS. Prior to working at SAWS, Donovan worked for a San Antonio State Representative for 10 years.

Additionally, his work at SAWS focuses on managing and planning for new water sources into the San Antonio region, successfully overseeing several award-winning projects. Donovan's duties also include managing the implementation of a premier recycled water program, providing key flows for various industries, golf courses, businesses, and for flows in the San Antonio River.

Donovan Burton's experience and ongoing duties at SAWS fit well within the scope of the San Antonio Regional Flood Planning Group (Region 12) and he would be a valuable addition to the group.

PLEASE LIST ANY PERTINENT AFFILIATIONS (please use additional pages if needed):

American Water Works Association (also including Texas Section), Region L Planning Group Alternate, San Antonio Chamber of Commerce

DATE SUBMITTED: December 18, 2022

Nominations must be received by **5:00 PM, Sunday, December 18, 2022** addressed to Derek Boese, Chair, San Antonio RFPG, c/o San Antonio River Authority, Attn: Kendall Hayes, 100 East Guenther St., San Antonio, Texas 78204 or email to khayes@sariverauthority.org

### AGENDA ITEM NO.10 – PRESENTATION BY SAN ANTONIO RIVER AUTHORITY ON DRAFT FLOODPLAIN MAPS



# San Antonio River Basin DFIRM 2.0 Update

February 21, 2023

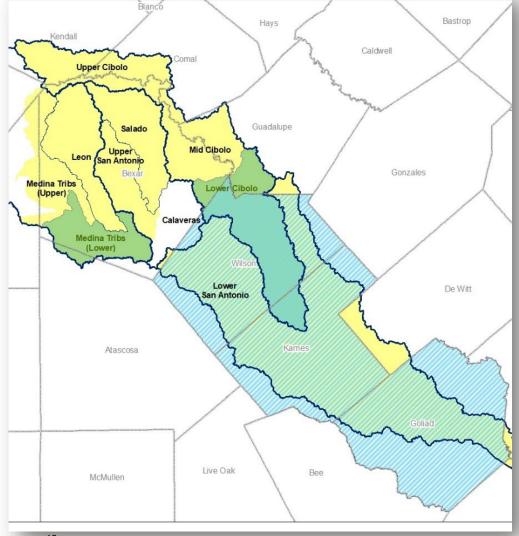


## Status and Schedule



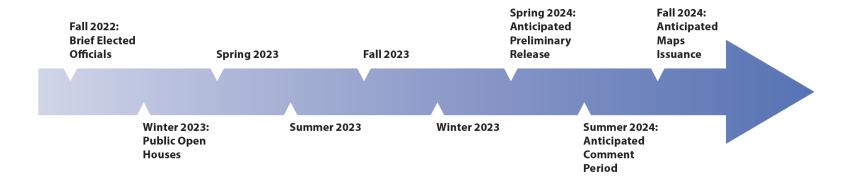
### Floodplain Study Areas

Study Area	Draft Floodplains For Review	
Upper Cibolo		
Mid Cibolo		
Leon, Salado, and Upper San Antonio	Current rollout	
Medina Tribs (Upper)	Current Tollout	
Lower San Antonio (1st set)		
Lower Cibolo		
Medina Tribs (Lower)	End of 2022/Early 2023	
Lower San Antonio (remaining sets)	End of 2023	





