Chapter 4: Assessment and Identification of Flood Mitigation Needs

Introduction

In previous tasks, the Regional Flood Plan (RFP) developed a broad understanding of the planning area with a focus on flood risk (**Task 1 – Planning Area Description**) and performed an analysis to identify infrastructure, land, and populations at flood risk and prepare an estimation of the associated impacts (**Task 2 – Flood Risk Analysis**). Under Task 4, the results of these previous efforts were further analyzed to identify regions with the greatest gaps in flood risk information and regions with the greatest flood risk (**Task 4A – Flood Mitigation Needs Analysis**). The results from Task 4A are utilized in conjunction with information obtained from public outreach to identify areas or communities with specific flood management or mitigation needs including flood risk mitigation projects, flood risk mitigation evaluations, and flood risk management strategies (**Task 4B – Identification and Evaluation of Potential Flood Management Evaluations and Potentially Feasible Flood Management Strategies and Flood Mitigation Projects**).

The descriptions of the flood mitigation and management categories provided by the Texas Water Development Board (TWDB) are as follows:

- **Flood Management Evaluation (FME):** A proposed flood study of a specific, flood-prone area that is needed in order to assess flood risk and/or determine whether there are potentially feasible FMSs or FMPs.
- **Flood Management Strategy (FMS):** A proposed plan to reduce flood risk or mitigate flood hazards to life or property. Any proposed action that the group would like to identify, evaluate, and recommend that does not qualify as either a FME or FMP.
- **Flood Mitigation Project (FMP):** A proposed project, either structural or non-structural, that has non-zero capital costs or other non-recurring cost and when implemented will reduce flood risk, mitigate flood hazards to life or property.

For simplification, these are termed “FMX” when considered together.

As a result of these two tasks, maps were developed that show the areas of highest flood risk and the largest information gaps within the region. Additionally, a list and associated maps were created to characterize the potential flood risk mitigation and management needs, or FMXs, identified for the region. These results will be utilized in subsequent RFP tasks.

Task 4A: Flood Mitigation Needs Analysis

This section describes the process adopted by the Lower Brazos Regional Flood Planning Group (RFPG) to conduct the Flood Mitigation Needs Analysis (Task 4A), resulting in identifying the areas with the **greatest gaps in flood risk information** and the areas of **greatest known flood risk** and mitigation needs. The Task 4A process is a high-level assessment that guides the subsequent Task 4B effort of identifying FMEs, FMPs, and FMSs. **Table 1** provides a summary of the TWDB guidance and factors that were considered in the Flood Mitigation Needs Analysis.

Table 1. TWDB Guidance and Factors to Consider

Guidance	Factors to Consider
1. Most prone to flooding that threatens life and property	• Buildings within 1% ACE flood hazard area • Low water crossings • Agricultural and ranching areas in 1% ACE flood hazard area • Critical facilities in 1% ACE flood hazard area
2. Locations, extent and performance of current floodplain management and land use policies and infrastructure	• Communities not participating in NFIP • Community CRS Score • City/County design manuals • Land use policies • Floodplain ordinance(s)
3. Inadequate inundation mapping	• No BLE or Zone AE FEMA floodplain mapping • Presence of Fathom/FEMA Zone A flood risk data
4. Lack of hydrologic and hydraulic (H&H) models	• Communities without recent detailed FEMA modeling or models of higher level of detail
5. Emergency need	• Damaged or failing infrastructure
6. Existing modeling analyses and flood risk mitigation plans	• Lack of Hazard Mitigation Action plans • Hazard Mitigation plans older than 5 years
7. Previously identified and evaluated flood mitigation projects	• Exclude flood mitigation projects already in implementation
8. Historic flooding events	• Disaster declarations • Flood insurance claim information
9. Previously implemented flood mitigation projects	• Exclude areas where flood mitigation projects have already been implemented unless significant residual risk remains
10. Additional other factors deemed relevant by RFPG	• Social Vulnerability Index (SVI)

4A.1: Process and Scoring Criteria

The main objectives of the Task 4A Flood Mitigation Needs Analysis are to identify the areas of greatest **known flood risk** and areas where the greatest **flood risk knowledge gaps** exist. To address needs identified in Task 4A, FMEs are subsequently identified and recommended by the RFPG in Task 4B.

Task 4A compiles data collected in Tasks 1 through 3 to achieve the objectives mentioned above. The

data is used to conduct a geospatial assessment by assigning scoring metrics associated with factors listed in **Table 1** to different areas of the region. Note that some factors were excluded from the analysis due to data scarcity, such as locations of identified flooding and pending flood mitigation projects. For the geospatial assessment, HUC-12 watersheds were selected as the area unit to be scored. A Hydrologic Unit Code (HUC) is a unique identifier assigned to watersheds in the United States. As the watersheds get smaller, the number of units used to identify them get longer. Therefore, the smallest unit of division used to identify a watershed is 12 digits, or a HUC-12. The Lower Brazos Flood Planning Region (LBFPR) has a total of 560 HUC-12 watersheds, with an average size of 42 square miles. Consideration was made to conduct this analysis at a county level to be consistent with exposure analyses in Task 2; however, it was determined that this would not provide a sufficient level of detail for Task 4A for the following reasons:

- Much of the compiled data can be summarized within much smaller units than counties, such as HUC-12 watersheds.
- FMEs that are identified and recommended based on results of Task 4A target needs more appropriately at a finer scale than the county level.
- Utilizing hydrologic boundaries to address flood risk and knowledge gaps is aligned with the overarching plan goal of proposing regional solutions.

A total of 13 data categories were used in the geospatial assessment, each with a scoring range determined based on percentiles. Generally, a scoring scale of zero to five was utilized for each category, with higher scores indicating higher need. Due to data being limited in several categories, only non-zero values were considered in the scoring ranges. The Flood Map Gap and Hydrologic and Hydraulic modeling categories were utilized to locate areas where the greatest **flood risk knowledge gaps** exist. The scores across the other 11 data categories were totaled to reveal the areas of greatest **known flood risk**. Further documentation of scoring methodology is provided in **section 4A.2**.

The following sections provide descriptions of all scoring factors and how each HUC-12 watershed was scored. Unless otherwise specified, the 0.2% and 1% annual chance exceedance (ACE) polygons from the existing flood hazard spatial layer created in Task 2A were utilized in this analysis as inundation mapping. Note that the objective of the Task 4A process is to determine the magnitude of all factors that are present within a given HUC-12; not necessarily to determine the relative importance of each factor in determining flood risk. Therefore, no weight has been applied to any specific category to emphasize one factor over another, although some exceptions were made by setting maximum possible scores for several categories to be less than five. These exceptions are explained in detail below.

4A.1.a. Areas Most Prone to Flooding that Threatens Life and Property

4A.1.a.1 Buildings

The building footprints dataset was provided by the TWDB on the Data Hub. This dataset was utilized in Task 2A to determine the total number of buildings in the 0.2% and 1% annual chance flood hazard polygons. For Task 4A, this category was scored based on the count of these buildings within each HUC-12 watershed. Scoring criteria for this category is shown in **Table 2.**

4A.1.a.2 Low Water Crossings

Low water crossings were identified in **Task 1 – Planning Area Description** (Task 1) and were downloaded from the TWDB Data Hub. For task 4A, this category was scored based on the count of low water crossings in each HUC-12. Scoring criteria for this category is shown in **Table 2.**

4A.1.a.3 Agricultural Areas

Agricultural areas have been defined for this task as land used for farming. Impacted agricultural areas

are those identified in Task 2A as intersecting the 0.2% ACE and 1% ACE flood hazard areas. The total impacted agricultural area in each HUC-12 was the criteria considered to assign points. Scoring criteria for this category is shown in **Table 2.**

4A.1.a.4 Critical Facilities

Critical facilities for this assessment include but are not limited to hospitals, schools, and industrial buildings. Existing critical facilities were identified in **Task 1** and were downloaded from the TWDB Data Hub. This dataset was then utilized in Task 2 to determine the total number of critical facilities within the 0.2% and 1% annual chance flood hazard polygons, and areas of unknown flood frequency. This category is scored based on the total number of critical facilities in each HUC-12 identified in Task 2A. Scoring criteria for this category is shown in **Table 2.**

4A.1.b. Current Floodplain Management and Land Use Policies and Infrastructure

4A.1.b.1 Communities Not Participating in the NFIP

Communities not participating in the NFIP were identified in **Task 1**. If a community is not a participant in the NFIP, all HUC-12s intersected by that community were assigned 3 points. Scoring criteria for this category is shown in **Table 2.**

4A.1.b.2 Communities with a CRS score below 10

Communities with a Community Rating System (CRS) score below 10 were identified using publicly available data from FEMA. A score below 10 indicates that a community has adopted higher standards for floodplain management than the basic requirements for participation in the NFIP, with 1 being the best possible score. In the LBFPR, College Station has the lowest CRS score (6), and Missouri City and Sugar Land have the second lowest CRS score (7). All HUC-12s intersecting communities with a CRS rating less than 10 were assigned a score of 0, and the rest were assigned a score of 2. Scoring criteria for this category is shown in **Table 2.** Note that the scoring for both categories within section 4A.1.b is arranged so that the maximum combined score equals 5; the scoring was arranged as such since the data in each category are closely related to each other. Furthermore, a community must participate in the NFIP to receive a CRS score.

4A.1.c. Areas Identified as Flood Map Gaps

This analysis was completed using the existing flood hazard layer and areas that were previously identified as a map gap in Task 2. It was assumed that the sources below represented adequate inundation mapping data:

- National Flood Hazard Layer (NFHL) Preliminary Data (zones AE, AH, OH, and VE)
- NFHL Effective Data (zones AE, AH, OH, and VE)
- Base Level Engineering (BLE)

The following inundation mapping data sources were considered lacking in necessary detail in this assessment:

- NFHL Zone A
- First American Flood Data Services (FAFDS)
- Fathom

HUC-12s identified as gaps were assigned a score of 5. Note also that some HUC-12s were identified as mapping gaps due to lack of flood hazard data behind levees and were also assigned a score of 5. Scoring criteria for this category is shown in **Table 2.**

4A.1.d. Areas Without Hydrologic & Hydraulic Models

Using the existing flood hazard layer created in Task 2A, HUC-12s were selected that intersect with 1%

annual chance flood hazard polygons from the following sources:

- NFHL Preliminary
- NFHL Effective Detailed
- Community Submittal

These mapping sources were assumed to be associated with detailed Hydrologic and Hydraulic models. HUC-12s flagged as having no detailed models were assigned a score of 5. The main difference between this category and the previous category is that BLE data is considered adequate for mapping purposes, but not for modeling purposes. Scoring criteria for this category is shown in **Table 2.**

4A.1.e. Areas with Emergency Needs

In the LBFPR, holistic criteria that define "Emergency Need" are still being determined. For the purposes of Task 4A, identification of damaged or failing infrastructure was utilized as the only scoring metric. Infrastructure points from **Task 1** that were previously categorized as being in poor or fair condition, deficient, or non-functional were counted in each HUC-12. Scoring criteria for this category is shown in **Table 2.**

4A.1.f. Existing Modeling Analyses and Flood Risk Mitigation Plans

Hazard Mitigation Action Plans (HMAPs) were available for most counties in the LBFPR. Therefore, in order to provide meaningful scoring in this category, only HMAPs equal to or less than 5 years old were considered. Scoring criteria for this category is shown in **Table 2.**

4A.1.g. Already Identified and Evaluated Flood Mitigation Projects

Use of projects classified as "Proposed" in the ExFldProjs layer from **Task 1** was considered for this category. The ExFldProjs layer contains projects currently being implemented and at stages ranging from funded to under construction. Since there were a limited number of projects identified as such, this category was not included in this assessment.

4A.1.h. Historic Flooding Events

4A.1.h.1 Disaster Declarations

Disaster declaration data was obtained in tabular form from FEMA. Using this data, declarations were totaled for each county. Totals from each county were then assigned to HUC-12s based on locations of watershed centroids. This was done to avoid bias in favor of HUC-12s that overlap multiple counties. This category was scored based on the number of disaster declarations assigned to each HUC-12 watershed. Scoring criteria for this category is shown in **Table 2.**

4A.1.h.2 FEMA Claims

To summarize flooding history in the LBFPR in **Task 1**, publicly available NFIP redacted flood claims were obtained in tabular form from FEMA. All available spatial information within the table was utilized to sum claims within the smallest possible area the claim could have occurred within. This spatial information is listed below:

- Census tracts
- Zip codes
- Counties
- Latitude and Longitude grids

Claims were geolocated to areas representing unique combinations of the attributes listed above. Where these polygons crossed HUC-12 boundaries, the total number of claims were split between watersheds based on area. For Task 4A, this category was scored based on the count of claims within each HUC-12 watershed. Scoring criteria for this category is shown in **Table 2.**

4A.1.i. Already Implemented Flood Mitigation Projects

Use of projects identified as "Ongoing" in the ExFldProjs layer from **Task 1** was considered for this category. However, since there were only a limited number of projects identified , this category was not included in this assessment.

4A.1.j. Other Factors - Social Vulnerability Index (SVI)

Social Vulnerability Index (SVI) refers to the potential negative effects on communities caused by external stresses on human health. Such stresses include natural or human-caused disasters, or disease outbreaks. In the context of this analysis, SVI is being used as a metric for assessing the vulnerability of communities. TWDB provided a building footprints spatial layer with SVI values at each feature for use in Task 2. For Task 4A, HUC-12 IDs were spatially assigned to each building in order to calculate average SVI values for each HUC-12. This category was scored to reflect that higher SVI values correlate with a higher flood risk mitigation need, since high SVI areas tend to have greater difficulty recovering from natural disasters. Scoring criteria for this category is shown in **Table 2.**

Table 2. Task 4A Scoring Criteria

Score (points)	0	1	2	3	4	5
Number of Buildings in Flood Prone Areas	0	1-8	9-18	19-42	43-122	123+
Number of Low Water Crossings	0	1	2		3	4+
Agricultural Areas in Flood Prone Areas (Square Miles)	0	0-0.119	0.12-0.299	0.30-0.729	0.73-2.059	2.06+
Number of Critical Facilities in Flood Prone Areas	0	1		2	3-4	4+
Number of Communities not Participating in NFIP	0			1+		
Number of Communities Participating in CRS with Rating Lower than 10	1+		0			
Identified as a Flood Map Gap	No Map Gap					Gap
Areas without H&H Models	1					0
Damaged or Failing Infrastructure	0	1		2	3	4+
Hazard Mitigation Action Plans	COMPLETE			PARTIAL		NONE
Number of Disaster Declarations	0	6-8	9	10	11-12	13+
Number of FEMA Claims	0	0.01-0.439	0.44-1.209	1.21-4.269	4.27-15.529	15.53+
Social Vulnerability Index (SVI)	0	0-0.249	0.25-0.339	0.34-0.439	0.44-0.549	0.55+

4A.2: Scoring Methodology

As previously mentioned, percentiles were used to develop the scoring scale for numerical categories, with the 80th percentile receiving a score of 5 and the 20th percentile receiving a score of 1. A sample list of 15 non-zero values in increasing order are shown in **Table 3** to illustrate how scores are assigned using this methodology. For these categories, zero values received a zero score and were removed from the array of values used to compute percentiles. This was performed in order to provide meaningful scoring metrics for categories containing a high percentage of zero values. For example, 464 out of 560

HUC-12 watersheds in Lower Brazos Region have no identified critical facilities in flood hazard areas. Not excluding zero values would assign zero as the 80th percentile, resulting in a score of 5 being assigned to every HUC-12 with a non-zero value. Therefore, zero values were excluded across the board for consistency since this issue was present in several categories. Adjusted percentile values that were used to score HUC-12s are shown in **Table 2.**

Table 3. Scoring Example with Percentiles

Score (points)	**1** (below 20th percentile)			**2** (20th to 40th percentile)			**3** (40th to 60th percentile)			**4** (60th to 80th percentile)			**5** (above 80th percentile)		
Values	1	1	2	3	4	4	6	8	9	10	17	19	22	24	31

As an alternative to using percentiles, a scoring system that assigns scores from 0 to 5 that are proportional to the full range of values within each category was considered. However, it was determined that this would not provide a clear picture of needs in the region since watersheds near the coast have significantly higher numerical totals than inland areas. For example, the Lower Oyster Creek watershed has the highest total for flood claims (5,674), which is over 4 times higher than the second watershed by claims. Similar trends are evident in the buildings and critical facilities categories. As a result, assigning proportional scores to values in each category would produce HUC-12 scores near the coast that would eclipse the rest of the region. For this reason, percentiles were chosen as the best option to avoid downplaying flood risk mitigation needs for large portions of the region.

4A.3: Analysis Results

As previously discussed, the first goal of Task 4A is to identify areas where the greatest **flood risk knowledge gaps** exist. The Inundation Mapping and Hydrologic and Hydraulic modeling categories were utilized to locate these areas. The results of this preliminary assessment show that roughly one third of the Lower Brazos River watershed has both inadequate mapping and no detailed hydrologic and hydraulic models, as indicated in **Map 14** located in **Appendix A.** Most of these areas are in the upper portion of the basin. Specifically, the following major subwatersheds, listed from south to north, contain the most significant gaps in flood risk knowledge:

- Mill Creek
- San Gabriel River
- Leon River
- Bosque River
- Middle Brazos – Palo Pinto

The second goal is to determine the areas of greatest **known flood risk** and flood mitigation needs. The scores across 11 of the 13 categories, which exclude those used to determine flood risk knowledge gaps, were totaled to locate these areas. As shown in **Map 15** located in **Appendix A**, HUC-12s determined by this analysis to have high flood risk are distributed throughout the Lower Brazos River watershed, with clusters of particularly high risk located in the following areas, listed from South to North:

- Entire basin at and downstream of Washington and Grimes County
- Williamson County
- McLennan County

Each of these areas tend to score high in different combinations of risk factors. For instance, areas downstream of Washington and Grimes County score exceptionally high with regard to buildings and

critical facilities in flood prone areas, disaster declarations, and flood claims. Conversely, watersheds in Williamson County tend to score higher due to damaged or failing infrastructure and low water crossings.

Ultimately, results of Task 4A guided the RFPG's subsequent efforts to address flood risk identification and mitigation needs in Task 4B by informing creation of drainage master plan and regional watershed study FMEs, which is discussed further in section 4B.3.d. Additionally, studies to assess flood hazard within areas protected by levees were created and assigned the type "Study on Flood Preparedness." **Map 14,** located in **Appendix A,** identifies areas in the LBFPR where regional watershed and internal levee study FMEs were created, and **Map 15,** located in **Appendix A,** identifies areas where drainage master plan FMEs were created. Since sponsorship support was identified as a prerequisite for recommending needs in Task 5, Map 15 also directed the RFPG's stakeholder outreach efforts to obtain approval of FMPs, FMSs, and FMEs identified in Task 4B..

Task 4B: Identification and Evaluation of Potential Flood Management Evaluations and Potentially Feasible Flood Management Strategies and Flood Mitigation Projects

4B.1 Purpose and Intent

Task 4B is the first step in gathering and assessing potential FMEs, FMSs, and FMPs. The identification of FMXs was guided by the identification of flood prone areas in previous tasks along with the review of publicly sourced information and stakeholder outreach; primarily in Task 4A – Flood Mitigation Needs Analysis.

The RFPG utilized multiple avenues to collect studies, reports, models, and other documentation that support proposed flood management or mitigation efforts throughout the region. The most promising items were sourced from the Stakeholder Survey where stakeholders provided the region with the information deemed most important to their current efforts. However, publicly available documentation such as Hazard Mitigation Plans, Master Drainage Plans, and Flood Protection Plans were also analyzed for potential mitigation and management efforts that could be included in the Lower Brazos Regional Flood Plan.

After gathering a substantial amount of information, the RFPG approved an identification process that was used to develop a list of potential FMEs, FMSs, and FMPs.

Finally, each FMX was analyzed to determine associated characteristics, existing flood risk, flood risk reduction, and costs depending on the mitigation type. The results of this evaluation were used to help determine which FMEs, FMSs, and FMPs will be recommended for inclusions into the regional flood plan as well as how these recommended needs will be ranked by the TWDB in the overall State Flood Plan.

4B.2 Information Collection

4B.2.a Stakeholder Survey

As part of **Task 10 - Adoption of Plan and Public Participation** a stakeholder survey was sent out to over 550 public officials (primarily Public Works Directors and City Engineers but also City managers, County Commissioners, etc.) throughout the Lower Brazos region. The primary intent of the survey was to directly source specific flood management and mitigation needs from the various stakeholders within the region. This allowed stakeholders to provide any type of flood mitigation to the group, from high-level ideas to detailed design drawings of projects, for evaluation and incorporation into the plan.

Figure 1 shows the distribution of responses from the stakeholder survey. Although the responses to the stakeholder survey appear to be reasonably distributed geographically, a minority of these responses included submittals of flood management or mitigation needs. The entities that did provide specific mitigation needs, along with supporting documentation and data, are concentrated in the southern portion of the Lower Brazos region. This uneven distribution is assumed to be due to the higher risk of flooding in this portion of the region causing increased awareness of flood risk and, in turn, increased engagement with flood planning efforts.

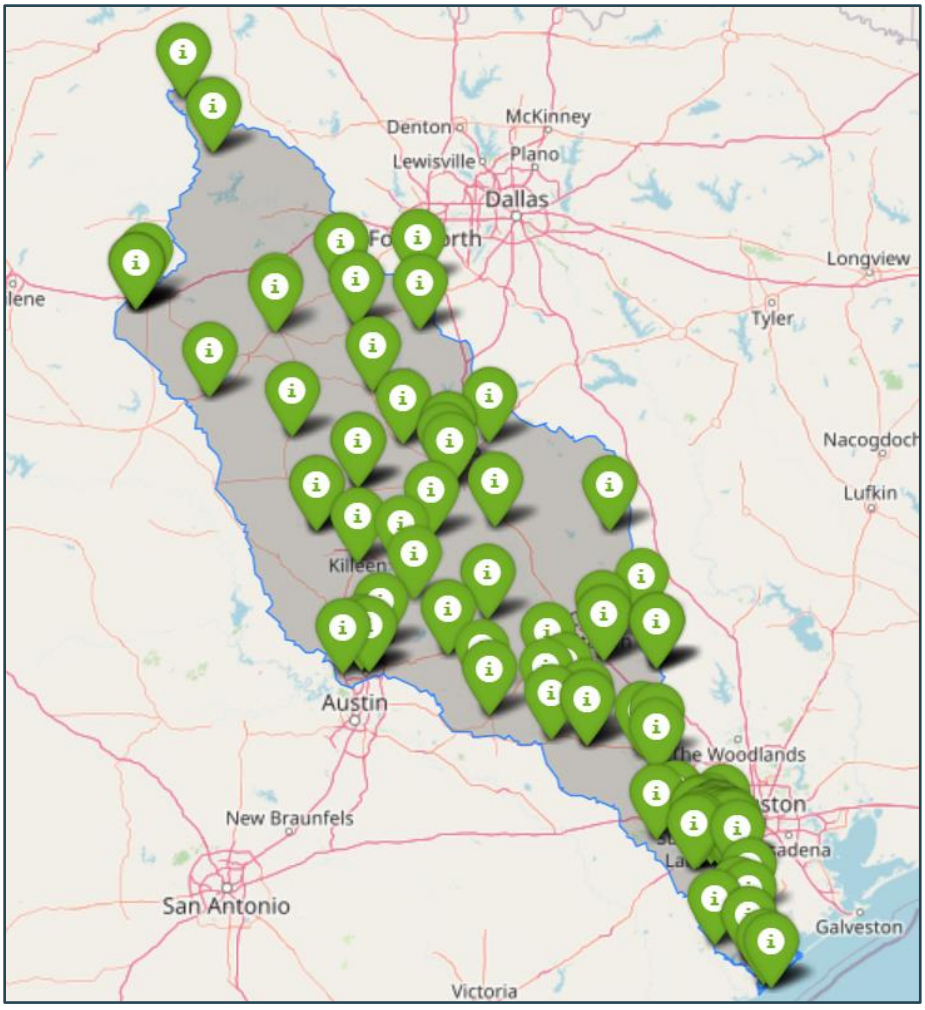


Figure 1. Stakeholder Survey Response

The City of Sugar Land, Fulshear, and Sienna submitted data and documentation supporting their identified flood mitigation and management needs. Through this avenue, around 30 potential FMEs, FMSs, and FMPs were identified for further evaluation.

4B.2.b Other Data Sources

Due to the due to low participation in the survey, few needs were provided directly by stakeholders in the region. As a results, several other sources were reviewed in order to indirectly determine additional needs for the communities throughout the Lower Brazos region. These other sources included Hazard Mitigation Plans, publicly available Master Drainage Plans, unfunded Community Development Block Grant lists, unfunded Flood Infrastructure Fund lists, and Capital Improvement Project lists.

Throughout the identification and evaluation process, additional direct outreach with stakeholders—targeted to the larger communities that did not respond to the stakeholder survey—was performed in order to obtain flood management and mitigation needs in in high population areas where needs were expected. As a result, several additional needs were provided directly to the consulting team by a few additional stakeholders. In total, the City of Bryan, City of College Station, McLennan County, Williamson County, and Fort Bend County Drainage District provided almost 90 flood mitigation and management needs.

4B.2.c Final List of Sourced Potentially Feasible Needs

Over 540 flood mitigation and management needs were collected both directly and indirectly from stakeholders. These flood mitigation needs ranged from high-level flood mitigation planning to preliminary design of flood mitigation infrastructure. **Table 4** shows the different sources that were reviewed along with the number of flood mitigation or management needs from each source.

Table 4. Flood Management and Mitigation Needs Sources

Source	Number of Needs*
Survey	30
Direct Outreach	66
Hazard Mitigation Plans	237
Master Drainage Plans	133
Capital Improvement Projects	14
Unfunded Community Development Block Grant	25
Unfunded Flood Infrastructure Fund	2
Flood Protection Plan	38
Total	**545**

* Some needs were found in multiple sources and are counted by the primary source.

The needs sourced directly from stakeholders (including the stakeholder survey) along with publicly available master drainage plans typically had the most amount of supporting information, such as hydrologic and hydraulic modeling, needed to complete the identification and evaluation of flood management and mitigation needs for this plan. As a result, the level of engagement from stakeholders directly impacted the evaluation of flood management and mitigation needs.

4B.3 Identification Process

4B.3.a Initial Screening Process

After performing extensive data collection, a screening process was used to identify needs that did not align with the Regional Flood Planning purpose and categorize the remaining flood mitigation and management needs. The screening process was developed to ensure that needs are classified

appropriately per the definitions of FME, FMS, and FMP provided by the TWDB. The process was also developed to ensure that needs were classified in a manner that was equitable and consistent across the region.

The raw list of collected flood management and mitigation needs was initially screened for relevancy to mitigation of existing flood risk. As an example, projects related to water supply without flood mitigation benefit or projects focused on mitigating flood risk associated with future development were discarded.

After this pre-screening effort, the needs were filtered into two categories (FMPs or FMSs) based on whether the need was classified as a single project or multiple projects. Single projects included separate projects that are hydraulically connected and provided a flood risk benefit to a single service area. Regional needs such as community-wide flood early warning systems or drainage criteria updates were classified as FMSs. The remaining needs such as structural mitigation projects were initially classified as FMPs. These projects ranged in level of detail from conceptual project ideas to detailed construction drawings.

The FMP and FMS lists were then screened further based on the level of information provided by the source. For a need to qualify as an FMP—or certain types of FMSs—there has to be enough supporting data to ensure that the project is feasible. To determine feasibility, the FMX was evaluated to determine the level of flood risk reduction (i.e., benefit) versus the cost to construct the project. This is to ensure that a desired level of benefit to cost is met per the requirements of the flood plan.

Other supporting criteria that the TWDB required to be evaluated in addition to the benefit to cost ratio include:

- Service area
- Percentage of the project that is a nature-based solution (by cost)
- Water supply benefit
- Project level of service
- No negative impact to neighboring areas

Hydrologic and hydraulic modeling is assumed to be a necessary component to generate a sufficient amount of information to complete this evaluation and, as a result, was a primary metric by which FMPs and FMSs were screened. If modeling was not provided with a provided need, the need was classified as an FME with the assumption that the required data could be obtained by further evaluation of the need.

Note, that the FMS category is considered a “catch-all” flood management category that is intended to capture strategies or ideas that may indirectly reduce flood risk. As a result, some FMSs do not require a quantifiable level of flood risk reduction to still be classified as an FMS. Non-structural actions were considered feasible if they were flood-related and provided a benefit to the community. Some examples of these types of FMSs include drainage criteria updates or education and awareness programs. While neither of these examples have a measurable flood risk reduction benefit, they still provide an indirect benefit to flood risk through policy, education, awareness, and information. If a need was initially classified as an FMS but did not have supporting information, additional inspection was completed to determine whether the FMS type required flood risk reduction to be quantified. If not, the need remained an FMS.

A flow chart, shown in **Figure 2** below, was created to visually summarize the key elements of this process in order to increase public awareness of how needs were screened for further evaluation. The Lower Brazos RFPG approved this process on November 16, 2021.

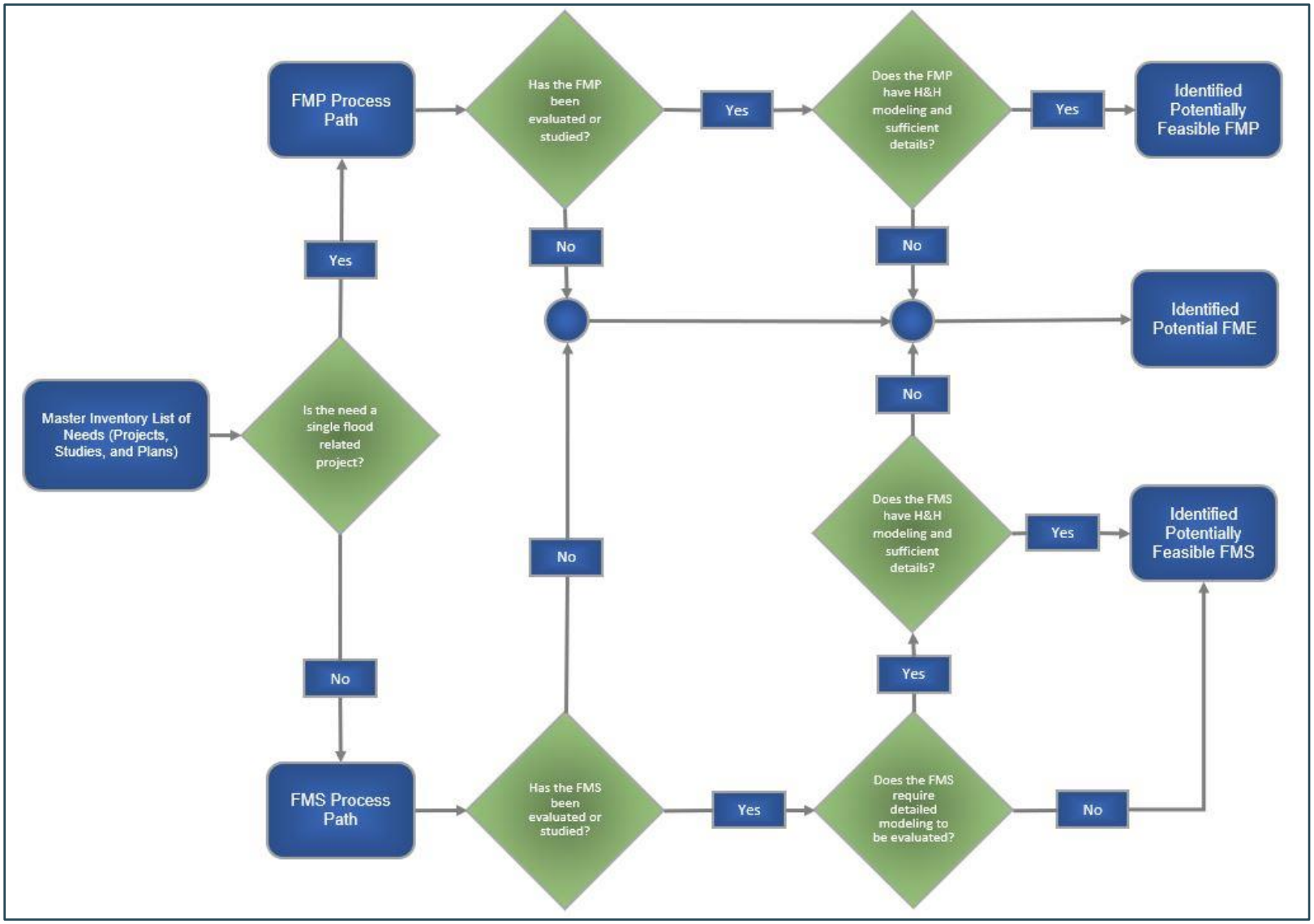


Figure 2. Identification Process

4B.3.b Secondary Screening and Reclassification

Flood management and mitigation needs often passed through the screening process several times as more information became available through ongoing research and stakeholder feedback. Some needs were initially classified as FMPs with the assumption that hydrologic and hydraulic modeling would become available at a later stage of the evaluation process. In some cases, these models were not provided by the responsible entities and the FMP was subsequently reclassified as an FME. Conversely, some needs were initially classified as an FME due to the scarcity of the information that was provided but were later reclassified as an FMP based on new available data.

Several FMPs were also reclassified as FMEs based on the hydrologic data that was initially used to develop the projects. If the project was developed using outdated rainfall statistics, it was classified as an FME and specifically tagged as needing further hydrologic modeling. This has the greatest impact for regions in the southern portion of the region due to the recent change in rainfall statistics in this area. Under **Task 12 – Perform Identified Flood Management Evaluations, Identify, Evaluate, and Recommend Additional Flood Mitigation Projects** (Task 12), a select few of these FMEs may be further evaluated as part of the regional flood planning effort in order to upgrade these back to FMPs.

4B.3.c Border Communities

Some of the FMEs and FMSs share a common boundary with geopolitical entities such as city limits or county lines, thus causing the boundary of the FMX to expand outside the Lower Brazos Region. If the majority of an FME or FMS was found to be located outside of the Lower Brazos watershed due to its geopolitical tie, it was removed from the FMX list and no longer considered an identified need for the plan. These FMXs were provided to the relevant neighboring regional flood planning groups for their consideration. The communities that were affected are listed in **Table 5** below. Brazoria County and Young County have been excluded from this process since their boundaries overlap more than two watersheds and the largest share of the areas for these two entities are located within the Lower Brazos region.

Table 5. FMEs and FMSs Reassigned to Other Regional Flood Plans

Community	Neighboring Regional Plan	Reassigned FME	Reassigned FMS
Archer County	Upper Brazos	-	1
Callahan County		-	2
Fort Bend LID #2	San Jacinto	1	-
City of Burleson	Trinity	1	-
City of Fairfield		1	-
Freestone County		2	2
Jack County		1	4
Leon County		2	2
Madison County		1	2
Parker County		2	1
Bastrop County	Lower Colorado	3	1
Brown County		-	2
Burnet County		1	2
City of Brazoria		1	-
Mills County		-	1
Total		**16**	**20**

4B.3.d FMEs Created by the RFPG

In addition to identifying FMEs through the data collection efforts described above, the RFPG was also responsible for creating FMEs to address needs related to information gaps and identified flood risk. To support this activity, the Flood Mitigation Needs Analysis conducted during Task 4A identified HUC-12 watersheds with the highest flood risk knowledge gaps and the greatest overall flood risk. To address these needs, drainage master plans were recommended for areas with high flood risk to help begin the process of mitigating this flood risk and regional watershed studies were recommended for those areas with the greatest knowledge gaps.

