Task 12 FMXs

Batch	Page	New Action Number	Old Action Number (To be removed)	Type	Sponsor	Project	Notes	TC Rec (Y/N)	Tech Committee Rec Date	RFPG Rec (Y/N)	RFPG Rec Date
1	2	101000043	101000043	FME	Fredericksburg (Municipality)	Barons Creek Watershed	Recommend revised FME				
1		~~101000189~~	~~101000189~~	~~NA~~	~~Edna (Municipality)~~	Wastewater Treatment Plant Floodproofing (Task 12) (Remove from RFP)	Recommend remove - not flood project				
1	3	103000060	101000027	FMP	Bastrop County	FM 812 at Little Alum Creek	Recommend new FMP				
1	4	103000061	101000102	FMP	Bastrop County	Piney Creek Mitigation	Recommend new FMP				
1	5	103000065	101000206	FMP	Fredericksburg (Municipality)	Creek Street at Barons Creek	Recommend new FMP				
1	6	103000066	101000167	FMP	Marble Falls (Municipality)	Broadway Street at Whitman Branch Low Water Crossing	Recommend new FMP				
1	7	103000067	101000116 and 101000165	FMP	Marble Falls (Municipality)	Whitman Branch Bypass; Oak Ridge Dr Creek, including Detention	Recommend new FMP				

Flood Management Evaluation (FME) STUDY

Lower Colorado-Lavaca
REGIONAL FLOOD PLANNING GROUP
REGION 10

Title: Barons Creek Watershed - Southwest City
ID#: 101000043
Sponsor (note if City or County): Fredericksburg (Municipality)
Commitment: ✓ Yes ☐ No

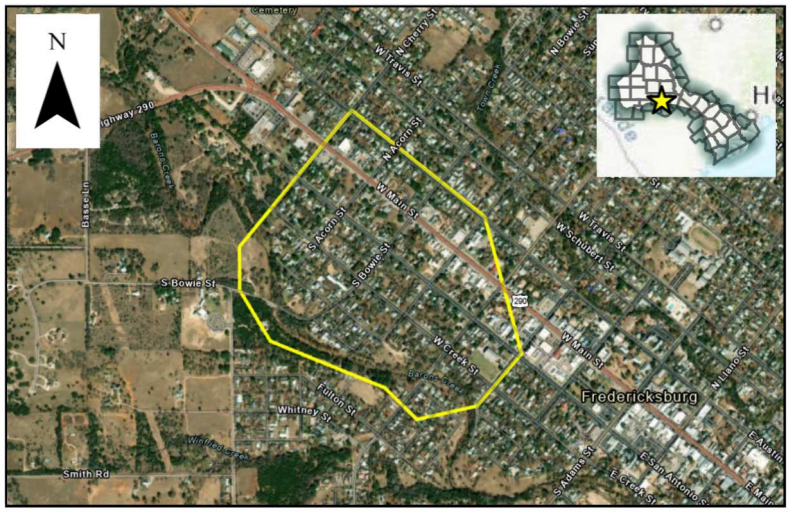
Study Type

☐ Emergency preparedness ☐ Floodplain modeling, mapping and risk assessment ✓ Feasibility study ☐ Preliminary project engineering
☐ Other

Problem Area

City: Fredericksburg
County: Gillespie
Watershed name(s): Pedernales
Tributary(ies): Barons Creek
HUC#(s): 12090206
Stream miles (est.): 1.55
Drainage area: square miles, est: 0.28
or acreage, est: 182.13
Social Vulnerability Index (SVI): 0.10
(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)

Other: Drainage System and Roadway/Crossing Improvements



Flood Risk Description

This study evolved out of the previous Edison Street at Barons Creek Study. The project was identified based on staff knowledge and was intended to reduce local street flooding, mobility, with possible structural risk reduction. The project was evaluated under Task 12 of the planning process. A 2D rain-on-grid model was developed to analyze proposed local drainage improvements and related alternatives. Due to the limited local flood risk reduction benefits, the city amended the action to include a broader study area to evaluate potential drainage system and/or roadway improvements for the residential areas upstream of Milam Street.

Population at risk: 830
Structures at risk: 274
Critical facilities at risk (number): 0
Farm/Ranch land impacted (acres): 0
Roadway(s) impacted (miles): 1.49

Scope of Study

Study will include hydrologic and hydraulic modeling (with Atlas 14 rainfall), preliminary design of improvements, risk reduction analysis, verification of no adverse impact, preparation of cost estimate and a benefit-cost-analysis, and an evaluation of potential constraints (environmental, utility conflicts, right-of-way needs, and constructability.