## Draft Floodplain Rollout

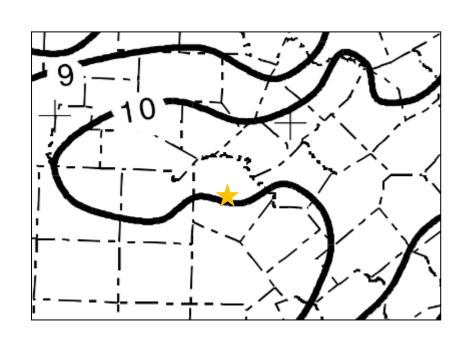


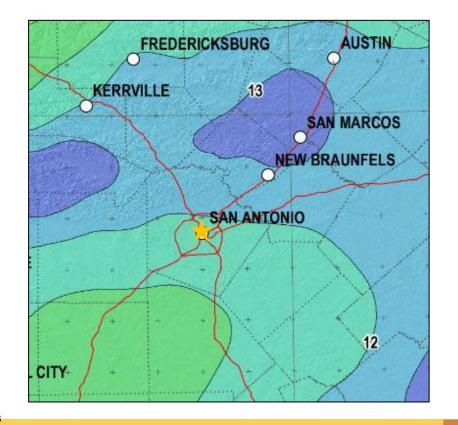


## Data Development



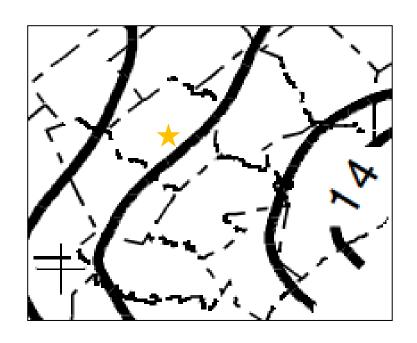
## Atlas 14: Upper Basin

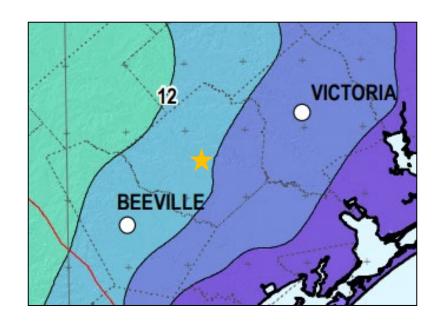






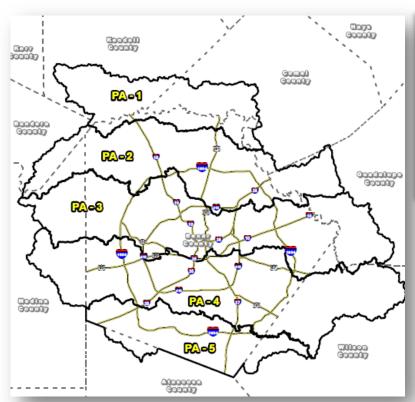
### Atlas 14: Lower Basin







## Rainfall Depths: Bexar County



Precipitation Area	Atlas 14 100-Year Design Depth
PA-1	12.87"
PA-2	12.49"
PA-3	11.97"
PA-4	11.50"
PA-5	11.15"





# Directly Connected Impervious Area

### Determination of Effective Impervious Area in Urban Watersheds

Minnesota Department of Transportation

RESEARCH SERVICES & LIBRARY

Office of Transportation System Management

John S. Gulliver, Principal Investigator
Department of Civil, Environmental and Geo-Engineering
University of Minnesota

July 2015

Research Project Final Report 2015-41





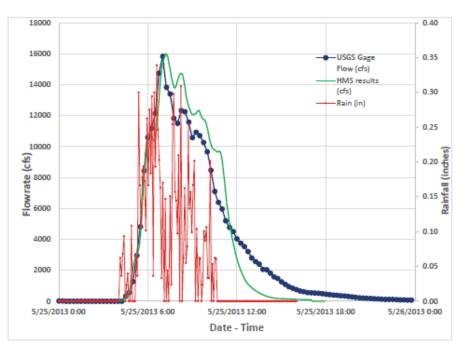
Figure 1.1 The Street is an example of EIA.



Figure 1.2 The sidewalk and roofs are incorporated into TIA, but may not contribute to EIA.



## May 2013 – Upper SA



95000 0.40 90000 85000 0.35 80000 HECHMS flows (cfs) 75000 USGS Gage 0.30 70000 Flow (cfs) Rain (in/hr) 65000 60000 0.25 55000 50000 45000 40000 35000 30000 25000 0.10 20000 15000 0.05 10000 5000 5/25/2013 12:00 5/25/2013 0:00 5/25/2013 6:00 5/25/2013 18:00 5/26/2013 0:00 Date - Time

Figure 38: May 2013 Storm HMS Junction Discharge (cfs) vs. USGS Gage Discharge (cfs) for Olmos Ck at Dresden, TX gage (J-OLM-016)

Figure 40: May 2013 Storm HMS Junction Discharge (cfs) vs. USGS Gage Discharge (cfs) for San Antonio River at Loop 410 Gage (J-SAR-020)

AECOM/Halff, Upper San Antonio River Watershed - Hydrologic Report, November 2021

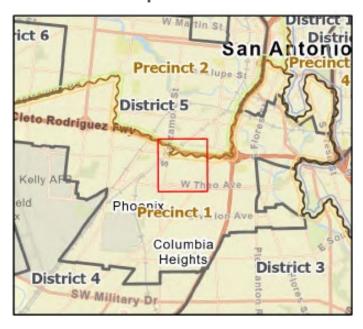


## Summary of Results



### Key Area of Increase #1

Concepcion Creek







# Key Area of Increase #2 Slick Ranch Creek







## Outreach and Information



## Open Houses 6 pm – 7:30 pm

**River Authority Offices Wed, Feb. 22** 

D.R. Semmes Family YMCA at TriPoint Thurs, Feb. 23

San Antonio Food Bank, Valero Community Engagement Center Tues, Feb. 28

St. Mary's University, University Center - Conference Room B Tues, March 7

Hardberger Park Urban Ecology Center Tues, March 14

**Normoyle Senior Center Tues, March 21** 

**Mission Library Tues, March 28** 

Ella Austin Community Center, in Senior Center Tues, April 4 (rescheduled)



## Draft Floodplains Online

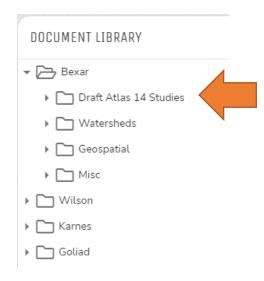
www.sariverauthority.org/ draft-floodplain-viewer