Figure 3 below shows areas of the Lower Brazos region that have gaps in flood risk knowledge (also see **Map 14** found in **Appendix A**). This information was used to create the regional watershed studies and studies on flood preparedness within leveed areas mentioned in section **4A.3**. In order to promote regional solutions and obtain the best return on investment for each study, FMEs were delineated using the smallest appropriate hydrologic area rather than political boundaries. In most cases, study extents were defined by major reservoirs or tributary confluences with larger rivers. As a result of utilizing hydrologic boundaries for study extents, regional watershed study FMEs created by the RFPG include some areas that are not specifically noted as having flood risk knowledge gaps.

Figure 3. Regional Watershed Studies Created by the Lower Brazos RFPG

Figure 4 shows areas of the LBFPR that have the greatest overall flood risk based on factors discussed in **Section 4A.1.** (Also see **Map 14** found in **Appendix A**). HUC-12s with an overall risk score exceeding the 80th percentile were assigned drainage master plan (DMP) FMEs, which generally follow HUC-12 boundaries. In some cases, 2 or more HUC-12 areas were combined into a single FME where the RFPG could identify the potential for future FMPs and FMSs to address needs across a broader region.

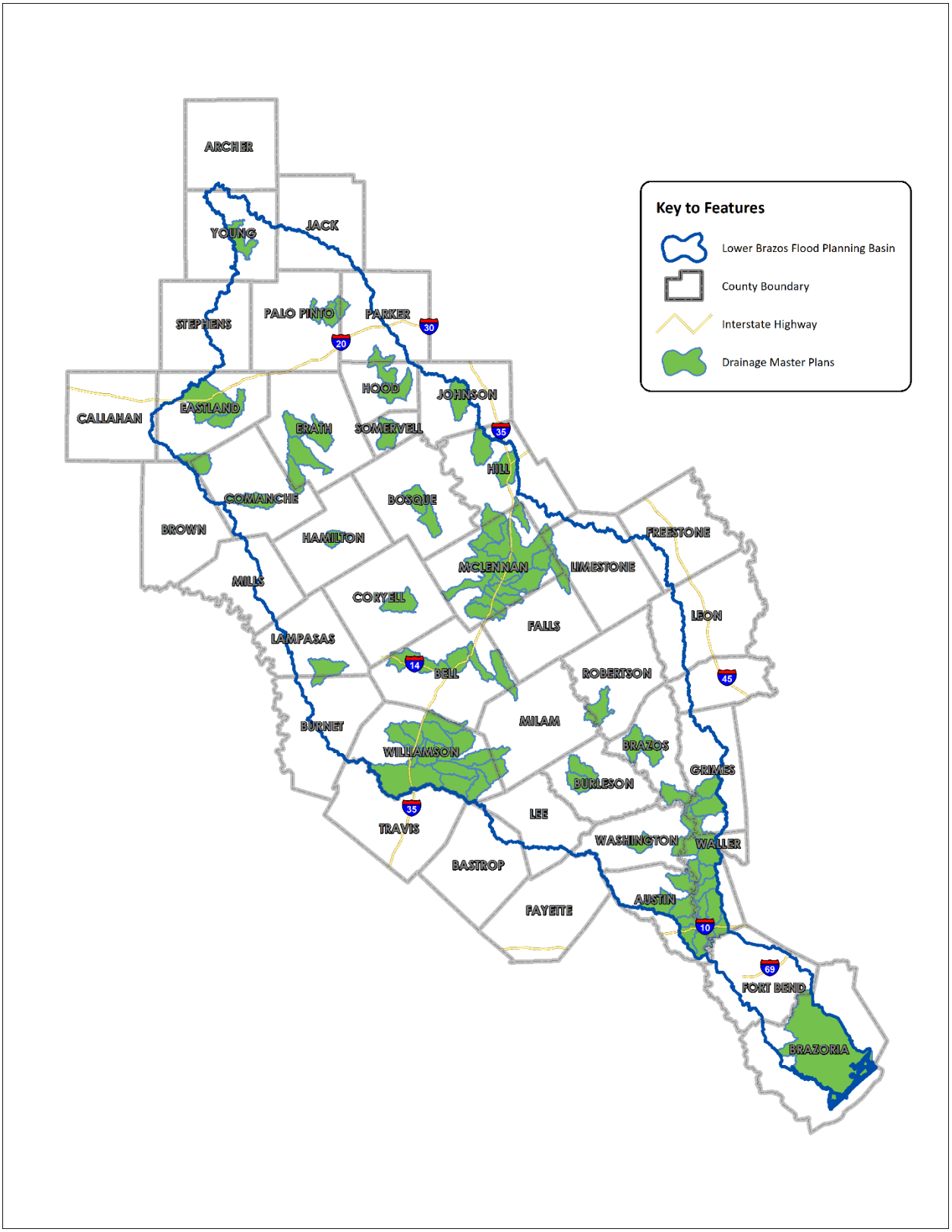


Figure 4. Drainage Master Plans Created by the Lower Brazos RFPG

The regional watershed studies and drainage master plans created were added to the FMX list as FMEs. The list was then checked for overlaps of existing FMEs and created FMEs to ensure that there were not duplicates covering the same area and need type. FMEs created in Task 4A generally had priority over FMEs determined from other sources since they are more regional in scope and have the potential to benefit a larger area.

Table 6 lists the different types of FMEs developed as a result of the Task 4A.

Table 6. FME Sub-Types Created Under Task 4A

FME Sub-Type	Number
Drainage Master Plans	81
Regional Watershed Studies	39
Study on Flood Preparedness (leveed areas)	4
Total	**124**

4B.3.e Placeholder FMPs Created by the RFPG

Many needs were originally classified as FMPs based on the descriptions provided in the source material. However, due to lack of modeling or other supporting information, the FMPs had to be demoted to FMEs for further evaluation to develop the missing information. However, as a result of this reclassification and the limited information recorded with FMEs, important information is lost such as construction cost and type of project. In order to not under-represent the full potential of flood mitigation costs for the regional plan, placeholder FMPs were created to represent the fully evaluated version of these FMPs in order to track the total construction costs. The FMPs have been classified as "not recommended" for inclusion in the plan because they need further evaluation. The FME associated with each placeholder can be considered more fully for inclusion into the plan. FMPs and FMEs that are interrelated have been given association tags in order to easily track both and avoid future confusion and duplication. **Figure 5** summarizes the types and quantity of placeholder FMPs needing further evaluation. These are officially classified as Engineering Project Planning FME types depending on the amount of information associated with each respective FMP.

Under **Task 12** a select few of these FMEs may be further evaluated as part of the regional flood planning effort in order to upgrade these back to FMPs.

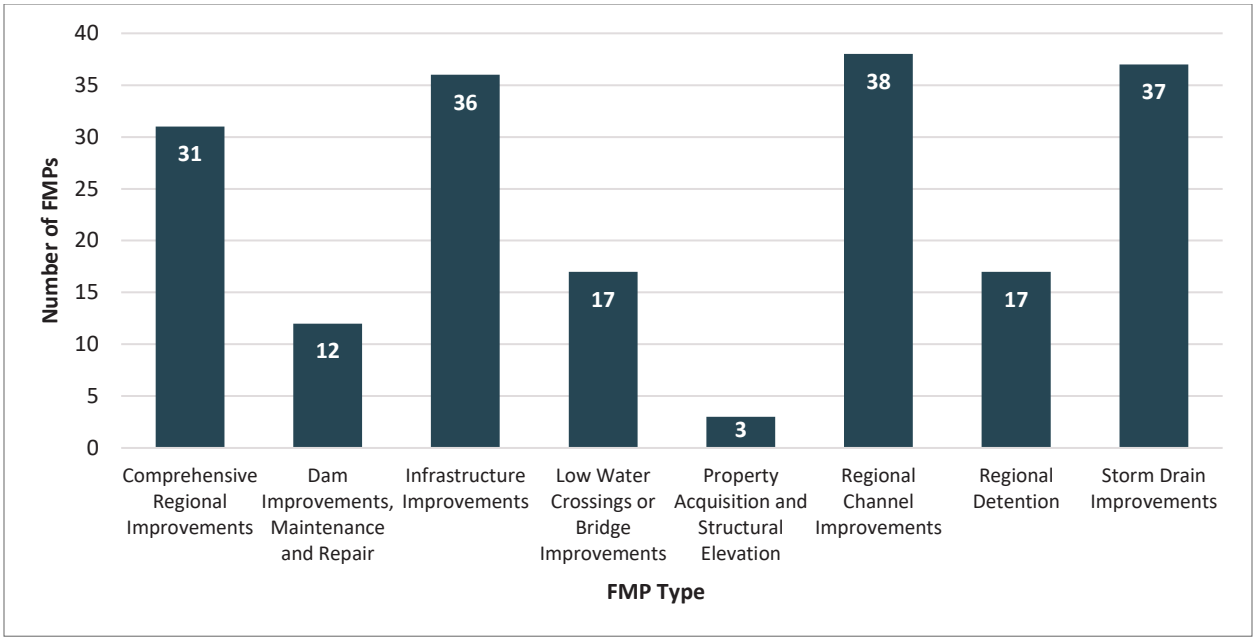


Figure 5. FMPs Needing Further Evaluation

4B.3.f Infeasible FMPs

68 FMPs were classified as infeasible. Project service area was the main reason for FMPs being classified as infeasible. Based on guidance from the TWDB and direction from the LBRFP group, projects with a service area of less than a square mile were classified as infeasible since they did not conform to the spirit of a "regional" flood plan.

4B.3.g Final List of FMEs, FMPs, and FMSs

The final list of potential FMEs, FMPs, and FMS that are included in the plan for further evaluation are listed in **Table 7** below.

Table 7. Final Number of Identified FMEs, FMPs, and FMSs

Need Type	Number
Flood Mitigation Evaluations	304
Flood Mitigation Projects	256
Flood Management Strategies	132
Infeasible Flood Mitigation Projects	68
Total	**760**

The distribution of FMEs throughout the Lower Brazos Region can be seen in **MAP 16** found in **Appendix B**, and the distribution of identified FMPs can be seen in **MAP 18** found in **Appendix B**.

Each category had a different set of metrics by which the needs are evaluated. For instance, FMEs are evaluated based primarily on study cost and existing flood risk within the study area whereas FMPS are evaluated not only by project cost and existing flood risk but also reduction in flood risk. Even less so, FMSs predominately do not require information on flood risk or flood risk reduction. The final classification is important to the flood plan because it determines how the need is evaluated and how it will be presented.

4B.4 Potential FME Evaluation

4B.4.a FME Types Overview

Needs classified as FMEs were further classified into "Types" and "Sub-Types" in order to help determine the costs necessary to complete each respective study and to facilitate future prioritization and selection. The two broader categories, Watershed Planning and Engineering Project Planning, are based on the scope of the study.

4B.4.a.1 Watershed Planning

Watershed Planning FMEs characterize those evaluations that are more regional in scope and are focused at either reducing flood risk information gaps or developing flood mitigation projects for an entire watershed or community.

The Drainage Master Plans (DMPs) subtype is an evaluation that estimates flood risk for the entirety or portion of a watershed—sometimes confined to a specific community and its political boundaries—and develops food risk management and mitigation recommendations that will mitigate flood risk. These studies typically identify needs within a community including FMEs, FMPs, and FMSs.

The Regional Watershed Studies subtype is an evaluation that estimates flood risk throughout an entire watershed and can encompass several communities within the watershed. These studies are often completed at a higher level of accuracy than a DMP but do not result in the identification of flood mitigation projects like a DMP. Typically, flood risk mapping products are developed as part of this study to be used for both regulatory guidance and regulatory enforcement.

4B.4.a.2 Engineering Project Planning

Engineering Project Planning FMEs characterize those evaluations that are more specific to individual or multiple connected projects that serve a single benefit area within a community. These studies either include updates to the supporting modeling data or further evaluation of a project. As mentioned above, many of these FMEs were originally classified as FMPs but later reclassified as FMEs due to lack of modeling or other supporting information needed to complete flood risk reduction evaluations. Engineering Project Planning FMEs are broken down into three sub-types depending on the level of evaluation needed to upgrade an FME to an FMP.

The Feasibility Assessment sub-type is an evaluation of a specific, unstudied high flood risk area with the goal of developing alternatives to mitigate the identified high flood risk. Feasibility Assessments include estimated design and construction costs and the flood risk reduction associated with the alternatives. Evaluations of this kind typically require the development of hydrologic and hydraulic models to establish existing conditions and determine proposed conditions and flood risk benefits associated with the project. Once completed, the study will give planners a better understanding of the options to mitigate flood risk at a specific location along with estimated costs and benefits associated with a given alternative. It will also help prioritize a given alternative with other community needs and facilitate implementation.

The Preliminary Engineering sub-type is an evaluation of an identified potential flood mitigation project (FMP) to better determine the flood risk reduction benefits associated with the FMP. This evaluation typically requires the development of, or significant revisions to, hydrologic and hydraulic modeling to determine flood risk reduction associated with the project and also includes the completion of a detailed cost estimate Once completed, the study will give planners a better understanding of the cost and benefit associated with a given project and help them prioritize that project with other community needs and facilitate implementation.

The Update H&H Modeling sub-type is an evaluation of an already developed FMP where the underlying

modeling data is out of date. To be upgraded to an FMP, this FME hydrologic and hydraulic modeling needs to be updated. These updates typically include the inclusion of updated rainfall information or other underlying data such as other changes in hydrology, terrain, land cover, land use, etc.

4B.4.a.3 Studies on Flood Preparedness

Studies on Flood Preparedness are FMEs that analyze specific flood risks of a community and determine how well the community is prepared to respond or how well existing infrastructure is able to handle the flood risks. Dam failure analyses and emergency evacuation plans make up the majority of this category.

Table 8 outlines the different types and sub-types of FMEs, the general category description for each sub-type, and the number FMEs that have been identified for each category.

Table 8. FME Classifications

FME Type	FME Sub-Type	Description	Number of FMEs Identified
Watershed Planning	Drainage Master Plans	An assessment of a watershed or community to estimate flood risk and recommend flood management and flood mitigation needs with a focus on potential flood mitigation projects.	127
	Regional Watershed Studies	An assessment of a watershed with the intent to develop better flood risk information which can include both regulatory and non-regulatory flood risk mapping.	59
Engineering Project Planning	Feasibility Assessment	Develop flood mitigation project alternatives for a discrete high flood risk area, estimate construction costs for the alternatives, and determine flood reduction benefit for the alternatives. Evaluation will require the creation of H&H modeling.	31
	Preliminary Engineering	Further evaluate an identified potential flood mitigation project, validate construction costs, and determine flood reduction benefit for the project. Evaluation will require the creation of H&H modeling.	148
	Update H&H Modeling	Updates or refinement of previously created models that support a potential flood mitigation project to include the best available data.	40
Studies on Flood Preparedness		Analysis to determine community risk and preparedness in the event of infrastructure failure or severe storm events.	40
Total			**431**

4B.4.b Critical Assessment Information

FMEs are intended to be identified and recommended for areas that have higher-than-average flood risk and where areas do not have planned flood mitigation projects or do not have sufficient flood risk information. Since FMEs focus on developing better information or evaluating projects, they do not typically provide any immediate flood reduction benefit. As a result, the evaluation of FMEs focus on general information about the FME as well as existing flood risk information within the study area. The following metrics were identified for each potential FME, depending on the amount of available information for a given area:

- General description and location of FME including impacted HUCs, counties, and watersheds
- Sponsor(s) who will manage the project; along with other entities that may have oversight
- Estimated study cost and potential funding sources (local, state, and federal)
- Associated RFPG approved flood management and mitigation goals (described in Chapter 3B) to ensure the FME meets the goals of the plan
- Determination on whether the FME meets an emergency need
- Associated flood risk within the study area including:
    - Estimated number of structures (residential and critical facilities) at flood risk
    - Estimated population at flood risk
    - Estimated road and low water crossings at flood risk
    - Estimated farm and ranch land at flood risk
- Existing or anticipated models

A few of the generic metrics—description, type, location, area, sponsors, and entities with oversight for each FME—were provided by reports, studies, or other sources that indicated the need of the FME. However, some of the metrics required more analysis than available in the source documentation such as cost to perform the evaluation, existing flood risk within the study area or likely benefitting from the study, and determination on whether the evaluation meets an emergency need.

4B.4.b.1 Evaluation Cost Estimate

An estimate of costs to complete an evaluation were determined for each FME. TWDB guidance defines the cost estimate for FMEs to be a "planning level" cost that describes if the study would utilize existing hydraulic and hydrologic models or depend on existing information. Some of the FMEs submitted by entities for inclusion in the RFP included planning level cost estimates. However, most of the FMEs that were either collected or created as part of Task 4B do not have estimated costs. Costs had to be developed for these FMEs.

Per TWDB guidance, the following costs are required to be considered if applicable:

- Associated non-engineering studies (floodplain regulation development; flood authority or revenue raising studies; public awareness program)
- Engineering/technical/feasibility studies (hydrologic and hydraulic modeling/mapping; identification of potential flood risk reduction solutions; BCA and alternative analyses; project design; construction engineering)
- Surveying; geotechnical; testing

To estimate study costs while ensuring an accurate comparison between FMEs, a consistent process was developed for all FMEs based on key FME characteristics such as FME sub-type, study area, and estimated project construction cost. For the Watershed Planning FME types (Drainage Master Plans and Regional Watershed Studies) and Studies on Flood Preparedness types, costs to complete the FMEs were estimated based on the consultant team's records of costs to complete past evaluations of similar types. From this record, a cost-to-study area relationship (i.e., "curve") was developed. These relationships were used to estimate study costs for watershed mapping FME types based on the area of the FME. The FME areas were delineated manually based on the source description of each FME and estimated using the watershed that contributes runoff to the flood risk point — or region of interest.

Costs for Preliminary Engineering sub-type FMEs were estimated using a methodology focused on the scope and type of project being evaluated rather than the study area. This methodology was chosen to account for the complexity of design associated with the specific project. Therefore, instead of using study area for the project to estimate study costs, project construction costs were used to estimate

study cost. Construction costs were provided in the supporting documentation for all of the FMEs classified as Preliminary Engineering. The FME study cost was then estimated as a percentage of the construction rated on a curve with higher cost projects having a lower percentage of study cost to construction and lower cost projects having a higher percentage.

Projects that did not have an associated cost within the source material were classified as Feasibility Assessment FME sub-types. Because of this, FME study costs for this sub-type were estimated based on study area using the cost-to-area curve developed for Drainage Master Plans.

The costs for Update H&H Modeling FME sub-type were estimated using a flat rate methodology. The costs to update H&H modeling and re-evaluate the projects were estimated using rates based on the consultant team's records of costs to complete modeling updates of similar types and scope. However, similar to the cost estimates for Engineering Project Planning, costs were estimated based on the construction cost of the project. The studies were separated into three categories based on the cost of the project—small, medium, and large—and flat study costs were assigned to each. **Table 9** lists the costs associated with each size study and the range of area that is included for each size category.

Table 9. Update H&H Modeling Costs

Project Cost Range (Millions $)	Cost ($)
< 0.5 (Small)	$50,000
0.5 - 10 (Medium)	$100,000
> 10 (Large)	$300,000

The processes outlined above were used consistently for all FMEs regardless of cost information provided within the source documentation. This ensured that the cost estimate calculated for each FME was based on a consistent and equitable methodology.

The estimated costs associated with each FME depends on broad, high-level assumptions. The FME costs estimated as part of this plan are for high-level planning purposes only. Further evaluation will be required to develop more detailed and accurate cost estimates.

4B.4.b.2 Existing Flood Risk

A flood risk analysis was completed for each FME to provide additional context to the scope and extents of the FME along with an estimate of the level of flood risk within the study area that could potentially be mitigated with the implementation of flood mitigation projects or management strategies.

The flood risk datasets created in **Task 2A - Existing Conditions Flood Risk Analysis** were leveraged as a baseline for at-risk infrastructure with the flood risk data being heavily based on the flood quilt developed under this task. The FME study area was used to define the limits of flood risk for the FME and the at-risk infrastructure located within the FME boundary was used to calculate the following metrics:

- Estimated Number of Structures at Flood Risk
- Residential Structures at Flood Risk
- Estimated Population at Flood Risk
- Critical Facilities at Flood Risk
- Number of Low Water Crossings at Flood Risk
- Estimated Number of Road Segment Closures
- Estimated Length of Roads at Flood Risk (miles)
- Estimated Farm and Ranch Land at Flood Risk (acres)

This methodology was used consistently for all FMEs regardless of information provided within the source documentation. This ensured that the associated flood risk calculated for each FME was based on a consistent and equitable dataset.

4B.4.b.3 Emergency Need Classification

The term Emergency Need is not currently defined by TWDB and was to be determined by each individual region. For the Lower Brazos region, the following criteria was decided upon by the RFPG to determine areas of Emergency Need:

Removing severe repetitive loss properties through FMEs is deemed to meet an emergency need. Severe repetitive loss (SRL) properties are those that flood repeatedly, causing significant difficulties for property owners. The National Flood Insurance Reform Act of 2004 defined severe repetitive loss as: "a single family property (consisting of 1 to 4 residences) that is covered under flood insurance by the NFIP and has incurred flood-related damage for which 4 or more separate claims payments have been paid under flood insurance coverage, with the amount of each claim payment exceeding $5,000 and with cumulative amount of such claims payments exceeding $20,000; or for which at least 2 separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property". Property acquisition, demolition, or elevation remove such properties from the floodplain through coordinating FMSs.

Other emergency needs would remove critical facilities from the 1% annual chance flood area through various types of FMSs, FMEs, and FMPs including, but not limited to acquisition, demolition, or elevation, floodproofing or retrofitting, and through infrastructure projects that would improve roads or bridges that cause critical facilities to be inaccessible. Designating these critical facility structures as emergency need enables mitigation measures in the form of FMSs, FMEs, and FMPs to be enacted to reduce future risk.

FMEs were classified as meeting an emergency need if it met any of the criteria listed above.

4B.5 Potentially Feasible FMP and FMS Evaluation

4B.5.a FMP Types and Overview

The FMP category encompasses many types of flood risk mitigation projects. Both structural and non-structural efforts can be considered projects as long as they have non-zero capital costs or other non-recurring costs. Although the TWDB allows for this extensive scope to encompass projects, not all of the project types were identified within the Lower Brazos region.

Many of the FMPs identified as part of the plan are merely placeholder FMPs that are waiting for further evaluation to be upgraded to FMPs from FMEs. These placeholders are listed for tracking purposes only and are officially recognized as FMEs.

Table 10 outlines the number of FMPs identified by project type in the Lower Brazos Region. Many of the FMPs identified as part of the plan are merely placeholder FMPs that are waiting for further evaluation to be upgraded to FMPs from FMEs. These placeholders are listed for tracking purposes only and are officially recognized as FMEs.

Table 10. FMP Classifications

FMP Type		Description	Non-Place-Holder FMPs Identified	Total FMPs Identified
Structural	Low Water Crossing or Bridge Improvements	Structural improvements that mitigate flood risk to roads at culvert and bridge crossings.	2	19
	Infrastructure Improvements	Improvements to or construction of channels, ditches, ponds, stormwater pipes, or any other structures that help mitigate flooding.	-	36
	Storm Drain Improvements	Similar to Infrastructure Improvements but with a limited focus to underground storm sewer systems	-	37
	Regional Detention	Detention ponds intended to mitigate flooding for multiple sites or large region.	1	18
	Regional Channel Improvements	Channel improvements intended to mitigate flooding for multiple sites or large regions.	25	63
	Dam Improvements, Maintenance & Repairs	One-time maintenance efforts that ensure the resiliency, effectiveness, and structural integrity of dams.	1	13
	Comprehensive Regional Improvements	A combination of projects intended to work together to mitigate flood risk.	-	31
Non – Structural	Property Easement or Acquisition	Property buyouts to remove structures that have been identified as being at flood risk and would be difficult or expensive to mitigate by other means.	1	4
Total			**30**	**221**

This list may change since additional potentially feasible FMPs may be identified as subsequent Tasks are completed. In particular, **Task 12** is intended to evaluate some of the Engineering Project Planning FMEs in order to develop FMPs through additional evaluation and modeling efforts.

4B.5.b FMS Types and Overview

The FMS category is the broadest, including most flood mitigation or management efforts that do not fit into the types described previously. FMS listings cannot have associated capital costs but may have re-occurring or non-capital costs. These guidelines make the FMS category ideal for regulatory and big-picture flood mitigation efforts. The types of potentially feasible FMSs identified for the Lower Brazos Region can be seen in **Table 11**.

Table 11. FMS Types

FMS Type	Description	Number of FMEs Identified
Education & Outreach	Programs or initiatives that aim to educate the public on the hazards and risks of flooding.	1
Flood Preparedness & Resilience	Programs and initiatives to ensure entities are aware of the current flood risk and conditions such as: installation of flood risk signage, programs to ensure regulation compliance, and creation of databases to consolidate flood risk data, etc.	40
Floodproofing	Structural improvements to ensure critical infrastructure performs during flood events.	19
Infrastructure Improvements	Big picture ideas for extensive flood infrastructure improvements throughout a community.	6
Early Flood Warning System	Installation of rain or stream gauges to monitor water levels and have real-time feedback during flood events.	15
Nature Based Improvements	Preservation and restoration programs that aim to utilize natural flood mitigation to reduce risk.	11
Erosion Repair	Program to implement improvements to rivers, creeks, or channels to mitigate bank erosion	1
Property Acquisition & Structural Elevation	Buyouts or elevation of all structures with designated hazard levels such as: 1% ACE floodplain, repetitive loss structures, structures downstream of dams, etc.	17
Regulatory & Guidance	Updates or creation of new ordinances, development codes, design standards, maintenance codes, etc. to prevent creation of new flood risk or mitigate current flood risk.	28
Total		**139**

4B.5.c Critical Assessment Information

FMPs and certain FMSs are intended to be identified and recommended for areas that have higher-than-average flood risk. Since FMPs focus on reducing flood risk, they typically need to provide a high level of immediate flood reduction benefit in order to be feasible. This is also true for certain types of FMSs. As a result, the evaluation of FMPs and FMSs—as part of this plan—focuses on general information about the FMP or FMS as well as existing flood risk information within the study area and flood reduction benefit associated with the FMP or FMS. The following metrics were identified for each identified potential FMP and for structural FMSs, depending on the amount of available information for a given area:

- General description and location of FMP or FMS including impacted HUCs, counties, and watersheds
- Sponsors who will manage the project or strategy along with other entities that may have oversight
- Estimated costs and potential funding sources (local, state, and federal)
- Associated RFPG approved flood management and mitigation goals (described in Chapter 3B) to

ensure the FMP or FMS meets the goals of the plan
- Determination on whether the FMP or FMS meets an emergency need
- Associated flood risk within the study area (see **Table 12** below)
- Existing or anticipated models

A few of the generic metrics—description, type, location, area, costs, sponsors, and interested parties for each FMP or FMS—were provided by reports, studies, or other sources that indicated the need of the FMP or FMS. However, some of the metrics required more analysis than available in the source documentation such as existing flood risk within the FMP or FMS service area, expected flood risk reduction when the project or strategy is implemented, a determination on whether the project or strategy meets an emergency need, how the FMP or FMS contributes or impacts water supply, if the FMP or FMS has negative impacts to neighboring areas or resources, a benefit-cost-ratio (BCR), and potential funding sources.

4B.5.a.1 Estimated Capital Costs of FMPs and FMSs

The source documentation for FMPs included estimated capital costs. These estimates were utilized and adjusted, when necessary, to account for inflation to 2020 dollars.

Most of the FMSs are developed at a conceptual, planning level and cannot be accurately assigned a cost estimate. Further evaluation of these FMSs is needed to define the scope such that a more specific cost estimate can be developed. An exception is the Regulatory and Guidance FMS which was estimated to be $400,000 to update regulations for each County identified as needing regulatory updates. Other categories were not provided a cost.

The estimated costs associated with each FMP and FMS depend on broad assumptions or depend on source documentation that could not be fully vetted. The FMP and FMS costs estimated as part of this plan are for high-level planning purposes only. Further evaluation will be required to develop more detailed and accurate cost estimates.

4B.5.a.2 Comparison of Estimated Benefits of Potentially Feasible FMSs and FMPs

All of the identified FMSs are high-level and general in scope. Updates to regulations, public outreach and education efforts, and broad identification of potential infrastructure improvements are examples of FMSs that have largely undefined extents and effects which make it difficult to quantify the associated flood risk reduction benefits. Because of this, most of the FMS evaluations resulted in little information regarding flood risk and flood risk reduction. Therefore, evaluation of flood risk and flood risk reduction was limited to FMPs. Some of the Infrastructure Improvement FMSs may be refined further in future cycles to become future FMPs or FMEs.

To ensure consistency throughout the analysis process, each component of the assessment was approached the same way for each of the identified FMPs. This consistency allows for the estimated benefits associated with the individual FMPs to be comparable.

Estimated benefits were determined using provided hydraulic and hydrologic models, results maps, or values provided as part of the source documentation. A comparison of existing and proposed conditions was used to determine the flood risk reduction benefits associated with each FMP. A list of the flood risk metrics that were evaluated for each FMP are provided in **Table 12**.

Table 12. FMS and FMP Benefit Analysis

Category	Existing Risk	Reduction in Risk
Structures	Estimated number of structures at 1% ACE flood risk	Number of structures with reduced 1% ACE flood risk
		Number of structures removed from 1% ACE flood risk
		Number of structures removed from 0.2% ACE flood risk
	Residential structures at 1% ACE flood risk	Residential structures removed from 1% ACE flood risk
	Critical facilities at 1% ACE flood risk	Critical facilities removed from 1% ACE flood risk
Population	Estimated population at 1% ACE flood risk	Estimated population removed from 1% ACE flood risk
Roads	Number of low water crossings at flood risk	Number of low water crossings removed from 100-yr flood risk
	Estimated number of road closures	Estimated reduction in road closure occurrences
	Estimated length of roads at 1% ACE flood risk (mi)	Estimated length of roads removed from 1% ACE flood risk (mi)
Agricultural Land	Estimated farm & ranch land at 1% ACE risk (ac)	Estimated farm & ranch land removed from 1% ACE risk (ac)

Other benefits that were analyzed for the FMPs include the overall change in service capacity from pre-project to post-project, and estimated reduction in fatalities or injuries if the project or strategy was implemented. However, these metrics were difficult to determine with the modeling results. Unless stated directly in the source documentation, these items were left unidentified for many of the FMPs.

4B.5.a.3 Emergency Need Classification

The term Emergency Need is not currently defined by TWDB and is to be determined by each individual region. For the Lower Brazos region, the following criteria was decided upon by the RFPG to determine areas of Emergency Need:

Removing severe repetitive loss properties through FMSs is deemed to meet an emergency need. Severe repetitive loss (SRL) properties are those that flood repeatedly, causing significant difficulties for property owners. The National Flood Insurance Reform Act of 2004 defined severe repetitive loss as: “a single family property (consisting of 1 to 4 residences) that is covered under flood insurance by the NFIP and has incurred flood-related damage for which 4 or more separate claims payments have been paid under flood insurance coverage, with the amount of each claim payment exceeding $5,000 and with cumulative amount of such claims payments exceeding $20,000; or for which at least 2 separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property”. Property acquisition, demolition, or elevation remove such properties from the floodplain through coordinating FMSs.

Other emergency needs FMSs and FMPs would remove critical facilities from the 1% annual chance flood area through various types of FMSs and FMPs including, but not limited to acquisition, demolition, or elevation, floodproofing or retrofitting, and through infrastructure projects that would improve roads or bridges that cause critical facilities to be inaccessible. Designating these critical facility structures as emergency need enables mitigation measures in the form of FMSs and FMPs to be enacted to reduce future risk.

FMSs and FMPs were classified as meeting an emergency need if meeting any of the criteria listed above.

4B.5.a.4 Contributions to Water Supply

All potentially feasible FMPs and FMSs were screened for potential impacts to water supply. This review identified no projects or strategies having the potential to contribute to water supply in the Lower Brazos region. The Allen's Creek Reservoir is the only infrastructure project with potential for both flood mitigation storage and water supply contributions because the reservoir is still in planning and design stages. However, there is no indication that this reservoir is planned to include flood storage; and, therefore has not been listed as an FMS. An FME has been added to evaluate the potential of adding flood storage capacity to this reservoir. Potential negative impacts to water supply are analyzed in Chapter 5 and 6.

4B.5.a.5 Nature-Based Solutions

The TWDB encourages the RFPGs to consider nature-based methods of flood risk reduction. In the Lower Brazos region, none of the 24 potentially feasible FMPs include nature-based flood mitigation solutions. Of the 161 FMSs, 10 were identified as including a nature-based solution to flooding. Within this set of strategies, 8 involve preservation and creation of open space, and 2 involve stabilization of erosion through planting and support of natural vegetation. In addition to flood mitigation, these nature-based strategies have the potential to provide environmental and social benefits such as improvements to air quality, improvements to water quality, and creation of recreational space for communities.

4B.5.a.6 No Negative Impact

The Technical Guidelines for Regional Flood Planning require a demonstration that each identified FMS or FMP will not negatively affect a neighboring area, based on best available data. Demonstrations of no negative impact must reference 1% ACE water surface elevations (WSELs) and peak discharges in pre-project and post-project conditions.

It is important to note the criteria listed below has no regulatory implications at a local, state, or federal level due to the approximate nature of flood planning. For the purposes of flood planning effort, a determination of no negative impact can be established if a project or strategy does not increase inundation of infrastructure such as residential and commercial buildings and structures. Additionally, all of the following requirements, per TWDB *Technical Guidelines*, should be met to establish no negative impact, as applicable:

1. Stormwater does not increase inundation in areas beyond the public right-of-way, project property, or easement.
2. Stormwater does not increase inundation of storm drainage networks, channels, and roadways beyond design capacity.
3. Maximum increase of 1D Water Surface Elevation must round to 0.0 feet (< 0.05ft) measured along the hydraulic cross-section.
4. Maximum increase of 2D Water Surface Elevations must round to 0.3 feet (< 0.35ft) measured at each computational cell.
5. Maximum increase in hydrologic peak discharge must be < 0.5 percent measured at computational nodes (sub-basins, junctions, reaches, reservoirs, etc.). This discharge restriction does not apply to a 2D overland analysis.

Non-structural FMPs can be determined to have no negative impact on neighboring areas by default. These projects do not propose physical changes to the floodplain and resulting flood hazard areas, which eliminates the potential for increases in 1% ACE discharges or WSELs. Instead, these project types

reduce flood exposure by removing individuals and property from flood hazard areas. In the Lower Brazos region, 17 FMPs that implement Flood Early Warning Systems mitigate flood risk by enabling individuals to make well-informed decisions during flood events. Similarly, 4 Property Acquisition FMPs reduce flood risk by removing structures from areas prone to flooding.

Similarly, a significant portion of FMSs can also be determined to have no negative impact on neighboring areas without a detailed supporting analysis due to being non-structural in nature. These types of FMSs are listed below:

- Education and Outreach (1)
- Early Flood Warning Systems (15)
- Property Acquisition and Structural Elevation (17)
- Regulatory and Guidance (28)
- Others including maintenance, restoration, land use policies, sign installation, etc. (2)

For the purposes of demonstrating no negative impact at a planning level, restoration, preservation, and maintenance activities encompassed by the "Other" strategy type will be assumed to retain the present function of natural or built flood infrastructure. Therefore, these strategies demonstrate no adverse impact on the basis of not significantly altering the physical environment.

