

Flood Management Evaluation (FME) STUDY

Lower Colorado-Lavaca REGIONAL FLOOD PLANNING GROUP

REGION 10

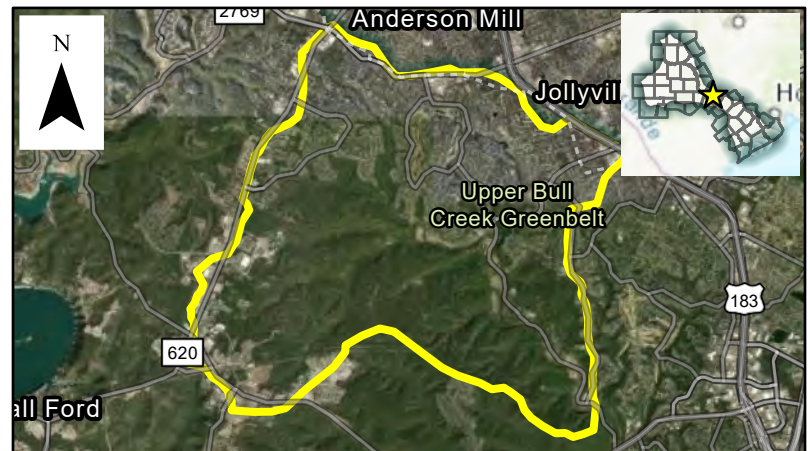
Title ID#
Sponsor (name of entity) Commitment Yes No
Technical committee recommend Yes No RFPG recommend Yes No

Study Type

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

Problem Area

City County
Watershed
name(s)
Tributary(ies)
HUC# Stream miles (est.)
Drainage area: square miles, est. or acreage, est.
Social vulnerability index
(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)
Other



Flood Risk Description

The existing crossing consists of small pipe culverts and the roadway is overtopped in small, frequent, storm events (less than 5-yr). Road closures limit ingress/egress to several surrounding neighborhoods. The existing road is a 2-lane road with an average daily traffic count of 1,979.

Population at risk Structures at risk Critical facilities at risk
Farm/Ranch land impacted (acres) Roadway(s) impacted (miles)

Scope of Study

Conduct (or enhance existing study) to evaluate the replacement of the low water crossing with a 200 foot bridge. Study will update existing hydrologic and hydraulic models (with Atlas 14 rainfall) as needed to refine preliminary design and provide additional information needed to meet TWDB requirements for a flood mitigation project including verifying no adverse impacts, updating the cost estimate and providing a benefit-cost-analysis, and updating/verifying there are no potential constraints (environmental, utility conflicts, right-of-way needs, and constructability) that will prevent implementation.

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 Study Cost

Cost Potential funding source(s)

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Watershed
name(s)
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HUC# Stream miles (est.)
Drainage area: square miles, est. or acreage, est.
Social vulnerability index
(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)
Other



Flood Risk Description

There is an existing erosion control structure that is failing. Loss of the structure would result in a threat to existing infrastructure and negative environmental impacts due to erosion. Existing risk factors are based on available data and will be better defined as part of the study. Study results will include detailed assessments of the potential risk and potential flood risk reduction to be used in evaluating the project.

Population at risk Structures at risk Critical facilities at risk
Farm/Ranch land impacted (acres) Roadway(s) impacted (miles)

Scope of Study

Conduct a study to evaluate replacing/repairing an existing erosion control structure. Study will include hydrologic and hydraulic modeling (with Atlas 14 rainfall), preliminary design of improvements, risk reduction analysis (if appropriate), verification of no adverse impacts, preparation of cost estimates and a benefit-cost-analysis (if appropriate), 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 projects. 6.2 Increase the number of entities that mitigate flood risk at vulnerable roadways or waterways.