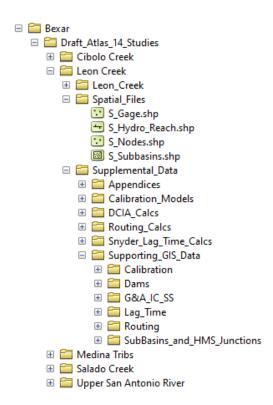




## How to Download Hydrology from D2MR

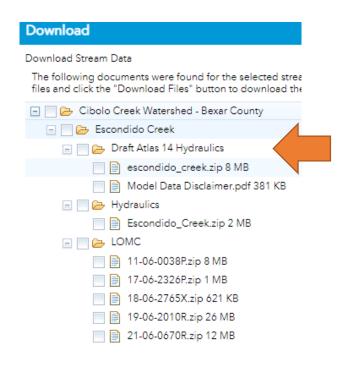
https://d2mr.sara-tx.org/







## Hydraulics on D2MR



- "Draft Atlas 14 Hydraulics"
- Simulation
- Hydraulic Notebook



## Thank you

Erin Cavazos

ecavazos@sariverauthority.org



### AGENDA ITEM NO.11 – PRESENTATION BY TECHNICAL CONSULTANTS REGARDING TASKS 11-13 SCHEDULE AND PROGRESS

# Task 11 Outreach and Data Collection to Support Task 1-9

### **Task Objective**

 Conduct outreach, collect data, and perform technical requirements in support of Tasks
 1-9 and submission of the Final Plan on January 10, 2023

### Amended Flood Plan Schedule

Complete

### Task 12 FME and FMP Evaluation

### **Task Objective**

- Update the list of FMEs and FMPs as approved in the October 22, 2022, RFPG Meeting
  - Convert FMEs into FMPs (Approximately 40)
  - Incorporate additional FMPs if all information is provided by stakeholders
  - Update Task 4B and 5 deliverables (maps, tables, GIS Data, etc.)

### Amended Flood Plan Schedule

- Target Completion May RFPG Meeting
- Monthly Technical Committee meetings to review progress

# Task 13 Preparation and Adoption of the Amended RFP

### **Task Objective**

- Update the final plan per TWDB requirements
  - Details forthcoming

### Amended Flood Plan Schedule

- Target Completion June RFPG Meeting
- Submission Deadline July 14, 2023

## Task 12 Methodologies

- Methodologies will be compiled into a Memorandum that will be submitted with the Amended Flood Plan
- Topics will include:
  - H&H Analysis
  - Cost Updates
  - Benefit Cost Analysis
  - Impact Analysis



### 2023 San Antonio Regional Flood Plan Project Summary Sheet

Updated: 2/16/2023

Page 1 of 1

**Project Name:** Damage Center 1: Project 1A, B, C

FMP ID: 12XXXXXX

Project Sponsor: Floresville

**Project Source:** 2012 Wilson County Watershed Master Plan

Cost Information

### Benefit Cost Analysis (BCA)

Category	Cost*
Design	\$1,082,552
Real Estate	\$287,334
Environmental	\$10,000
Construction	\$2,928,368
Total Cost**	\$4,309,000

		,		
<b>Event Damages</b>	Baseline		Project	
10-year storm	\$	1,374,634	\$	948,149
50-year storm	\$	2,398,549	\$	1,672,657
100-year storm	\$	2,829,526	\$	2,083,814
Total Benifits	\$	781,844		
BCA	0.1			

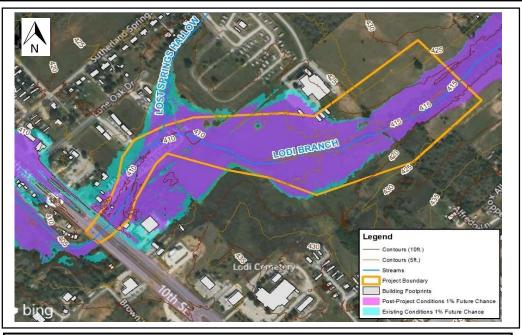
<sup>\*</sup>Costs Adjusted from 2012 to 2020 using CCI

### Impact Analysis

Post-Project Total	Storm Event			
Removed	10-year	50-year	100-year	
Residential	4	6	6	
Commercial	5	3	4	
Critical	-	-	1	
Road (miles)	-	1	1	
Others Note	N/A	N/A	N/A	
SVI Score	-	-		

### Task 12 Work

Model Cost Impact Analy	
	sis BCA
No Yes Yes	Yes



### **Project Description:**

Detention pond, channel improvements, and additional culverts are required to reduce the downstream flooding, aid in removing the majority of the existing structures from the FEMA floodplain and convey the 100-year flow. The proposed detention pond will be located along Lodi Branch north of Haddox Alley and store approximately 60-acres-ft. The proposed channel improvements run along Lodi Branch, from the confluence with Lost Springs Hallow to US Highway 181. The proposed channel will be 1,200 feet long with a bottom width of 100 feet. Currently there are nine 4-foot by 7-foot culverts under Highway 181, this project proposes to add three additional 4-foot by 7-foot.