For Structural FMPs and FMSs, reports were checked for certified statements by an engineer registered in the State of Texas that the associated project or strategy would not cause negative impacts upstream, downstream, or within the project area in events up to and including the 1% ACE storm. For FMPs and FMSs without these certifications, H&H models were reviewed for negative impacts as defined in the TWDB *Technical Guidelines*. As previously mentioned, many structural FMPs and FMSs without accompanying models were reclassified as Preliminary Engineering FMEs.

4B.5.a.7 Benefit-Cost Analysis Determination

One of the most concise ways to compare and prioritize proposed projects and strategies is through the use of a Benefit-Cost-Ratio (BCR) which is measures the benefits that a project or strategy achieves compared to the implementation cost required. BCRs greater than 1 indicate that there are more associated benefits than costs over the life of the proposed project.

There are many different processes that can be used to determine the BCR for a project. Each looks at different types of benefits and costs and weighs their importance on a different scale. For this analysis, the TWDB provided benefit-cost analysis (BCA) tool was selected to develop BCRs for projects or strategies when BCRs were not provided in the source material. The BCA tool was selected due to its alignment with the information already required by the TWDB to evaluate the FMPs and FMSs. The benefits provided to commercial and residential structures, critical facilities, streets, utilities, agriculture, water supply, and recreation are balanced by the construction cost, right-of-way acquisition costs, utility relocation costs, operation and maintenance costs, and the lifespan of the proposed project to determine if the benefits outweigh the costs.

The depth of information that is requested for the analysis was more extensive than the details that could be gathered from the source documentation and modeling results, in some cases. To have a consistent and equitable comparison between FMPs and FMSs, only the components that could be evaluated for all of the FMPs and FMSs were entered into the BCA tool. This ensures that projects are not penalized for not aligning with this specific type of analysis. The flood reduction metrics that were used for the Lower Brazos region's BCA included structural flood risk and agricultural flood risk.

Structural flood risk reduction was determined using the results of the hydraulic modeling associated with each FMP. The pre-project flood depth rasters provided by the modeling results were intersected

with the structure database provided by TWDB to determine the level of flooding a structure experiences during a flood event. To account for the elevation of the top of slab of a typical slab-on-grade structure above the adjacent grade, 6-inches of flood depth was removed from each structure. The same process was performed using the post-project flood depth information provided by the modeling results. The difference in flood depths from pre-project to post-project was used to estimate the reduction of damages to the structure using the damage costs provided by the TWDB BCA tool.

Ultimately, the dollar per foot reduction in flood depth for each structure was estimated based on the square footage of the structure and the type of structure. Given that the BCA process is a planning level effort, some generalizations were accepted to simplify the BCR calculating process. Residential structures were grouped into small, medium, and large sized structures to match the BCA tool classifications. Each structure was categorized based on the measured square footage of each structure shape as provided in the structure database. Non-residential structures were generalized into broad categories of type of industry the building serves (commercial, industrial, public, etc.). This was done to align the existing industry type attributes assigned to the structures as it was provided by TWDB with the BCA tool classifications. The average dollar per square foot per depth flood reduction value was determined by TWDB for each industry classification. For instance, fast food restaurant damage costs provided in the TWDB BCA tool closely resembled the average cost of damages for all commercial structures provided in the BCA tool. Therefore, all commercial buildings were classified as fast-food restaurants to achieve an average damage cost.

A similar process was performed for agricultural land except depth of flooding was not considered. Agricultural land classification was also provided by the TWDB as a raster dataset. This dataset included two agricultural regions: farmland and ranch land. Approximate dollar per acre estimates were associated with each type of land. Farmland was considered a low-value crop based on the average crop type for the region (corn, rice, sorghum, etc.) and ranchland was considered a hay-type value crop. Values for each are based on the average crop yield values for each category taken from the Texas Almanac. Ranchland was assumed to be a hay-type value crop based on the primary assumption that, during a flooding event, livestock can be transported away from flood risk.

Most of the FMPs only included flood risk benefit simulations for the 1-percent ACE. Therefore, the BCA considered only this event.

The calculated benefits depend on broad assumptions—as stated above—regarding the value of structures, value of agricultural land and other factors. The costs and BCRs developed as part of this plan are for high-level planning purposes only. Further evaluation and modeling will be required to develop a more extensive and detailed BCR for each FMP.

4B.5.a.8 Potential Funding

Research was conducted by the RFPG to identify funding mechanisms for FMEs, FMSs, and FMPs. While potential funding of each individual need will be assessed on a case-by-case basis in the Flood Infrastructure Financing Analysis (Task 9), the Lower Brazos RFPG considers the funding mechanisms below to encompass the widest variety of needs:

- Stormwater Utility – Local
- TWDB Flood Infrastructure Fund (FIF) – State
- TWDB Clean Water State Revolving Fund (CWSRF) – State
- FEMA Building Resilient Infrastructure and Communities (BRIC) – Federal
- FEMA Flood Mitigation Assistance Grant Program (FMA) – Federal
- HUD Community Development Block Grant – Mitigation (CDBG-MIT) - Federal

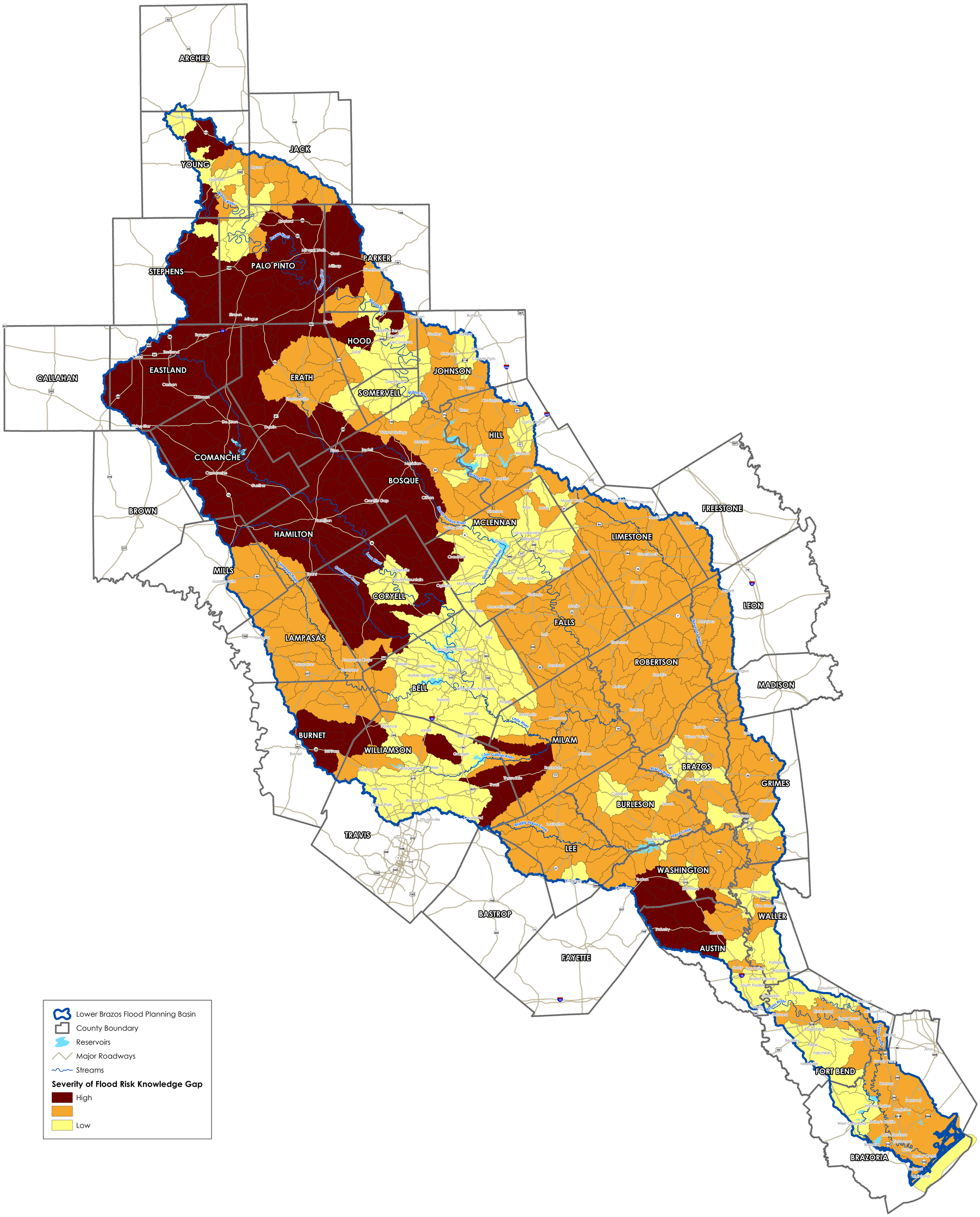
The State of Texas provides municipalities the opportunity to establish a stormwater utility, which is a legal mechanism used to generate revenue to finance an individual municipality's cost to provide and manage stormwater services. Typically, stormwater utility revenues are used to fund local drainage and maintenance projects, making this funding source particularly suitable for FMSs that involve recurring costs.

At the state level, the TWDB FIF provides financial assistance for a wide variety of flood related projects, including planning evaluations and studies. Since priority is given to projects that include multiple jurisdictions, FIF is an ideal funding mechanism for regional solutions. The CWSRF is another TWDB funding source that supports similar flood mitigation activities. The CWSRF is less oriented to hydrologic and hydraulic studies, and more oriented toward mitigation activities. Since both programs appropriate funding from planning level activities to design, they are suitable mechanisms for FMEs, FMSs, and FMPs.

At the federal level, the FEMA FMA appropriates funds to applicants with FEMA-approved HMAPs to support activities that mitigate severe repetitive loss. Additionally, CDBG-MIT was created in 2018 to fund activities to reduce future losses in areas affected by qualifying disasters in 2015, 2016, and 2017. Lastly, the FEMA BRIC program provides funding to applicants with FEMA-approved HMAPs for a broad range of mitigation activities. Since all these programs prioritize flood hazard reduction, they are suitable for FMPs.

The specified federal funding options have varying local cost shares, which make them suited for FMPs at varying scale. While BRIC Grants have the highest local cost share of these programs at 25%, priority is given to applications with local shares that exceed this baseline. This may make BRIC a suitable option for smaller projects that benefit multiple entities. FMA has a local share that varies from 25% to 0% depending on the degree to which the application benefits repetitive loss structures, which may make FMA a suitable option for projects that provide benefits to areas with a high number of flood-claims as identified by previous tasks. CDBG-MIT has no required local share, which would simplify funding of projects with widespread, regional benefits. All the funding mechanisms mentioned in this section will be discussed in more detail in Chapter 9, where specific funding strategies will be proposed for each need.

Appendix A – Task 4A Maps



LOWER BRAZOS
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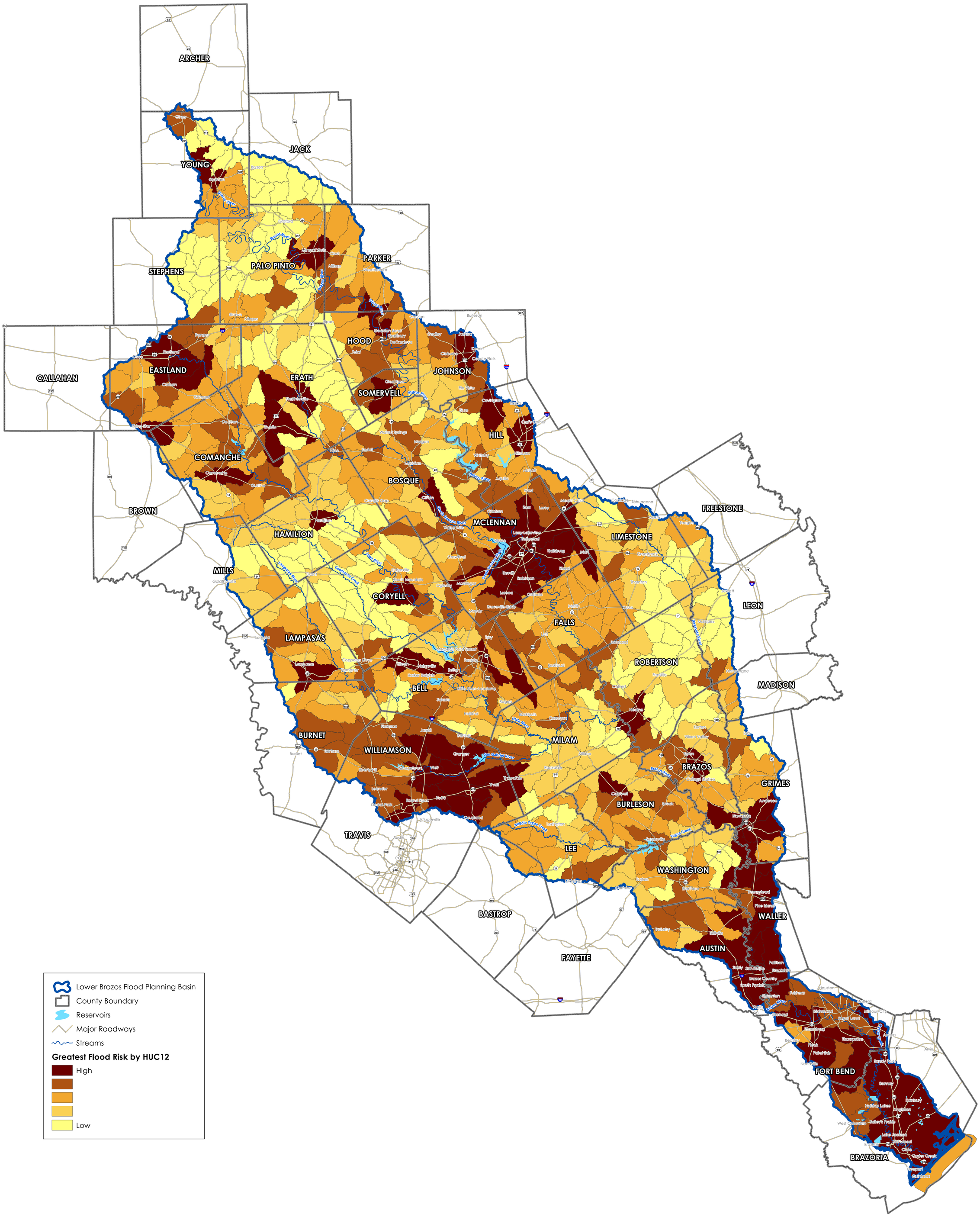
MAP 14: Greatest Gaps in Flood Risk Information

0 60,000 120,000 180,000 240,000 Feet

May 20, 2022



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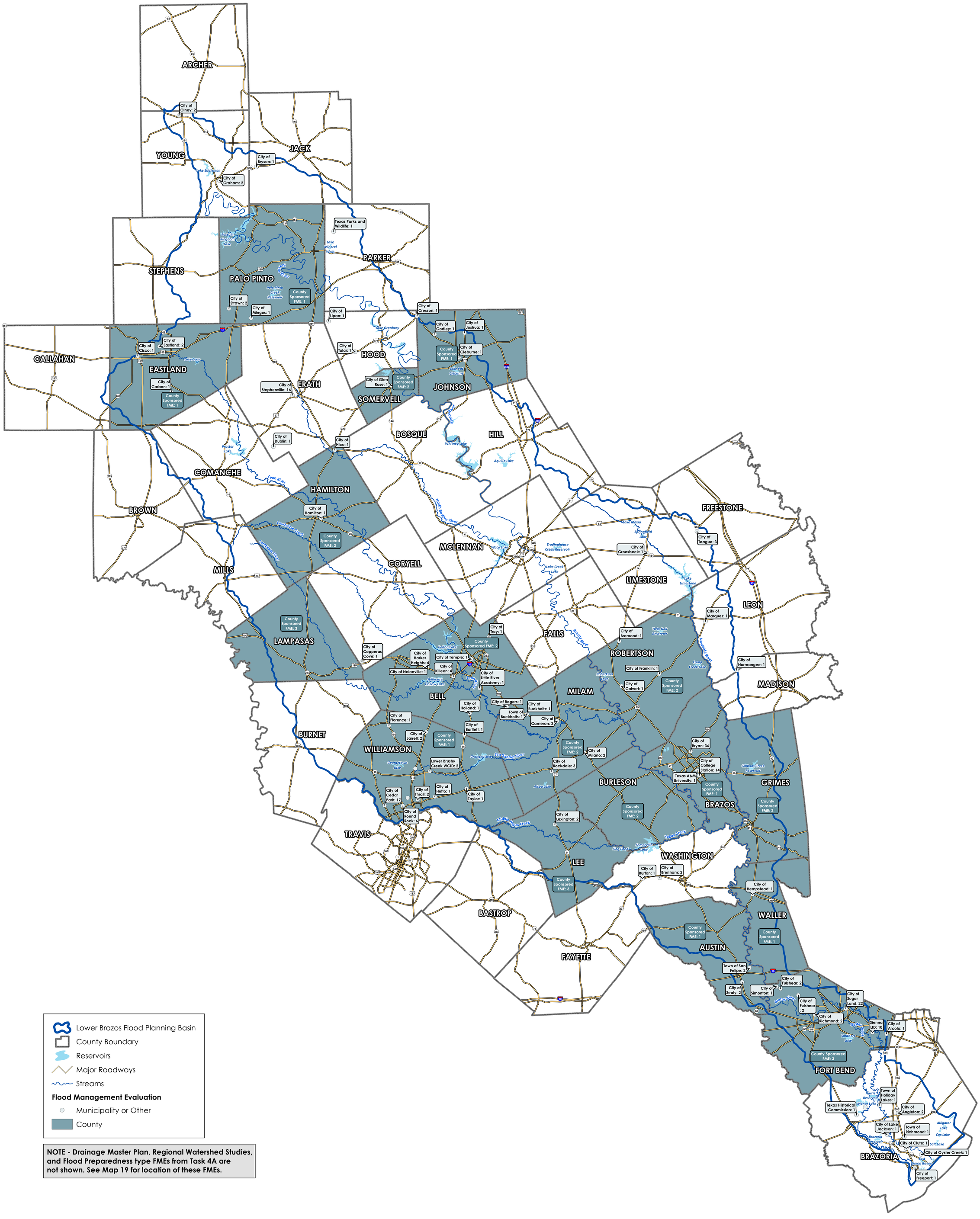
MAP 15: Greatest Flood Risk

0 60,000 120,000 180,000 240,000 Feet

May 20, 2022

Appendix B – Task 4B Maps



- Lower Brazos Flood Planning Basin
- County Boundary
- Reservoirs
- Major Roadways
- Streams

Flood Management Evaluation

- Municipality or Other
- County

NOTE - Drainage Master Plan, Regional Watershed Studies, and Flood Preparedness type FMEs from Task 4A are not shown. See Map 19 for location of these FMEs.

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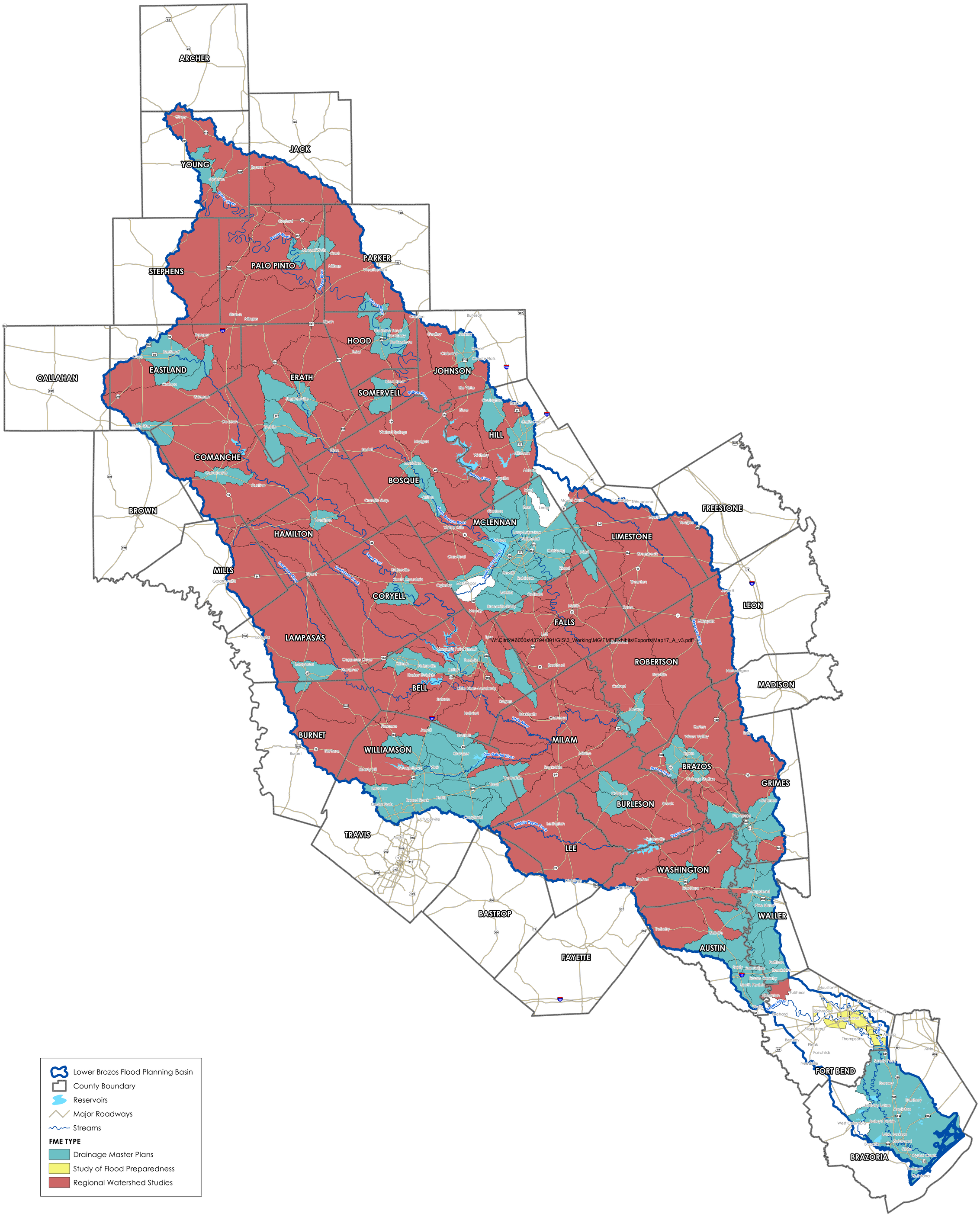
MAP 16: Potential Flood Management Evaluations

0 60,000 120,000 180,000 240,000 Feet

May 20, 2022



Note:
FMEs listed on this map were developed from the Task 4A - Flood Mitigation Needs Analysis

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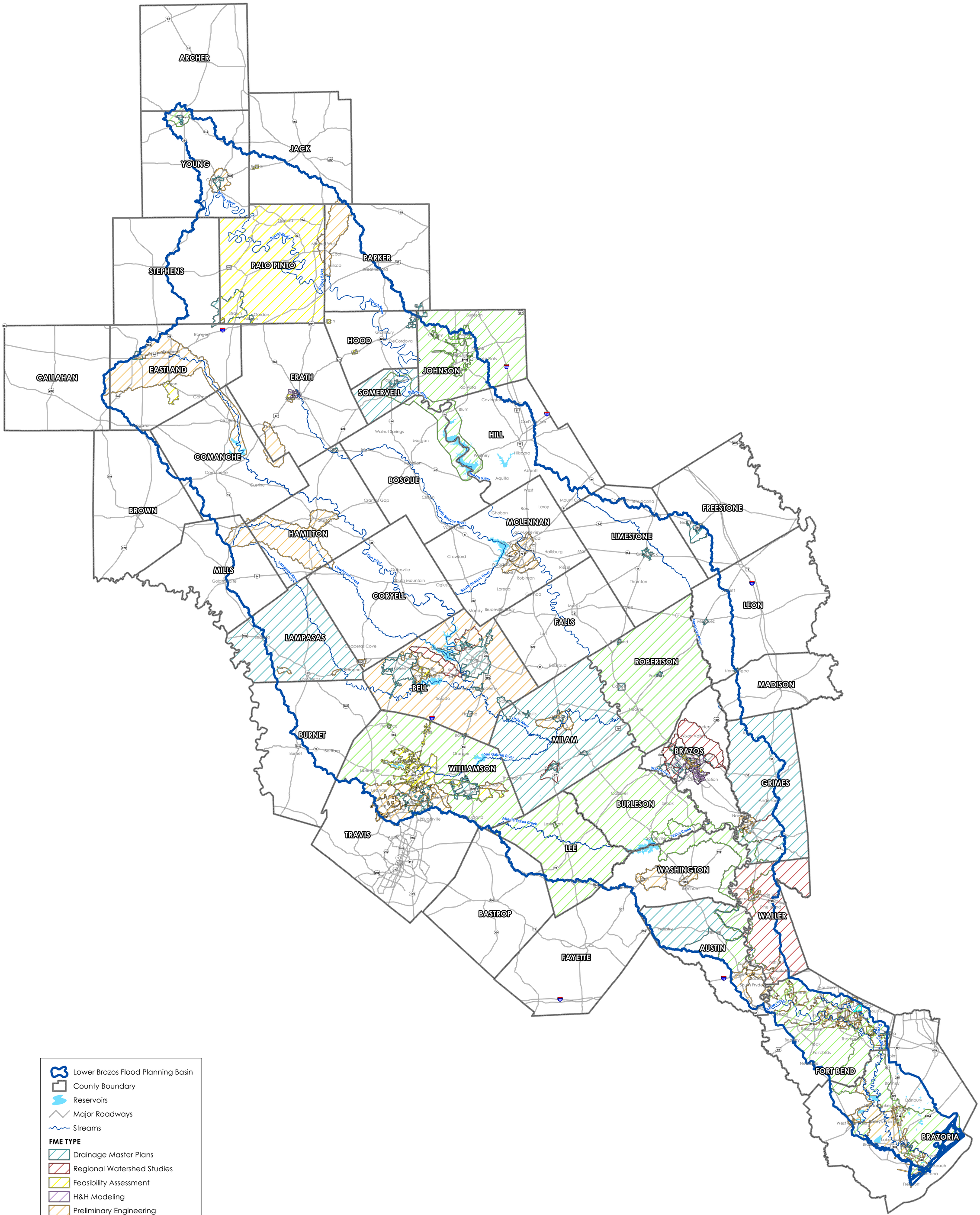
MAP 17A: Extent of Potential Flood Management Evaluations and Existing Mapping Needs

May 20, 2022



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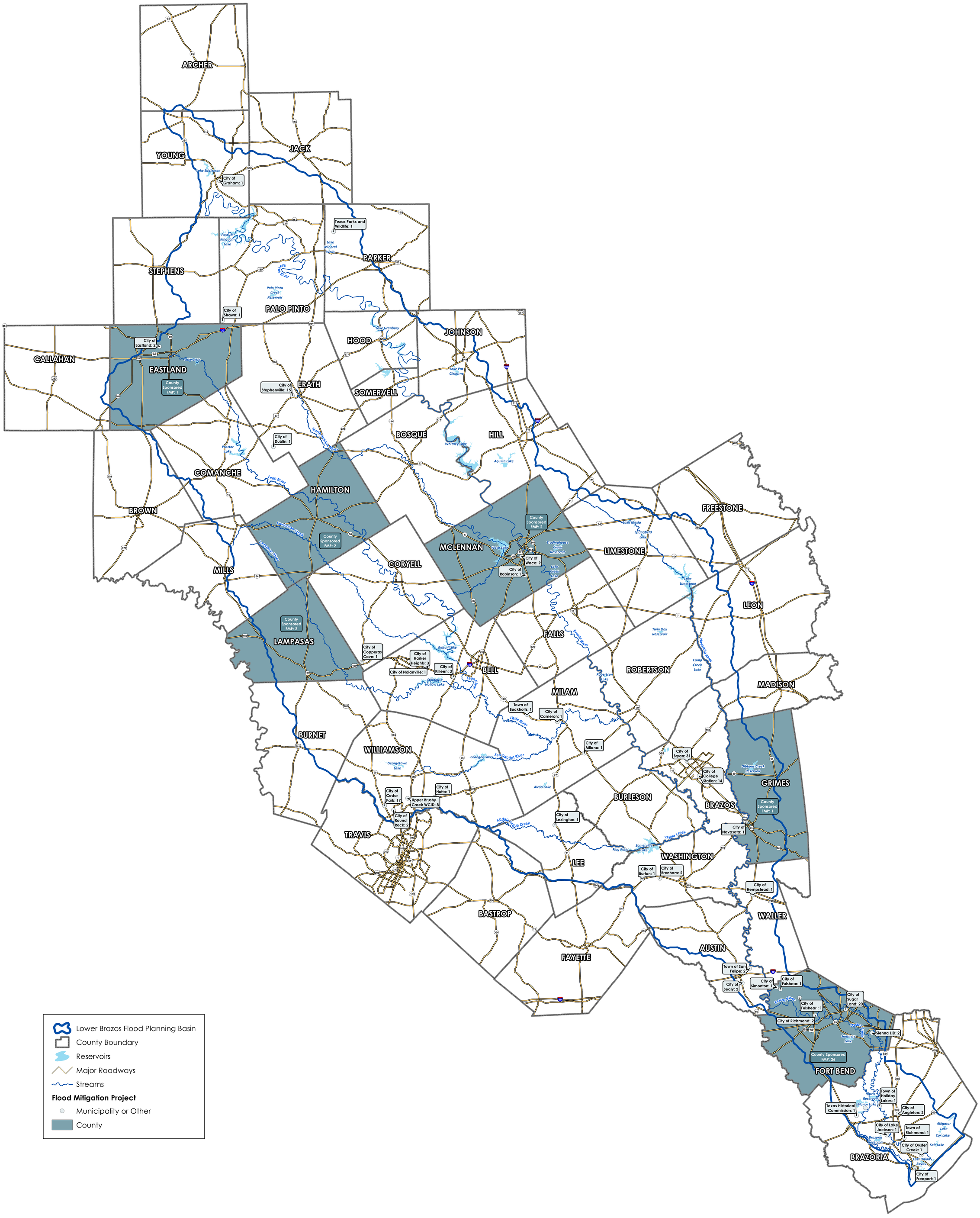
MAP 17B: Extent of Potential Flood Management Evaluations and Existing Mapping Needs

0 60,000 120,000 180,000 240,000 Feet

May 20, 2022



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MAP 18: Potential Flood Mitigation Projects

0 60,000 120,000 180,000 240,000 Feet

May 20, 2022

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MAP 19: Extent of Potential Flood Mitigation Projects

0 60,000 120,000 180,000 240,000 Feet

May 20, 2022

Appendix C – FME, FMS, and FMP Evaluation Tables

Table 12 - Summary of Potential Flood Management Evaluations (FME)

General Information																Flood Risk Information								Existing Efforts	
FME ID	FME Name	Description	Associated Goals (ID)	Counties	HUC 8s	HUC 12s	Watersheds	Evaluation Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost	Potential Funding Sources and Amount	Estimated Number of Structures at Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Segment Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Existing or Anticipated Models (yr)	Existing or Anticipated Maps (yr)
81000035	1240-acre Fulshear Farms Development	Design of detention and hydraulic structure upgrades to offset development impacts.	8000009	Fort Bend			Brookshire Creek	Feasibility Assessment	1.94	Urban	City of Fulshear	City of Fulshear		$182,209	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81000041	Fulshear Lakes Drainage Improvements	Design of drainage infrastructure to mitigate flooding in Fulshear Lake development.	8000009	Fort Bend	12040205, 12070104, 12090401			Feasibility Assessment	882.723	Riverine	City of Fulshear	City of Fulshear		$150,819	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	68.815	2020	2020
81000042	Lea/Penn and Red Bird Lane Improvements	Design of diversion channel and road construction to reduce flooding and provide access to neighborhoods.	8000009	Fort Bend				Preliminary Engineering	1	Riverine, Urban	City of Fulshear	City of Fulshear		$532,280	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	80	47	177	0	0	9	1.6443	1414.1		
81000044	Sienna South Levee System Drainage	Design of lake and channel modifications to mitigate development in the area.	8000009	Fort Bend	12040205, 12070104, 12090401			Feasibility Assessment	882.723	Riverine, Urban	Sienna LID	Fort Bend County, City of Sienna, Fort Bend County Drainage District, Sienna LID		$319,643	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	3.6349	2018	2018
81000045	Sienna North Levee System Drainage	Design of channel improvements to mitigate flow caused by increased development.	8000009	Fort Bend	12040205, 12070104, 12090401			Feasibility Assessment	882.723		Sienna LID	Fort Bend County, City of Sienna, Fort Bend County Drainage District, Sienna LID		$235,651	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	1	0	1.6785	2004	2004
81000047	Sugar Creek Drainage Improvements	Design of storm drain updates throughout neighborhood.	8000012	Fort Bend				Preliminary Engineering	0.4		City of Sugar Land	City of Sugar Land		$618,293	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	442	350	1403	2	0	96	18.439	1687.2		
81000048	Covington Woods Jess Pirtle Bridge Channel Improvements	Determination of necessary repairs to ditch A-22 channel flow line	8000009	Fort Bend				Preliminary Engineering	2.8	Riverine, Urban	City of Sugar Land	City of Sugar Land		$380,841	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1300	1205	5682	1	0	143	19.323	1142.6		
81000057	Chimneystone, Austin, and Settlers Parks Improvements Phase II	Design of new concrete channel and storm drain improvements.	8000009	Fort Bend				Preliminary Engineering	1.4	Riverine, Urban	City of Sugar Land	City of Sugar Land		$557,571	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81000058	Sugar Lakes Drainage Improvements	Determination of necessary storm drain improvements and lake control structure modifications.	8000009	Fort Bend				Preliminary Engineering	1.2	Urban	City of Sugar Land	City of Sugar Land		$618,293	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1300	1205	5682	1	0	143	19.323	1142.6		
81000060	Sugar Creek Regional Detention	Update design to account for Atlas 14 rainfall.	8000009	Fort Bend				H&H Modeling	1.11	Urban	City of Sugar Land	City of Sugar Land		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	442	350	1403	2	0	96	18.439	1687.2		
81000061	Sugar Land Business Park Regional Detention	Update design to account for Atlas 14 rainfall.	8000009	Fort Bend	12040205, 12070104, 12090401			H&H Modeling	0.07		City of Sugar Land	City of Sugar Land		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	55	44	100	104	175	0	0	2.1544		
81000075	Sugar Land MDP - Master Drainage Plan Updates	Review comprehensive plan goals, update detention facility ownership and assets, consider funding mechanisms, evaluate ranking criteria.	8000013	Fort Bend	12040205, 12070104, 12090401			Drainage Master Plans	882.723		City of Sugar Land	City of Sugar Land		$534,195	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	442	350	1403	2	0	96	18.439	1687.2		
81000089	Riverbend Drainage Improvements Phase II	Update design to account for Atlas 14 rainfall.	8000009	Fort Bend				H&H Modeling	0.3	Urban	City of Sugar Land	City of Sugar Land		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	100	91	321	1	0	17	2.7845	4.406		
81000091	Citywide Inlet Replacement	Study to determine how to replace B-B inlets with C-2 or H2 inlets in areas of ponding and structural risk.	8000013	Fort Bend	12040205, 12070104, 12090401			Preliminary Engineering	882.723	Riverine, Urban, Coastal	City of Sugar Land	City of Sugar Land		$488,681	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	442	350	1403	2	0	96	18.439	1687.2		
81000092	Avalon/Brazos Landing/ Commonwealth Drainage Imp 1 & 2	Study to determine improvements needed for FBC LID 14 weir.	8000009	Fort Bend				Preliminary Engineering	1	Riverine, Urban	City of Sugar Land	City of Sugar Land		$604,887	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	1	0.1901	11.632		
81000107	ATLAS 14 Outfall Structure No. 6	Design of improvements to Outfall Structure No. 6.	8000009	Fort Bend				Feasibility Assessment	16.38	Riverine, Coastal, Urban	Sienna LID	City of Sienna, Sienna Parks, LID		$319,643	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	3.6349		