Estimated Study Cost

Cost Potential funding source(s)

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Population at risk Structures at risk Critical facilities at risk
Farm/Ranch land impacted (acres) Roadway(s) impacted (miles)

Scope of Study

Conduct a study to evaluate replacing/repairing an existing erosion control structure. Study will include hydrologic and hydraulic modeling (with Atlas 14 rainfall), preliminary design of improvements, risk reduction analysis (if appropriate), verification of no adverse impacts, preparation of cost estimates and a benefit-cost-analysis (if appropriate), and an evaluation of potential constraints (environmental, utility conflicts, right-of-way needs, and constructability)

Related Goal(s)

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Tributary(ies)
HUC# Stream miles (est.)
Drainage area: square miles, est. or acreage, est.
Social vulnerability index
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Other



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Population at risk Structures at risk Critical facilities at risk
Farm/Ranch land impacted (acres) Roadway(s) impacted (miles)

Scope of Study

Conduct a study to evaluate replacing/repairing an existing erosion control structure. Study will include hydrologic and hydraulic modeling (with Atlas 14 rainfall), preliminary design of improvements, risk reduction analysis (if appropriate), verification of no adverse impacts, preparation of cost estimates and a benefit-cost-analysis (if appropriate), 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 projects. 6.2 Increase the number of entities that mitigate flood risk at vulnerable roadways or waterways.

Estimated Study Cost

Cost Potential funding source(s)

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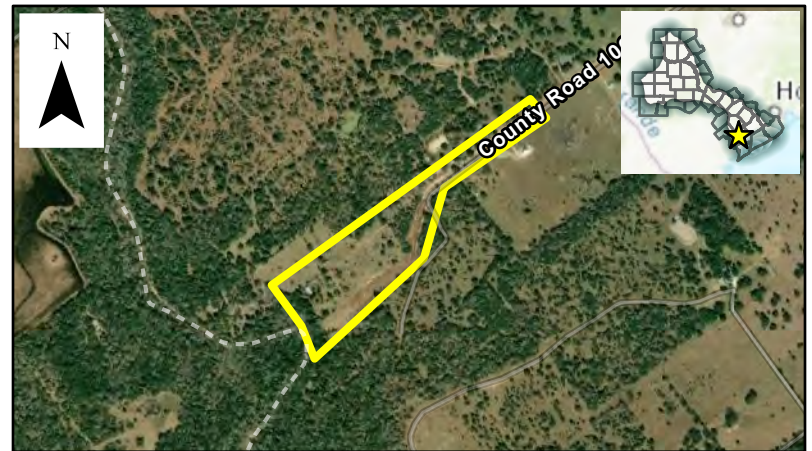
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Drainage area: square miles, est. or acreage, est.
Social vulnerability index
(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)
Other



Flood Risk Description

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Population at risk Structures at risk Critical facilities at risk
Farm/Ranch land impacted (acres) Roadway(s) impacted (miles)

Scope of Study

Conduct a study to evaluate replacing/repairing an existing erosion control structure. Study will include hydrologic and hydraulic modeling (with Atlas 14 rainfall), preliminary design of improvements, risk reduction analysis (if appropriate), verification of no adverse impacts, preparation of cost estimates and a benefit-cost-analysis (if appropriate), 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 projects. 6.2 Increase the number of entities that mitigate flood risk at vulnerable roadways or waterways.

Estimated Study Cost

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Study Type

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 Other

Problem Area

City County
Watershed
name(s)
Tributary(ies)
HUC# Stream miles (est.)
Drainage area: square miles, est. or acreage, est.
Social vulnerability index
(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)
Other



Flood Risk Description

There is at least one flood prone property located within the 100-year floodplain of Lake Travis in the Cross Street Area that is subject to repetitive loss. The City would like to conduct an analysis to quantify the total number of structures in the 100-year floodplain that may be subject to repetitive loss.

Population at risk Structures at risk Critical facilities at risk
Farm/Ranch land impacted (acres) Roadway(s) impacted (miles)

Scope of Study

The study will include hydrologic and hydraulic modeling (with Atlas 14) to identify/verify eligible property owners and if the properties should be elevated or removed.