<sup>\*\*</sup>Rounded up to the nearest thousand

Project Name: Damage Center 1: Project 1A, B, C

FMP ID: 12XXXXX

**Project Sponsor:** City of Floresville

Date: 2/9/2023

### **BACKGROUND INFORMATION:**

As part of the amended 2023 San Antonio Regional Flood Plan (the Plan), Task 12 expands on previously identified FMXs from the Plan dated January 10<sup>th</sup>, 2023. The Damage Center 1: Project 1A, 1B, 1C, FME ID 121000150, from the 2012 Wilson County Watershed Master Plan was further developed during Task 12. The sponsor for this project is the City of Floresville.

The problem area is located along Lodi Branch, where it confluences with Lost Springs Hallow just upstream of US Highway 181. Currently there is a backwater effect on Lodi Branch from Lost Springs Hallow flooding the surrounding structures. The backwater effect is in part due to conveyance issues under US Highway 181 from the existing nine 4-foot by 7-foot culverts. The limited conveyance results in US Highway 181 overtopping during the 100-year storm.

The Task 12 work that was completed for the Damage Center 1 project was an update to the cost estimate, impact analysis, and a Benefit Cost Analysis (BCA).

### PROPOSED PROJECT SCOPE

Detention pond, channel improvements, and additional culverts are required to reduce the downstream flooding, aid in removing the majority of the existing structures from the FEMA floodplain and convey the 100-year flow. The proposed detention pond will be located along Lodi Branch north of Haddox Alley and store approximately 60-acres-ft. The proposed channel improvements run along Lodi Branch, from the confluence with Lost Springs Hallow to US Highway 181. The proposed channel will be 1,200 feet long with a bottom width of 100 feet. Currently there are nine 4-foot by 7-foot culverts under Highway 181, this project proposes to add three additional 4-foot by 7-foot. The proposed improvements will reduce flooding issues and improve access to businesses and neighborhoods in the area.

### PROPOSED PROJECT SCOPING COST

Refer to the Amended Flood Plan Technical Memo for documented assumptions and methodologies on project costs.

The estimated the project construction cost was \$2,274,293 in the 2012 Wilson County Watershed Master Plan. A Construction Cost Index (CCI) factor of 1.25 was applied to convert the costs from 2012 to 2020 dollars. These costs were combined with additional project costs (Design, Permitting, Project Management, etc.) resulting in a project cost of \$4,495,393. See attached Floresville Cost Summary for cost breakdown. There are underground utilities that require adjustments, this may increase depending upon any additional adjustments required. At this time, funding for the project has not been identified or approved.

### **PROPOSED PROJECT BENEFITS**

This project will eliminate overtopping at US Highway 181 and improve the level of service by providing a 100-year conveyance design. The detention and channelization will improve the flooding in the surrounding community and remove structures from the FEMA floodplain.

Project Name: Damage Center 1: Project 1A, B, C

FMP ID: 12XXXXX

**Project Sponsor:** City of Floresville

Date: 2/9/2023

Refer to the Amended Flood Plan Technical Memo for documented assumptions and methodologies on benefit cost analysis.

The 100-year benefits that were evaluated for this project include; residential buildings and commercial buildings. The resulting benefit cost analysis was 0.1. The Table 1 below summarizes the components calculated in the TWDB BCA Tool.

**Table 1: TWDB BCA Toolkit** 

Input Into BCA Toolkit		
Project Useful Life	30	
Event Damages	Baseline	Project
10 - year storm	\$1,374,634	\$948,149
50 - year storm	\$2,398,549	\$1,672,657
100 - year storm	\$2,829,526	\$2,083,814
Total Benefits from BCA Toolkit	\$781,844	
Other Benefits (Not Recreation)	\$0	
Recreation Benefits	-	
Total Costs	\$5,278,710	
Net Benefits	-\$4,496,866	
Net Benefits with Recreation	-\$4,496,866	
Final BCR	0.1	
Final BCR with Recreation	0.1	

### **IMPACT ANALYSIS**

Refer to the Amended Flood Plan Technical Memo for documented assumptions and methodologies on impact analysis.