1 - Potentially Feasible FMEs

Costs listed in this document are for planning purposes only.
Data will be updated pending further analysis associated with subsequent tasks

Table 12 - Summary of Potential Flood Management Evaluations (FME)

FME ID	FME Name	Description	Associated Goals (ID)	Counties	HUC 8s	HUC 12s	Watersheds	Evaluation Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost	Potential Funding Sources and Amount	Estimated Number of Structures at Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Segment Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Existing or Anticipated Models (yr)	Existing or Anticipated Maps (yr)
81000108	ATLAS 14 Brazos River Outfall Channel	Design of improvements to the Brazos River Outfall Channel.	8000009	Fort Bend				Feasibility Assessment	2.83	Riverine, Coastal, Urban	Sienna LID	City of Sienna, Sienna Parks, LID		$330,464	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	30	20	46	1	0	7	1.4887	362.43		
81000110	Conversion of N & S Pump Stations to Vertical Turbines	Design of improvements to the N & S Pump Stations.	8000009	Fort Bend				Feasibility Assessment	1.96	Riverine, Coastal, Urban	Sienna LID	City of Sienna, Sienna Parks, LID		$330,464	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	30	20	46	1	0	7	1.4887	362.43		
81000111	Regional Storage Phase 2	Design of improvement to regional storage.	8000009	Fort Bend				Feasibility Assessment	16.44	Riverine, Coastal, Urban	Sienna LID	City of Sienna, Sienna Parks, LID		$319,643	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	3.6349		
81000112	Pump Station Conversion at the Woods Acreage Estates Outfall	Design of pump station to provide relief to Woods Acreage Estates in flood events.	8000009	Fort Bend				Feasibility Assessment	0.98	Riverine, Coastal, Urban	Sienna LID	City of Sienna, Sienna Parks, LID		$149,098	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	8	0	0	0	0	2	0.0374	29.934		
81000114	400,500 PM Pump Station at Outfall No. 2	Study to design additional pump station at Outfall No. 2	8000009	Fort Bend				Preliminary Engineering	0.99	Riverine, Coastal, Urban	Sienna LID	City of Sienna, Sienna Parks, LID		$840,532	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	3.6349		
81000115	Fort Bend County Flood Protection Levee for all Pump Station Electrics	Study to design levees to protect pump stations that mitigate flooding in Somervell.	8000012	Fort Bend				Feasibility Assessment	15.41	Riverine, Urban, Coastal	Sienna LID	City of Sienna, Sienna Parks, LID		$840,532	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	22	1	254	0	0	2	0.3452	51.752		
81000135	Lake Leon Dam & Emergency Spillway Improvements	Study to determine necessary dam improvements to reduce flood risk downstream.	8000009	Eastland				Preliminary Engineering	8.73	Riverine, Urban	Eastland County	Eastland County		$453,492	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	680	340	1360	6	1	211	57.917	10326		
81000136	Huntingshire Creek Culvert Improvements	Design of drainage feature improvements to increase capacity and ensure they are within standards.	8000009	Eastland				Feasibility Assessment	2.3	Riverine	City of Carbon	City of Carbon		$359,772	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	28	18	29	1	0	14	2.7942	504.08		
81000138	Cisco Storm Sewer Upgrades and Extensions	Upgrade storm sewer system and install new water lines to improve existing drainage.	8000009	Eastland				Drainage Master Plans	4.83	Urban	City of Cisco	City of Cisco		$243,268	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	73	47	147	1	0	35	4.0951	1.514		
81000164	Arcola Regional Drainage Improvements	Study to design and place drainage improvements such as detention ponds, pump stations, and road grading improvements.	8000009	Fort Bend				Drainage Master Plans	2.36	Riverine, Urban	City of Arcola	City of Arcola		$193,234	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	8	8	17	0	0	1	0.2787	4.0049		
81000168	Cresson Storm Drainage Improvements	Study to determine how to increase the capacity of the storm drainage system by installing larger culverts and adding drainage points along vulnerable or critical roads.	8000009	Hood				Drainage Master Plans	11.29	Riverine, Urban	City of Cresson	City of Cresson		$326,092	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	6	0	10	0	0	5	0.3038	273.83		
81000175	City of Lipan Roadside Ditch Improvements	Design infrastructure to improve roadside ditch drainage and build curbs to increase water flow during flood events.	8000009	Hood				Feasibility Assessment	1.05	Riverine, Urban	City of Lipan	City of Lipan		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	6	4	15	0	0	5	0.2772	32.386		
81000177	City of Tolar Roadside Ditch Improvements	Study to determine necessary expansions and improvements to roadside drainage ditches to increase water flow during flood events.	8000009	Hood				Feasibility Assessment	1.11	Riverine, Urban	City of Tolar	City of Tolar		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	17	14	71	0	3	5	0.679	40.629		
81000184	Mineral Wells State Park Dam Improvements	Design of dam improvements to reduce flood risk downstream.	8000009	Parker, Palo Pinto				Preliminary Engineering	4.76	Riverine, Urban	Texas Parks and Wildlife	City of Mineral Wells, Texas Parks and Wildlife		$342,578	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	150	21	746	2	3	79	11.663	4029.9		
81000186	Culvert Additions to Prevent Flash Flooding in City of Mingus	New infrastructure to improve drainage conditions.	8000009	Palo Pinto				Drainage Master Plans		Riverine, Urban	City of Mingus	City of Mingus		$170,160	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	22	15	9	0	0	12	0.9469	45.848		
81000188	City of Strawn Mitigations for Flood Prone Areas	Develop study to determine/ address flood risk.	8000013	Palo Pinto	12060201			Drainage Master Plans	438.5561		City of Strawn	City of Strawn		$588,137	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	94	33	99	0	2	27	9.1544	2490.5		
81000189	Tucker Lake Dam and Spillway Maintenance	Design of dam improvements to reduce flood risk downstream.	8000009	Palo Pinto				Preliminary Engineering	1.19	Riverine	City of Strawn	City of Strawn		$301,142	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	5	0	0	0	0	1	0.2382	12.715		

Costs listed in this document are for planning purposes only.
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Table 12 - Summary of Potential Flood Management Evaluations (FME)

FME ID	FME Name	Description	Associated Goals (ID)	Counties	HUC 8s	HUC 12s	Watersheds	Evaluation Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost	Potential Funding Sources and Amount	Estimated Number of Structures at Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Segment Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Existing or Anticipated Models (yr)	Existing or Anticipated Maps (yr)
81000193	Palo Pinto Retaining Walls	Design of retaining walls along county roads where landslides due to flooding is probable.	8000009	Palo Pinto				Feasibility Assessment		Riverine, Urban	Palo Pinto County	Palo Pinto County		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1962	1027	3866	13	15	395	113.94	36927		
81000199	Resley Creek Drainage Improvements	Design of improvements to channel to increase conveyance capacity.	8000009	Erath				Preliminary Engineering	1.41	Riverine	City of Dublin	City of Dublin		$322,425	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	53	26	76	0	9	56	6.5599	2247.2		
81000207	Austin County - Improve Drainage	Identify and evaluate drainage projects including storm sewer, channel, and crossing improvements.	8000009	Austin				Drainage Master Plans	511	Riverine, Urban	Austin County	Austin County		$1,087,734	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	190	91	179	1	3	138	32.624	15867		
81000212	San Felipe Street Elevation	Study to determine necessary elevation of street to decrease inundation in food events.	8000009	Austin				Preliminary Engineering	8.53	Riverine, Urban	Town of San Felipe	Town of San Felipe		$302,665	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	180	89	228	0	0	22	7.9783	609.58		
81000213	Pond Improvements to Cryan Park	Design of improvements to detention pond.	8000009	Austin				Preliminary Engineering	0.93	Riverine, Urban	City of Sealy	City of Sealy		$306,220	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	382	256	929	2	0	32	12.999	2250		
81000214	Pond Improvements to BPW Park	Design of improvements to detention pond.	8000009	Austin				Preliminary Engineering	0.89	Riverine, Urban	City of Sealy	City of Sealy		$305,060	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	382	256	929	2	0	32	12.999	2250		
81000223	Texas A&M Detention Pond	Study to determine placement and sizing of detention facility to contain and mitigate flooding.	8000009	Brazos				Feasibility Assessment	5.3	Riverine, Urban	Texas A&M University	Texas A&M University, City of College Station		$207,403	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	73	41	1477	0	12	13	0.9518	0		
81000226	Bee Creek Basin Detention Pond	Design of detention facility to contain and mitigate flooding.	8000009	Brazos				Preliminary Engineering	1.01	Riverine, Urban	City of College Station	City of College Station		$380,841	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	66	47	233	3	8	19	2.1261	75.054		
81000228	City of Bryan Flood Study	Develop study to determine/ address flood risk.	8000013	Brazos	12070101, 12070103			Drainage Master Plans	587.924		City of Bryan	City of Bryan		$584,218	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	885	677	3151	6	33	163	17.01	508.61		
81000233	Dam Failure Analysis for Bryan Utilities Lake	An Emergency Action Plan (EAP) was created for the Bryan Utilities Lake Dam. The EAP contains information on who will be notified in the case of a dam failure.	8000013	Brazos	12070101, 12070102, 12070103			Study on Flood Preparedness	54.03353		Brazos County	Brazos County		$413,255	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	7	6	3	0	1	4	1.6184	969.31		
81000235	Burleson County Dam Failure Study	Study to determine condition and salvageability of dams on local lakes.	8000003	Burleson				Study on Flood Preparedness	677.9	Riverine, Urban	Burleson County	Burleson County		$1,592,877	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	540	238	1138	5	6	229	91.203	73347		
81000237	Lake Somerville Dam Failure Study	Develop study to determine/ address flood risk.	8000013	Burleson	12070101, 12070102			Study on Flood Preparedness	675.0873		Burleson County	Burleson County		$2,089,213	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	21601	16599	48781	43	7	1521	741.86	196161		
81000245	Basin-Wide Stormwater Drainage Plan Update	Review and update the basin-wide stormwater drainage plan county-wide	8000013	Bell	12070101, 12070201, 12070202, 12070203, 12070204, 12070205			Regional Watershed Studies	675.0873		Bell County	Bell County		$11,775,507	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	2764	1422	12599	13	146	684	136.74	50911		
81000250	City of Bartlett Regional Drainage Improvements	Upgrade undersized drainage channels and culverts in flood prone areas.	8000009	Bell, Williamson				Drainage Master Plans	1.16	Riverine, Urban	City of Bartlett	City of Bartlett		$156,477	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1	0	1	0	0	1	0.0774	5.4866		
81000252	City of Holland Drainage Infrastructure Improvements	Upgrade/ improve undersized drainage system to increase capacity and reduce flooding.	8000009	Bell				Drainage Master Plans	1.75	Riverine, Urban	City of Holland	City of Holland		$176,274	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	3	0.1695	50.655		
81000253	City of Killeen Drainage Infrastructure Improvements	Upgrade undersized drainage system throughout the city to increase storm water capacity and reduce flooding.	8000009	Bell				Drainage Master Plans	54.05	Riverine, Urban	City of Killeen	City of Killeen		$583,214	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	799	564	4372	3	49	161	14.713	361.74		
81000256	City of Little River Academy Drainage Infrastructure Improvements	Upgrade undersized drainage system throughout the city to increase storm water capacity and reduce flooding.	8000009	Bell				Drainage Master Plans	2.05	Riverine, Urban	City of Little River Academy	City of Little River Academy		$184,923	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	7	3	11	0	1	3	0.3519	53.533		
81000259	Improve Levee Crossing and Old Nolanville Road	Design of drainage feature improvements to increase capacity and study to ensure they are within standards.	8000009	Bell				Preliminary Engineering	2.89	Riverine, Urban, Coastal	City of Nolanville	City of Nolanville		$180,196	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	247	113	701	2	8	39	11.558	709.73		

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81000266	City of Rogers Drainage Infrastructure Improvements	Drainage feature improvements to increase capacity and ensure infrastructure is within standards.	8000009	Bell				Drainage Master Plans	1.06	Riverine, Urban	City of Rogers	City of Rogers		$396,940	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	10	0	15	0	0	5	0.6502	1439.8		
81000267	Rogers Wastewater Retention Pond Improvements	Expansion of retention pond to prevent overflow into nearby creek.	8000009	Bell				Preliminary Engineering	0.91	Riverine, Urban	City of Rogers	City of Rogers		$342,578	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	10	0	15	0	0	5	0.6502	1439.8		
81000272	City of Temple Drainage Channel Improvements	Upgrade drainage channels within the city to reduce flooding to residential and commercial structures.	8000009	Bell				Drainage Master Plans	74.2	Riverine, Urban	City of Temple	City of Temple		$659,081	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	421	255	3084	2	8	127	13.674	1052.7		
81000273	City of Troy Drainage System Improvements	Upgrade undersized drainage system throughout the city to increase storm water capacity and reduce flooding.	8000009	Bell				Drainage Master Plans	4.08	Riverine, Urban	City of Troy	City of Troy		$230,146	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	23	13	61	0	2	8	3.0147	60.565		
81000276	Pottsville Drainage Improvements	Implementation of several drainage features and improvements.	8000009	Hamilton				Drainage Master Plans	0.51		City of Pottsville	City of Pottsville		$1,737,822	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	24	13	43	0	0	10	1.1411	23.817		
81000277	Cow House Creek Retention Structure	Addition of retention facility to contain flood waters and mitigate flooding.	8000009	Hamilton				Preliminary Engineering			Hamilton	Hamilton		$342,578	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	56	21	36	0	3	76	22.747	7483.3		
81000278	Hamilton City Lake Dam Failure Study	Develop study to determine/ address flood risk.	8000013	Hamilton	12070201, 12070202			Study on Flood Preparedness	1082.173		City of Hamilton	City of Hamilton		$465,337	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	104	39	439	1	9	55	4.8314	760.95		
81000281	Hamilton County Electric Gates for Pecan Creek Dam	Improve dam to reduce flood risk downstream.	8000009	Hamilton				Preliminary Engineering	837.4	Riverine, Urban	Hamilton County	Hamilton County		$305,060	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	104	39	439	1	9	55	4.8314	760.95		
81000289	City of Hico Drainage System Improvements	Upgrade undersized culverts to increase capacity and implement debris removal for ditches.	8000009	Hamilton				Drainage Master Plans	1.41	Riverine, Urban	City of Hico	City of Hico		$165,235	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	71	40	129	0	0	31	3.4232	71.45		
81000290	Milam County Emergency Hazard Plan	Obtain Belton and Stillhouse Dam inundation maps and participate in hazard drills.	8000009	Milam				Study on Flood Preparedness		Riverine, Urban	Milam County	Milam County		$1,882,827	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	496	288	724	3	14	254	82.875	97008		
81000291	Milam County Roads Improvements	Improvement of drainage across county roads.	8000009	Milam				Drainage Master Plans		Riverine, Urban	Milam County	Milam County		$1,882,827	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	496	288	724	3	14	254	82.875	97008		
81000295	City of Buckholts Drainage Master Plan	Develop study to determine/ address flood risk.	8000013	Milam	12070101, 12070102, 12070204, 12070205			Drainage Master Plans	1017.26		City of Buckholts	City of Buckholts		$163,535	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0.0237	9.6744		
81000296	City of Cameron H&H Study to Determine Projects	Develop study to determine/ address flood risk.	8000013	Milam	12070101, 12070102, 12070204, 12070205			Drainage Master Plans	1017.26		City of Cameron	City of Cameron		$250,125	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	47	37	163	1	1	15	1.0757	114.57		
81000297	Little River Ox Bow and Dam Improvement and Relocation	Improve dam to reduce flood risk downstream.	8000009	Milam				Preliminary Engineering	1.29	Riverine, Urban	City of Cameron	City of Cameron		$488,681	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	51	37	167	1	1	21	5.2071	4143.1		
81000298	City of Milano H&H Study to Determine Improvement Projects	Develop study to determine/ address flood risk.	8000013	Milam	12070101, 12070102, 12070204, 12070205			Drainage Master Plans	1017.26		City of Milano	City of Milano		$178,667	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81000300	City of Rockdale H&H Study to Determine Improvement Projects	Develop study to determine/ address flood risk.	8000013	Milam	12070101, 12070102, 12070204, 12070205			Drainage Master Plans	1017.26		City of Rockdale	City of Rockdale		$228,954	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	187	153	364	1	0	35	3.7381	9.8234		
81000322	Teague Master Drainage Plan	Develop study to determine/ address flood risk.	8000013	Freestone	12030201, 12030201, 12030201, 12030201, 12070103			Drainage Master Plans	888.3795		City of Teague	City of Teague		$250,214	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	8.5299		
81000323	Teague Riverine Erosion Control Master Plan	Develop study to determine/ address flood risk.	8000013	Freestone				Drainage Master Plans			City of Teague	City of Teague		$405,662	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	55	27	39	0	0	9	1.3307	711.54		

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81000324	City of Teague Drainage Infrastructure Improvements	Drainage feature improvements to increase capacity and ensure they are within standards.	8000009	Freestone				Drainage Master Plans	3.36	Riverine, Urban	City of Teague	City of Teague		$215,974	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0.0953		
81000327	Grimes County Drainage Infrastructure Improvements	Identify flood-prone areas and determine mitigation including enlarging culverts under roads and bridges.	8000009	Grimes				Drainage Master Plans	457.1	Riverine, Urban	Grimes County	Grimes County		$1,705,952	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	662	383	1949	5	13	149	36.88	30990		
81000328	City of Anderson Culvert and Drainage Ditch Improvements	Drainage feature improvements to increase capacity and ensure they are within standards.	8000009	Grimes				Drainage Master Plans	0.49		City of Anderson	City of Anderson		$124,742	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	286	189	1241	3	4	57	9.5496	2157.4		
81000331	Improve Cedar Creek	Improvements to channel to increase conveyance capacity.	8000009	Grimes				Preliminary Engineering	2.1	Riverine	City of Navasota	City of Navasota		$380,841	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	11	0	3	0	3	12	3.7927	612.09		
81000333	Drainage Study of Cedar Creek	Conduct a drainage study of Cedar Creek to identify flood areas and provide accurate data to assist the community with existing and future management of mitigation issues.	8000013	Grimes	12070201, 12070204			Regional Watershed Studies	29.83465		City of Navasota	City of Navasota		$129,026	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	226	137	568	2	0	38	8.0075	3030.3		
81000334	Drainage Study of Sandy Creek Tributary	Conduct drainage study of Sandy Creek Tributary and complete a flood control project to reduce flood levels on new structures.	8000013	Grimes	12070101, 12070102, 12070204			Regional Watershed Studies	53.71686		City of Navasota	City of Navasota		$189,829	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1136	791	4102	7	19	263	54.977	15319		
81000359	Johnson County Inundation Study of Hazardous Dams	Identify, through inundation studies, what property, utility or infrastructure would be impacted by dam failure within county	8000013	Johnson	12030102, 12030102, 12060201, 12060202			Study on Flood Preparedness	731.2441		Johnson County	Johnson County		$1,645,534	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	600	432	3162	6	8	132	23.61	1759.2		
81000365	City of Cleburne Inundation Study of Hazardous Dams	Identify, through inundation studies, what property, utility or infrastructure would be impacted by dam failure within county	8000013	Johnson	12030102, 12030102, 12060201, 12060202			Study on Flood Preparedness	731.2441		City of Cleburne	City of Cleburne		$513,079	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	19	9	41	0	0	10	0.2755	104.27		
81000366	City of Godley Inundation Study of Hazardous Dams	Identify, through inundation studies, what property, utility or infrastructure would be impacted by dam failure within county	8000013	Johnson	12030102, 12030102, 12060201, 12060202			Study on Flood Preparedness	731.2441		City of Godley	City of Godley		$188,921	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	53	46	115	0	0	7	0.8916	187.26		
81000368	City of Joshua Inundation Study of Hazardous Dams	Identify, through inundation studies, what property, utility or infrastructure would be impacted by dam failure within county	8000013	Johnson				Study on Flood Preparedness			City of Joshua	City of Joshua		$303,531	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	2	0.0889	12.652		
81000371	Drainage Improvements along CR1139	Drainage feature improvements to increase capacity and ensure they are within standards.	8000009	Lampasas				Preliminary Engineering	4.56	Riverine, Urban	Lampasas County	Lampasas County		$300,601	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1	0	0	0	0	0	0.0418	17.426		
81000372	Drainage Improvements along CR4450	Drainage feature improvements to increase capacity and ensure they are within standards.	8000009	Lampasas				Preliminary Engineering	1.69	Riverine, Urban	Lampasas County	Lampasas County		$300,601	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	788	299	3464	6	34	161	25.257	9390.2		
81000373	Lampasas County Curbing and Drainage Improvements	Study to determine how to install an effective curbing and drainage system	8000009	Lampasas				Drainage Master Plans	562.2	Riverine, Urban	Lampasas County	Lampasas County		$1,626,824	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	204	45	67	0	38	85	31.855	19785		
81000378	Improve Flood Risk Assessment for Lee County	Incorporating the procedures for tracking high-water marks following a flood into emergency response plans. Using GIS to map areas that are at risk from flooding. Developing and maintaining a database to track community exposure to flood risk.	8000019	Lee	12070102, 12090301, 12090301, 12090301, 12090301			Study on Flood Preparedness	631.486		Lee County	Lee County		$1,550,212	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	204	45	67	0	38	85	31.855	19785		
81000379	Lee County Floodplain Management Plan	Develop a new floodplain management plan. Adopting a post-disaster recovery ordinance.	8000003	Lee	12070102, 12090301, 12090301, 12090301, 12090301			Study on Flood Preparedness	631.486		Lee County	Lee County		$1,550,212	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	204	45	67	0	38	85	31.855	19785		
81000384	Lee County Project Prioritization Study	Develop study to determine/ address flood risk.	8000013	Lee	12070102, 12090301, 12090301, 12090301, 12090301			Feasibility Assessment	631.486		Lee County	Lee County		$305,060	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	204	45	67	0	38	85	31.855	19785		
81000388	City of Lexington Floodplain Management Plan	Develop a new floodplain management plan. Adopting a post-disaster recovery ordinance.	8000003	Lee	12070102, 12090301, 12090301, 12090301, 12090301			Study on Flood Preparedness	631.486		City of Lexington	City of Lexington		$159,316	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		

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81000396	City of Marquez Drainage Infrastructure Improvements	Study to determine whether new infrastructure is needed or how to improve existing drainage infrastructure.	8000009	Leon				Drainage Master Plans	1.31	Riverine, Urban	City of Marquez	City of Marquez		$161,863	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	58	0	31	0	0	11	1.1605	44.237		
81000398	City of Normangee Drainage Infrastructure Improvements	Study to determine whether new infrastructure is needed or how to improve existing drainage infrastructure.	8000009	Leon				Drainage Master Plans	1.12	Riverine, Urban	City of Normangee	City of Normangee		$154,525	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	78	0	98	0	0	5	0.4886	10.67		
81000405	City of Groesbeck Expand Drainage Ditches	Determine where to deepen and widen ditches to allow for rapid runoff of stormwater.	8000009	Limestone				Drainage Master Plans		Riverine, Urban	City of Groesbeck	City of Groesbeck		$235,591	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	62	48	132	0	0	19	0.9449	70.017		
81000508	City of Bryson Stream Restoration Program	Implement stream restoration / channelization program to ensure adequate drainage / diversion of stormwater.	8000009	Jack				Feasibility Assessment	1.22	Riverine	City of Bryson	City of Bryson		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81000518	City of Graham Upgrade Drainage Features	Upgrade undersized stormwater drains and culverts.	8000009	Young				Drainage Master Plans		Riverine, Urban	City of Graham	City of Graham		$256,250	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	408	220	997	3	5	36	9.1916	31.635		
81000523	Create 2nd Main Water Line	New water line to increase capacity of system.	8000009	Young				Preliminary Engineering	5.53	Urban	City of Graham	City of Graham		$342,578	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	506	248	1109	3	6	51	13.411	761.86		
81000534	City of Olney Comprehensive Flood Risk Study	Develop study to determine/ address flood risk.	8000013	Young	12060201			Study on Flood Preparedness	927.7115		City of Olney	City of Olney		$462,360	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	254	164	321	0	0	48	12.368	1970.9		
81000542	City of Olney Upgrade Drainage Features	Comprehensive study of flood risk and reduction alternatives.	8000009	Young				Drainage Master Plans		Riverine, Urban	City of Olney	City of Olney		$184,437	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	203	140	261	0	0	30	4.6263	39.929		
81000551	Robertson County Master Drainage Plan	Develop study to determine/ address flood risk.	8000013	Robertson	12070101, 12070103			Drainage Master Plans	861.7322		Robertson County	Robertson County		$1,759,450	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	928	479	2242	4	7	177	97.187	88095		
81000553	Robertson County Dam/Levee Failure Study	Develop study to determine/ address flood risk.	8000013	Robertson	12070101, 12070103			Study on Flood Preparedness	861.7322		Robertson County	Robertson County		$1,759,450	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	928	479	2242	4	7	177	97.187	88095		
81000555	Bremond Master Drainage Plan	Develop study to determine/ address flood risk.	8000013	Robertson	12070101, 12070103			Drainage Master Plans	861.7322		City of Bremond	City of Bremond		$144,868	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	2	0.0264	1.6595		
81000559	Calvert Master Drainage Plan	Develop study to determine/ address flood risk.	8000013	Robertson	12070101, 12070103			Drainage Master Plans	861.7322		City of Calvert	City of Calvert		$226,605	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	25	10	23	0	0	17	1.7686	143.05		
81000563	Franklin Master Drainage Plan	Develop study to determine/ address flood risk.	8000013	Robertson	12070101, 12070103			Drainage Master Plans	861.7322		City of Franklin	City of Franklin		$156,621	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	2	0	28	1	0	0	0	34.058		
81000572	Somervell County Drainage System Improvements	Study to identify capital improvements for the storm drainage system.	8000009	Somervell				Drainage Master Plans		Riverine, Urban	Somervell County	Somervell County		$957,582	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	395	194	1631	11	27	88	18.195	4654.9		
81000574	Somervell County Dam Failure Study	Develop study to determine/ address flood risk.	8000013	Somervell	12060201, 12060202, 12060204			Study on Flood Preparedness	190.8447		Somervell County	Somervell County		$1,045,084	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	472	196	1595	12	13	156	70.329	12815		
81000579	Glen Rose Master Drainage Plan	Develop study to determine/ address flood risk.	8000013	Somervell	12060201, 12060202, 12060204			Drainage Master Plans	190.8447		City of Glen Rose	City of Glen Rose		$227,244	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	175	73	1303	11	6	40	6.4944	154		
81000581	Three Mile Creek Watershed Study	Watershed based planning and analysis to determine flood risk.	8000013	Waller	12040102, 12040102, 12040102, 12040102, 12040102, 12040205, 12070101, 12070104			Regional Watershed Studies	515.9483		Waller County	Waller County		$3,488,850	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	2038	1007	2243	1	15	194	88.894	43836		
81000601	Cleanup of Indian Creek	Maintenance efforts to preserve hydraulic capacity and decrease risk to Railroad St.	8000009	Washington				Preliminary Engineering	11.6	Riverine	City of Brenham	City of Brenham		$305,060	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	28	13	296	2	2	28	9.4445	2580.5		

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81000605	Williamson County Comprehensive Flood Protection Plan	Develop study to determine/ address flood risk.	8000013	Williamson	12070102, 12070203, 12070204, 12070205			Study on Flood Preparedness	1131.481		Williamson County	Williamson County		$1,966,602	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	3519	2758	10627	5	167	728	167.45	67370		
81000610	New Town West Outlet Structure	New infrastructure to improve drainage conditions.	8000009	Williamson				Preliminary Engineering	1.37	Riverine, Urban	City of Hutto	City of Hutto		$305,060	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	234	175	1069	0	8	49	8.5482	2253		
81000611	Town of San Felipe Harvey State Mitigation Project	Improvement and upgrade of many drainage features throughout San Felipe.	8000009	Austin	12070104			Preliminary Engineering	8.62602	Riverine, Urban	Town of San Felipe	Town of San Felipe		$425,195	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	177	87	224	0	0	23	7.9883	597.43		
81000613	City of Freeport Sanitary System Flood Proofing	Implementation of point repairs, lateral seals, and manhole rehabilitation to protect system from storm events.	8000012	Brazoria	12040205, 12040205, 12040205, 12070104, 12070104, 12090402			Preliminary Engineering	17.65396	Urban	City of Freeport	City of Freeport		$383,944	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	575	428	3440	4	0	45	17.865	76.411		
81000615	Clute Regional Flood Risk Reduction	Ditch improvements at several key locations to reduce flood risk.	8000009	Brazoria	12040205, 12070104, 12090401			Study on Flood Preparedness	1481.87	Urban	City of Clute	City of Clute		$654,315	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	7	0	21	0	0	2	1.3222	51.504		
81000616	City of Oyster Creek Sanitary System Flood Proofing	Implementation of point repairs, lateral seals, and manhole rehabilitation to protect system from storm events.	8000012	Brazoria	12040205			Preliminary Engineering	2.12977	Urban	City of Oyster Creek	City of Oyster Creek		$498,848	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	14	7	6	0	0	2	0.6896	7.1246		
81000617	Village of Jones Creek Flood Mitigation	Improvement and upgrade of many drainage features throughout the Village of Jones Creek	8000009	Brazoria	12070104, 12090401, 12090402, 12040205			Study on Flood Preparedness	1481.87	Urban	Village of Jones Creek	Village of Jones Creek		$199,379	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	106	65	136	0	0	10	7.2284	5669.6		
81000618	Glenwood Bayou Drainage Improvements	Improvement and upgrade of many drainage features throughout Glenwood Bayou.	8000009	Brazoria	12040205, 12070104, 12090401			Preliminary Engineering	1481.87	Urban	Town of Richmond	Town of Richwood		$427,376	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1000	917	3744	5	0	38	15.631	216.92		
81000619	Angleton Drainage Project	Improvement and upgrade of many drainage features throughout Glenwood Bayou.	8000009	Brazoria	12040205			Preliminary Engineering	11.71304	Urban	City of Angleton	City of Angleton		$1,397,439	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	67	65	183	0	0	10	6.6908	103.83		
81000625	Texas Historical Commission & Brazoria County Joint Mitigation Application 1 FINAL	Phased project to assess, design, and build both service and emergency spillways and implement drainage improvements to the Columbia Lakes Reservoir.	8000009	Brazoria	12070104, 12090401, 12090402, 12040205			Preliminary Engineering	1481.87	Urban	Texas Historical Commission	Texas Historical Commission		$598,537	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	20	12	12	0	0	4	1.1062	166.02		
81000626	Town of Holiday Lakes Hurricane Harvey HUD Application	Improvements to road drainage at several locations, and addition of sluice gates into the drainage system.	8000009	Brazoria	12040205		Oyster Creek	Preliminary Engineering	0.972427	Urban, Riverine	Town of Holiday Lakes	Town of Holiday Lakes		$432,553	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	474	416	569	2	0	65	15.042	81.814		
81000627	West Columbia Drainage Improvements	Improvements to 7 major drainage channels.	8000009	Brazoria	12070104			Preliminary Engineering	2.617468	Urban	City of West Columbia	City of West Columbia		$500,742	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	21	20	58	0	0	6	0.2148	1.2526		
81000628	Oyster Creek Wastewater Treatment Plant Improvements	Floodproofing of wastewater treatment plant.	8000012	Brazoria	12040205, 12070104		Oyster Creek	Preliminary Engineering	74.44776	Riverine, Urban	City of Angleton	City of Angleton		$749,658	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	5	0	4	0	0	0	0	2.1671		
81000629	City of Eastland Dam Repairs	Maintenance and spillway improvements to Ringling Lake dam and Lake Eastland Dam.	8000009	Eastland	12070201			Preliminary Engineering	4.375474	Riverine	City of Eastland	City of Eastland		$658,217	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	334	181	976	4	0	92	13.611	394.42		
81000630	Lake Leon Dam Safety Improvements	Stabilization of the upstream embankment and rehabilitation of the spillway.	8000009	Eastland	12070201			Preliminary Engineering	53.77334	Riverine	City of Eastland	City of Eastland		$651,809	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0.0224		
81000632	Richmond Northside Drainage Improvements	Engineering study to determine how to elevate several key structures above base flood elevations.	8000012	Fort Bend	12040205, 12070104, 12090401			Preliminary Engineering	882.723		City of Richmond	City of Richmond		$573,356	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	252	151	602	5	0	22	6.0801	544.98		
81000633	Brazos River Stabilization	Riverbank stabilization along SH 99 and US 59/I-69 using environmentally friendly solutions.	8000009	Fort Bend, Galveston, Brazoria	12040205, 12070104, 12090401			Preliminary Engineering	882.723	Riverine	Fort Bend County	Fort Bend County, Brazoria County, Galveston County		$3,227,952	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	3	0	0	0	0	2	3.272	255.15		
81000634	City of Navasota Harvey State Mitigation Project	Drainage and street improvements along 3 major routes integral to the City.	8000009	Grimes	12070101, 12070103			Preliminary Engineering	8.208889	Urban	Grimes County	Grimes County		$442,879	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	455	319	1722	5	4	76	12.439	348.44		