Related Goal(s)

6.1 Reduce the number of structures and critical facilities that are at high risk of repetitive loss through the implementation of structural flood mitigation project.

Estimated Study Cost

Cost: $150,000
Potential funding source(s): TBD

Flood Mitigation Project (FMP)

Lower Colorado-Lavaca
REGIONAL FLOOD PLANNING GROUP
REGION 10

Title: FM 812 at Little Alum Creek | ID#: 103000060

Sponsor (note if City or County): Bastrop County | Commitment: ☑ Yes ☐ No

Technical committee recommend: ☐ Yes ☐ No | RFPG recommend: ☐ Yes ☐ No

Project Type

STRUCTURAL

☐ Detention ☑ Channel modification ☑ Bridge/culvert ☐ Storm drain ☐ Levee/floodwall

Other:

NON-STRUCTURAL

☐ Property buyouts ☐ Floodproofing ☐ Flood readiness/resilience ☐ Flood warning system/gauges

Other:

Problem Area

City: N/A | County: Bastrop

Watershed name(s): Walnut Creek-Cedar Creek

Tributary(ies): Little Alum Creek

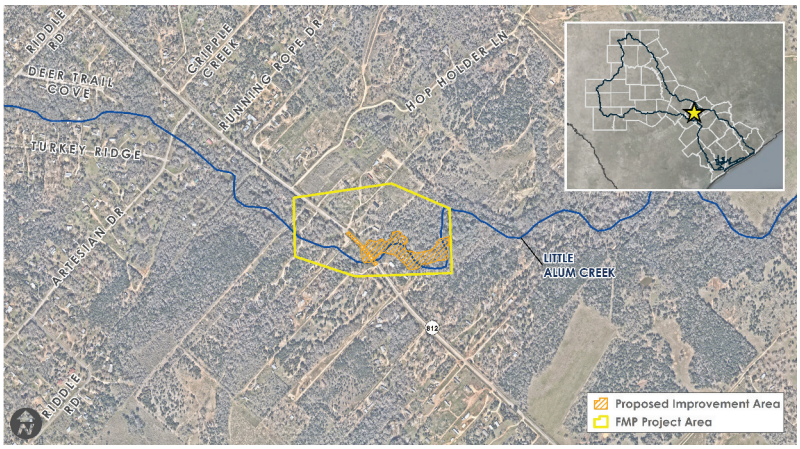
HUC#(s): 1209030103 | Stream miles (est.): 0.4 mi

Drainage area: square miles, est: 1.8 sqmi | or acreage, est:

Social Vulnerability Index (SVI): 0.4522, 0.1868

(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)

Other:



Flood Risk Description

Bastrop County identified FM 812 at Little Alum Creek of high importance to increase the level of service and provide safe access to residential areas to use as their primary ingress and egress. The existing structure (2 – 7' x7' box culverts) where FM 812 crosses Little Alum Creek does not have a 2-year level of service. In addition to the road overtopping, there is one residential structure located near the crossing in the FEMA effective 100-year floodplain.

Proposed level-of-service: 100-year | Status: Preliminary Engineering | Atlas 14 rainfall used: Yes

Project Description

The proposed improvements include raising FM 812 and replacing the existing 2 – 7' x 7' box culverts with a 2-span bridge with each span measuring 70 feet (for a total bridge length of 140 feet) and approximately 510 feet of roadway improvements. Proposed improvements for Little Alum Creek include benching into the channel banks approximately 1,930 feet while avoiding the ordinary high water mark.

Related Goal(s)

6.1 Reduce the number of structures and critical facilities that are at high risk through the implementation of structural flood mitigation projects. 6.2 Increase the number of entities that mitigate flood risk at vulnerable roadways or waterways.

Estimated Project Cost

Capital cost: $8,288,617 | Ongoing O&M costs: TBD | Cost/benefit analysis: 0.5

Potential funding source(s): Federal/state grants and/or local funds

Flood Mitigation Project (FMP)

Lower Colorado-Lavaca
REGIONAL FLOOD PLANNING GROUP
REGION 10

Title: Piney Creek Mitigation | ID#: 103000061

Sponsor (note if City or County): City of Bastrop | Commitment: ✓ Yes ☐ No

Technical committee recommend: ☐ Yes ☐ No | RFPG recommend: ☐ Yes ☐ No

Project Type

STRUCTURAL

☐ Detention ✓ Channel modification ✓ Bridge/culvert ☐ Storm drain ☐ Levee/floodwall

Other:

NON-STRUCTURAL

☐ Property buyouts ☐ Floodproofing ☐ Flood readiness/resilience ☐ Flood warning system/gauges

Other:

Problem Area

City: Bastrop | County: Bastrop

Watershed name(s): Piney Creek-Colorado River

Tributary(ies): Piney Creek

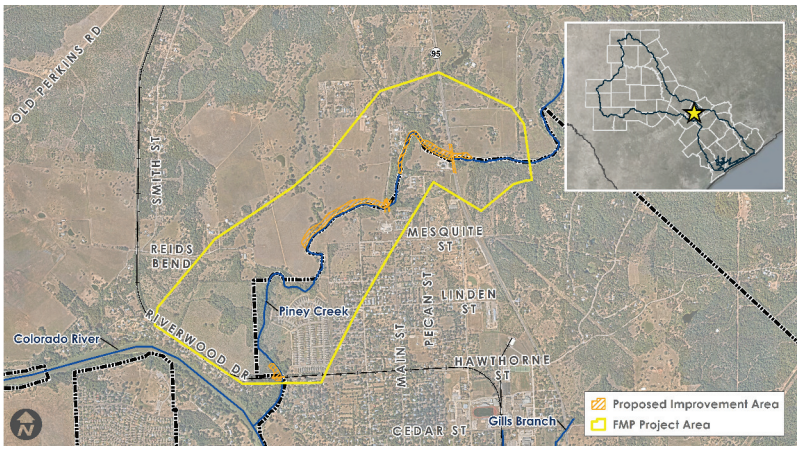
HUC#(s): 1209030102 | Stream miles (est.): 2

Drainage area: square miles, est: 49.6 sqmi | or acreage, est:

Social Vulnerability Index (SVI): 0.5979, 0.5304

(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)

Other:



Flood Risk Description

The existing condition flood risk includes three road crossings that overtop and two subdivisions that flood during the 100-year storm event. Overtopping roads include SH 95, Main Street, and Reids Bend. These roads are access routes for residents in and out of the City of Bastrop. The two subdivisions that are located in close proximity to the channel banks of Piney Creek are Bastrop Estates Mobile Home Park and Mercedes Cove subdivision, both of which are located in the FEMA regulated 100-year floodplain.

Proposed level-of-service: 100-year | Status: Preliminary engineering | Atlas 14 rainfall used: Yes

Project Description

The proposed improvements provide an all-weather access (100-year level of service) at SH 95 and reduces overtoping at Main Street and Reids Bend during the 100-year storm event. The project improvements include approximately 4,150 LF of channel benching, 2,200 LF of channel clearing or vegetation thinning, and bridge improvements at UPRR bridge, Main Street and pedestrian bridge, and SH 95. UPRR bridge is proposed to be widened from a 150 foot span to a 300 foot span. Main Street bridge is currently a 100 foot span and is being proposed to a 300 foot span. The pedestrian bridge at Main Street is a 50 foot span and is proposed to be a 300 foot span to match Main Street. And finally, SH 95 is currently a 60 foot span and is proposed to be a 250 foot span.

Related Goal(s)

6.1 Reduce the number of structures and critical facilities that are at high risk through the implementation of structural flood mitigation projects. 6.2 Increase the number of entities that mitigate flood risk at vulnerable roadways or waterways.

Estimated Project Cost

Capital cost: $23,991,550 | Ongoing O&M costs: TBD | Cost/benefit analysis: 0.6

Potential funding source(s): Federal/state grants and/or local funds

Flood Mitigation Project (FMP)

Lower Colorado-Lavaca
REGIONAL FLOOD PLANNING GROUP
REGION 10

Title: Creek St at Barons Creek | ID#: 103000065

Sponsor (note if City or County): Fredericksburg (Municipality) | Commitment: ✓ Yes ☐ No

Technical committee recommend: ☐ Yes ☐ No | RFPG recommend: ☐ Yes ☐ No

Project Type

STRUCTURAL

☐ Detention ✓ Channel modification ✓ Bridge/culvert ☐ Storm drain ☐ Levee/floodwall

Other:

NON-STRUCTURAL

☐ Property buyouts ☐ Floodproofing ☐ Flood readiness/resilience ☐ Flood warning system/gauges

Other:

Problem Area

City: Fredericksburg | County: Gillespie

Watershed name(s): Barons Creek

Tributary(ies): Barons Creek

HUC#(s): 12090206 | Stream miles (est.): TBD

Drainage area: square miles, est: 0.01 | or acreage, est:

Social Vulnerability Index (SVI): 0.1

(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)

Other:

Flood Risk Description

The crossing on Creek Street at Barons Creek is in a residential area approximately 1,100 feet south of Interstate 290. Hydraulic analysis shows the overtopping of Creek Street to a depth of 3.38 feet during the 2-year event and 18.9 feet during the 100-year event.