Existing and proposed conditions were analyzed for impact, the impacts that were evaluated were the water surface elevations (wse), velocities, and flooded buildings. The wse and velocities were compared in the HEC-RAS v4.1 model, see attached digital submittal for Table 1: HEC-RAS Existing vs Proposed Results Comparison Summary - the proposed conditions showed reduced levels with both components. From the RAS

Project Name: Damage Center 1: Project 1A, B, C

FMP ID: 12XXXXX

**Project Sponsor:** City of Floresville

Date: 2/9/2023

results, the total inundated boundary was reduced in proposed conditions, see Exhibits 1-3 for existing, proposed, and a comparison of flooded areas. Flooded building depths were evaluated in the BCA, reduced impacts show lower flooded depths in proposed conditions. The following table summarizes the total amount of impacted residential and commercial structures in each storm;

**Table 2: Total Impacted Structures per Storm Frequency** 

Storm (Year)	Existing	Proposed	Difference
100	38	28	-10
50	33	24	-9
10	23	14	-9

(See full list of impacted buildings, in the attached BCA results as well as Table 2: BCA Flooded Depth Structure Comparison)

### **PROJECT RISKS**

### ROW/Real Estate Acquisition:

Yes, land acquisition is required.

### **Utilities Coordination:**

Yes, there is possible utility conflict running underground along US Highway 181. The proposed culverts would cause them to relocate.

### Permitting/Environmental:

Yes, a USACE 404 permit and a TxDOT ROW Permit will be required.

### Stakeholder coordination:

Due to the land acquisition, road improvement, and utility relocation, there will be various stakeholders involved in the process.

### **MITIGATION OF RISKS**

### ROW/Real Estate Acquisition:

Land will need to be acquired to build the detention pond, potential increase in cost could acquire depending on the admin costs.

### **Utility Coordination:**

The utility coordinator will need to closely work with the affected utility companies to ensure timely completion of the proposed project. The project manager and contractor should minimize, as much as feasible, the amount of disruption of services and travel.

### Permitting/Environmental:

Project Name: Damage Center 1: Project 1A, B, C

FMP ID: 12XXXXX

**Project Sponsor:** City of Floresville

Date: 2/9/2023

Coordination and permitting process should be started early on with USACE and TxDOT acquisitions to avoid schedule delays.

### Stakeholder Coordination:

US Highway 181 is the main access for several commercial properties. Road reconstruction will cause traffic disruptions and inconveniences for businesses due to limited alternative access points. Public meetings and flyers will help communicate construction impacts to affected businesses of any service interruption or inconvenience. The businesses near the project limits should be notified several weeks before the construction start date. Construction phasing and traffic control will be an important design component for this project.

### **NATURE BASED SOLUTION CONSIDERATION**

During the design phase, nature-based solutions could be considered for this project. The cost estimate for landscaping was increased to 10% to allow for potential water quality components. This project could also incorporate natural channel components and possible floodplain buffers. Additionally, the space used for the proposed detention pond could include a park as a recreational benefit.

### INTERRELATED PROJECTS

Originally in the 2012 Wilson County Watershed Master Plan the different components of this project were split (1A Detention, 1B Culvert Improvement, and 1C Channelization). However, in order to have the most benefit, it is recommended to construct these components together.