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81000635	City of Lexington Drainage Improvements	Storm sewer, culvert, and drainage ditch improvements at 3 areas of interest.	8000009	Lee	12070102			Preliminary Engineering	1.236238	Urban	City of Lexington	City of Lexington		$536,757	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81000636	City of Rockdale Supplemental Drainage Project	Addition of storm sewer drainage to supplement roadside ditch.	8000009	Milam	12070102, 12070204, 12070205			Feasibility Assessment	3.997298	Urban	City of Rockdale	City of Rockdale		$228,954	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	187	153	364	1	0	35	3.7381	9.8234		
81000637	Town of Buckholts Harvey Mitigation	Increase capacity of hydraulic features and redirect water away from water treatment plant.	8000012	Milam	12070204			Preliminary Engineering	1.352891	Riverine, Urban	Town of Buckholts	Town of Buckholts		$100,166	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0.0237	9.6744		
81000639	Ham Branch Watershed Flood Mitigation	Implementation of several drainage features and streambank stabilization.	8000009	Milam	12060202		Ham Branch	Regional Watershed Studies	64.87444	Riverine, Urban	City of Rockdale	City of Rockdale		$468,255	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	192	156	370	1	0	38	4.2901	123.53		
81000640	City of Milano Citywide Road and Drainage Improvements	Street improvements and addition of accompanying drainage features.	8000009	Milam	12070101, 12070204			Preliminary Engineering	1.822363	Urban	City of Milano	City of Milano		$319,812	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81000641	Hempstead Citywide Drainage Project	Improvements to roadside ditch and addition of 2 detention facilities.	8000009	Waller	12070101, 12070104			Preliminary Engineering	6.536265	Riverine, Urban	City of Hempstead	City of Hempstead		$638,162	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	53	50	90	0	3	40	4.0118	27.166		
81000642	Burton Drainage & Flooding Improvements	Floodproofing of lift stations and water treatment plants, and street drainage improvements.	8000012	Washington	12070104			Preliminary Engineering	1.191571	Urban	City of Burton	City of Burton		$446,643	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	2	0	108	2	0	6	0.6467	26.733		
81000643	Hogg Branch Creek Improvements	Channel improvements to increase drainage throughout Brenham.	8000009	Washington	12070101, 12070102, 12070104, 12090301, 12090301, 12090301			Preliminary Engineering	618.7599	Riverine, Urban	City of Brenham	City of Brenham		$305,813	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	62	28	189	1	2	32	2.1327	687.73		
81000644	City of Taylor Regional Detention and Channel Improvements	Addition of 2 drainage facilities in the region and corresponding channel improvements.	8000009	Williamson	12070205		Bull Branch, Mustang Creek	Drainage Master Plans	20.53224	Riverine, Urban	City of Taylor	City of Taylor		$582,787	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	88	63	323	0	11	35	4.5152	741.4		
81000646	Briar Creek Improvements	Channel and crossing improvements along Briar Creek and Red River Trib to increase capacity of hydraulic infrastructure.	8000014	Brazos	12060201			Preliminary Engineering	27.59215		City of Bryan	City of Bryan		$633,821	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	100	93	242	0	5	15	1.8946	7.3765		
81000657	Subdivision Flooding Mitigation near Sewer Creek	Study to determine source and mitigation for flooding in the subdivision.	8000014	Brazos	12070101, 12070102, 12070103			Preliminary Engineering			City of Bryan	City of Bryan		$353,500	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	77	73	163	0	2	9	1.0346	0		
81000663	Burton Creek Crossings	Update design to account for Atlas 14 rainfall.	8000006	Brazos	12070101, 12070102, 12070103			H&H Modeling			City of Bryan	City of Bryan		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	276	224	1496	1	5	36	2.7954	0		
81000669	Burton Creek Trib C Improvements	2-9'x5' box culverts are needed to replace the existing culverts in order to convey the 50-year storm event per the TxDOT design requirement. Channel widening and re-grading may be necessary to mitigate any adverse impacts. Detailed design for the 100-year storm event has not been studied	8000009	Brazos	12070101, 12070102, 12070103			H&H Modeling			City of Bryan	City of Bryan		$363,671	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	20	20	49	0	0	1	0.1637	0		
81000671	Burton Creek Trib D Improvements	Channel and crossing improvements along Trib D feeding into County Club Lake.	8000013	Brazos	12070101, 12070102, 12070103			Preliminary Engineering			City of Bryan	City of Bryan		$483,964	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	72	30	201	1	4	11	1.5377	0.3088		
81000678	Burton Creek Main Stem Improvements	Channel and crossing improvements along Burton Creek mainstem from SH 6 to S Coulter Dr.	8000013	Brazos	12070101, 12070102, 12070103			Preliminary Engineering			City of Bryan	City of Bryan		$784,036	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	348	254	1697	2	9	47	4.3193	0.3088		
81000686	Oakridge Drive and Barak Lake	Study to determine storm sewer needed to mitigate flooding in subdivision.	8000014	Brazos	12070101, 12070102, 12070103			Preliminary Engineering			City of Bryan	City of Bryan		$399,375	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	76	38	961	1	0	7	0.225	0		

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81000689	Sprucewood Street Flooding	A study of the Sprucewood Street drainage and a detailed design phase is needed to assess existing flooding and propose improvements that will reduce flooding in the area. This project includes the local analysis to determine the cause of flooding and propose alternatives. A construction cost should be provided as part of this local analysis.	8000014	Brazos	12070101, 12070102, 12070103			Preliminary Engineering			City of Bryan	City of Bryan		$301,404	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81000690	Burton Creek Trib 5 Mitigation	Design of erosion control and channel improvements for Trib 5 of Burton Creek.	8000014	Brazos	12070101, 12070102, 12070103			Preliminary Engineering			City of Bryan	City of Bryan		$464,288	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	159	105	1162	2	4	18	1.7613	0		
81000693	Spring Lane Residential Flooding	Drainage study to assess flooding in the neighborhood and propose improvements	8000014	Brazos	12070101, 12070102, 12070103			Preliminary Engineering			City of Bryan	City of Bryan		$301,404	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	67	61	119	0	2	11	1.1427	0		
81000697	Burton Creek Trib 7 Mitigation	Detailed study to determine flooding caused by Burton Creek Trib 7 and determine flood mitigation solutions.	8000014	Brazos	12070101, 12070102, 12070103			Preliminary Engineering			City of Bryan	City of Bryan		$355,815	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	100	93	317	0	3	12	0.8166	0		
81000706	Briar Oaks Drive Storm Sewer Improvements	Update design to account for Atlas 14 rainfall.	8000006	Brazos	12070101, 12070102, 12070103			H&H Modeling			City of Bryan	City of Bryan		$311,423	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	76	38	961	1	0	7	0.2965	0		
81000712	Carter's Creek Crossing Improvements	Study and design of culvert improvements along Carter's Creek.	8000014	Brazos	12070101, 12070102, 12070103			Preliminary Engineering			City of Bryan	City of Bryan		$377,846	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	158	133	848	1	2	27	3.0639	181.54		
81000716	Pecan Ridge Subdivision Flooding	Masterplan to determine source of flooding and identify potential solutions.	8000014	Brazos	12070101, 12070102, 12070103			Preliminary Engineering			City of Bryan	City of Bryan		$302,665	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	88	84	704	0	0	14	1.0022	20.029		
81000717	Old Reliance Road Overtopping	Study to determine design of culvert improvements.	8000014	Brazos	12070101, 12070102, 12070103			Preliminary Engineering			City of Bryan	City of Bryan		$320,760	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	130	119	407	0	2	18	1.3915	90.259		
81000718	Castle Heights Subdivision Flooding	Study to determine necessary detention, storm sewer, and other drainage improvements for Castle Heights subdivision.	8000014	Brazos	12070101, 12070102, 12070103			Preliminary Engineering			City of Bryan	City of Bryan		$491,298	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	39	31	21	0	0	6	0.2126	63.979		
81000719	Carter's Creek Trib B Crossing Improvements	Study to design culvert improvements along Carter's Creek Trib B.	8000014	Brazos	12070101, 12070102, 12070103			Preliminary Engineering			City of Bryan	City of Bryan		$396,982	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	32	25	35	1	4	22	1.887	2.7484		
81000723	Ranchettes 2 and 3 - East	Update road and add drainage swale.	8000009	Williamson				Preliminary Engineering			City of Cedar Park	City of Cedar Park		$323,398	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000724	Ranchettes 2 and 3 - West	Update road and add drainage swale.	8000009	Williamson				Preliminary Engineering			City of Cedar Park	City of Cedar Park		$350,725	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000725	Ranchettes 4 - North	Local infrastructure improvements including additon of drainage swales to the roads.	8000009	Williamson	12070102, 12070203, 12070204, 12070205			Preliminary Engineering	1131.481	Riverine	City of Cedar Park	City of Cedar Park		$365,928	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000726	Ranchettes 4 - South A	Update road and add drainage swale.	8000009	Williamson				Preliminary Engineering			City of Cedar Park	City of Cedar Park		$352,997	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000727	Ranchettes 4 - South B	Update road and add drainage swale.	8000009	Williamson				Preliminary Engineering			City of Cedar Park	City of Cedar Park		$340,996	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000728	Ranchettes 6 and 6A - North B	Local infrastructure improvements adjacent to Block House Creek including creation of drainage swales.	8000009	Williamson	12070102, 12070203, 12070204, 12070205			Preliminary Engineering	1131.481	Riverine	City of Cedar Park	City of Cedar Park		$399,933	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000729	Ranchettes 6 and 6A - North A	Addition of drainage swales that outfall into Block House Creek.	8000009	Williamson				Preliminary Engineering			City of Cedar Park	City of Cedar Park		$326,016	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019

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FME ID	FME Name	Description	Associated Goals (ID)	Counties	HUC 8s	HUC 12s	Watersheds	Evaluation Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost	Potential Funding Sources and Amount	Estimated Number of Structures at Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Segment Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Existing or Anticipated Models (yr)	Existing or Anticipated Maps (yr)
81000730	Block House Creek	Property acquisition and crossing improvements to create room for consistent channelization.	8000009	Williamson	12070102, 12070203, 12070204, 12070205			Preliminary Engineering	1131.481	Riverine	City of Cedar Park	City of Cedar Park		$462,318	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000733	Ranchettes 6 and 6A - South A	Local infrastructure improvements adjacent to the creek.	8000009	Williamson				Preliminary Engineering			City of Cedar Park	City of Cedar Park		$396,183	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000734	Ranchettes 6 and 6A - South B	Addition of roadside and interconnecting drainage swales.	8000009	Williamson				Preliminary Engineering			City of Cedar Park	City of Cedar Park		$396,625	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000735	Riviera - Northwest	Addition of roadside drainage swale and several outfalls into the floodplain.	8000009	Williamson	12070102, 12070203, 12070204, 12070205			Preliminary Engineering	1131.481	Riverine	City of Cedar Park	City of Cedar Park		$346,169	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000736	Riviera - East	Addition of roadside drainage swale and several outfalls into the floodplain.	8000009	Williamson				Preliminary Engineering			City of Cedar Park	City of Cedar Park		$395,323	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000737	Riviera - Southwest	Addition of roadside drainage swale and several outfalls into the floodplain.	8000009	Williamson				Preliminary Engineering			City of Cedar Park	City of Cedar Park		$343,927	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000738	Cluck Creek - Upper	Re-grading of natural channel.	8000009	Williamson	12070102, 12070203, 12070204, 12070205			Preliminary Engineering	1131.481	Riverine	City of Cedar Park	City of Cedar Park		$347,810	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000739	Cluck Creek - Lower	Re-grading of natural channel.	8000009	Williamson				Preliminary Engineering			City of Cedar Park	City of Cedar Park		$424,603	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000740	Deer Run	Addition of underground storm drainage and associated inlets.	8000009	Williamson	12070102, 12070203, 12070204, 12070205			Preliminary Engineering	1131.481	Riverine	City of Cedar Park	City of Cedar Park		$350,166	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000741	Spanish Oak Creek	Increase channel capacity.	8000009	Williamson	12070102, 12070203, 12070204, 12070205			Preliminary Engineering	1131.481	Riverine	City of Cedar Park	City of Cedar Park		$350,252	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2019	2019
81000745	Suja Lane	Implementation of detention basin to alleviate street and property flooding.	8000009	Coryell	12060203, 12060204, 12070201, 12070202, 12070203		Clear Creek	Preliminary Engineering	1052.177	Riverine, Urban	City of Copperas Cove	City of Copperas Cove		$314,478	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	20	20	35	0	2	23	1.1795	4.2157	2016	2016
81000752	Goode - Connell Park Regional Detention Pond Improvement & Proposed Drainage Channel	Expand the regional detention pond to reduce outflow and improve outlet channel.	8000009	Bell				Preliminary Engineering	1	Urban, Riverine	City of Harker Heights	City of Harker Heights		$336,478	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	247	113	701	2	8	39	11.558	709.73		
81000756	Christina Circle Drainage Improvements	Re-grading of cul-de-sac to improve drainage and replacement of existing flume.	8000009	Bell	12070101, 12070201, 12070202, 12070203, 12070204, 12070205			Preliminary Engineering	1082.173	Riverine, Urban	City of Harker Heights	City of Harker Heights		$302,501	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0	2015	
81000757	Indian Trail Downstream Channel Improvements	Channel improvements.	8000009	Bell	12070101, 12070201, 12070202, 12070203, 12070204, 12070205			Preliminary Engineering	1131.481	Riverine, Urban	City of Harker Heights	City of Harker Heights		$308,471	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	257	127	813	1	7	45	4.0851	118.35	2015	
81000762	Warriors Path Drainage Improvements	Drainage channel and structure improvements.	8000009	Bell				Feasibility Assessment	1082.173	Riverine, Urban	City of Harker Heights	City of Harker Heights		$266,290	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	35	0	65	1	2	10	3.191	207.5	2015	2015
81000764	City of Round Rock Erosion Control	Erosion control at several key tributaries.	8000009	Williamson			Brushy Creek, Dry Branch	Drainage Master Plans	4.3	Riverine	City of Round Rock	City of Round Rock		$509,989	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	234	192	838	1	11	57	5.0251	414.21		
81000767	Chisolm Valley	Additional modeling to determine detention basin improvements and placement.	8000009	Williamson	12070102, 12070203, 12070204, 12070205			Preliminary Engineering	1082.173	Riverine, Urban	City of Round Rock	City of Round Rock		$407,621	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86	2014	2014
81000779	Stewart Ditch Channel Repair and Improvements	Channel improvements.	8000009	Bell	12070101, 12070201, 12070202, 12070203, 12070204, 12070205		South Nolan Creek	Preliminary Engineering	1082.173	Riverine, Urban	City of Killeen	City of Killeen		$337,113	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	158	135	698	1	8	20	1.7756	2.8406	2010	2010
81000780	Dickens Ditch Stream Repair	Stabilization efforts downstream of Westcliff Road.	8000009	Bell	12070101, 12070201, 12070202, 12070203, 12070204, 12070205		South Nolan Creek	Preliminary Engineering	882.723		City of Killeen	City of Killeen		$316,166	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1	1	2	0	1	0	0.0271	0	2010	2010

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81000782	Bunny Trail Drainage Improvements	Preliminary engineering to determine drainage improvements.	8000009	Bell	12070101, 12070201, 12070202, 12070203, 12070204, 12070205		Reese Creek	Preliminary Engineering	882.723	Urban	City of Killeen	City of Killeen		$322,425	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	2764	1422	12599	13	146	684	136.74	50911	2012	2012
81000859	Chapel Road Regional Detention Facility	Addition of a detention facility near Chapel Road.	8000009	McLennan			Flat Creek	Preliminary Engineering	2.53	Riverine, Urban	City of Waco	City of Waco		$554,208	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	2721	2047	5233	5	2	163	55.481	16842		
81000862	Greatwood Inlet Replacements	Update storm drainage throughout the neighborhood.	8000009	Fort Bend	12040205, 12070104			Preliminary Engineering	14.70926		City of Sugar Land	City of Sugar Land		$352,339	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	201	114	2048	3	1	41	5.7467	886.4		
81000865	Flat Bank Creek Widening and Clean-Out Project	Improvements to Flat Bank Creek.	8000009	Fort Bend	12060202, 12060203			Preliminary Engineering	1131.481		Sienna LID	Sienna LID		$403,046	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	30	20	46	1	0	7	1.4887	362.43		
81000874	Nolan Creek Flood Protection Planning Study	Study to provide flood protection planning in the Nolan Creek Watershed and to develop an early warning system, local flood response plan, and possible flood protection plan.	8000013	Bell	12070201, 12070203			Regional Watershed Studies	1131.481		Bell County	Bell County		NA	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	388	153	2823	6	11	85	17.339	1864.2		
81000875	Mary Avenue Diversion	Diversion channel to redirect water away from Mary Avenue.	8000009	McLennan			Waco Creek	Preliminary Engineering	1.01	Riverine, Urban	City of Waco	City of Waco		$2,179,192	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	622	455	11114	3	2	138	10.312	5.6966		
81000876	Beverly Hills Area Channel and Crossing Improvements	Infrastructure improvements to lessen the impact of flood events on the intersection.	8000009	McLennan			Primrose Creek	Preliminary Engineering	2.65	Riverine, Urban	City of Waco	City of Waco		$370,692	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	379	275	3545	2	1	74	5.444	0.7439		
81000877	New Road to Homan Avenue Channel Improvements	Channel improvements to increase the conveyance capacity of the roadside ditch.	8000009	McLennan			Waco Creek	Preliminary Engineering	1.9	Riverine, Urban	City of Waco	City of Waco		$473,369	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	622	455	11114	3	2	138	10.312	5.6966		
81000878	S. MLK Jr Boulevard Channel Improvements	Channel improvements to increase the conveyance capacity of the roadside ditch.	8000009	McLennan			Marlin's Branch	Preliminary Engineering	1.25	Riverine, Urban	City of Waco	City of Waco		$386,973	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	578	328	6540	10	1	108	31.993	196.13		
81000881	Sharondale Drainage Improvements	Drainage infrastructure improvements to reduce flooding in the Sharondale area.	8000009	McLennan			Delano Avenue Ditch	Preliminary Engineering	1.16	Riverine, Urban	City of Waco	City of Waco		$427,099	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	578	328	6540	10	1	108	31.993	196.13		
81000882	IH-35 Betterments	Improvements to multiple crossings under IH 35.	8000009	McLennan			Primrose Creek	Preliminary Engineering	1.22	Riverine, Urban	City of Waco	City of Waco		$439,437	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	246	136	2468	0	0	53	17.714	1331.5		
81000884	N. 10th, 15th, 31st, 33rd Street, and Grice Drive Buyouts	Property acquisition of several residencies at high flood risk.	8000009	McLennan			Waco Creek	Preliminary Engineering	1.02	Riverine, Urban	City of Waco	City of Waco		$636,165	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	129	121	588	1	0	31	1.4784	0.3067		
81000890	Loop 340 Berm & Frontage Road Improvements	Infrastructure improvements to lessen the impact of flood events on the intersection.	8000009	McLennan			Cottonwood Creek	Preliminary Engineering		Riverine, Urban	City of Waco	City of Waco		$530,559	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	246	136	2468	0	0	53	17.714	1331.5		
81000917	Develop Capital Improvements Plan	Develop plan to provide prediction of funds available for long term improvements and equipment that would be beneficial.	8000013	Williamson	12070102, 12070203, 12070204, 12070205			Study on Flood Preparedness	1131.481		City of Florence	City of Florence		$146,124	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	57	50	145	0	0	12	2.4171	45.831		
81000921	City of Georgetown Increase River/Channel Flow Capacity	Increase flow by deepening and widening the channel.	8000009	Williamson				Feasibility Assessment		Riverine	City of Georgetown	City of Georgetown		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	175	123	1930	2	6	82	18.656	1792		
81000922	City of Georgetown River Erosion Control	Reduce flood and erosion risk with riverbank stabilization and riverbank walls.	8000009	Williamson				Feasibility Assessment		Riverine	City of Georgetown	City of Georgetown		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	175	123	1930	2	6	82	18.656	1792		
81000924	City of Georgetown Culvert Improvements	Increase size of culverts at key locations to adequately convey storm water.	8000009	Williamson				Feasibility Assessment		Riverine, Urban	City of Georgetown	City of Georgetown		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	175	123	1930	2	6	82	18.656	1792		
81000926	Channel Stabilization	Stabilize channel at inner loop culverts.	8000009	Williamson				Feasibility Assessment	9.65		City of Georgetown	City of Georgetown		$556,140	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	366	282	1127	3	9	102	19.273	2627.1		

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81000934	Low Water Crossing Monitoring & Mitigation	Install automated warning devices or elevate 2 low water crossings on CR 305.	8000007	Williamson	12070102, 12070203, 12070204, 12070205			Feasibility Assessment	1131.481		City of Jarrell	City of Jarrell		$217,371	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1	0	2	0	0	4	1.9779	44.903		
81000936	Lift Station Floodproofing	Flood proof city lift stations or improve culverts to lessen flood risk.	8000012	Williamson	12070102, 12070203, 12070204, 12070205			Feasibility Assessment	55.16669		City of Jarrell	City of Jarrell		$217,371	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1	0	2	0	0	4	1.9779	44.903		
81000939	Dam Emergency Action Plan	Complete EAPs for Sites 9, 29, 2, 3, 6, 7, 17, 18, and 25 to be in compliance with TCEQ standards.	8000013	Williamson	12070102, 12070203, 12070204, 12070205			Study on Flood Preparedness	1131.481		Lower Brushy Creek WCID	Lower Brushy Creek WCID		$1,966,602	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	3519	2758	10627	5	167	728	167.45	67370		
81000941	Levee Impact & Vulnerability Analysis	Evaluate the critical impacts of potential levee breaches and identify projects, strategies, and protocols to mitigate these.	8000014	Fort Bend				Study on Flood Preparedness			Fort Bend County	Fort Bend County Drainage District, Fort Bend County		$181,022	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	111	71	352	0	13	51	6.5623	4157.2		
81000942	Stream Crossing Upgrades	Upgrade crossings at CR 368, 369, 445, and 424.	8000007	Williamson	12070102, 12070203, 12070204, 12070205			Feasibility Assessment	1131.481		Lower Brushy Creek WCID	Lower Brushy Creek WCID		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	31	14	34	0	4	19	3.5756	3255.1		
81000943	Lake Creek Structural Elevation	Elevate or floodproof structures currently in high risk areas. Use H&H modeling to prioritize properties.	8000009	Williamson	12070102, 12070203, 12070204, 12070205		Lake Creek	Feasibility Assessment	58.9704		City of Round Rock	City of Round Rock		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	234	192	838	1	11	57	5.0251	414.21		
81000944	Lake Creek Tributary 2	Develop H&H models for watershed and evaluate methods to provide flood protection to the area.	8000009	Williamson	12070102, 12070203, 12070204, 12070205		Lake Creek	Regional Watershed Studies	1131.481		City of Round Rock	City of Round Rock		$126,057	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	224	195	2120	0	13	45	7.2185	151.15		
81000945	Improve Chandler Branch Tributary	Channel improvements from Eagles Nest St to Settlement Dr.	8000009	Williamson				Feasibility Assessment	0.6		City of Round Rock	City of Round Rock		$191,642	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT										
81000946	Brushy Creek Stabilization	Use toe blocks and re-establish riparian vegetation zone to stabilize 1200 feet of stream banks.	8000009	Williamson				Feasibility Assessment	1.29		City of Round Rock	City of Round Rock		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	25	22	87	0	0	3	0.1399	1.0591		
81000949	Bull Branch Watershed Study	Perform a detailed study of the watershed including analyzing the City Lake dam.	8000013	Williamson	12030202, 12030202, 12070103		Bull Branch	Regional Watershed Studies	42.19838		City of Round Rock	City of Round Rock		$121,174	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	28	18	88	0	3	13	0.4101	259.83		
81000950	Barker Street Neighborhood Improvements	Determine optimal drainage improvements to maximize flood protection for the area.	8000013	Williamson	12070102, 12070203, 12070204, 12070205			Drainage Master Plans	675.0873		City of Thrall	City of Thrall		$440,328	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	269	230	902	0	11	41	5.4057	101.86		
81000951	Brushy Creek Tributaries Study	Perform a detailed study of the Brushy Creek tributaries in the City of Thrall.	8000013	Williamson	12070102			Regional Watershed Studies			City of Thrall	City of Thrall		$105,581	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	11	5	11	0	1	8	1.7509	1105.4		
81000953	A21	Addition of in-line detention along Cottonwood Creek.	8000009	Williamson			Upper Brushy Creek	Preliminary Engineering	5.79		Upper Brushy Creek WCID	Upper Brushy Creek WCID		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	68	43	148	0	2	17	1.4411	465.85		
81000954	A12	New Broade Street off-channel detention.	8000009	Williamson			Upper Brushy Creek	Preliminary Engineering	1.49		Upper Brushy Creek WCID	Upper Brushy Creek WCID		$533,824	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	388	325	1255	0	20	81	8.4579	215.85		
81000955	Dam 101	Construction of dam to provide flood storage for Lake Creek.	8000009	Williamson			Upper Brushy Creek	Preliminary Engineering	1.29		Upper Brushy Creek WCID	Upper Brushy Creek WCID		$1,531,632	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT										
81000956	Dam 102	Study to design dam to provide flood storage for Lake Creek.	8000009	Williamson			Upper Brushy Creek	Preliminary Engineering	1.07		Upper Brushy Creek WCID	Upper Brushy Creek WCID		$526,543	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	224	195	2120	0	13	44	7.2137	151.15		
81000957	620 Quarry Solution	Study to determine needed flood storage to address Lake Creek flooding.	8000009	Williamson			Upper Brushy Creek	Preliminary Engineering	1.03		City of Round Rock	City of Round Rock		$540,438	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	224	195	2120	0	13	44	7.2137	151.15		
81000958	Dam 14 Rehabilitation	Study to design erosion repairs for the downstream slope, mitigation for the longitudinal cracking on the dam crest, and auxiliary spillway improvements.	8000009	Williamson			Upper Brushy Creek	Preliminary Engineering	1.14		Upper Brushy Creek WCID	Upper Brushy Creek WCID		$1,147,296	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	28	11	121	0	0	12	0.8679	399.39		
81000959	A14	Addition of in-line detention west of Dam 17.	8000009	Williamson			Upper Brushy Creek	Preliminary Engineering	1.06		Upper Brushy Creek WCID	Upper Brushy Creek WCID		$417,630	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	8	3	219	0	2	9	0.7419	426.56		

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81000960	A13	Addition of in-line detention between Dam 15 and 16.	8000009	Williamson			Upper Brushy Creek	Preliminary Engineering	0.97		Upper Brushy Creek WCID	Upper Brushy Creek WCID		$364,204	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	28	11	121	0	0	12	0.8679	399.39		
81000961	Dam 15 Rehabilitation	The rehabilitation project will repair erosion along the upstream toe of the dam that has been caused by wind-driven wave action.	8000009	Williamson			Brushy Creek	Preliminary Engineering		Riverine, Urban	Upper Brushy Creek WCID	Upper Brushy Creek WCID, Lower Brushy Creek WCID		$417,630	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1	0	0	0	0	0	0	91.97		
81000962	Rowland Ave/Frey St Drainage Improvements	Update design to account for Atlas 14 rainfall.	8000009	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	37	31	225	0	1	5	0.7165	2.8877		
81000963	Tarleton St/Rowland Ave Drainage Improvements Ph 1&2	Update design to account for Atlas 14 rainfall.	8000009	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81000964	Crow St/Long St Drainage Improvements	Update design to account for Atlas 14 rainfall.	8000009	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	12	2	11	0	0	4	0.2646	15.49		
81000966	Simonton Ring Levee	Construction of a ring levee to protect Brazos Valley Development between Bessie's Creek and the Brazos River.	8000009	Fort Bend				Preliminary Engineering	1.01		City of Simonton	City of Simonton		$328,584	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	2546	1703	3569	0	2	171	88.391	22600		
81000967	Weston Lakes Levee	Construction of a ring levee to protect the Weston Lake Development.	8000009	Fort Bend				Preliminary Engineering	3.13		City of Fulshear	City of Fulshear		$2,097,929	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1308	836	2551	0	2	114	39.019	12478		
81000968	Columbia Lakes Levee	Construction of 2 levees to protect the Columbia Lakes Development.	8000009	Brazoria				Preliminary Engineering	1.37		City of West Columbia	City of West Columbia		$821,274	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	620	442	930	0	0	49	20.753	5093.4		
81000969	Oyster Creek Levee	Construction of a ring levee to protect the Lake Jackson Development.	8000009	Brazoria				Preliminary Engineering	4.16		City of Lake Jackson	City of Lake Jackson		$651,613	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	3718	3208	7954	3	0	235	148.5	17819		
81000970	Pecan Grove Levee	Construction of a ring levee to protect development in the Bullhead Bayou and Pecan Grove area.	8000009	Brazoria				Preliminary Engineering	1.68		City of Richmond	City of Richmond		$4,955,778	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	3662	2928	9669	10	1	231	72.762	16072		
81000972	Mustang Bayou Improvements	Addition of a diversion channel and improvements to existing channel.	8000014	Fort Bend				Preliminary Engineering			Missouri City	Missouri City		$539,992	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1295	561	4302	2	0	216	102.16	16945		
81000973	Lower Oyster Creek Improvements	Channel bank fill and improvements to BRA Canal flume.	8000012	Fort Bend				Preliminary Engineering			Missouri City	Missouri City		$324,199	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1648	1281	4651	1	0	108	51.082	8472.7		
81000974	Commonwealth Blvd Drainage Improvements	Design and construct drainage improvements along Commonwealth Blvd between Monarch Dr, Elkins Rd, St Michaels Ct, and Knightsbridge Ct.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$2,638,481	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81000975	Covington West and Imperial Woods Drainage Improvements	Drainage infrastructure improvements to reduce flooding in the Covington West drainage area.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$453,492	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81000976	Sugar Creek Watershed Analysis	Complete a drainage study for the Sugar Creek neighborhood to mitigate flooding risk.	8000013	Fort Bend				Regional Watershed Studies			City of Sugar Land	City of Sugar Land		$100,373	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	26	14	214	0	0	18	2.3496	1.2403		
81000978	Colony Bend, Colony Grant, Stephens Grant Drainage Improvements	Complete a drainage study, design, and construction of drainage improvements to reduce flooding risk in the neighborhoods.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$311,811	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81000979	Flood Inundation Mapping	Update of the Integrated Stormwater Management Model to include improvements to predictions in leveed areas.	8000013	Fort Bend				Regional Watershed Studies			City of Sugar Land	City of Sugar Land		$100,373	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0			

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81000980	Chimneystone, Austin, and Settlers Parks Improvements Phase III	Design and construct drainage improvements to Wagon Trail and Settlers Way in Settlers Park.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$691,264	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	214	0	0	18	2.3496	1.2403		
81000981	Sugar Creek East Ditch	Install box culverts in the Sugar Creek East Ditch for storm water control.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$821,274	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	26	14	214	0	0	18	2.3496	1.2403		
81000982	Lakebend Sugar Creek Outfall & Drainage	Replace outfall structure and channel improvements at Sugar Creek & Parkway Blvd and upsize storm water systems.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$523,342	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	26	14	0	0	0	0	0	0		
81000983	Imperial Woods/Lynnwood Lane Drainage Improvements	Upsize water system and inlet replacement along Woodchester, Lynnwood, Oakwood, and Fernhill.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$658,246	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	1	0	0		
81000984	Monarch Dr Drainage Improvements	Upsize storm water system south of Commonwealth Blvd.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$435,658	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	441	1	0	10	2.6416	3.9495		
81000985	Riverbend North Drainage improvements	Upsize storm water system and inlets in Riverbend North.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$453,492	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	199	192	0	0	0	0	0	0		
81000986	Lakes of Austin Park Drainage Improvements	Upsize storm water systems and inlets.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$435,658	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0.1858		
81000987	Telfair Inlet Replacements	Update storm water inlets.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$399,375	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0.0032	0		
81000988	Greatwood Inlet Replacements	Update storm water inlets.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$342,578	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	1	0.0043	0.3831		
81000989	New Territory Inlet Replacements	Update storm water inlets.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$352,339	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	1	0.0043	0.3831		
81000990	LID 2 Watershed Analysis	Complete a drainage study for the Sugar Creek neighborhood to mitigate flooding risk.	8000013	Fort Bend				Regional Watershed Studies			City of Sugar Land	City of Sugar Land		$101,296	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81000991	Williams Trace and Highlands Drainage Improvements	Upsize storm water system and install inlet improvements along Williams Trace from south of SH 6 to Oyster Creek and Lexington Blvd from Williams Trace to Oyster Creek.	8000009	Fort Bend				Preliminary Engineering			City of Sugar Land	City of Sugar Land		$100,058	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0.0188	0		
81000995	Ursuline Ave Flooding	Detailed study to determine flooding source and potential solutions.	8000014	Brazos				Drainage Master Plans			City of Bryan	City of Bryan		$302,168	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	24	24	59	0	0	0	0	0		
81000996	Carters Creek Trib B Erosion	Study to design bank stabilization for approximately 1500 lf of Carter's Creek Trib B.	8000015	Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$495,652	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	11	9	22	0	0	3	1.103	71.61		
81000998	Pierce Street Storm Drain Improvements	Upsizing of storm sewer throughout the neighborhood to prevent flooding for the 10-year storm.	8000010	Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$399,375	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	20	20	49	0	0	1	0.1637	0		
81000999	Hudson Creek Regional Detention	Study to design regional detention upstream of Copperfield to mitigate flooding and maintenance problems.	8000014	Brazos				Feasibility Assessment			City of Bryan	City of Bryan		$339,451	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	100	93	242	0	5	15	1.8946	7.3765		
81001000	Copperfield Subdivision Ph 2 Erosion Trib 4.1.1	A detailed hydrologic and hydraulic study will need to be done to assess existing and future conditions of the creek. From this study alternatives should be proposed to determine a channel improvement alternative for design.	8000013	Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$399,375	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	11	9	22	0	0	3	1.103	71.61		

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81001001	Kirkwood Drive Backyard Flooding	Study to identify proposed improvements for the area. It is assumed that an additional storm drain will be needed.	8000014	Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$302,418	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81001002	23rd Street Draining & Maintenance	Study to determine cause and proposed alternatives to mitigate flooding in the subdivision.	8000013	Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$658,246	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1	1	1	0	0	2	0.0161	0		
81001003	Tennessee Avenue Crossing	A study and detailed design needs to be completed to assess the flooding and design culvert improvements to reduce road overtopping.	8000013	Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$397,719	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	126	117	315	2	5	36	2.2701	19.984		
81001004	Shirley Lane Flooding	Street reconstruction to better direct flow and expand roadside ditch.	8000010	Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$317,185	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	22	19	67	1	1	4	0.414	0.1826		
81001005	Lynndale Acres Ph 2: Old Hearne and McHaney Street	A study of the drainage area is needed to assess and propose improvements to reduce flooding in the area. As part of this study, alternatives should be recommended.	8000014	Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$302,665	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	98	92	225	2	4	23	1.372	0.3224		
81001009	Thompsons Branch & SH 6 Drainage Improvements	Study to design several improvements to mitigate flooding at the crossing.	8000014	Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$406,707	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	7	6	3	0	3	6	2.0125	978.34		
81001015	Turkey Creek Drainage Improvements	Detailed design of improvements throughout the Turkey Creek watershed, especially to fix erosion problems.	8000014	Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$491,821	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	14	14	22	0	0	9	0.4854	19.424		
81001020	South Fork of Turkey Creek Improvements	Erosion control and crossing improvements along South Fork of Turkey Creek.	8000010	Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$331,017	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	14	14	22	0	0	9	0.4854	19.424		
81001021	Burton Creek Extension of Flood Study	Expansion of previous study to improve characterization of flood risk.		Brazos				Regional Watershed Studies			City of Bryan	City of Bryan		$102,867	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	348	254	1697	2	9	47	4.3193	0.3088		
81001022	Thompson Creek Floodplain Study from RELLIS to HW 6 to Establish Floodway	Study of Thompson Creek to determine flood risk.		Brazos				Regional Watershed Studies			City of Bryan	City of Bryan		$125,431	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	7	6	3	0	3	6	2.0125	978.34		
81001023	Study Wickerson Creek for Floodplain/Floodway from FM 974 to Navasota River	Study of Wickerson Creek to determine flood risk.		Brazos				Regional Watershed Studies			City of Bryan	City of Bryan		$275,665	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	52	45	65	0	4	25	5.2307	3488.6		
81001027	Citywide FEMA Flood Study	City wide updates to floodplain mapping.		Brazos				Regional Watershed Studies			City of Bryan	City of Bryan		$135,223	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1120	870	3337	4543	7	19	37	193		
81001028	Storm Sewer at UPRR Rail and 31st Street	Design of improvements to storm sewer to increase capactiy under the identified crossing.		Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$100,018	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	2	0	40	0	0	1	0.0552	0		
81001029	Downtown Storm Sewer Improvements to Still Creek	Study and design of storm drain improvements throughout the Still Creek watershed.		Brazos				Feasibility Assessment			City of Bryan	City of Bryan		$350,399	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	1	0.0071	0		
81001030	Erosion Master Plans: Briar Creek at Bob Bond Park	Study to determine erosion solutions along Briar Creek.		Brazos				Drainage Master Plans			City of Bryan	City of Bryan		$93,575	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	10	10	20	0	1	2	0.1107	0		
81001031	Burton Creek Failed Channel Linings	Study to design fixes for channel linings along Burton Creek.	8000014	Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$131,526	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	195	171	871	1	5	25	2.2458	0		
81001032	Brushy Creek Flood Study Extension	Expansion of previous study to improve characterization of flood risk.		Brazos				Regional Watershed Studies			City of Bryan	City of Bryan		$317,185	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	7	7	5	0	0	4	0.2008	323.59		