Related Goal(s)

5.1 Reduce the number of structures and critical infrastructure that are at high risk of repetitive loss through property/easement acquisitions, relocations, floodproofing and/or elevation. 5.2 Increase the acreage of publicly protected open space to reduce future impacts of flooding.

Estimated Study Cost

Cost Potential funding source(s)

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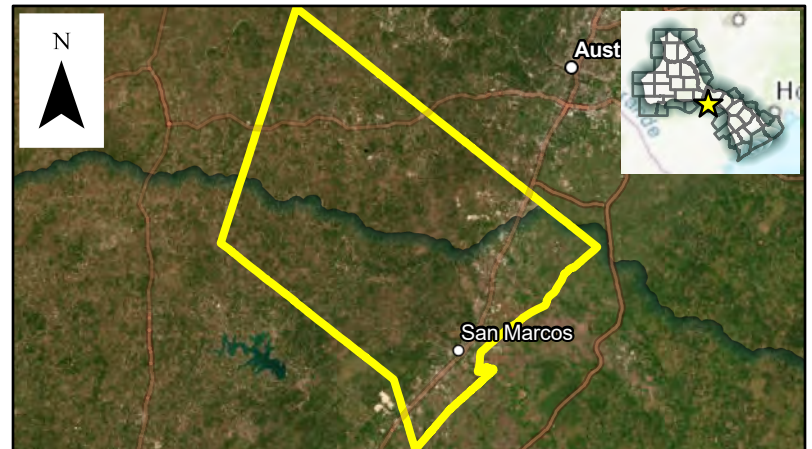
Title ID#
Sponsor (name of entity) Commitment Yes No
Technical committee recommend Yes No RFPG recommend Yes No

Study Type

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

Problem Area

City County
Watershed name(s)
Tributary(ies)
HUC# Stream miles (est.)
Drainage area: square miles, est. or acreage, est.
Social vulnerability index
(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)
Other



Flood Risk Description

There are at least 38 flood prone properties that are within the 100-year floodplain that may be subject to repetitive loss.

Population at risk Structures at risk Critical facilities at risk
Farm/Ranch land impacted (acres) Roadway(s) impacted (miles)

Scope of Study

The study will include hydrologic and hydraulic modeling (with Atlas 14) to identify/verify eligible property owners and if the properties should be elevated or removed.

Related Goal(s)

5.1 Reduce the number of structures and critical infrastructure that are at high risk of repetitive loss through property/easement acquisitions, relocations, floodproofing and/or elevation. 5.2 Increase the acreage of publicly protected open space to reduce future impacts of flooding.

Estimated Study Cost

Cost Potential funding source(s)

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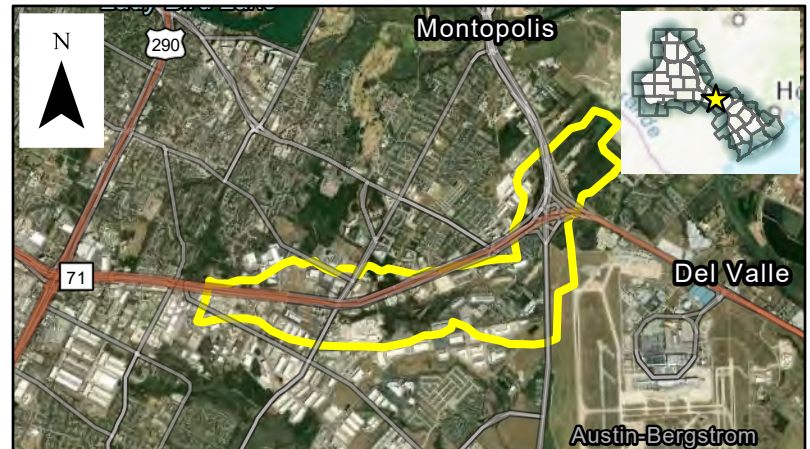
Title **Dalton Lane Crossing Improvements Project** ID# **101000202**
Sponsor (name of entity) **Austin (Municipality)** Commitment Yes No
Technical committee recommend Yes No RFPG recommend Yes No