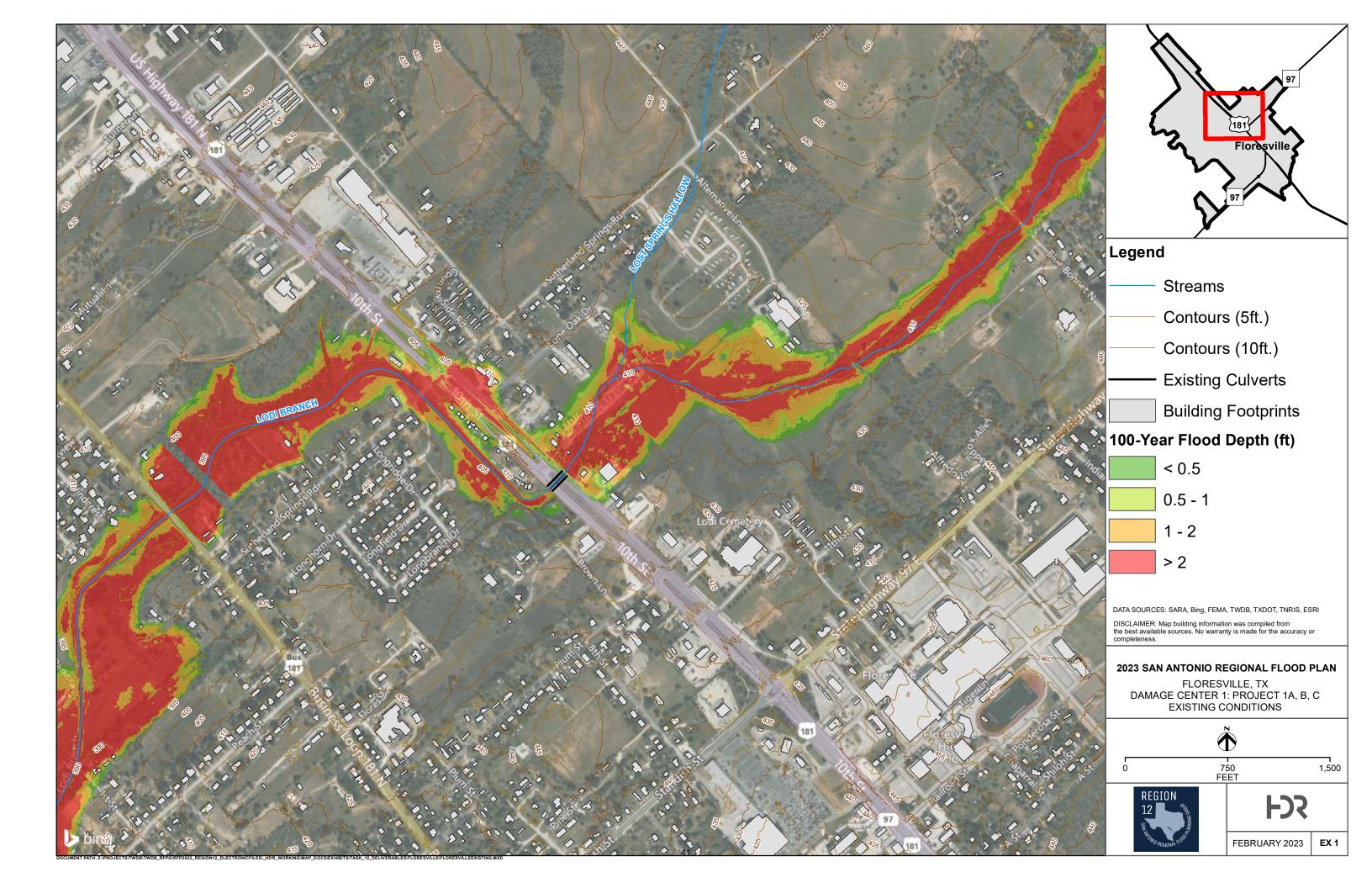
\$1,379,886.45

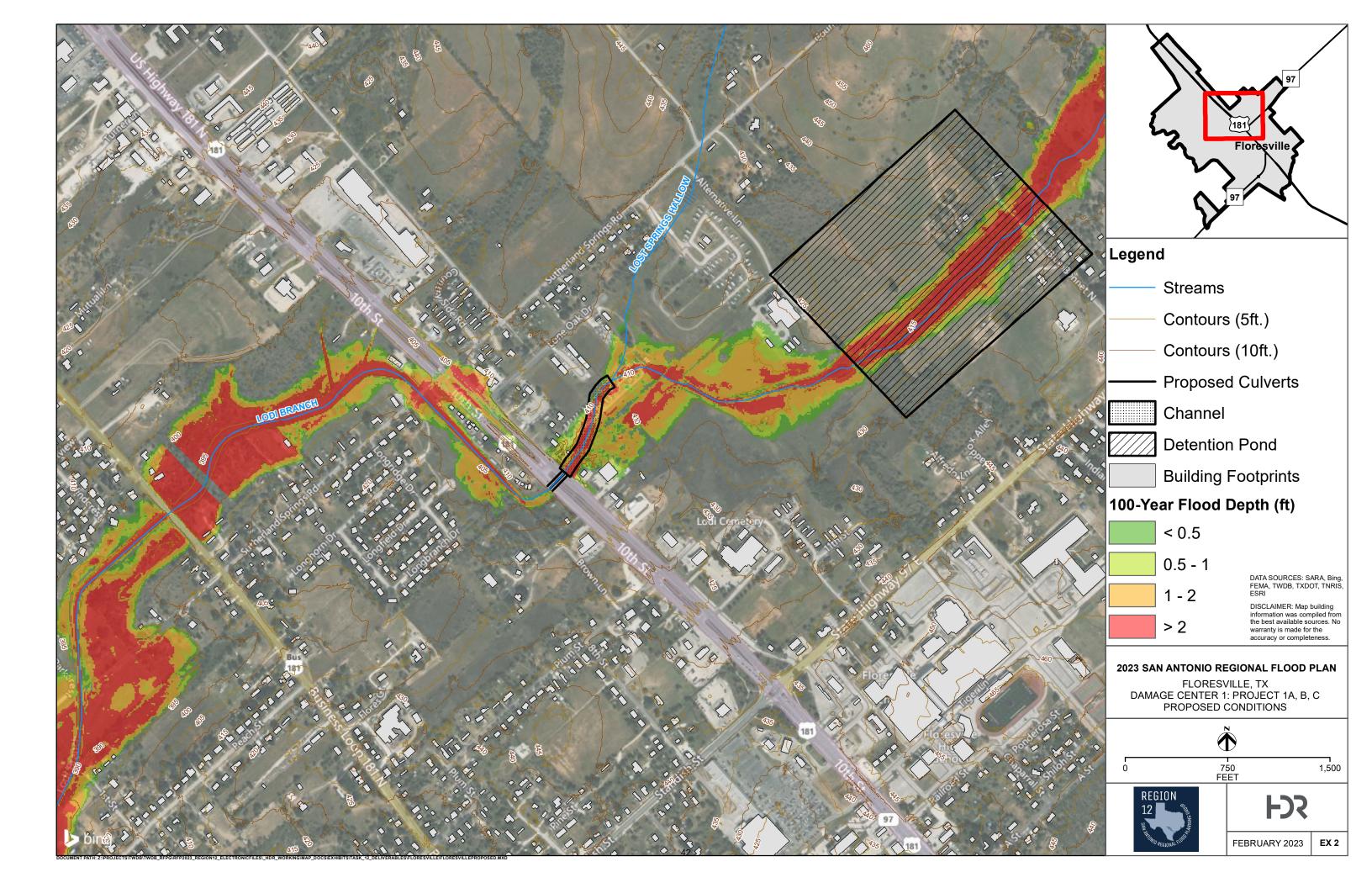
\$2,928,367.71

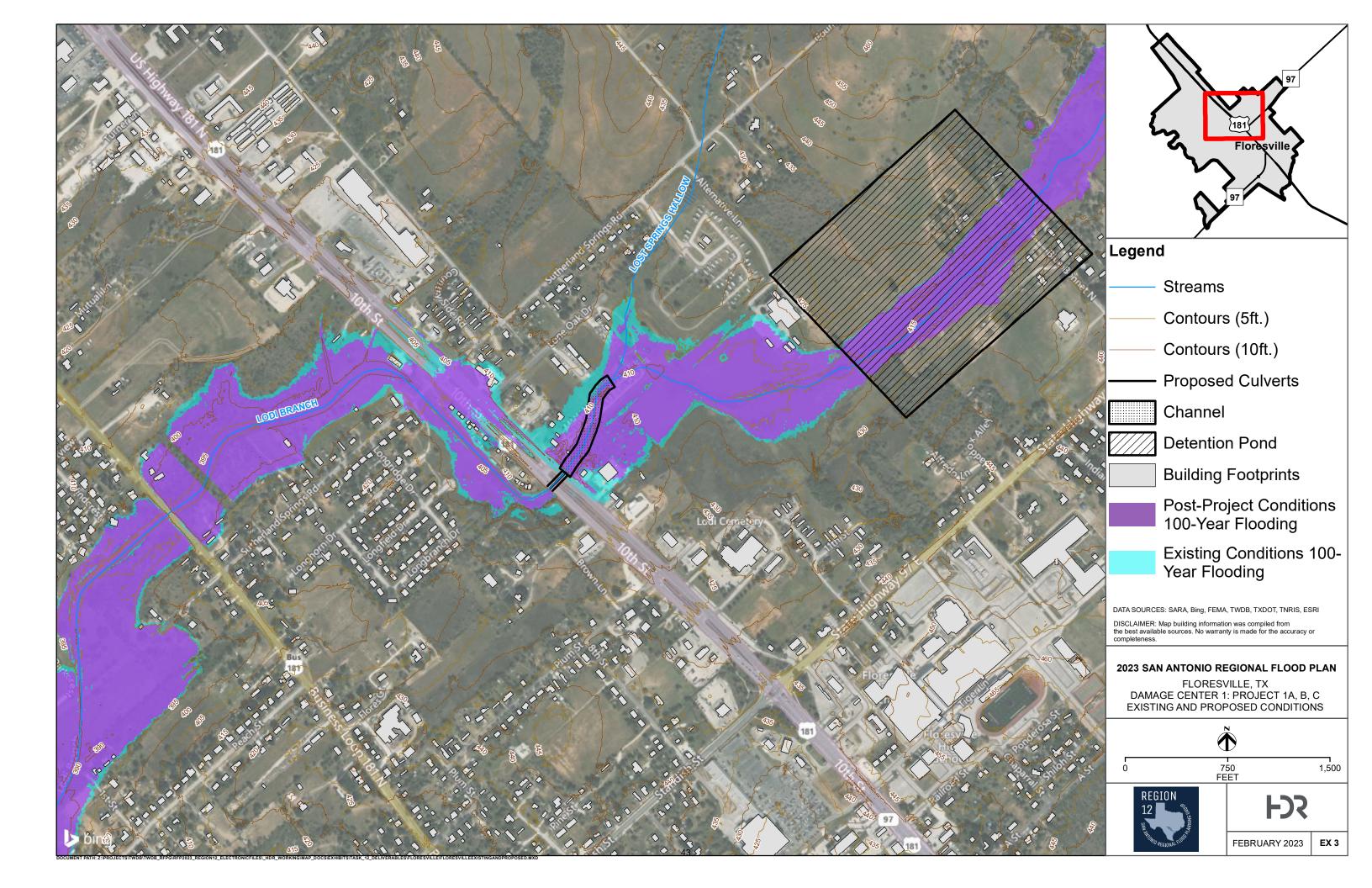
2023 SAN ANTONIO REGIONAL FLOOD PLAN PROJECT COST SUMMARY		
Project Name:	Damage Center 1: Project 1A, B, C	
Project Sponsor:	City of Floresville	
Firm Developing:	HDR	
Date Developed:	2/10/2023	
Unit Prices Used:	11/1/2020	
CONSTRUCTION CO	STS	
- DRAINAGE COST		\$1,927,885.72
- TREE PRESERVA	TION (2%)	\$38,557.71
- LANDSCAPING (1)	\$192,788.57	
- BOND AND INSURANCE (3%)		\$64,776.96
- BARICADES (3%)		\$66,720.27
- MOBILIZATION &	PREPARATION OF R.O.W. (11% + 4%)	\$323,884.80
TOTAL CONSTRUCT	TION COST ESTIMATE	\$2,614,614.03
ENGINEER FEE (Fee	Table plus 5%)	\$431,411.31
ENGINEER CONTINGENCY (10%)		\$43,141.13
CONSTRUCTION CONTINGENCY (10%)		\$261,461.40
PERMIT REQUIREME	ENT COSTS	\$608,000.00
RIGHT-OF-WAY (LAN	\$284,834.00	
RIGHT-OF-WAY SURVEY		\$2,500.00
ENVIRONMENTAL		\$10,000.00
MATERIAL TESTING (2% Construction Cost - <\$3M, 1.5% - >\$3M)		\$52,292.28
TOTAL PROJECT CO	OST ESTIMATE	\$4,308,254.16