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81001033	Philips Event Center Detention Pond at Hole 8 - Maintenance and Dredging	Maintenance on detention pond to increase storage.	8000010	Brazos				Preliminary Engineering			City of Bryan	City of Bryan		$100,562	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	100	93	242	0	5	15	1.8946	7.3765		
81001035	Improve Undersized Storm Sewers in Briar Creek DB	Update modeling to Atlas 14 to determine appropriate sizing for storm sewer in the region.	8000006	Brazos				H&H Modeling			City of Bryan	City of Bryan		$399,375	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	100	93	242	0	5	15	1.8946	7.3765		
81001036	Improve Undersized Storm Sewers in Burton Creek DB	Update modeling to Atlas 14 to determine appropriate sizing for storm sewer in the region.	8000006	Brazos				H&H Modeling			City of Bryan	City of Bryan		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	348	254	1697	2	9	47	4.3193	0.3088		
81001037	Improve Undersized Storm Sewers in Carter Creek DB	Update modeling to Atlas 14 to determine appropriate sizing for storm sewer in the region.	8000006	Brazos				H&H Modeling			City of Bryan	City of Bryan		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	190	158	883	2	6	48	4.9509	184.29		
81001038	Improve Undersized Storm Sewers in Hudson Creek DB	Update modeling to Atlas 14 to determine appropriate sizing for storm sewer in the region.	8000006	Brazos				H&H Modeling			City of Bryan	City of Bryan		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	26	21	153	0	0	3	0.299	11.87		
81001039	Improve Undersized Storm Sewers in Cottonwood Branch/Still Creek DB	Update modeling to Atlas 14 to determine appropriate sizing for storm sewer in the region.	8000006	Brazos				H&H Modeling			City of Bryan	City of Bryan		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	254	166	692	2	12	51	5.4814	292.26		
81001040	Improve Undersized Storm Sewers in Turkey Creek DB	Update modeling to Atlas 14 to determine appropriate sizing for storm sewer in the region.	8000006	Brazos				H&H Modeling			City of Bryan	City of Bryan		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	14	14	22	0	0	9	0.4854	19.424		
81001042	Elm St/Graham Ave Drainage Improvements Ph 1&2	Update modeling to Atlas 14 to determine appropriate sizing for storm sewer in the region.	8000006	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81001043	Second Ave/Hyman Ave/Alexaner Rd Drainage Improvements	Update modeling to Atlas 14 to determine appropriate sizing for storm sewer in the region.	8000006	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	2	0	0		
81001044	Lingleville Rd Drainage Improvements	Update modeling to Atlas 14 to determine appropriate sizing for storm sewer in the region.	8000006	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	4	2	9	0	0	1	0.1919	24.995		
81001045	Moonlight Tr Drainage Improvements	Update modeling to Atlas 14 to determine appropriate sizing for storm sewer in the region.	8000006	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81001046	Old Hico Rd Drainage Improvements	Update modeling to Atlas 14 to determine appropriate sizing for storm sewer in the region.	8000006	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	0		
81001047	Dale Ave Drainage Improvements	Update design to account for Atlas 14 rainfall.	8000006	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1	1	2	0	2	8	0.6013	0.322		
81001048	Belknap Drainage Improvements	Update design to account for Atlas 14 rainfall.	8000006	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	9	2	10	0	0	3	0.2631	10.372		
81001049	Northwest Loop Subbasin	Update design to account for Atlas 14 rainfall.	8000006	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	58	35	247	0	2	12	1.2885	13.712		
81001051	Lockhart Rd Culverts	Proposed improvements to culverts, need a more in depth study of associated road improvements.	8000014	Erath				Preliminary Engineering		Riverine, Urban	City of Stephenville	City of Stephenville		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	1	1	1	0	0	3	0.1806	10.34		
81001052	Swan St Culverts	Update design to account for Atlas 14 rainfall.	8000006	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$315,269	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	20	16	51	0	0	4	0.4842	0.7142		
81001053	Prairie Wind Improvements	Update design to account for Atlas 14 rainfall.	8000006	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	9	9	30	0	3	10	1.099	60.862		

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81001055	Rowland Channel Drainage Improvements	Alternative analysis to determine whether property acquisition or addition of detention is more feasible.	8000014	Erath				Feasibility Assessment		Riverine, Urban	City of Stephenville	City of Stephenville		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	58	35	247	0	2	12	1.2885	13.712		
81001056	Spring Bouquet Drainage Improvements	Update modeling to Atlas 14 to determine appropriate sizing for storm sewer in the region.	8000006	Erath				H&H Modeling		Riverine, Urban	City of Stephenville	City of Stephenville		$97,932	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	0	0	0	0	0	0	0	16.781		
81001061	Patriotic Ditch at Zephyr Road	Update design to account for Atlas 14 rainfall.	8000006	Bell				H&H Modeling		Riverine, Urban	City of Killeen	City of Killeen		$50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	158	135	698	1	8	20	1.7756	2.8406		
81001065	Carter's Creek Flood Study	Study to determine flood risk across the watershed.	8000014	Brazos				Regional Watershed Studies		Riverine	City of College Station	City of College Station		$185,568	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	849	646	4897	7	43	152	17.115	1274.5		
81001066	Hope's Creek Flood Study	Study to determine flood risk across the watershed.	8000014	Brazos				Regional Watershed Studies		Riverine	City of College Station	City of College Station		$108,559	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	37	24	101	0	0	5	1.3382	702.5		
81001067	Peach Creek Flood Study	Study to determine flood risk across the watershed.	8000014	Brazos				Regional Watershed Studies		Riverine	City of College Station	City of College Station		$112,355	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	15	13	2	0	0	2	0.2003	105.53		
81001068	FBCDD Drop Structures - Condition Assessments & Upgrades	Create inventory of structures and condition, prioritize and design upgrades to structures as needed.		Fort Bend				Study on Flood Preparedness		Riverine, Urban	Fort Bend County	Fort Bend County Drainage District, Fort Bend County		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	56	50	34375	30	2	1167	299.9	95254		
81001138	City of Mineral Wells Regional Drainage Improvements	Study to determine improvements to ditches, culverts, pavement, and debris build up.	8000009	Palo Pinto				Drainage Master Plans	21.3	Riverine, Urban	City of Mineral Wells	City of Mineral Wells		$410,629	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	14	7	6	0	0	2	0.6896	3.2651		
81001145	Dam 18 Rehabilitation	Improvements to ensure dam provides necessary protection against flood risk.	8000009	Williamson				Preliminary Engineering			Upper Brushy Creek WCID	Upper Brushy Creek WCID		$380,841	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	11	5	11	0	1	8	1.7509	1105.4		
81001146	Waller County Master Drainage Plan	Study to determine food risk and potential solutions throughout the county.	8000009	Waller				Drainage Master Plans			Waller County	Waller County		$191,881	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	2038	1007	2243	1	15	194	88.894	43836		
81001147	University Oaks Crossing	Update design to account for Atlas 14 rainfall.	8000006	Brazos				H&H Modeling			City of College Station	City of College Station		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	28	13	36	0	0	2	1.2656	23.662		
81001148	Texas Ave Crossing & Channel Improvements (Hwy 6 to Texas) & Detenton Pond	Update design to account for Atlas 14 rainfall.	8000006	Brazos				H&H Modeling			City of College Station	City of College Station		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	66	47	233	3	8	19	2.1261	75.054		
81001149	Southwest Pkwy Crossing Trib B.1	Update design to account for Atlas 14 rainfall.	8000006	Brazos				H&H Modeling			City of College Station	City of College Station		$50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	14	14	46	0	1	1	1.5615	4.2365		
81001150	Southwest Pkwy Crossing Trib B.2.1	Update design to account for Atlas 14 rainfall.	8000006	Brazos				H&H Modeling			City of College Station	City of College Station		$50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	20	18	59	0	0	0	0.2362	2.3615		
81001151	Southwest Pkwy Crossing Trib B.2	Update design to account for Atlas 14 rainfall.	8000006	Brazos				H&H Modeling			City of College Station	City of College Station		$50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	17	14	46	0	0	0	0.5161	3.2662		
81001152	Miliff Rd Crossing	Update design to account for Atlas 14 rainfall.	8000006	Brazos				H&H Modeling			City of College Station	City of College Station		$50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	32	18	59	0	1	0	0.9865	1.2646		
81001153	Hwy 6 Crossing & DS Channel Improvements	Update design to account for Atlas 14 rainfall.	8000006	Brazos				H&H Modeling			City of College Station	City of College Station		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	45	21	69	0	3	2	1.6543	12.156		
81001154	Holleman Crossing & Channel Improvements (Glade to Holleman)	Update design to account for Atlas 14 rainfall.	8000006	Brazos				H&H Modeling			City of College Station	City of College Station		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	12	6	20	0	1	2	1.2526	9.2632		

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81001155	Harvey Rd Crossing	Update design to account for Atlas 14 rainfall.	8000006	Brazos				H&H Modeling			City of College Station	City of College Station		$50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	28	13	36	0	0	2	1.2656	23.662		
81001156	FM 2818 Crossing & Channel Improvements (FM- 2818 to Welsh) & Detention Pond	Update design to account for Atlas 14 rainfall.	8000006	Brazos				H&H Modeling			City of College Station	City of College Station		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	32	24	184	1	3	7	1.2155	32.554		
81001157	Brothers Blvd Crossing & Channel (Rio Grande to Longmire)	Update design to account for Atlas 14 rainfall.	8000006	Brazos				H&H Modeling			City of College Station	City of College Station		$300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	28	16	52	0	0	1	0.5694	12.364		
81001158	Channel Upstream of Welsh	Update design to account for Atlas 14 rainfall.	8000006	Brazos				H&H Modeling			City of College Station	City of College Station		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	25	14	46	0	1	0	0.2542	14.321		
81001159	Texas Ave Crossing & Channel Improvements (Longmire to Hwy 6)	Update design to account for Atlas 14 rainfall.	8000006	Brazos				H&H Modeling			City of College Station	City of College Station		$100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT	33	22	125	0	2	3	1.2981	15.663		
81001160	Berry Branch Brushy Creek DMP							Drainage Master Plans						$591,224		41	21	31	1	8	36	9.8281	7743.8		
81001161	Big Creek Navasota DMP							Drainage Master Plans						$603,577		346	233	1324	3	4	60	16.938	15184		
81001162	Boggy Creek Brushy Creek DMP							Drainage Master Plans						$607,415		143	118	146	0	6	25	7.5371	8635.8		
81001163	Brazoria DMP							Drainage Master Plans						$1,526,455		13458	10611	31919	24	0	751	449.08	87452		
81001164	Lampasas Sulphur Creek DMP							Drainage Master Plans						$629,336		663	273	3410	6	12	90	15.226	1094		
81001165	Thompson Branch-Davidson Creek DMP							Drainage Master Plans						$560,233		129	61	400	5	1	34	6.3647	2117.7		
81001166	Castleman Creek DMP							Drainage Master Plans						$453,753		160	132	546	1	1	30	4.0039	1853.6		
81001167	Cleburne-Buffalo Creek DMP							Drainage Master Plans						$639,377		816	601	3614	7	12	152	21.361	2859.2		
81001168	Clifton DMP							Drainage Master Plans						$528,142		285	156	969	2	6	77	13.309	4982.8		
81001169	Copperas Creek DMP							Drainage Master Plans						$585,017		168	94	203	2	1	55	13.588	2670.2		
81001170	Cottonwood Creek DMP							Drainage Master Plans						$567,375		1546	974	19235	13	3	290	62.312	3255.4		
81001171	Dry Berry Creek DMP							Drainage Master Plans						$509,178		100	53	146	0	5	26	7.1211	2789.6		
81001172	Flat Creek DMP							Drainage Master Plans						$391,508		201	114	2048	3	1	41	5.7467	886.4		
81001173	Hogpen Creek DMP							Drainage Master Plans						$560,855		42	25	56	0	6	31	3.2863	3521.1		
81001174	Comanche-Indian Creek DMP							Drainage Master Plans						$586,656		237	148	519	1	4	64	8.9136	3166.9		
81001175	Lake Waco DMP							Drainage Master Plans						$762,967		387	212	871	1	8	108	54.742	6807.5		
81001176	Mustang Creek DMP							Drainage Master Plans						$588,895		111	71	352	0	13	51	6.5623	4157.2		
81001177	Nash Creek-Leon DMP							Drainage Master Plans						$600,838		8	0	2	0	3	26	7.8578	2360.8		
81001178	Eastland-Lake Leon DMP							Drainage Master Plans						$863,538		626	325	1321	6	0	143	36.618	2716.8		
81001179	Sandy Creek DMP							Drainage Master Plans						$603,065		226	137	568	2	0	38	8.0075	3030.3		

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81001180	South Nolan Creek DMP							Drainage Master Plans						$717,696		1237	740	7205	8	60	208	30.196	1514		
81001181	Tradinghouse Creek DMP							Drainage Master Plans						$515,678		46	28	55	0	4	23	4.0332	1642.8		
81001182	Turkey Creek DMP							Drainage Master Plans						$618,983		92	69	82	0	4	34	7.0944	7858.3		
81001183	White Rock Creek DMP							Drainage Master Plans						$581,846		288	155	516	0	3	36	6.7532	5620		
81001184	Lake Graham-Salt Creek DMP							Drainage Master Plans						$606,757		595	369	1221	3	5	49	13.972	2247.1		
81001185	Walnut Creek-Brazos River DMP							Drainage Master Plans						$617,010		616	525	1608	2	7	58	6.8914	334.96		
81001186	Bee Creek-Brazos River DMP							Drainage Master Plans						$608,588		1220	976	2182	1	1	104	26.363	3867.7		
81001187	Pollard Creek-Crystal Creek DMP							Drainage Master Plans						$586,188		398	242	1948	4	1	147	17.796	1800.4		
81001188	Middle Rock Creek DMP							Drainage Master Plans						$418,712		71	7	609	2	1	39	4.0812	679.41		
81001189	Rice Creek DMP							Drainage Master Plans						$460,413		29	8	42	0	2	21	3.6872	2922		
81001190	Tehuacana Creek DMP							Drainage Master Plans						$798,537		265	156	520	1	5	67	27.136	11022		
81001191	Dry Creek-Aquilla Creek DMP							Drainage Master Plans						$635,740		47	18	60	0	0	19	2.7736	5728.6		
81001192	Eagle Creek-Brazos River DMP							Drainage Master Plans						$442,885		228	158	330	0	2	9	1.0176	1998.1		
81001193	Manos Creek-Brazos River DMP							Drainage Master Plans						$597,210		52	17	62	0	2	24	5.7818	9195.3		
81001194	Lower Hackberry Creek DMP							Drainage Master Plans						$629,883		57	29	341	0	3	52	7.8911	3636.6		
81001195	Cottonwood Creek-Aquilla Creek DMP							Drainage Master Plans						$623,584		47	19	62	0	1	19	4.3805	2346.6		
81001196	Somervell-Paluxy River DMP							Drainage Master Plans						$595,915		219	97	1379	11	14	55	9.5915	934.97		
81001197	Stanifer Branch-North Bosque River DMP							Drainage Master Plans						$568,583		110	50	200	2	0	36	6.4781	4235		
81001198	South Fork North Bosque River DMP							Drainage Master Plans						$567,346		42	21	87	1	6	33	5.6675	2471.3		
81001199	Indian Creek-North Bosque River DMP							Drainage Master Plans						$563,258		210	121	563	0	7	56	6.2909	2376.7		
81001200	Green Creek DMP							Drainage Master Plans						$658,858		98	56	128	0	5	47	9.8785	3560.7		
81001201	Bull Hide Creek DMP							Drainage Master Plans						$500,162		15	9	14	0	3	21	2.7793	1857.4		
81001202	South Cow Bayou DMP							Drainage Master Plans						$558,031		14	11	11	0	0	13	1.6231	1508.8		
81001203	North Cow Bayou DMP							Drainage Master Plans						$506,908		37	22	36	0	1	20	2.6587	1432.6		
81001204	Big Sandy Creek-New Year Creek DMP							Drainage Master Plans						$483,038		96	38	253	1	6	47	3.7488	1856.5		
81001205	Donahoe Creek-Brazos River DMP							Drainage Master Plans						$599,923		41	5	31	1	0	9	11.345	12819		
81001206	Lost Creek DMP							Drainage Master Plans						$611,185		280	172	1011	1	0	49	27.556	16807		
81001207	Bryan-Thompsons Creek DMP							Drainage Master Plans						$581,354		264	172	696	2	15	56	8.5624	1520.1		
81001208	Rocky Creek-Brazos River DMP							Drainage Master Plans						$610,572		67	8	77	0	0	8	4.2058	11477		

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81001209	Second Davidson Creek DMP							Drainage Master Plans						$526,827		48	36	87	0	0	31	3.4871	1036.1		
81001210	Holland Creek DMP							Drainage Master Plans						$532,779		7	2	9	0	5	11	2.7944	2564.1		
81001211	Bee Creek-Carters Creek DMP							Drainage Master Plans						$535,338		831	630	4864	7	43	148	16.075	590.68		
81001212	Upper Resley Creek DMP							Drainage Master Plans						$564,720		53	26	76	0	9	56	6.5599	2247.2		
81001213	Hamilton-Pecan Creek DMP							Drainage Master Plans						$465,337		104	39	439	1	9	55	4.8314	760.95		
81001214	Pepper Creek-Leon River DMP							Drainage Master Plans						$553,211		234	132	1078	1	4	51	4.324	888.64		
81001215	Cottonwood Creek-Leon River DMP							Drainage Master Plans						$623,451		101	54	308	0	4	39	5.7115	2818.8		
81001216	Little Elm Creek DMP							Drainage Master Plans						$497,781		171	85	1185	1	7	63	7.479	1731.5		
81001217	Camp Creek-Big Elm Creek DMP							Drainage Master Plans						$603,105		48	5	39	0	4	29	8.0126	6616.6		
81001218	Upper Donahoe Creek DMP							Drainage Master Plans						$546,732		14	7	10	0	9	15	3.5079	2170.9		
81001219	Mileham Branch-San Gabriel River DMP							Drainage Master Plans						$515,941		401	314	681	1	8	67	14.554	3411.5		
81001220	Opossum Creek-Willis Creek DMP							Drainage Master Plans						$590,636		197	141	165	0	10	43	10.296	4793.4		
81001221	Pecan Branch-San Gabriel River DMP							Drainage Master Plans						$466,457		174	115	226	0	3	21	6.7883	5640		
81001222	Granger Lake DMP							Drainage Master Plans						$582,646		118	84	250	0	5	27	7.7531	4459.9		
81001223	Upper Brushy Creek DMP							Drainage Master Plans						$946,204		993	792	5006	1	47	203	29.074	3184.4		
81001224	Smith Branch-San Gabriel River DMP							Drainage Master Plans						$413,165		193	152	757	2	3	55	9.074	637.16		
81001225	Lower Berry Creek DMP							Drainage Master Plans						$564,561		68	64	166	0	5	24	5.2858	865.1		
81001226	Lower Allens Creek DMP							Drainage Master Plans						$490,763		106	65	136	0	0	10	7.226	5669.6		
81001227	Upper Allens Creek DMP							Drainage Master Plans						$489,477		382	256	929	2	0	32	12.999	2250		
81001228	Ponds Creek-Clear Creek DMP							Drainage Master Plans						$553,585		66	50	83	1	1	26	3.8757	437.77		
81001229	Threemile Creek-Clear Creek DMP							Drainage Master Plans						$459,424		227	71	225	0	2	43	6.9352	2523.2		
81001230	Hempstead-Blasingame Creek DMP							Drainage Master Plans						$455,901		68	44	57	0	1	30	2.4916	3422.6		
81001231	Ives Creek-Brazos River DMP							Drainage Master Plans						$539,962		255	88	106	0	0	21	12.388	9796.1		
81001232	Sandy Creek-Mill Creek DMP							Drainage Master Plans						$592,531		149	90	710	1	3	56	9.3813	4375.8		
81001233	Deadman Creek-Mill Creek DMP							Drainage Master Plans						$577,924		321	171	127	0	0	26	18.992	10181		
81001234	Harris Creek-Irons Creek DMP							Drainage Master Plans						$473,020		126	58	107	0	0	23	9.3252	7416.8		
81001235	Mulberry Creek-Irons Creek DMP							Drainage Master Plans						$430,128		213	100	95	0	1	16	6.4659	5976.1		
81001236	Bessies Creek DMP							Drainage Master Plans						$577,938		343	186	264	0	8	22	10.918	6110.3		
81001237	Bullinger Creek-Brazos River DMP							Drainage Master Plans						$457,621		307	179	565	0	1	38	12.659	4315.7		

Table 12 - Summary of Potential Flood Management Evaluations (FME)

FME ID	FME Name	Description	Associated Goals (ID)	Counties	HUC 8s	HUC 12s	Watersheds	Evaluation Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost	Potential Funding Sources and Amount	Estimated Number of Structures at Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Segment Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Existing or Anticipated Models (yr)	Existing or Anticipated Maps (yr)
81001238	Cannons Lake-Brazos River DMP							Drainage Master Plans						$421,120		597	344	393	0	0	23	29.426	7109.2		
81001239	Brookshire DMP							Drainage Master Plans						$441,673		423	216	1143	0	1	40	9.4653	2127.9		
81001240	Dry Brushy Creek-Brushy Creek DMP							Drainage Master Plans						$537,739		41	33	29	0	3	24	5.7053	5162.4		
81001241	Lake Proctor							Regional Watershed Studies						$10,685,689		654	261	1083	5	16	436	148.69	46579		
81001242	Middle Bosque River							Regional Watershed Studies						$787,250		154	74	244	0	4	78	12.138	16003		
81001243	Hog Creek							Regional Watershed Studies						$283,571		99	29	139	0	6	43	10.418	7391.3		
81001244	North Bosque River							Regional Watershed Studies						$14,722,576		1426	686	2801	8	45	538	146.69	69770		
81001245	Aquilla Creek							Regional Watershed Studies						$2,395,077		204	88	520	0	7	178	32.697	20746		
81001246	Keechi Creek							Regional Watershed Studies						$1,215,673		105	37	77	0	2	53	15.619	7364.1		
81001247	Possum Kingdom Lake							Regional Watershed Studies						$9,045,370		1669	969	2205	4	7	247	75.812	34912		
81001248	Palo Pinto Creek							Regional Watershed Studies						$4,895,958		1014	386	961	6	13	217	114.91	25160		
81001249	Lake Granbury							Regional Watershed Studies						$13,572,085		3876	2488	9080	12	36	709	150.14	49241		
81001250	Navasota River							Regional Watershed Studies						$39,351,970		3354	2058	8106	11	92	634	146.35	104322		
81001251	Mill Creek							Regional Watershed Studies						$2,041,635		317	177	1153	3	13	223	54.15	24202		
81001252	Lampasas River							Regional Watershed Studies						$16,104,367		1050	445	3871	6	60	319	48.675	16657		
81001253	Cowhouse Creek							Regional Watershed Studies						$6,072,122		632	418	6179	3	7	366	82.137	21601		
81001254	Brushy Creek							Regional Watershed Studies						$3,507,414		1451	1115	5669	2	81	362	77.668	42040		
81001255	Lake Leon							Regional Watershed Studies						$1,160,131		658	333	1344	6	0	179	50.284	4532.4		
81001256	Leon River							Regional Watershed Studies						$21,447,954		1101	545	2422	4	62	517	168.66	84539		
81001257	Lake Whitney							Regional Watershed Studies						$5,427,030		799	462	1142	3	12	234	83.835	22846		
81001258	Paluxy River							Regional Watershed Studies						$3,401,081		374	188	1680	11	35	115	23.697	8901.6		

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Table 12 - Summary of Potential Flood Management Evaluations (FME)

FME ID	FME Name	Description	Associated Goals (ID)	Counties	HUC 8s	HUC 12s	Watersheds	Evaluation Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost	Potential Funding Sources and Amount	Estimated Number of Structures at Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Segment Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Existing or Anticipated Models (yr)	Existing or Anticipated Maps (yr)
81001259	Nolan River							Regional Watershed Studies						$1,616,904		1123	789	4065	8	16	262	54.834	15288		
81001260	Big Creek							Regional Watershed Studies						$1,551,593		86	38	87	0	18	96	20.951	28197		
81001261	Pond Creek							Regional Watershed Studies						$968,447		43	7	31	0	8	65	11.907	18006		
81001262	Bull Hide Creek							Regional Watershed Studies						$139,620		15	9	14	0	3	21	2.7793	1857.4		
81001263	Cow Bayou							Regional Watershed Studies						$376,753		56	34	51	0	1	39	6.6282	7508.7		
81001264	Deer Creek							Regional Watershed Studies						$375,513		8	4	9	0	12	40	6.5	5500.6		
81001265	Middle Brazos DS Lake Whitney							Regional Watershed Studies						$3,605,269		2670	1653	22942	18	17	495	107.67	52348		
81001266	Lower Brazos-Little Brazos							Regional Watershed Studies						$26,672,927		1830	867	4736	11	37	495	245.67	234255		
81001267	San Gabriel River DS Granger Lake							Regional Watershed Studies						$384,249		115	72	118	0	9	45	15.5	15123		
81001268	San Gabriel River US Granger Lake							Regional Watershed Studies						$6,101,280		2192	1692	4995	3	83	393	108.54	31497		
81001269	Salado Creek-Lampasas River (Little River)							Regional Watershed Studies						$789,227		461	291	1092	3	26	103	22.637	5268.1		
81001270	Nolan Creek-Leon River (Little River)							Regional Watershed Studies						$669,858		1559	927	9022	9	66	277	36.924	5083.3		
81001271	Little River							Regional Watershed Studies						$5,432,281		352	120	810	1	32	184	49.852	69618		
81001272	Big Elm Creek							Regional Watershed Studies						$1,644,107		337	123	1379	1	23	156	38.166	23045		
81001273	Davidson-Yegua							Regional Watershed Studies						$1,564,192		273	150	631	5	3	130	25.483	19146		
81001274	Yegua-Lake Somerville	Study to determine flood risk across the watershed, including the crossing at FM 50.		Burleson				Regional Watershed Studies			Burleson County	Burleson County, City of Clay, City of Independence		$10,401,857		579	278	531	1	49	233	80.312	31804		
81001275	Brazos River Tributaries DS Hempstead							Regional Watershed Studies						$4,498,136		4658	2740	5705	3	17	425	199.63	88010		
81001276	Carters Creek							Regional Watershed Studies						$188,868		849	646	4897	7	43	152	17.115	1274.5		
81001277	Peach Creek							Regional Watershed Studies						$123,495		37	24	101	0	0	5	1.3382	702.5		
81001278	Hopes Creek							Regional Watershed Studies						$104,950		15	13	2	0	0	2	0.2003	105.53		

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Table 12 - Summary of Potential Flood Management Evaluations (FME)

FME ID	FME Name	Description	Associated Goals (ID)	Counties	HUC 8s	HUC 12s	Watersheds	Evaluation Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost	Potential Funding Sources and Amount	Estimated Number of Structures at Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Segment Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Existing or Anticipated Models (yr)	Existing or Anticipated Maps (yr)
81001279	Lick Creek							Regional Watershed Studies						$111,765		56	50	174	0	2	20	2.163	278.45		
81001280	Angleton Levee							Study on Flood Preparedness						$460,213		0	0	0	0	0	0	0	2.5948		
81001281	Fort Bend County LIDs Internal Flood Study							Study on Flood Preparedness						$604,535		621	573	2094	5	0	95	13.525	106.99		
81001282	Velasco Levee							Study on Flood Preparedness						$533,134		582	444	3602	2	0	61	16.454	40.466		
81001283	Fort Bend County LIDs Vulnerability Study							Study on Flood Preparedness						$604,535		621	573	2094	5	0	95	13.525	106.99		

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Table 13 - Summary of Potentially Feasible Flood Mitigation Projects (FMP)

General Information														
FMP ID	FMP Name	Description	Associated Goals (ID)	Counties	HUC 12s	Watersheds	Project Type	Project Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Project Cost	Potential Funding Sources and Amount
83000042	Lea/Penn and Red Bird Lane Improvements	Design of diversion channel and road construction to reduce flooding and provide access to neighborhoods.	8000009	Fort Bend			Comprehensive Regional Improvements			City of Fulshear	City of Fulshear		$6,260,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000047	Sugar Creek Drainage Improvements	Design of storm drain updates throughout neighborhood.	8000012	Fort Bend			Storm Drain Improvements			City of Sugar Land	City of Sugar Land		$ 10,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000048	Covington Woods Jess Pirtle Bridge Channel Improvements	Determination of necessary repairs to ditch A-22 channel flow line	8000009	Fort Bend			Regional Channel Improvements			City of Sugar Land	City of Sugar Land		$ 2,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000057	Chimneystone, Austin, and Settlers Parks Improvements Phase II	Design of new concrete channel and storm drain improvements.	8000009	Fort Bend			Comprehensive Regional Improvements			City of Sugar Land	City of Sugar Land		$ 7,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000058	Sugar Lakes Drainage Improvements	Determination of necessary storm drain improvements and lake control structure modifications.	8000009	Fort Bend			Storm Drain Improvements			City of Sugar Land	City of Sugar Land		$ 8,800,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000060	Sugar Creek Regional Detention	Design and construct new detention pond for regional detention in the Sugar Creek Center area for Atlas 14 rainfall	8000006	Fort Bend			Regional Detention			City of Sugar Land	City of Sugar Land		$ 30,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000061	Sugar Land Business Park Regional Detention	Design and construct new detention pond for regional detention in the Sugar Land Business Park.	8000006	Fort Bend			Regional Detention			City of Sugar Land	City of Sugar Land		$ 10,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000089	Riverbend Drainage Improvements Phase II	Improved storm water system sizing and inlet placements along Plantation Bend, Cypress Run, Winding River, and Cannons Point	8000009	Fort Bend			Storm Drain Improvements			City of Sugar Land	City of Sugar Land		$ 3,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000091	Citywide Inlet Replacement	Study to determine how to replace B-B inlets with C-2 or H2 inlets in areas of ponding and structural risk.	8000013	Fort Bend			Storm Drain Improvements			City of Sugar Land	City of Sugar Land		$ 5,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000092	Avalon/Brazos Landing/ Commonwealth Drainage Imp 1 & 2	Study to determine improvements needed for FBC LID 14 weir.	8000009	Fort Bend			Infrastructure Improvements			City of Sugar Land	City of Sugar Land		$ 8,400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000114	400,500 PM Pump Station at Outfall No. 2	Study to design additional pump station at Outfall No. 2	8000009	Fort Bend			Infrastructure Improvements			Sienna LID	City of Sienna, Sienna Parks, LID		$ 15,600,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000135	Lake Leon Dam & Emergency Spillway Improvements	Study to determine necessary dam improvements to reduce flood risk downstream.	8000009	Eastland			Dam Improvements, Maintenance and Repair			Eastland County	Eastland County		$ 4,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000184	Mineral Wells State Park Dam Improvements	Design of dam improvements to reduce flood risk downstream.	8000009	Parker, Palo Pinto			Dam Improvements, Maintenance and Repair			Texas Parks and Wildlife	City of Mineral Wells, Texas Parks and Wildlife		$ 1,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000189	Tucker Lake Dam and Spillway Maintenance	Design of dam improvements to reduce flood risk downstream.	8000009	Palo Pinto			Dam Improvements, Maintenance and Repair			City of Strawn	City of Strawn		$ 20,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000199	Resley Creek Drainage Improvements	Design of improvements to channel to increase conveyance capacity.	8000009	Erath			Regional Channel Improvements			City of Dublin	City of Dublin		$ 500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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Table 13 - Summary of Potentially Feasible Flood Mitigation Projects (FMP)

	Flood Risk										Reduction in Flood Risk											Other									
	Flood Risk										Reduction in Flood Risk																					
FMP ID	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at 100-year Flood Risk	Estimated Population at 100-year Flood Risk	Critical Facilities at 100-year Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at 100-year Flood Risk (mi)	Estimated Farm & Ranch Land at 100-year Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Residential Structures Removed from 100-year (1% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads Removed from 100-year Flood Risk (mi)	Estimated Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Facilities (if available)	Estimated Reduction in Injuries (if available)	Pre-Project Level of Service	Post-Project Level of Service	Cost/Structure Removed	Percent Nature-Based Solution (by cost)	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	Social Vulnerability Index (SVI)	Traffic Count for Low Water Crossings	BCR
83000042																					0											
83000047																					0											
83000048																					0											
83000057																					0											
83000058																					0											
83000060																					0						N/A	N/A	No			
83000061																					0						N/A	N/A	No			
83000089																					0						N/A	N/A	No			
83000091																					0											
83000092																					0											
83000114																					0											
83000135																					0											
83000184																					0											
83000189																					0											
83000199																					0											

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Table 13 - Summary of Potentially Feasible Flood Mitigation Projects (FMP)