Study Type

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

Problem Area

City **Austin** County **Travis**
Watershed **Carson Creek**
name(s)
Tributary(ies) **Carson Creek and Tributary 4**
HUC# **12090205** Stream miles (est.) **0.50**
Drainage area: square miles, est. **2.29** or acreage, est. **1,468**
Social vulnerability index **0.15**
(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)
Other



Flood Risk Description

The Carson Creek and Tributary 4 crossings at Dalton Lane near Hawkins Lane and Sherman Road are inundated by small, frequent storm events (less than 2-year event) leading to unsafe conditions for motorists. Existing risk factors are based on available data and will be better defined as part of the study. Study results will include detailed assessments of the potential risk and potential flood risk reduction to be used in evaluating the project.

Population at risk **48** Structures at risk **31** Critical facilities at risk **0**
Farm/Ranch land impacted (acres) **73** Roadway(s) impacted (miles) **3.13**

Scope of Study

Update existing study to evaluate the replacement of two low water crossings with two 3-span 150-foot long bridges, channel improvements upstream and downstream, and associated land acquisition to improve public safety and reduce road closures during small, frequent storm events. Study will update existing hydrologic and hydraulic models (with Atlas 14 rainfall) as needed to refine preliminary design and provide additional information including verifying no adverse impacts, updating the cost estimate, providing a benefit-cost-analysis, and verifying there are no potential constraints (environmental, utility conflicts, right-of-way needs, and constructability) that will prevent implementation. Preliminary flood risk reduction benefits identified include satisfying roadway compliance with City of Austin drainage criteria, reduction in Atlas 14 100-yr flood depths by up to 1-foot, reduction in inundated area by up to 8 acres upstream of the roadway, and removal of two structures from Atlas 14 100-yr flood through acquisition.

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 Study Cost

Cost **\$1,950,000** Potential funding source(s) **TBD**

Flood Management Evaluation (FME) STUDY

Lower Colorado-Lavaca REGIONAL FLOOD PLANNING GROUP

REGION 10

Title ID#
Sponsor (name of entity) Commitment Yes No
Technical committee recommend Yes No RFPG recommend Yes No

Study Type

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

Problem Area

City County
Watershed
name(s)
Tributary(ies)
HUC# Stream miles (est.)
Drainage area: square miles, est. or acreage, est.
Social vulnerability index
(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)
Other



Flood Risk Description

The Highland Hills crossing is inundated by small, frequent, storm events (less than 2-year event) leading to unsafe conditions for motorists who need to use this roadway for neighborhood ingress/egress. Existing risk factors are based on available data and will be better defined as part of the study. Study results will include detailed assessments of the potential risk and potential flood risk reduction to be used in evaluating the project.

Population at risk Structures at risk Critical facilities at risk
Farm/Ranch land impacted (acres) Roadway(s) impacted (miles)

Scope of Study

Update existing study to evaluate upgrading the hydraulic capacity of the crossing to reduce the frequency and depth of inundation and improve public safety. Study will update existing hydrologic and hydraulic models (with Atlas 14 rainfall) as needed to refine preliminary design and provide additional information needed to meet TWDB requirements for a flood mitigation project including verifying no adverse impacts, updating the cost estimate and providing a benefit-cost-analysis, and updating/verifying there are no potential constraints (environmental, utility conflicts, right-of-way needs, and constructability) that will prevent implementation.