DESIGN PHASE

CONSTRUCTION PHASE









### 2023 San Antonio Regional Flood Plan Project Summary Sheet

Updated: 2/16/2023 Page 1 of 1

Project Name: Old Fredericksburg Road at Balcones Creek

FMP ID:

Project Sponsor:

Project Source:

### Cost Information

Category	Cost*
Design	\$1,518,774
Real Estate	\$219,250
Environmental	\$10,000
Construction	\$8,293,990
Total Cost**	\$10,043,000

\*Costs Adjusted from 2012 to 2020 using CCI

#### Imnact Analysis

impact Analysis			
Post-Project Total	Storm Event		
Removed	100-year		
Residential	N/A		
Commercial	N/A		
Critical	N/A		
Road (miles)	0.12		
Others Note	N/A		
SVI Score			

#### Task 12 Work

Consultant	HALFF		
Model	Cost	Impact Analysis	BCA
Yes	Yes	Yes	No
	-	_	_



### **Project Description:**

At the Old Fredericksburg Road crossing with Balcones Creek, the road is currently being overtopped by the 10-year flood event at a maximum depth of 10 ft. The length of roadway being flooded is approximately 0.12 miles. Constructing a bridge to raise the roadway over the low water crossing at the intersection of Balcones Creek and Old Fredericksburg Road. The proposed bridge will overtop the 10-year flood event and lower the depth of water overtopping the roadway for larger flood events. The proposed roadway and bridge alignment will straighten the sharp curves that currently exist in Old Fredericksburg Road within the proximity of the Balcones Creek crossing. The proposed bridge will be approximately 400' in length with a connecting roadway realignment of 1350' that ties into the existing road.

<sup>\*\*</sup>Rounded up to the nearest thousand

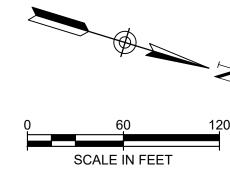
\$1,748,023.74

\$8,293,989.56

2023 SAN ANTONIO REGIONAL FLOOD PLAN PROJECT COST SUMMARY			
Project Name:	Old Fredericksburg Road at Balcones Creek		
Project Sponsor:	0		
Firm Developing:	HALFF		
Date Developed:	2/10/2023		
Unit Prices Used:	11/1/2020		
CONSTRUCTION			
- DRAINAGE COS	ST	\$4,193,772.96	
- TREE PRESERV	'ATION (2%)	\$109,696.38	
- LANDSCAPING	(10%)	\$548,481.92	
- BOND AND INS	JRANCE (3%)	\$184,289.92	
- BARICADES (3%	<b>(6)</b>	\$189,818.62	
- MOBILIZATION	<b>&amp; PREPARATION OF R.O.W.</b> (11% + 4%)	\$921,449.62	
TOTAL CONSTRU	CTION COST ESTIMATE	\$7,438,555.66	
ENGINEER FEE (F	ee Table plus 5%)	\$1,152,976.13	
ENGINEER CONTINGENCY (10%)		\$115,297.61	
CONSTRUCTION CONTINGENCY (10%)		\$743,855.57	
PERMIT REQUIRE	MENT COSTS	\$200,500.00	
<b>RIGHT-OF-WAY (L</b>	AND ACQUISITION)	\$216,750.00	
RIGHT-OF-WAY SI	JRVEY	\$2,500.00	
<b>ENVIRONMENTAL</b>		\$10,000.00	
MATERIAL TESTIN	IG (2% Construction Cost - <\$3M, 1.5% - >\$3M)	\$111,578.33	
TOTAL PROJECT	COST ESTIMATE	\$10,042,013.30	

**DESIGN PHASE** 

CONSTRUCTION PHASE





DRAWN BY: DSGN BY: CHKD BY: SHEET No

6