FMP ID	FMP Name	Description	Associated Goals (ID)	Counties	HUC 12s	Watersheds	Project Type	Project Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Project Cost	Potential Funding Sources and Amount
83000212	San Felipe Street Elevation	Study to determine necessary elevation of street to decrease inundation in food events.	8000009	Austin			Low Water Crossings or Bridge Improvements			Town of San Felipe	Town of San Felipe		$ 50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000213	Pond Improvements to Cryan Park	Design of improvements to detention pond.	8000009	Austin			Regional Detention			City of Sealy	City of Sealy		$ 125,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000214	Pond Improvements to BPW Park	Design of improvements to detention pond.	8000009	Austin			Regional Detention			City of Sealy	City of Sealy		$ 100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000226	Bee Creek Basin Detention Pond	Design of detention facility to contain and mitigate flooding.	8000009	Brazos			Regional Detention			City of College Station	City of College Station		$ 2,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000259	Improve Levee Crossing and Old Nolanville Road	Design of drainage feature improvements to increase capacity and study to ensure they are within standards.	8000009	Bell			Low Water Crossings or Bridge Improvements			City of Nolanville	City of Nolanville		$ 200,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000267	Rogers Wastewater Retention Pond Improvements	Expansion of retention pond to prevent overflow into nearby creek.	8000009	Bell			Regional Detention			City of Rogers	City of Rogers		$ 1,500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000277	Cow House Creek Retention Structure	Addition of retention facility to contain flood waters and mitigate flooding.	8000009	Hamilton			Regional Detention			Hamilton	Hamilton		$ 1,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000281	Hamilton County Electric Gates for Pecan Creek Dam	Improve dam to reduce flood risk downstream.	8000009	Hamilton			Dam Improvements, Maintenance and Repair			Hamilton County	Hamilton County		$ 100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000297	Little River Ox Bow and Dam Improvement and Relocation	Improve dam to reduce flood risk downstream.	8000009	Milam			Dam Improvements, Maintenance and Repair			City of Cameron	City of Cameron		$ 5,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000331	Improve Cedar Creek	Improvements to channel to increase conveyance capacity.	8000009	Grimes			Regional Channel Improvements			City of Navasota	City of Navasota		$ 2,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000371	Drainage Improvements along CR1139	Drainage feature improvements to increase capacity and ensure they are within standards.	8000009	Lampasas			Comprehensive Regional Improvements			Lampasas County	Lampasas County		$ 10,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000372	Drainage Improvements along CR4450	Drainage feature improvements to increase capacity and ensure they are within standards.	8000009	Lampasas			Comprehensive Regional Improvements			Lampasas County	Lampasas County		$ 10,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000523	Create 2nd Main Water Line	New water line to increase capacity of system.	8000009	Young			Infrastructure Improvements			City of Graham	City of Graham		$ 1,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000601	Cleanup of Indian Creek	Maintenance efforts to preserve hydraulic capacity and decrease risk to Railroad St.	8000009	Washington			Regional Channel Improvements			City of Brenham	City of Brenham		$ 100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000610	New Town West Outlet Structure	New infrastructure to improve drainage conditions.	8000009	Williamson			Infrastructure Improvements			City of Hutto	City of Hutto		$ 100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000611	Town of San Felipe Harvey State Mitigation Project	Improvement and upgrade of many drainage features throughout San Felipe.	8000009	Austin			Comprehensive Regional Improvements			Town of San Felipe	Town of San Felipe		$ 3,209,123	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000613	City of Freeport Sanitary System Flood Proofing	Implementation of point repairs, lateral seals, and manhole rehabilitation to protect system from storm events.	8000012	Brazoria			Comprehensive Regional Improvements			City of Freeport	City of Freeport		$ 5,931,627	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000616	City of Oyster Creek Sanitary System Flood Proofing	Implementation of point repairs, lateral seals, and manhole rehabilitation to protect system from storm events.	8000012	Brazoria			Comprehensive Regional Improvements			City of Oyster Creek	City of Oyster Creek		$ 5,291,898	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000618	Glenwood Bayou Drainage Improvements	Improvement and upgrade of many drainage features throughout Glenwood Bayou.	8000009	Brazoria			Comprehensive Regional Improvements			Town of Richmond	Town of Richwood		$ 3,269,602	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000619	Angleton Drainage Project	Improvement and upgrade of many drainage features throughout Glenwood Bayou.	8000009	Brazoria			Comprehensive Regional Improvements			City of Angleton	City of Angleton		$ 33,544,449	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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	Flood Risk										Reduction in Flood Risk																					
FMP ID	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at 100-year Flood Risk	Estimated Population at 100-year Flood Risk	Critical Facilities at 100-year Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at 100-year Flood Risk (mi)	Estimated Farm & Ranch Land at 100-year Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Residential Structures Removed from 100-year (1% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads Removed from 100-year Flood Risk (mi)	Estimated Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Facilities (if available)	Estimated Reduction in Injuries (if available)	Pre-Project Level of Service	Post-Project Level of Service	Cost/Structure Removed	Percent Nature-Based Solution (by cost)	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	Social Vulnerability Index (SVI)	Traffic Count for Low Water Crossings	BCR
83000212																					0											
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83000611																					0											
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83000618																					0											
83000619																					0											

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Table 13 - Summary of Potentially Feasible Flood Mitigation Projects (FMP)

FMP ID	FMP Name	Description	Associated Goals (ID)	Counties	HUC 12s	Watersheds	Project Type	Project Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Project Cost	Potential Funding Sources and Amount
83000625	Commission & Brazoria County Joint Mitigation Application 1 FINAL	service and emergency spillways and implement drainage improvements to the Columbia Lakes Reservoir.	8000009	Brazoria			Improvements, Maintenance and Repair			Texas Historical Commission	Texas Historical Commission		$ 8,211,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000626	Town of Holiday Lakes Hurricane Harvey HUD Application	Improvements to road drainage at several locations, and addition of sluice gates into the drainage system.	8000009	Brazoria			Comprehensive Regional Improvements			Town of Holiday Lakes	Town of Holiday Lakes		$ 3,413,495	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000627	West Columbia Drainage Improvements	Improvements to 7 major drainage channels.	8000009	Brazoria			Regional Channel Improvements			City of West Columbia	City of West Columbia		$ 5,346,397	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000628	Oyster Creek Wastewater Treatment Plant Improvements	Floodproofing of wastewater treatment plant.	8000012	Brazoria			Infrastructure Improvements			City of Angleton	City of Angleton		$ 12,785,080	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000629	City of Eastland Dam Repairs	Maintenance and spillway improvements to Ringling Lake dam and Lake Eastland Dam.	8000009	Eastland			Improvements, Maintenance and Repair			City of Eastland	City of Eastland		$ 9,999,140	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000630	Lake Leon Dam Safety Improvements	Stabilization of the upstream embankment and rehabilitation of the spillway.	8000009	Eastland			Improvements, Maintenance and Repair			City of Eastland	City of Eastland		$ 9,805,900	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000632	Richmond Northside Drainage Improvements	Engineering study to determine how to elevate several key structures above base flood elevations.	8000012	Fort Bend			Acquisition and Structural Elevation			City of Richmond	City of Richmond		$ 7,464,906	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000633	Brazos River Stabilization	Riverbank stabilization along SH 99 and US 59/I-69 using environmentally friendly solutions.	8000009	Fort Bend, Galveston, Brazoria			Regional Channel Improvements			Fort Bend County	County, Brazoria County,		$ 96,907,994	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000634	City of Navasota Harvey State Mitigation Project	Drainage and street improvements along 3 major routes integral to the City.	8000009	Grimes			Crossings or Bridge Improvements			Grimes County	Grimes County		$ 3,701,852	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000635	City of Lexington Drainage Improvements	Storm sewer, culvert, and drainage ditch improvements at 3 areas of interest.	8000009	Lee			Infrastructure Improvements			City of Lexington	City of Lexington		$ 6,390,527	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000637	Town of Buckholts Harvey Mitigation	Increase capacity of hydraulic features and redirect water away from water treatment plant.	8000012	Milam			Infrastructure Improvements			Town of Buckholts	Town of Buckholts		$ 4,479,940	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000640	City of Milano Citywide Road and Drainage Improvements	Street improvements and addition of accompanying drainage features.	8000009	Milam			Comprehensive Regional Improvements			City of Milano	City of Milano		$ 437,324	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000641	Hempstead Citywide Drainage Project	Improvements to roadside ditch and addition of 2 detention facilities.	8000009	Waller			Comprehensive Regional Improvements			City of Hempstead	City of Hempstead		$ 9,395,324	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000642	Burton Drainage & Flooding Improvements	Floodproofing of lift stations and water treatment plants, and street drainage improvements.	8000012	Washington			Comprehensive Regional Improvements			City of Burton	City of Burton		$ 3,807,394	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000643	Hogg Branch Creek Improvements	Channel improvements to increase drainage throughout Brenham.	8000009	Washington			Regional Channel Improvements			City of Brenham	City of Brenham		$ 5,001,643	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000646	Briar Creek Improvements	Channel and crossing improvements along Briar Creek and Red River Trib to increase capacity of hydraulic infrastructure.	8000014	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 9,265,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000657	Subdivision Flooding Mitigation near Sewer Creek	Study to determine source and mitigation for flooding in the subdivision.	8000014	Brazos			Comprehensive Regional Improvements			City of Bryan	City of Bryan		$ 1,280,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000662	Apple Creek Circle in Briarcrest Estates Subdivision Erosion	Construction of erosion improvements to mitigate detention pond discharge.	8000009	Brazos			Comprehensive Regional Improvements			City of Bryan	City of Bryan		$ 4,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000663	Burton Creek Crossings	Design of new culverts to properly convey flow along Burton Creek from Woodland Dr to Broadmoor St.	8000010	Brazos			Comprehensive Regional Improvements			City of Bryan	City of Bryan		$ 4,070,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000671	Burton Creek Trib D Improvements	Channel and crossing improvements along Trib D feeding into County Club Lake.	8000013	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 4,865,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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	Flood Risk										Reduction in Flood Risk																					
FMP ID	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at 100-year Flood Risk	Estimated Population at 100-year Flood Risk	Critical Facilities at 100-year Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at 100-year Flood Risk (mi)	Estimated Farm & Ranch Land at 100-year Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Residential Structures Removed from 100-year (1% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads Removed from 100-year Flood Risk (mi)	Estimated Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Facilities (if available)	Estimated Reduction in Injuries (if available)	Pre-Project Level of Service	Post-Project Level of Service	Cost/Structure Removed	Percent Nature-Based Solution (by cost)	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	Social Vulnerability Index (SVI)	Traffic Count for Low Water Crossings	BCR
83000625																					0											
83000626																					0											
83000627																					0											
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83000662																					0						N/A	N/A	No			
83000663																					0						N/A	N/A	No			
83000671																					0											

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83000678	Burton Creek Main Stem Improvements	Channel and crossing improvements along Burton Creek mainstem from SH 6 to S Coulter Dr.	8000013	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 13,845,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000686	Oakridge Drive and Barak Lake	Study to determine storm sewer needed to mitigate flooding in subdivision.	8000014	Brazos			Storm Drain Improvements			City of Bryan	City of Bryan		$ 2,500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000689	Sprucewood Street Flooding	detailed design phase is needed to assess existing flooding and propose improvements that will reduce flooding in the area. This project includes	8000014	Brazos			Comprehensive Regional Improvements			City of Bryan	City of Bryan		$ 25,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000690	Burton Creek Trib 5 Mitigation	Design of erosion control and channel improvements for Trib 5 of Burton Creek.	8000014	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 4,305,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000693	Spring Lane Residential Flooding	Drainage study to assess flooding in the neighborhood and propose improvements	8000014	Brazos			Comprehensive Regional Improvements			City of Bryan	City of Bryan		$ 25,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000697	Burton Creek Trib 7 Mitigation	Detailed study to determine flooding caused by Burton Creek Trib 7 and determine flood mitigation solutions.	8000014	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 1,340,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000706	Briar Oaks Drive Storm Sewer Improvements	RCP from Woodmere Drive to Holly drive and a 42" RCP from Holly Drive to the existing 48" RCP west of Windridge Drive. The proposed system prevents	8000006	Brazos			Storm Drain Improvements			City of Bryan	City of Bryan		$ 241,137	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000709	826 and 827 Vine Street Property Flooding	Structural buyouts at the identified location.	8000011	Brazos	120701040403, 120701040408, 120701040407, 120701040406, 120701040401, 120904010203,		Acquisition and Structural Elevation			City of Bryan	City of Bryan		$ 600,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000711	Carter Erosion - University to Briarcrest	Construction of improvements to mitigate erosion and maintain hydraulic efficiency of structures.		Brazos			Comprehensive Regional Improvements			City of Bryan	City of Bryan		$ 6,670,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000712	Carter's Creek Crossing Improvements	Study and design of culvert improvements along Carter's Creek.	8000014	Brazos			Infrastructure Improvements			City of Bryan	City of Bryan		$ 1,920,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000716	Pecan Ridge Subdivision Flooding	Design of mitigation for subdivision flooding.	8000014	Brazos			Comprehensive Regional Improvements			City of Bryan	City of Bryan		$ 50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000717	Old Reliance Road Overtopping	Study to determine design of culvert improvements.	8000014	Brazos			Crossings or Bridge Improvements			City of Bryan	City of Bryan		$ 460,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000718	Castle Heights Subdivision Flooding	Study to determine necessary detention, storm sewer, and other drainage improvements for Castle Heights subdivision.	8000014	Brazos			Comprehensive Regional Improvements			City of Bryan	City of Bryan		$ 5,075,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000719	Carter's Creek Trib B Crossing Improvements	Study to design culvert improvements along Carter's Creek Trib B.	8000014	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 2,435,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000723	Ranchettes 2 and 3 - East	Update road and add drainage swale.	8000009	Williamson			Crossings or Bridge Improvements			City of Cedar Park	City of Cedar Park		$ 523,500	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000724	Ranchettes 2 and 3 - West	Update road and add drainage swale.	8000009	Williamson			Crossings or Bridge Improvements			City of Cedar Park	City of Cedar Park		$ 1,208,400	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000725	Ranchettes 4 - North	Local infrastructure improvements including additon of drainage swales to the roads.	8000009	Williamson			Crossings or Bridge Improvements			City of Cedar Park	City of Cedar Park		$ 1,604,300	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000726	Ranchettes 4 - South A	Update road and add drainage swale.	8000009	Williamson			Crossings or Bridge Improvements			City of Cedar Park	City of Cedar Park		$ 1,267,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000727	Ranchettes 4 - South B	Update road and add drainage swale.	8000009	Williamson			Crossings or Bridge Improvements			City of Cedar Park	City of Cedar Park		$ 959,900	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000728	Ranchettes 6 and 6A - North B	Local infrastructure improvements adjacent to Block House Creek including creation of drainage swales.	8000009	Williamson			Crossings or Bridge Improvements			City of Cedar Park	City of Cedar Park		$ 2,515,200	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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83000729	Ranchettes 6 and 6A - North A	Addition of drainage swales that outfall into Block House Creek.	8000009	Williamson			Crossings or Bridge Improvements			City of Cedar Park	City of Cedar Park		$ 587,100	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000730	Block House Creek	Property acquisition and crossing improvements to create room for consistent channelization.	8000009	Williamson			Regional Channel Improvements			City of Cedar Park	City of Cedar Park		$ 4,249,200	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000733	Ranchettes 6 and 6A - South A	Local infrastructure improvements adjacent to the creek.	8000009	Williamson			Infrastructure Improvements			City of Cedar Park	City of Cedar Park		$ 2,413,300	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000734	Ranchettes 6 and 6A - South B	Addition of roadside and interconnecting drainage swales.	8000009	Williamson			Crossings or Bridge Improvements			City of Cedar Park	City of Cedar Park		$ 2,425,300	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000735	Riviera - Northwest	Addition of roadside drainage swale and several outfalls into the floodplain.	8000009	Williamson			Crossings or Bridge Improvements			City of Cedar Park	City of Cedar Park		$ 1,091,500	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000736	Riviera - East	Addition of roadside drainage swale and several outfalls into the floodplain.	8000009	Williamson			Crossings or Bridge Improvements			City of Cedar Park	City of Cedar Park		$ 2,390,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000737	Riviera - Southwest	Addition of roadside drainage swale and several outfalls into the floodplain.	8000009	Williamson			Crossings or Bridge Improvements			City of Cedar Park	City of Cedar Park		$ 1,034,300	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000738	Cluck Creek - Upper	Re-grading of natural channel.	8000009	Williamson			Regional Channel Improvements			City of Cedar Park	City of Cedar Park		$ 1,133,500	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000739	Cluck Creek - Lower	Re-grading of natural channel.	8000009	Williamson			Regional Channel Improvements			City of Cedar Park	City of Cedar Park		$ 3,192,700	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000740	Deer Run	Addition of underground storm drainage and associated inlets.	8000009	Williamson			Storm Drain Improvements			City of Cedar Park	City of Cedar Park		$ 1,194,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000741	Spanish Oak Creek	Increase channel capacity.	8000009	Williamson			Regional Channel Improvements			City of Cedar Park	City of Cedar Park		$ 1,196,200	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000745	Suja Lane	Implementation of detention basin to alleviate street and property flooding.	8000009	Coryell			Regional Detention			City of Copperas Cove	City of Copperas Cove		$ 311,558	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000752	Regional Detention Pond Improvement & Proposed Drainage Channel	Expand the regional detention pond to reduce outflow and improve outlet channel.	8000009	Bell			Regional Detention			City of Harker Heights	City of Harker Heights		$ 846,066	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000756	Christina Circle Drainage Improvements	Re-grading of cul-de-sac to improve drainage and replacement of existing flume.	8000009	Bell			Infrastructure Improvements			City of Harker Heights	City of Harker Heights		$ 46,683	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000757	Indian Trail Downstream Channel Improvements	Design of improvements to Indian Trail to maintain and increase capacity.	8000009	Bell			Regional Channel Improvements			City of Harker Heights	City of Harker Heights		$ 174,549	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000767	Chisolm Valley	Additional modeling to determine detention basin improvements and placement.	8000009	Williamson			Regional Detention			City of Round Rock	City of Round Rock		$ 2,725,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000779	Stewart Ditch Channel Repair and Improvements	Design of improvements to Stewart ditch to maintain and increase capacity.	8000009	Bell			Regional Channel Improvements			City of Killeen	City of Killeen		$ 862,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000780	Dickens Ditch Stream Repair	Stabilization efforts downstream of Westcliff Road.	8000009	Bell			Regional Channel Improvements			City of Killeen	City of Killeen		$ 351,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000782	Bunny Trail Drainage Improvements	Preliminary engineering to determine drainage improvements.	8000009	Bell			Comprehensive Regional Improvements			City of Killeen	City of Killeen		$ 500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000784	Bessie's & Brookshire Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120402050100, 120701040307, 120701040308, 120701040309, 120701040401	Bessie's Creek	Regional Channel Improvements	51.7	Riverine	Fort Bend County	County Drainage District, Fort		$ 285,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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	Flood Risk										Reduction in Flood Risk																					
FMP ID	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at 100-year Flood Risk	Estimated Population at 100-year Flood Risk	Critical Facilities at 100-year Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at 100-year Flood Risk (mi)	Estimated Farm & Ranch Land at 100-year Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Residential Structures Removed from 100-year (1% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads Removed from 100-year Flood Risk (mi)	Estimated Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Facilities (if available)	Estimated Reduction in Injuries (if available)	Pre-Project Level of Service	Post-Project Level of Service	Cost/Structure Removed	Percent Nature-Based Solution (by cost)	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	Social Vulnerability Index (SVI)	Traffic Count for Low Water Crossings	BCR
83000729																					0											
83000730																					0											
83000733																					0											
83000734																					0											
83000735																					0											
83000736																					0											
83000737																					0											
83000738																					0											
83000739																					0											
83000740																					0											
83000741																					0											
83000745																					0											
83000752																					0											
83000756																					0											
83000757																					0											
83000767																					0											
83000779																					0											
83000780																					0											
83000782																					0											
83000784	10.2336	14.6312	354	277	563	0	0	0	15.4	3924.3	22	333	0	260	0	0	0	0	148	3633	0						No	No	No			0.02

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Table 13 - Summary of Potentially Feasible Flood Mitigation Projects (FMP)

FMP ID	FMP Name	Description	Associated Goals (ID)	Counties	HUC 12s	Watersheds	Project Type	Project Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Project Cost	Potential Funding Sources and Amount
83000785	Andrus Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend			Regional Channel Improvements			Fort Bend County	County Drainage District, Fort		$ 48,332,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000786	Bee Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend			Regional Channel Improvements			Fort Bend County	County Drainage District, Fort		$ 38,770,735	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000797	Big Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120701040404, 120701040405, 120701040406, 120701040407, 120701040409	Big Creek	Regional Channel Improvements	23.8	Riverine	Fort Bend County	County Drainage District, Fort		$ 662,333,240	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000800	Coon Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120701040401, 120701040404, 120701040405	Big Creek	Regional Channel Improvements	9.1	Riverine	Fort Bend County	County Drainage District, Fort		$ 141,438,899	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000801	Cow Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend			Regional Channel Improvements			Fort Bend County	County Drainage District, Fort		$ 119,191,186	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000805	Cottonwood Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120701040401, 120701040404, 120701040405	Big Creek	Regional Channel Improvements	12.8	Riverine	Fort Bend County	County Drainage District, Fort		$ 182,426,286	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000809	Diversion Channel Ditch and Drop Structure	Channel re-configuration to re-direct flow from Big Creek. Improvements to drop structure to have capacity for this increased flow.	8000009	Fort Bend	120701040409	Big Creek	Regional Channel Improvements	3.6	Riverine	Fort Bend County	County Drainage District, Fort		$ 266,699,141	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000811	Dry Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120701040405, 120701040408	Big Creek	Regional Channel Improvements	6.4	Riverine	Fort Bend County	County Drainage District, Fort		$ 133,315,493	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000814	Dutch John Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120701040405, 120701040407, 120701040408	Big Creek	Regional Channel Improvements	3.2	Riverine	Fort Bend County	County Drainage District, Fort		$ 39,100,606	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000817	Fairchild Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120701040405, 120701040406	Big Creek	Regional Channel Improvements	16.1	Riverine	Fort Bend County	County Drainage District, Fort		$ 190,447,765	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000818	Flewellen Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend			Regional Channel Improvements			Fort Bend County	County Drainage District, Fort		$ 542,725,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000820	Gapps Slough Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120701040408	Big Creek	Regional Channel Improvements	2.7	Riverine	Fort Bend County	County Drainage District, Fort		$ 48,302,154	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000821	Jones Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend			Regional Channel Improvements			Fort Bend County	County Drainage District, Fort		$ 556,012,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000823	Lateral IIB-7 & IIB-9 Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120701040405, 120701040408	Big Creek	Regional Channel Improvements	5.2	Riverine	Fort Bend County	County Drainage District, Fort		$ 62,287,268	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000827	Lower Dry Creek Channel Improvement	Channel improvements and re-configurations.	8000009	Fort Bend	120701040407, 120701040408, 120701040409	Big Creek	Regional Channel Improvements	8.8	Riverine	Fort Bend County	County Drainage District, Fort		$ 110,716,136	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000828	Seabourne Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120701040401, 120701040404, 120701040405, 120701040408	Big Creek	Regional Channel Improvements	6.6	Riverine	Fort Bend County	County Drainage District, Fort		$ 104,974,253	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000829	Turkey Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend			Regional Channel Improvements			Fort Bend County	County Drainage District, Fort		$ 86,161,458	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000834	Oyster Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120402050100, 120402050200, 120701040402, 120701040403	Oyster Creek	Regional Channel Improvements	5.8	Riverine	Fort Bend County	County Drainage District, Fort		$ 315,176,322	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000838	Lower Oyster Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120402050200, 120701040403, 120701040409	Oyster Creek	Regional Channel Improvements	2	Riverine	Fort Bend County	County Drainage District, Fort		$ 125,690,319	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000841	Red Gully Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120402050100	Oyster Creek	Regional Channel Improvements	1.6	Riverine	Fort Bend County	County Drainage District, Fort		$ 46,718,937	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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83000785																					0						No	No	No			
83000786	0.68564	0.954527	18	11	4	0	0	0	0.011	258.2	0	18	0	11	1	0	0	0	0	257.3	0						No	No	No			0.004
83000797																					0						No	No	No			
83000800																					0						No	No	No			
83000801	5.5188	7.77927	39	17	43	0	2	0	1.97	2567.5	0	39	0	17	43	0	2	0	2	2522.1	0						No	No	No			0.003
83000805																					0						No	No	No			
83000809																					0						No	No	No			
83000811																					0						No	No	No			
83000814																					0						No	No	No			
83000817																					0						No	No	No			
83000818																					0						No	No	No			
83000820																					0						No	No	No			
83000821																					0						No	No	No			
83000823																					0						No	No	No			
83000827																					0						No	No	No			
83000828																					0						No	No	No			
83000829	6.1835	10.1317	26	12	30	0	0	0	0.7	3484.3	0	26	0	12	30	0	0	0	1	3477.6	0						No	No	No			0.002
83000834	5.72977	9.19633	305	263	1729	3	0	0	35.7	747.4	32	273	0	241	602	3	0	0	325	222.4	0						No	No	No			0.12
83000838	0.770069	2.11207	13	4	314	0	0	0	2.5	108.2	13	4	0	4	17	0	0	0	3	105	0						No	No	No			0.001
83000841	1.44345	1.75211	538	511	2202	0	0	0	10.2	162.8	177	361	0	342	1506	0	0	0	7	84.9	0						No	No	No			0.1

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83000843	Bullhead Bayou Channels and Detention	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120701040402	Oyster Creek	Regional Channel Improvements	1.8	Riverine	Fort Bend County	County Drainage District, Fort		$ 62,497,843	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000847	Stafford Run Channels and Detentions	Channel improvements and re-configurations at several key locations, addition of in-line detention.	8000009	Fort Bend	120402050200	Oyster Creek	Regional Channel Improvements	1	Riverine	Fort Bend County	County Drainage District, Fort		$ 15,611,610	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000853	Long Point Creek Channel Improvements	Channel improvements and re-configurations at several key locations.	8000009	Fort Bend	120402050200	Oyster Creek	Regional Channel Improvements	1.8	Riverine	Fort Bend County	County Drainage District, Fort		$ 8,760,208	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000855	Rabb's Bayou Detention	Proposal of regional detention basin.	8000009	Fort Bend	120701040401, 120701040402, 120701040403, 120701040408	Rabbs Bayou	Regional Detention	11.3	Riverine	Fort Bend County	County Drainage District, Fort		$ 8,699,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000859	Chapel Road Regional Detention Facility	Addition of a detention facility near Chapel Road.	8000009	McLennan			Regional Detention			City of Waco	City of Waco		$ 6,901,250	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000862	Greatwood Inlet Replacements	Update storm drainage throughout the neighborhood.	8000009	Fort Bend			Storm Drain Improvements			City of Sugar Land	City of Sugar Land		$ 1,250,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000865	Flat Bank Creek Widening and Clean-Out Project	Improvements to Flat Bank Creek.	8000009	Fort Bend			Regional Channel Improvements			Sienna LID	Sienna LID		$ 2,600,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000875	Mary Avenue Diversion	Diversion channel to redirect water away from Mary Avenue.	8000009	McLennan			Regional Channel Improvements			City of Waco	City of Waco		$ 60,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000876	Beverly Hills Area Channel and Crossing Improvements	Infrastructure improvements to lessen the impact of flood events on the intersection.	8000009	McLennan			Regional Channel Improvements			City of Waco	City of Waco		$ 1,729,978	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000877	New Road to Homan Avenue Channel Improvements	Channel improvements to increase the conveyance capacity of the roadside ditch.	8000009	McLennan			Regional Channel Improvements			City of Waco	City of Waco		$ 4,562,800	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000878	S. MLK Jr Boulevard Channel Improvements	Channel improvements to increase the conveyance capacity of the roadside ditch.	8000009	McLennan			Regional Channel Improvements			City of Waco	City of Waco		$ 2,164,485	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000881	Sharondale Drainage Improvements	Drainage infrastructure improvements to reduce flooding in the Sharondale area.	8000009	McLennan			Comprehensive Regional Improvements			City of Waco	City of Waco		$ 3,261,910	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000882	IH-35 Betterments	Improvements to multiple crossings under IH 35.	8000009	McLennan			Infrastructure Improvements			City of Waco	City of Waco		$ 3,605,535	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000884	N. 10th, 15th, 31st, 33rd Street, and Grice Drive Buyouts	Property acquisition of several residencies at high flood risk.	8000009	McLennan			Acquisition and Structural Elevation			City of Waco	City of Waco		$ 9,335,369	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000890	Loop 340 Berm & Frontage Road Improvements	Infrastructure improvements to lessen the impact of flood events on the intersection.	8000009	McLennan			Crossings or Bridge Improvements			City of Waco	City of Waco		$ 6,209,860	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000891	Woodcock Drive, 12th Street, Robinson Dr, & Old Robinson Rd	Elevation and buyout of 12 structures at high flood risk.	8000009	McLennan		Flat Creek	Acquisition and Structural Elevation	1	Riverine	City of Robinson	City of Robinson		$ 392,425	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000953	A21	Addition of in-line detention along Cottonwood Creek.	8000009	Williamson			Regional Detention			Upper Brushy Creek WCID	Upper Brushy Creek WCID		$ 6,305,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000954	A12	New Broade Street off-channel detention.	8000009	Williamson			Regional Detention			Upper Brushy Creek WCID	Upper Brushy Creek WCID		$ 6,093,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000956	Dam 102	Study to design dam to provide flood storage for Lake Creek.	8000009	Williamson			Improvements, Maintenance and Repair			Upper Brushy Creek WCID	Upper Brushy Creek WCID		$ 6,498,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000957	620 Quarry Solution	Study to determine needed flood storage to address Lake Creek flooding.	8000009	Williamson			Regional Detention			City of Round Rock	City of Round Rock		$ 25,361,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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83000843	2.46622	3.8559	44	165	854	0	0	0	8	1235	5	39	0	2	1	0	0	0	6	575.8	0						No	No	No			0.01
83000847	0.527367	1.01487	144	95	188	1	0	0	9.2	10.1	144	74	0	47	109	1	0	0	9	8	0						No	No	No			0.07
83000853	1.13199	1.5281	24	22	42	0	0	0	1.7	38.8	24	16	0	14	28	0	0	0	2	22	0						No	No	No			0.02
83000855	1.42351	2.80909	312	303	1069	1	0	0	11.2	345.3	311	1	0	1	7	0	0	0	1	11.3	0						No	No	No			0.06
83000859																					0											
83000862																					0											
83000865																					0											
83000875																					0											
83000876																					0											
83000877																					0											
83000878																					0											
83000881																					0											
83000882																					0											
83000884																					0											
83000890																					0											
83000891																					0						No	No	No			
83000953																					0											
83000954																					0											
83000956																					0											
83000957																					0											

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83000958	Dam 14 Rehabilitation	downstream slope, mitigation for the longitudinal cracking on the dam crest, and auxiliary spillway improvements.	8000009	Williamson			Improvements, Maintenance and Repair			Upper Brushy Creek WCID	Upper Brushy Creek WCID		$ 3,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000959	A14	Addition of in-line detention west of Dam 17.	8000009	Williamson			Regional Detention			Upper Brushy Creek WCID	Upper Brushy Creek WCID		$ 1,559,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000960	A13	Addition of in-line detention between Dam 15 and 16.	8000009	Williamson			Regional Detention			Upper Brushy Creek WCID	Upper Brushy Creek WCID		$ 4,196,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000961	Dam 15 Rehabilitation	Design of rehabilitation to repair erosion along the upstream toe of the dam that has been caused by wind-driven wave action.	8000009	Williamson			Improvements, Maintenance and Repair			Upper Brushy Creek WCID	Creek WCID, Lower Brushy Creek WCID		$ 2,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000962	Rowland Ave/Frey St Drainage Improvements	Proposed storm sewer along Frey and Jasmine St downstream to Rowland Ave.	8000010	Erath			Storm Drain Improvements			City of Stephenville	City of Stephenville		$ 1,670,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000963	Tarleton St/Rowland Ave Drainage Improvements Ph 1&2	Proposed storm sewer from Rowland Ave to Lydia Ave.	8000010	Erath			Storm Drain Improvements			City of Stephenville	City of Stephenville		$ 2,840,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000964	Crow St/Long St Drainage Improvements	Proposed storm sewer from Long St to Crow St.	8000010	Erath			Storm Drain Improvements			City of Stephenville	City of Stephenville		$ 650,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000966	Simonton Ring Levee	Construction of a ring levee to protect Brazos Valley Development between Bessie's Creek and the Brazos River.	8000009	Fort Bend			Infrastructure Improvements			City of Simonton	City of Simonton		$ 57,200,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000967	Weston Lakes Levee	Construction of 2 levees to protect the Weston Lake Development.	8000009	Fort Bend			Infrastructure Improvements			City of Fulshear	City of Fulshear		$ 15,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000968	Columbia Lakes Levee	Construction of 2 levees to protect the Columbia Lakes Development.	8000009	Brazoria			Infrastructure Improvements			City of West Columbia	City of West Columbia		$ 9,800,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000969	Oyster Creek Levee	Construction of a ring levee to protect the Lake Jackson Development.	8000009	Brazoria			Infrastructure Improvements			City of Lake Jackson	City of Lake Jackson		$ 160,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000970	Pecan Grove Levee	Construction of a ring levee to protect development in the Bullhead Bayou and Pecan Grove area.	8000009	Brazoria			Infrastructure Improvements			City of Richmond	City of Richmond		$ 76,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000972	Mustang Bayou Improvements	Addition of a diversion channel and improvements to existing channel.	8000014	Fort Bend			Regional Channel Improvements			Missouri City	Missouri City		$ 6,484,980	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000973	Lower Oyster Creek Improvements	Channel bank fill and improvements to BRA Canal flume.	8000012	Fort Bend			Regional Channel Improvements			Missouri City	Missouri City		$ 542,900	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000974	Commonwealth Blvd Drainage Improvements	Design and construct drainage improvements along Commonwealth Blvd between Monarch Dr, Elkins Rd, St Michaels Ct, and Knightsbridge Ct.	8000009	Fort Bend			Comprehensive Regional Improvements			City of Sugar Land	City of Sugar Land		$ 4,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000975	Covington West and Imperial Woods Drainage Improvements	Drainage infrastructure improvements to reduce flooding in the Covington West drainage area.	8000009	Fort Bend			Comprehensive Regional Improvements			City of Sugar Land	City of Sugar Land		$ 4,900,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000978	Colony Bend, Colony Grant, Stephens Grant Drainage Improvements	Complete a drainage study, design, and construction of drainage improvements to reduce flooding risk in the neighborhoods.	8000009	Fort Bend			Comprehensive Regional Improvements			City of Sugar Land	City of Sugar Land		$ 11,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000980	Chimneystone, Austin, and Settlers Parks Improvements Phase III	Design and construct drainage improvements to Wagon Trail and Settlers Way in Settlers Park.	8000009	Fort Bend			Comprehensive Regional Improvements			City of Sugar Land	City of Sugar Land		$ 15,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000981	Sugar Creek East Ditch	Install box culverts in the Sugar Creek East Ditch for storm water control.	8000009	Fort Bend			Infrastructure Improvements			City of Sugar Land	City of Sugar Land		$ 6,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000982	Lakebend Sugar Creek Outfall & Drainage	Replace outfall structure and channel improvements at Sugar Creek & Parkway Blvd and upsize storm water systems.	8000009	Fort Bend			Regional Channel Improvements			City of Sugar Land	City of Sugar Land		$ 10,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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83000958																					0											
83000959																					0											
83000960																					0											
83000961																					0											
83000962																					0						N/A	N/A	No			
83000963																					0						N/A	N/A	No			
83000964																					0						N/A	N/A	No			
83000966																					0											
83000967																					0											
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83000969																					0											
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83000975																					0											
83000978																					0											
83000980																					0											
83000981																					0											
83000982																					0											