Proposed level-of-service: 10-year | Status: N/A | Atlas 14 rainfall used: Yes

Project Description

Proposed improvements include the construction of a new bridge including approximately 300-ft of roadway improvements and approximately 225 feet of channel modifications. Final design considerations for the channel modifications include incorporating natural channel design features such as a multi-stage channel section, use of natural materials for the channel bottom and side slopes, and native vegetation for site restoration.

Related Goal(s)

6.2 Increase the number of entities that mitigate flood risk at vulnerable roadways or waterways (e.g., low-water crossings, irrigation canals).

Estimated Project Cost

Capital cost: $2,027,000 | Ongoing O&M costs: TBD | Cost/benefit analysis: 0.3

Potential funding source(s): TBD

Flood Mitigation Project (FMP)

Lower Colorado-Lavaca
REGIONAL FLOOD PLANNING GROUP
REGION 10

Title: Broadway Avenue at Backbone Creek Low Water Crossing ID#: 103000066

Sponsor (note if City or County): City of Marble Falls Commitment: ✓ Yes ☐ No

Technical committee recommend: ✓ Yes ☐ No RFPG recommend: ☐ Yes ☐ No

Project Type

STRUCTURAL

☐ Detention ☐ Channel modification ✓ Bridge/culvert ☐ Storm drain ☐ Levee/floodwall

Other:

NON-STRUCTURAL

☐ Property buyouts ☐ Floodproofing ☐ Flood readiness/resilience ☐ Flood warning system/gauges

Other: Permanent easements needed

Problem Area

City: City of Marble Falls County: Burnet

Watershed name(s): Backbone Creek, Colorado River

Tributary(ies): N/A

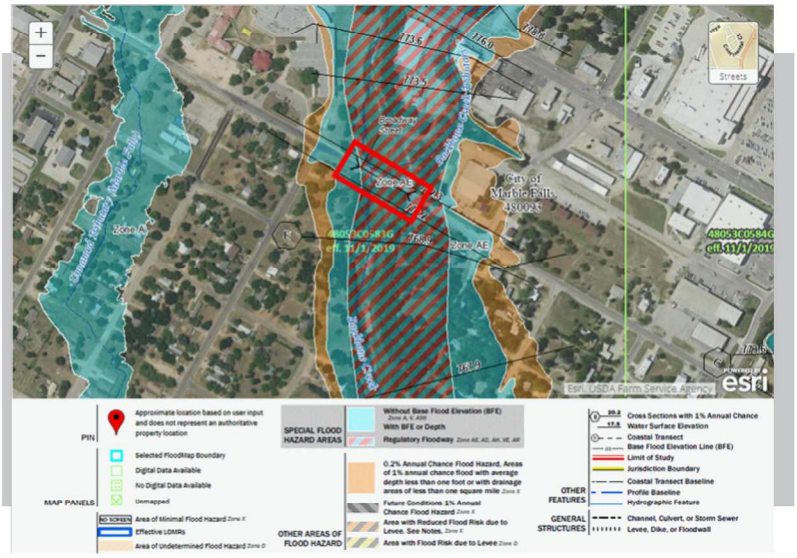
HUC#(s): 120902050101 Stream miles (est.): 2.6

Drainage area: square miles, est: 31.605 or acreage, est:

Social Vulnerability Index (SVI): 0.19

(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)

Other: TBD



Flood Risk Description

The Broadway Street bridge is one of the most commonly closed low water crossings in Marble Falls and in located in a Zone AE special flood hazard with a designated floodway. It is a heavily trafficked street, providing an alternative route to the US 281/1431 intersection, as well as a frequented route for emergency response vehicles which are stationed nearby. Existing conditions model results indicate the Broadway Street bridge crossing is incapable passing the 2-Year event without roadway overtopping.

Proposed level-of-service: 100 Status: TBD Atlas 14 rainfall used: Yes

Project Description

This FMP proposes a full replacement of the existing Broadway Street bridge, stream channel improvements, and increasing conveyance and storage in the adjacent floodplains. The existing bridge is approximately 150 feet in length with the top of the bridge deck at an elevation of 763.5 feet. The new bridge deck length will be increased to approximately 350 feet in length be raised up 10.5 feet to elevation 773. Included as part of the bridge replacement are raising and repaving the existing road approach sections from intersection to intersection to match the bridge deck elevation of 773 feet, replacing existing sidewalks and raising manhole rim elevations near the intersection with Avenue S, and installing a new retaining wall to protect and maintain access to an existing sewage pump station near Avenue Q.