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 Study Cost

Cost Potential funding source(s)

Flood Management Evaluation (FME) STUDY

Lower Colorado-Lavaca REGIONAL FLOOD PLANNING GROUP

REGION 10

Title Shoal Creek - Nueces St Flood Risk Reduction Project ID# 101000204
Sponsor (name of entity) Austin (Municipality) Commitment Yes No
Technical committee recommend Yes No RFPG recommend Yes No

Study Type

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

Problem Area

City Austin County Travis
Watershed Town Lake
name(s)
Tributary(ies) Shoal Creek
HUC# 12090205 Stream miles (est.) 0.00
Drainage area: square miles, est 13.22 or acreage, est. 8,460
Social vulnerability index 0.15
(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)
Other



Flood Risk Description

Shoal Creek has a history of flooding including the 1981 Memorial Day Flood that killed 13 people. More recently, the 2015 Memorial Day flood resulted in widespread flooding that impacted commercial and residential structures, and local street flooding. Residents have formally requested service from the City to address 25 locations of reported house flooding, 11 locations of reported yard flooding, and 11 locations of reported street flooding. Existing risk factors are based on available data and will be better defined as part of the study. Study results will include detailed assessments of the potential risk and potential flood risk reduction to be used in evaluating the project.

Population at risk 20,710 Structures at risk 61 Critical facilities at risk 0
Farm/Ranch land impacted (acres) 52 Roadway(s) impacted (miles) 13.96

Scope of Study

Update existing study to evaluate the construction of approximately 16,000 feet of upgraded storm drain pipe and numerous new storm drain inlets throughout the area, including a large tunnel which will extend along Nueces St from Martin Luther King Jr St to 4th St. The existing study includes hydrologic and hydraulic models (with Atlas 14 rainfall), verifying no adverse impacts, preparation of cost estimate and verifying there are no potential constraints (environmental, utility conflicts, right-of-way needs, and constructability) that will prevent implementation. The study will be updated to include the required benefit-cost-analysis.

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 the number of entities that mitigate flood risk at vulnerable roadways or waterways.

Estimated Study Cost

Cost \$100,000 Potential funding source(s) TBD

Flood Management Evaluation (FME) STUDY

Lower Colorado-Lavaca REGIONAL FLOOD PLANNING GROUP

REGION 10

Title **Waller Creek - Guadalupe St Flood Risk Reduction Project** ID# **101000205**
Sponsor (name of entity) **Austin (Municipality)** Commitment Yes No
Technical committee recommend Yes No RFPG recommend Yes No

Study Type

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

Problem Area

City **N/A** County **Travis**
Watershed **Town Lake**
name(s)
Tributary(ies) **Waller Creek**
HUC# **12090205** Stream miles (est.) **0.00**
Drainage area: square miles, est. **2.71** or acreage, est. **1,733**
Social vulnerability index **0.15**
(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)
Other



Flood Risk Description

When the area of interest was developed, it appears an existing creek was covered/diverted to a small storm drain. The area has been identified as high priority due to street, yard, and structural flooding including the 2015 Memorial Day and 2015 Halloween floods. The City has logged flooding complaints for 30 residences and 14 streets in the Hyde Park neighborhood. Analysis of the project drainage area indicates there are a significant number of structures that experience flooding that have not reported flood complaints. Existing risk factors are based on available data and will be better defined as part of the study. Study results will include detailed assessments of the potential risk and potential flood risk reduction to be used in evaluating the project.

Population at risk **1,520** Structures at risk **207** Critical facilities at risk **0**
Farm/Ranch land impacted (acres) **0** Roadway(s) impacted (miles) **2.58**

Scope of Study

Update existing study to evaluate the construction of approximately 28,000 linear feet of subsurface stormwater drains east of Guadalupe Street and west of Avenue G, between 33rd and 46th streets. The project also includes three new surface-level detention ponds near the Baker Center and in Adams-Hemphill Park with green stormwater infrastructure for water quality treatment; stream restoration using natural channel design for Waller Creek downstream of detention pond; underground stormwater detention structures around the former Baker Center; improvements to the outfall structures at Central Park Pond and Triangle Pond just west of Guadalupe Street; and related utility relocations throughout. The existing study includes hydrologic and hydraulic models (with Atlas 14 rainfall), verifying no adverse impacts, preparation of cost estimate and verifying there are no potential constraints (environmental, utility conflicts, right-of-way needs, and constructability) that will prevent implementation. The study will be updated to include the required benefit-cost-analysis.