Related Goal(s)

6.1 Reduce the number of structures and critical facilities that are at high risk of repetitive loss through the implementation of structural flood mitigation projects. 6.2 Increase that mitigate flood risk at vulnerable roadways or waterways (e.g., low-water crossings, irrigation canals).

Estimated Project Cost

Capital cost: $5,235,000 Ongoing O&M costs: TBD Cost/benefit analysis: 0.7-1.4

Potential funding source(s): TBD

Flood Mitigation Project (FMP)

Lower Colorado-Lavaca
REGIONAL FLOOD PLANNING GROUP
REGION 10

Title: Whitman Branch Regional Stormwater Detention | ID#: 103000067

Sponsor (note if City or County): City of Marble Falls | Commitment: ✓ Yes ☐ No

Technical committee recommend: ✓ Yes ☐ No | RFPG recommend: ☐ Yes ☐ No

Project Type

STRUCTURAL

✓ Detention ☐ Channel modification ☐ Bridge/culvert ☐ Storm drain ☐ Levee/floodwall

Other:

NON-STRUCTURAL

☐ Property buyouts ☐ Floodproofing ☐ Flood readiness/resilience ☐ Flood warning system/gauges

Other: Permanent easements needed

Problem Area

City: City of Marble Falls | County: Burnet

Watershed name(s): Whitman Branch (Backbone Creek)

Colorado River

Tributary(ies): N/A

HUC#(s): 120902050101 | Stream miles (est.): 2

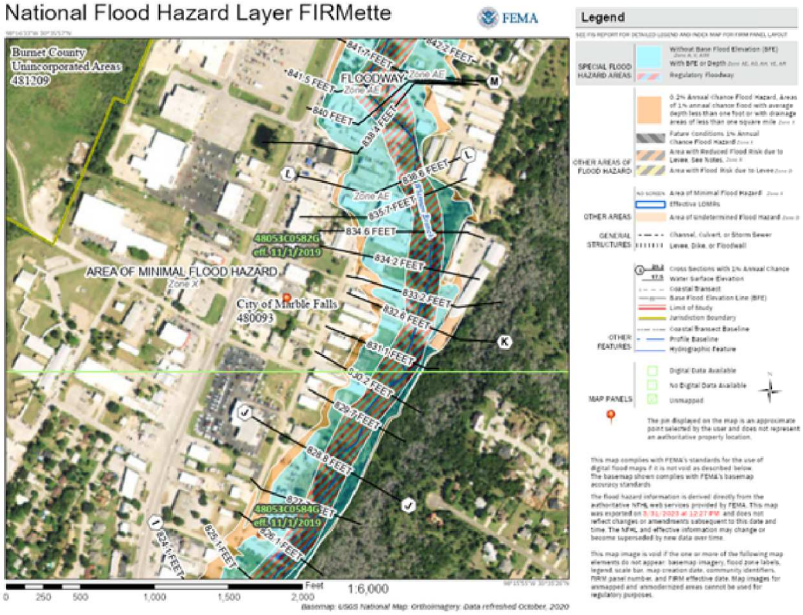
Drainage area: square miles, est: 3.14 | or acreage, est:

Social Vulnerability Index (SVI): 0.19

(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)

Other: TBD

National Flood Hazard Layer FIRMette



Flood Risk Description

The Commerce Street area development is well within the riverine floodplain of Whitman Branch tributary. Existing flood risk to the Commerce Street area is extensive. There are approximately 66 commercial and residential buildings that face expected flood risk in the 100-year event. There are two existing public roadway low water crossings that will overtop in most day-to-day rainfall events, and US Highway 281 at the downstream end of the Commerce Street area which overtops in 10 year events and larger.

Proposed level-of-service: 100 | Status: TBD | Atlas 14 rainfall used: Yes

Project Description

This FMP proposes a regional stormwater detention solution to control flows upstream of the Commerce Street area. The solution includes an approximately 36 ft maximum height earthen embankment dam approximately 1750 feet long on Whitman Branch near Coach Drive. The reservoir storage volume and outlet works configuration were chosen to provide an approximate 100-year level of protection to the Commerce Street area. The proposed top of dam is set at 890' msl; providing over 10' of freeboard in a 100-year event which approximates expected additional storage requirements for dam safety.

Related Goal(s)

6.1 Reduce the number of structures and critical facilities that are at high risk of repetitive loss through the implementation of structural flood mitigation projects. 6.2 Increase that mitigate flood risk at vulnerable roadways or waterways (e.g., low-water crossings, irrigation canals).

Estimated Project Cost

Capital cost: $28,000,000 | Ongoing O&M costs: $50,000 / year | Cost/benefit analysis: 1.3

Potential funding source(s): TBD