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 the number of entities that mitigate flood risk at vulnerable roadways or waterways.

Estimated Study Cost

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

Flood Management Evaluation (FME) STUDY

Lower Colorado-Lavaca REGIONAL FLOOD PLANNING GROUP

REGION 10

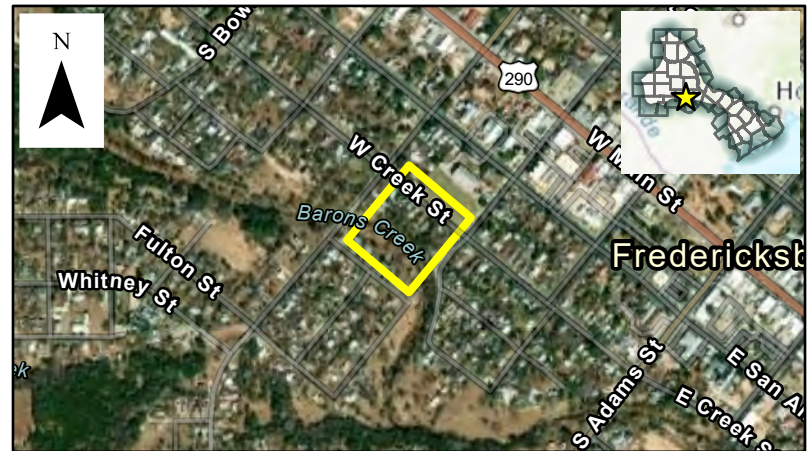
Title ID#
Sponsor (name of entity) Commitment Yes No
Technical committee recommend Yes No RFPG recommend Yes No

Study Type

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

Problem Area

City County
Watershed
name(s)
Tributary(ies)
HUC# Stream miles (est.)
Drainage area: square miles, est. or acreage, est.
Social vulnerability index
(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)
Other



Flood Risk Description

Creek Street overtops by approximately 11 feet during the 100-year event leading to unsafe conditions for motorists and potential local flood risk.

Population at risk Structures at risk Critical facilities at risk
Farm/Ranch land impacted (acres) Roadway(s) impacted (miles)

Scope of Study

Conduct a study to evaluate replacing/upgrading the existing crossing repairing an existing road crossing. Study will include hydrologic and hydraulic modeling (with Atlas 14 rainfall), preliminary design of improvements, risk reduction analysis, verification of no adverse impacts, preparation of cost estimates and a benefit-cost-analysis, and an evaluation of potential constraints (environmental, utility conflicts, right-of-way needs, and constructability)

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 Study Cost

Cost Potential funding source(s)

Flood Management Evaluation (FME) STUDY

Lower Colorado-Lavaca REGIONAL FLOOD PLANNING GROUP

REGION 10

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Sponsor (name of entity) Commitment Yes No
Technical committee recommend Yes No RFPG recommend Yes No

Study Type

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

Problem Area

City County
Watershed
name(s)
Tributary(ies)
HUC# Stream miles (est.)
Drainage area: square miles, est. or acreage, est.
Social vulnerability index
(SVI score 0.0 indicates least vulnerable; 1.0 indicates most vulnerable.)
Other



Flood Risk Description

The existing crossing is undersized and overtops. The existing road is a 2-lane road with an average daily traffic count of 9,535.

Population at risk Structures at risk Critical facilities at risk
Farm/Ranch land impacted (acres) Roadway(s) impacted (miles)

Scope of Study

Conduct a study to evaluate replacing/upgrading the existing crossing repairing an existing road crossing. Study will include hydrologic and hydraulic modeling (with Atlas 14 rainfall), preliminary design of improvements, risk reduction analysis, verification of no adverse impacts, preparation of cost estimates and a benefit-cost-analysis, and an evaluation of potential constraints (environmental, utility conflicts, right-of-way needs, and constructability)

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 Study Cost

Cost Potential funding source(s)