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83000983	Imperial Woods/Lynnwood Lane Drainage Improvements	Upsize water system and inlet replacement along Woodchester, Lynnwood, Oakwood, and Fernhill.	8000009	Fort Bend			Storm Drain Improvements			City of Sugar Land	City of Sugar Land		$ 3,500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000984	Monarch Dr Drainage Improvements	Upsize storm water system south of Commonwealth Blvd.	8000009	Fort Bend			Storm Drain Improvements			City of Sugar Land	City of Sugar Land		$ 4,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000985	Riverbend North Drainage improvements	Upsize storm water system and inlets in Riverbend North.	8000009	Fort Bend			Storm Drain Improvements			City of Sugar Land	City of Sugar Land		$ 3,500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000986	Lakes of Austin Park Drainage Improvements	Upsize storm water systems and inlets.	8000009	Fort Bend			Storm Drain Improvements			City of Sugar Land	City of Sugar Land		$ 2,500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000987	Telfair Inlet Replacements	Update storm water inlets.	8000009	Fort Bend			Storm Drain Improvements			City of Sugar Land	City of Sugar Land		$ 1,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000988	Greatwood Inlet Replacements	Update storm water inlets.	8000009	Fort Bend			Storm Drain Improvements			City of Sugar Land	City of Sugar Land		$ 1,250,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000989	New Territory Inlet Replacements	Update storm water inlets.	8000009	Fort Bend			Storm Drain Improvements			City of Sugar Land	City of Sugar Land		$ 1,500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000991	Williams Trace and Highlands Drainage Improvements	improvements along Williams Trace from south of SH 6 to Oyster Creek and Lexington Blvd from Williams Trace to Oyster Creek.	8000009	Fort Bend			Storm Drain Improvements			City of Sugar Land	City of Sugar Land		$ 10,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000996	Carters Creek Trib B Erosion	Study to design bank stabilization for approximately 1500 lf of Carter's Creek Trib B.	8000015	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 5,200,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83000998	Pierce Street Storm Drain Improvements	Upsizing of storm sewer throughout the neighborhood to prevent flooding for the 10-year storm.	8000010	Brazos			Storm Drain Improvements			City of Bryan	City of Bryan		$ 2,500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001000	Copperfield Subdivision Ph 2 Erosion Trib 4.1.1	Design of potential channel improvements that will mitigate erosion and preserve the hydraulic infrastructure.	8000013	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 2,500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001001	Kirkwood Drive Backyard Flooding	Study to identify proposed improvements for the area. It is assumed that an additional storm drain will be needed.	8000014	Brazos			Storm Drain Improvements			City of Bryan	City of Bryan		$ 45,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001002	23rd Street Draining & Maintenance	Study to design drainage improvements to mitigate flooding of the subdivision.	8000013	Brazos			Comprehensive Regional Improvements			City of Bryan	City of Bryan		$ 2,455,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001003	Tennessee Avenue Crossing	Design of infrastructure to assess the flooding and design culvert improvements to reduce road overtopping.	8000013	Brazos			Infrastructure Improvements			City of Bryan	City of Bryan		$ 375,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001004	Shirley Lane Flooding	Street reconstruction to better direct flow and expand roadside ditch.	8000010	Brazos			Infrastructure Improvements			City of Bryan	City of Bryan		$ 50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001005	Lynndale Acres Ph 2: Old Hearne and McHaney Street	Design of infrastructure to mitigate flooding of the subdivision.	8000014	Brazos			Infrastructure Improvements			City of Bryan	City of Bryan		$ 1,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001007	N Harvey Mitchell PW Road Overtopping	Study to determine the proper size and construction of the culverts. Channel widening and regrading may be necessary.	8000014	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 650,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001009	Thompsons Branch & SH 6 Drainage Improvements	Study to design several improvements to mitigate flooding at the crossing.	8000014	Brazos			Crossings or Bridge Improvements			City of Bryan	City of Bryan		$ 2,700,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001010	Mumford Road Overtopping	Study to determine the proper size and construction of the culverts. Channel widening and regrading may be necessary	8000014	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 650,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001012	London Bridge Crossing	Design of culverts to mitigate flooding at the intersection.	8000010	Brazos			Infrastructure Improvements			City of Bryan	City of Bryan		$ 330,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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83000983																					0											
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83001003																					0											
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83001007																					0											
83001009																					0											
83001010																					0											
83001012																					0											

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83001014	Leon Street Flooding	Design of infrastructure to mitigate flooding of the subdivision.	8000014	Brazos			Infrastructure Improvements			City of Bryan	City of Bryan		$ 60,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001015	W Villa Maria Erosion	Erosion control and detailed design is needed to propose improvements that will reduce erosion along the channel	8000014	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 5,090,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001016	Unnamed Trib Miana Ct Erosion	Erosion control and detailed design is needed to propose improvements that will reduce erosion along the channel.	8000014	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001017	Traditions Area Erosion	Study to determine erosion solutions around Traditions Dr and Golf Course.	8000014	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 4,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001020	South Fork of Turkey Creek Improvements	Erosion control and crossing improvements along South Fork of Turkey Creek.	8000010	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 710,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001028	Storm Sewer at UPRR Rail and 31st Street	Upsizing of storm sewer to create appropriate capactiy.		Brazos			Storm Drain Improvements			City of Bryan	City of Bryan		$ 1,200,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001031	Burton Creek Failed Channel Linings	Study to design fixes for channel linings along Burton Creek.	8000014	Brazos			Regional Channel Improvements			City of Bryan	City of Bryan		$ 3,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001033	Detention Pond at Hole 8 - Maintenance and Dredging	Maintenance on detention pond to increase storage.	8000010	Brazos			Regional Detention			City of Bryan	City of Bryan		$ 2,500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001035	Improve Undersized Storm Sewers in Briar Creek DB	Upsize and implement additional pipes and inlets to increase capacity of storm drain system throughout Briar Creek.		Brazos			Storm Drain Improvements			City of Bryan	City of Bryan		$ 5,300,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001036	Improve Undersized Storm Sewers in Burton Creek DB	Upsize and implement additional pipes and inlets to increase capacity of storm drain system throughout Burton Creek.		Brazos			Storm Drain Improvements			City of Bryan	City of Bryan		$ 31,850,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001037	Improve Undersized Storm Sewers in Carter Creek DB	Upsize and implement additional pipes and inlets to increase capacity of storm drain system throughout Carter Creek.		Brazos			Storm Drain Improvements			City of Bryan	City of Bryan		$ 5,500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001038	Improve Undersized Storm Sewers in Hudson Creek DB	Upsize and implement additional pipes and inlets to increase capacity of storm drain system throughout Hudson Creek.		Brazos			Storm Drain Improvements			City of Bryan	City of Bryan		$ 2,200,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001039	Storm Sewers in Cottonwood Branch/Still Creek DB	Upsize and implement additional pipes and inlets to increase capacity of storm drain system throughout Cottonwood Branch and Still Creek.		Brazos			Storm Drain Improvements			City of Bryan	City of Bryan		$ 7,500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001040	Improve Undersized Storm Sewers in Turkey Creek DB	Upsize and implement additional pipes and inlets to increase capacity of storm drain system throughout Turkey Creek.		Brazos			Storm Drain Improvements			City of Bryan	City of Bryan		$ 1,900,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001042	Elm St/Graham Ave Drainage Improvements Ph 1&2	Proposed storm sewer from Pecan Ave to Graham Ave.		Erath			Storm Drain Improvements			City of Stephenville	City of Stephenville		$ 13,530,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001043	Second Ave/Hyman Ave/Alexaner Rd Drainage Improvements	Proposed storm sewer from First to Third Ave along Hyman St.		Erath			Storm Drain Improvements			City of Stephenville	City of Stephenville		$ 4,550,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001044	Lingleville Rd Drainage Improvements	Proposed storm sewer along Lingleville Rd and ditch improvements at Lingleville Rd and Graham St.		Erath			Storm Drain Improvements			City of Stephenville	City of Stephenville		$ 2,720,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001045	Moonlight Tr Drainage Improvements	Proposed storm sewer along Moonlight Tr.		Erath			Storm Drain Improvements			City of Stephenville	City of Stephenville		$ 230,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001046	Old Hico Rd Drainage Improvements	Proposed storm sewer from Old Hico Road to E South Loop outfall.		Erath			Storm Drain Improvements			City of Stephenville	City of Stephenville		$ 550,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001047	Dale Ave Drainage Improvements	Proposed storm sewer along Dale Ave and improvements to culverts at Tab St and Dale Ave.		Erath			Storm Drain Improvements			City of Stephenville	City of Stephenville		$ 730,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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83001014																					0											
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83001016																					0											
83001017																					0											
83001020																					0											
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83001033																					0											
83001035																					0						N/A	N/A	No			
83001036																					0						N/A	N/A	No			
83001037																					0						N/A	N/A	No			
83001038																					0						N/A	N/A	No			
83001039																					0						N/A	N/A	No			
83001040																					0						N/A	N/A	No			
83001042																					0						N/A	N/A	No			
83001043																					0						N/A	N/A	No			
83001044																					0						N/A	N/A	No			
83001045																					0						N/A	N/A	No			
83001046																					0						N/A	N/A	No			
83001047																					0						N/A	N/A	No			

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83001048	Belknap Drainage Improvements	Channel improvements and property buyouts along Floral St.		Erath			Comprehensive Regional Improvements			City of Stephenville	City of Stephenville		$ 290,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001049	Northwest Loop Subbasin	Culvert, storm sewer, and channel improvements from Northwest Loop to Mockingbird Ln.		Erath			Comprehensive Regional Improvements			City of Stephenville	City of Stephenville		$ 1,540,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001051	Lockhart Rd Culverts	Proposed improvements to culverts, need a more in depth study of associated road improvements.	8000014	Erath			Infrastructure Improvements			City of Stephenville	City of Stephenville		$ 330,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001052	Swan St Culverts	Proposed culverts and cross vane drop structure to prevent erosion and control flow.		Erath			Comprehensive Regional Improvements			City of Stephenville	City of Stephenville		$ 330,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001053	Prairie Wind Improvements	Improvements to channel and culvert crossings to increase conveyance capacity.		Erath			Storm Drain Improvements			City of Stephenville	City of Stephenville		$ 2,030,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001056	Spring Bouquet Drainage Improvements	Proposed improvements to storm sewer throughout the study area.		Erath			Storm Drain Improvements			City of Stephenville	City of Stephenville		$ 1,670,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001061	Patriotic Ditch at Zephyr Road	Construction of concrete channel and improvements to natural channel.		Bell			Regional Channel Improvements			City of Killeen	City of Killeen		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001062	Hazelwood Crossing	Construction of a bridge to allow for neighborhood access during storm events.	8000015	McLennan			Crossings or Bridge Improvements		Riverine, Urban	McLennan County	McLennan County, City of Lacy Lakeview		$ 615,871	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001063	Panther Branch Crossing	neighborhood access during storm events by relieving flooding at the crossing with Rock Springs Creek.	8000015	McLennan			Crossings or Bridge Improvements		Riverine, Urban	McLennan County	McLennan County, City of Valley Mills		$ 621,057	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001145	Dam 18 Rehabilitation	Improvements to ensure dam provides necessary protection against flood risk.	8000009	Williamson			Improvements, Maintenance and Repair			Upper Brushy Creek WCID	Upper Brushy Creek WCID		$ 2,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001147	University Oaks Crossing	arches at University Oaks Boulevard on Wolf Pen Creek Tributary A with two 6-ft by 5-ft reinforced concrete box culverts and one 6-ft by 6-ft	8000009	Brazos			Infrastructure Improvements			City of College Station	City of College Station		$ 551,130	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001148	Channel Improvements (Hwy 6 to Texas) & Detenton Pond	concrete box culverts at Texas Avenue on Bee Creek Main Stem. Construct a grasslined detention pond) just upstream of Highway 6 on the north	8000009	Brazos			Infrastructure Improvements			City of College Station	City of College Station		$ 7,285,880	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001149	Southwest Pkwy Crossing Trib B.1	at Southwest Parkway on Bee Creek Tributary B.1 with three 4-ft by 2-ft reinforced concrete box culverts.	8000009	Brazos			Infrastructure Improvements			City of College Station	City of College Station		$ 313,890	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001150	Southwest Pkwy Crossing Trib B.2.1	pipes at Southwest Parkway on Bee Creek Tributary B.2.1 with three 3-ft by 3-ft reinforced concrete boxes.	8000009	Brazos			Infrastructure Improvements			City of College Station	City of College Station		$ 292,360	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001151	Southwest Pkwy Crossing Trib B.2	arches at Southwest Parkway on Bee Creek Tributary B.2 with one 5-ft by 3-ft reinforced concrete box culvert and two 4-ft by 3-ft	8000009	Brazos			Infrastructure Improvements			City of College Station	City of College Station		$ 348,210	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001152	Miliff Rd Crossing	concrete pipes at Miliff Road on Wolf Pen Creek Tributary C with three 7-ft by 6-ft reinforced concrete box culverts.	8000009	Brazos			Infrastructure Improvements			City of College Station	City of College Station		$ 424,640	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001153	Hwy 6 Crossing & DS Channel Improvements	concrete box culvert at Highway 6 on Bee Creek Main Stem with a 400-ft bridge opening. Add four 11-ft by 7-ft reinforced concrete box culverts	8000009	Brazos			Infrastructure Improvements			City of College Station	City of College Station		$ 7,313,840	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001154	Holleman Crossing & Channel Improvements (Glade to Holleman)	pipes at Holleman Drive on Bee Creek Main Stem with two 7-ft by 6-ftreinforced concrete box culverts. Construct a concrete-lined rectangular	8000009	Brazos			Infrastructure Improvements			City of College Station	City of College Station		$ 803,260	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001155	Harvey Rd Crossing	Add an additional 6-ft by 6-ft reinforced concrete box culvert at Harvey Road on Wolf Pen Creek Tributary A.	8000009	Brazos			Infrastructure Improvements			City of College Station	City of College Station		$ 406,870	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001156	Channel Improvements (FM- 2818 to Welsh) & Detention Pond	culvert at a lower flowline than the existing culverts at FM-2818 on Bee Creek Tributary B. Construct a grass-lined trapezoidal channel from	8000009	Brazos			Infrastructure Improvements			City of College Station	City of College Station		$ 3,032,680	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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Table 13 - Summary of Potentially Feasible Flood Mitigation Projects (FMP)

	Flood Risk										Reduction in Flood Risk																				
FMP ID	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at 100-year Flood Risk	Estimated Population at 100-year Flood Risk	Critical Facilities at 100-year Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at 100-year Flood Risk (mi)	Estimated Farm & Ranch Land at 100-year Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Residential Structures Removed from 100-year (1% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads Removed from 100-year Flood Risk (mi)	Estimated Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Facilities (if available)	Estimated Reduction in Injuries (if available)	Pre-Project Level of Service	Post-Project Level of Service	Cost/Structure Removed	Percent Nature-Based Solution (by cost)	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	Social Vulnerability Index (SVI)	Traffic Count for Low Water Crossings	BCR
83001048																					0						N/A	N/A	No			
83001049																					0						N/A	N/A	No			
83001051																					0											
83001052																					0						N/A	N/A	No			
83001053																					0						N/A	N/A	No			
83001056																					0						N/A	N/A	No			
83001061																					0						N/A	N/A	No			
83001062																					0						No	No	No			
83001063																					0						No	No	No			
83001145																					0											
83001147																					0						N/A	N/A	No			
83001148																					0						N/A	N/A	No			
83001149																					0						N/A	N/A	No			
83001150																					0						N/A	N/A	No			
83001151																					0						N/A	N/A	No			
83001152																					0						N/A	N/A	No			
83001153																					0						N/A	N/A	No			
83001154																					0						N/A	N/A	No			
83001155																					0						N/A	N/A	No			
83001156																					0						N/A	N/A	No			

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Table 13 - Summary of Potentially Feasible Flood Mitigation Projects (FMP)

FMP ID	FMP Name	Description	Associated Goals (ID)	Counties	HUC 12s	Watersheds	Project Type	Project Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Project Cost	Potential Funding Sources and Amount
83001157	Brothers Blvd Crossing & Channel (Rio Grande to Longmire)	culvert to the existing culverts at Brothers Boulevard on Bee Creek Tributary A. Construct a concrete-lined trapezoidal channel (with 1:1 side	8000009	Brazos			Infrastructure Improvements			City of College Station	City of College Station		$ 36,873,690	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001158	Channel Upstream of Welsh	Construct a concrete-lined trapezoidal channel (with 1:1 side slopes and 6-ft bottom width) on Bee Creek Tributary A upstream of Welsh Avenue.	8000009	Brazos			Infrastructure Improvements			City of College Station	City of College Station		$ 780,340	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
83001159	Texas Ave Crossing & Channel Improvements (Longmire to Hwy 6)	Texas Avenue on Bee Creek Tributary A with four 9-ft by 9-ft reinforced concrete box culverts. Construct a concrete-lined trapezoidal channel	8000009	Brazos			Infrastructure Improvements			City of College Station	City of College Station		$ 1,966,180	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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Table 13 - Summary of Potentially Feasible Flood Mitigation Projects (FMP)

	Flood Risk										Reduction in Flood Risk																					
FMP ID	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at 100-year Flood Risk	Estimated Population at 100-year Flood Risk	Critical Facilities at 100-year Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at 100-year Flood Risk (mi)	Estimated Farm & Ranch Land at 100-year Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Residential Structures Removed from 100-year (1% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads Removed from 100-year Flood Risk (mi)	Estimated Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Facilities (if available)	Estimated Reduction in Injuries (if available)	Pre-Project Level of Service	Post-Project Level of Service	Cost/Structure Removed	Percent Nature-Based Solution (by cost)	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	Social Vulnerability Index (SVI)	Traffic Count for Low Water Crossings	BCR
83001157																					0						N/A	N/A	No			
83001158																					0						N/A	N/A	No			
83001159																					0						N/A	N/A	No			

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

General Information														
FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC 10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Strategy Cost ($)	Potential Funding Sources and Amount
82001124	Regional Public Awareness Program	Increase awareness of flood risk and hazards.	8000019	All	1206020111, 1206020112, 1206020113, 1206020201		Education and Outreach	439.1	Riverine, Urban		All Counties		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000211	Brazos Country TADD Barrier Installation	Increase awareness of flood risk and hazards.	8000019	Austin	1207010403		Flood Preparedness and Resilience	2	Riverine, Urban	City of Brazos Country	City of Brazos Country		$ 2,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001071	Austin County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Austin			Regulatory and Guidance			Austin County	Austin County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000247	Upgrade and Install Low Water Crossings in Bell County	Improve low water crossings to reduce flooding.	8000007	Bell	1207010101, 1207010104, 1207020110, 1207020111, 1207020203, 1207020304, 1207020305, 1207020401, 1207020402, 1207020505		Infrastructure Improvements	1087	Riverine, Urban	Bell County	Bell County		$ 5,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000254	City of Killeen Automated High-Water Warning Signs	Implementation of signage/ barricades to notify public of areas prone to flood risk.	8000016	Bell	1207020111, 1207020203, 1207020304, 1207020305		Flood Preparedness and Resilience	54.05	Riverine, Urban	City of Killeen	City of Killeen		$ 225,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000260	City of Nolanville Automated High-Water Warning Signs	Implementation of signage/ barricades to notify public of areas prone to flood risk.	8000016	Bell	1207020111		Flood Preparedness and Resilience	3.51	Riverine, Urban	City of Nolanville	City of Nolanville		$ 15,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000270	City of Salado Elevate Low Water Crossings	Improve low water crossings to reduce flooding.	8000007	Bell	1207020304		Infrastructure Improvements	2.1	Riverine, Urban	City of Salado	City of Salado		$ 5,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001073	Bell County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Bell			Regulatory and Guidance			Bell County	Bell County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001115	City of Killeen Early Flood Warning System	Develop and implement a warning system to notify public of flood risk.	8000019	Bell			Early Flood Warning System			City of Killeen	City of Killeen		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001116	Bell Early Flood Warning System	Acquire and install early warning system for dam failure.	8000019	Bell			Early Flood Warning System			Bell County	Bell County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001126	Bell Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Bell			Property Acquisition and Structural Elevation			Bell County	Bell County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000220	Bosque County TADD Barrier Installation	Increase awareness of flood risk and hazards.	8000019	Bosque	1206020201, 1206020203, 1206020204, 1206020206, 1206020301, 1206020302, 1206020402, 1206020403, 1206020404		Flood Preparedness and Resilience	1004.2	Riverine, Urban	Bosque County	Bosque County Office of Emergency Management		$ 4,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001074	Bosque County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Bosque			Regulatory and Guidance			Bosque County	Bosque County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

	Flood Risk										Reduction in Flood Risk											Other Benefits					BCR
	Flood Risk										Reduction in Flood Risk																
FMS ID	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads from 100-year Flood Risk (mi)	Estimated Active Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Fatalities (if available)	Estimated Reduction in Injuries (if available)	Cost/ Structure Removed	Consideration of Nature-Based Solution	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	BCR
82001124	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000211	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001071	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000247	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	No	No	N/A
82000254	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000260	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000270	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	No	No	N/A
82001073	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001115	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001116	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001126	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000220	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001074	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC 10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Strategy Cost ($)	Potential Funding Sources and Amount
82001118	Bosque Early Flood Warning System	Identify sites where stream and rain gages need to be added or upgraded.	8000019	Bosque			Early Flood Warning System			Bosque County	Bosque County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001024	City of Bryan Channel Maintenance Program Funding	Clearing of channels throughout the City to remove vegetation inhibiting the channels capacity.	8000003	Brazos			Maintenance & Inspection Programs			City of Bryan	City of Bryan		$ -	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001076	Brazos County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Brazos			Regulatory and Guidance			Brazos County	Brazos County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001113	City of College Station Early Flood Warning System	Implement system to monitor flood waters, notify public officials of flooded roadways, and trigger automatic warnings for road users.	8000019	Brazos			Early Flood Warning System			City of College Station	City of College Station		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001114	City of Bryan Early Flood Warning System	Implement system to monitor flood waters.	8000019	Brazos			Early Flood Warning System			City of Bryan	City of Bryan		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001125	Brazos Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Brazos			Property Acquisition and Structural Elevation			Brazos County	Brazos County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001139	City of Bryan Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Brazos			Property Acquisition and Structural Elevation			City of Bryan	City of Bryan		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001140	City of College Station Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Brazos			Property Acquisition and Structural Elevation			City of College Station	City of College Station		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001078	Burleson County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Burleson			Regulatory and Guidance			Burleson County	Burleson County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001135	Burleson Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Burleson			Property Acquisition and Structural Elevation			Burleson County	Burleson County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000121	Comanche County TADD Promotion	Promote flood safety and dangers of driving into flooded roadways by disseminating brochures and conducting outreach programs for "Turn Around Don't Drown."	8000019	Comanche	1207020102, 1207020103, 1207020104, 1207020105, 1207020106, 1207020201		Flood Preparedness and Resilience	924.4	Riverine, Urban	Comanche County	Comanche County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000130	City of Gustine TADD Promotion	Increase awareness of flood risk and hazards.	8000019	Comanche	1207020105		Flood Preparedness and Resilience	0.91	Riverine, Urban	City of Gustine	City of Gustine		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001081	Comanche County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Comanche			Regulatory and Guidance			Comanche County	Comanche County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

	Flood Risk										Reduction in Flood Risk															
FMS ID	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads from 100-year Flood Risk (mi)	Estimated Active Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Fatalities (if available)	Estimated Reduction in Injuries (if available)	Cost/ Structure Removed	Consideration of Nature-Based Solution	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	BCR
82001118	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001024	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001076	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001113	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001114	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001125	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001139	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001140	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001078	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001135	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000121	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000130	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001081	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC 10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Strategy Cost ($)	Potential Funding Sources and Amount
82001119	Comanche Early Flood Warning System	Install early warning system for flood hazard events.	8000019	Comanche			Early Flood Warning System			Comanche County	Comanche County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001082	Coryell County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Coryell			Regulatory and Guidance			Coryell County	Coryell County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000132	Eastland County Early Flood Warning System	Implement system to monitor flood waters.	8000016	Eastland			Early Flood Warning System	3.6	Riverine, Urban	Eastland County	Eastland County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000137	City of Carbon TADD Promotion	Implement "Turn Around Don't Drown" public awareness program for warning residents during times of flooding.	8000019	Eastland	1207020102, 1207020104		Flood Preparedness and Resilience	0.96	Riverine, Urban	City of Carbon	City of Carbon		$ 500	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001083	Eastland County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Eastland			Regulatory and Guidance			Eastland County	Eastland County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000203	Develop Database of Flood Risk Information & Mapping for Erath County	Improve and consolidate baseline data.	8000005	Erath	1206020108, 1206020109, 1206020111, 1206020201, 1206020401, 1206020402, 1206020403, 1207020102, 1207020104, 1207020105, 1207020106		Flood Preparedness and Resilience	1089.7	Riverine, Urban	Erath County	Erath County		$ 1,500	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001084	Erath County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Erath			Regulatory and Guidance			Erath County	Erath County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001120	Erath Early Flood Warning System	Implement a mass notification system to provide flood warnings to residents.	8000019	Erath			Early Flood Warning System			Erath County	Erath County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000305	Falls County Improve & Flood Proof Critical Facilities	Increase resiliency of critical facilities to flood events.	8000012	Falls	1206020208, 1207010101, 1207010102, 1207010103, 1207010104, 1207010105, 1207020402, 1207020403		Floodproofing	774.4	Riverine, Urban	Falls County	Falls County		$ 500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000306	City of Lott Transform Flood-Prone Areas into Parks	Preserve and create more open space to naturally store and discharge flood waters.	8000009	Falls	1207010101, 1207010103, 1207010104		Nature Based Projects	0.96	Urban	City of Lott	City of Lott		$ 120,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000308	City of Marlin Improve & Flood Proof Critical Facilities	Increase resiliency of critical facilities to flood events.	8000012	Falls	1207010101, 1207010102		Floodproofing	4.64	Riverine, Urban	City of Marlin	City of Marlin		$ 500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000309	City of Marlin Open Space Preservation Program	Preserve and create more open space to naturally store and discharge flood waters.	8000009	Falls	1207010101, 1207010102		Nature Based Projects	4.64	Urban	City of Marlin	City of Marlin		$ 50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000310	Open Space Preservation Program	Preserve and create more open space to naturally store and discharge flood waters.	8000009	Falls			Nature Based Projects	0.77		City of Rosebud	City of Rosebud		$ 10,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000311	Improve & Flood Proof Critical Facilities	Increase resiliency of critical facilities to flood events.	8000012	Falls			Floodproofing	0.77		City of Rosebud	City of Rosebud		$ 100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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	Flood Risk										Reduction in Flood Risk															
FMS ID	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads from 100-year Flood Risk (mi)	Estimated Active Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Fatalities (if available)	Estimated Reduction in Injuries (if available)	Cost/ Structure Removed	Consideration of Nature-Based Solution	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	BCR
82001119	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001082	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000132	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000137	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001083	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000203	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001084	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000305	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000306	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000308	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000309	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000310	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000311	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A

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FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC 10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Strategy Cost ($)	Potential Funding Sources and Amount
82001085	Falls County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Falls			Regulatory and Guidance			Falls County	Falls County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000059	Evaluation of Flood Control Projects Phase 2	Implement design, construction, and maintenance criteria for new City-owned flood control projects; Document retrofitting/non-structural control activities on existing City-owned flood control structures	8000009	Fort Bend			Flood Preparedness and Resilience	0.3	Riverine	City of Sugar Land	City of Sugar Land		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000071	Sugar Land MDP - Early Flood Warning System	Engage regional partners in developing a flood warning system.	8000016	Fort Bend			Early Flood Warning System	32.4	Riverine, Coastal	City of Sugar Land	City of Sugar Land		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000074	Sugar Land MDP - Regional Drainage & Drainage Entities	Consider establishing a single regional drainage entity to manage all aspects of drainage including maintain ALL detention ponds in region.	8000003	Fort Bend	1204020501, 1204020502, 1207010404		Regulatory and Guidance	32.18	Riverine, Urban, Coastal	City of Sugar Land	City of Sugar Land		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000159	Fort Bend County Prevent River Bank Erosion	Control erosion of river bank to preserve channelization.	8000009	Fort Bend	1204020501, 1204020502, 1204020503, 1207010403, 1207010404, 1207010405		Flood Preparedness and Resilience	610.5	Riverine	Fort Bend County	Fort Bend County Drainage District, Fort Bend County		$ 85,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000160	Fort Bend County Signage for Areas that Flood Easily	Implementation of signage/ barricades to notify public of areas prone to flood risk.	8000019	Fort Bend	1204020501, 1204020502, 1204020503, 1207010403, 1207010404, 1207010405		Flood Preparedness and Resilience	610.5	Riverine, Urban, Coastal	Fort Bend County	Fort Bend County Drainage District, Fort Bend County		$ 50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000161	Fort Bend County High Water Barricades	Implementation of signage/ barricades to notify public of areas prone to flood risk.	8000019	Fort Bend	1204020501, 1204020502, 1204020503, 1207010403, 1207010404, 1207010405		Flood Preparedness and Resilience	610.5	Riverine, Urban, Coastal	Fort Bend County	Fort Bend County Drainage District, Fort Bend County		$ 50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000631	Fort Bend County Early Flood Warning System	Installation of a flood monitoring system.	8000018	Fort Bend	NA		Early Flood Warning System	882.723	Riverine, Urban	Fort Bend County	Fort Bend County Drainage District, Fort Bend County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000857	Project Brazos	Stabilization efforts for 11 identified locations along the Brazos River throughout Fort Bend County	8000009	Fort Bend	NA		Erosion Repair	18.62101		Fort Bend County	Fort Bend County, Fort Bend County Drainage District		$ 360,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000326	City of Teague Portable Flood Pumps	Purchase portable flood pumps to be used where most needed in flood events.	8000009	Freestone	1207010303		Flood Preparedness and Resilience	3.36	Riverine, Urban	City of Teague	City of Teague		$ 250,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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82001085	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000059	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000071	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000074	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000159	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000161	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000631	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000857	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000326	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC 10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Strategy Cost ($)	Potential Funding Sources and Amount
82001090	Grimes County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Grimes			Regulatory and Guidance			Grimes County	Grimes County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001127	Grimes Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Grimes			Property Acquisition and Structural Elevation			Grimes County	Grimes County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000280	Hamilton County High Water Signs and Gates	Implementation of signage/ barricades to notify public of areas prone to flood risk.	8000019	Hamilton	1206020302, 1206020402, 1206020403, 1206020404, 1207020105, 1207020106, 1207020107, 1207020108, 1207020201, 1207020301		Flood Preparedness and Resilience	837.4	Riverine, Urban	Hamilton County	Hamilton County		$ 100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000283	Hamilton County Upgrade Low Water Crossings	Improve low water crossings to reduce flooding.	8000007	Hamilton	1206020302, 1206020402, 1206020403, 1206020404, 1207020105, 1207020106, 1207020107, 1207020108, 1207020201, 1207020301		Infrastructure Improvements	837.4	Riverine, Urban	Hamilton County	Hamilton County		$ 100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001091	Hamilton County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Hamilton			Regulatory and Guidance			Hamilton County	Hamilton County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001121	Hamilton Early Flood Warning System	Install flood gages in flood prone areas.	8000019	Hamilton			Early Flood Warning System			Hamilton County	Hamilton County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000342	Hill County Improve & Flood Proof Critical Facilities	Increase resiliency of critical facilities to flood events.	8000012	Hill	1206020202, 1206020203, 1206020204, 1206020205, 1206020206, 1206020207, 1207010301		Floodproofing	665.4	Riverine, Urban	Hill County	Hill County		$ 500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000343	Hill County Open Space Preservation Program	Preserve and create more open space to naturally store and discharge flood waters.	8000009	Hill	1206020202, 1206020203, 1206020204, 1206020205, 1206020206, 1206020207, 1207010301		Nature Based Projects	665.4	Urban	Hill County	Hill County		$ 120,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000345	Improve & Flood Proof Critical Facilities in City of Aquilla	Increase resiliency of critical facilities to flood events.	8000012	Hill	1206020205		Floodproofing	1.32	Riverine, Urban	City of Aquilla	City of Aquilla		$ 500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000346	City of Aquilla Flood Warning Signs	Implementation of signage/ barricades to notify public of areas prone to flood risk.	8000019	Hill	1206020205		Flood Preparedness and Resilience	1.32	Riverine, Urban	City of Aquilla	City of Aquilla		$ 7,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000349	Automated Floodgates	Implementation of automated gates to block public from areas prone to flood risk.	8000016	Hill			Flood Preparedness and Resilience	0.59		City of Covington	City of Covington		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000350	Improve & Flood Proof Critical Facilities	Increase resiliency of critical facilities to flood events.	8000012	Hill			Floodproofing	0.59		City of Covington	City of Covington		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000351	City of Hillsboro Improve & Flood Proof Critical Facilities	Increase resiliency of critical facilities to flood events.	8000012	Hill	1206020205		Floodproofing	10.45	Riverine, Urban	City of Hillsboro	City of Hillsboro		$ 500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

	Flood Risk										Reduction in Flood Risk															
FMS ID	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads from 100-year Flood Risk (mi)	Estimated Active Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Fatalities (if available)	Estimated Reduction in Injuries (if available)	Cost/ Structure Removed	Consideration of Nature-Based Solution	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	BCR
82001090	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001127	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000280	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000283	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	No	No	N/A
82001091	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001121	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000342	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000343	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000345	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000346	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000349	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000350	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000351	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC 10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Strategy Cost ($)	Potential Funding Sources and Amount
82000352	City of Hillsboro Open Space Preservation Program	Preserve and create more open space to naturally store and discharge flood waters.	8000009	Hill	1206020205		Nature Based Projects	10.45	Urban	City of Hillsboro	City of Hillsboro		$ 50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000353	City of Itasca Improve & Flood Proof Critical Facilities	Increase resiliency of critical facilities to flood events.	8000012	Hill	1206020205		Floodproofing	2.11	Riverine, Urban	City of Itasca	City of Itasca		$ 500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000354	Improve & Flood Proof Critical Facilities	Increase resiliency of critical facilities to flood events.	8000012	Hill			Floodproofing	0.76		City of Mount Calm	City of Mount Calm		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000357	City of Whitney Improve & Flood Proof Critical Facilities	Increase resiliency of critical facilities to flood events.	8000012	Hill	1206020204		Floodproofing	1.96	Riverine, Urban	City of Whitney	City of Whitney		$ 750,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000358	City of Whitney Open Space Preservation Program	Preserve and create more open space to naturally store and discharge flood waters.	8000009	Hill	1206020204		Nature Based Projects	1.96	Urban	City of Whitney	City of Whitney		$ 85,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001092	Hill County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Hill			Regulatory and Guidance			Hill County	Hill County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001128	Hill Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Hill			Property Acquisition and Structural Elevation			Hill County	Hill County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000169	City of Cresson TADD Barrier Installation	Purchase barriers to close roads during flood events.	8000019	Hood	1206020112, 1206020113		Flood Preparedness and Resilience	11.29	Riverine, Urban	City of Cresson	City of Cresson		$ 15,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000173	City of Lipan TADD Barrier Installation	Increase awareness of flood risk and hazards.	8000019	Hood	1206020111		Flood Preparedness and Resilience	1.05	Riverine, Urban	City of Lipan	City of Lipan		$ 50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000176	City of Tolar TADD Barrier Installation	Increase awareness of flood risk and hazards.	8000019	Hood	1206020201		Flood Preparedness and Resilience	1.11	Riverine, Urban	City of Tolar	City of Tolar		$ 50,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001093	Hood County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Hood			Regulatory and Guidance			Hood County	Hood County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000498	Develop Evacuation Routes for City of Bryson	Establish evacuation routes to expedite public response to flood events.	8000016	Jack	1206020102		Flood Preparedness and Resilience	1.22	Riverine, Urban	City of Bryson	City of Bryson		$ 5,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000507	City of Byson TADD Promotion	Implement "Turn Around Don't Drown" public awareness program for warning residents during times of flooding.	8000019	Jack	1206020102		Flood Preparedness and Resilience	1.22	Riverine, Urban	City of Bryson	City of Bryson		$ 10,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001095	Johnson County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Johnson			Regulatory and Guidance			Johnson County	Johnson County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

	Flood Risk										Reduction in Flood Risk															
FMS ID	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads from 100-year Flood Risk (mi)	Estimated Active Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Fatalities (if available)	Estimated Reduction in Injuries (if available)	Cost/ Structure Removed	Consideration of Nature-Based Solution	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	BCR
82000352	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000353	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000354	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000357	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000358	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001092	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001128	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000169	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000173	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000176	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001093	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000498	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000507	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001095	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC 10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Strategy Cost ($)	Potential Funding Sources and Amount
82001117	City of Cleburne Early Flood Warning System	Develop an early warning system for Buffalo and Meaner Creek which would remotely alert at the site when the water reaches a dangerous level.	8000019	Johnson			Early Flood Warning System			City of Cleburne	City of Cleburne		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000377	City of Lampasas Low Water Crossing Signs	Implementation of signage/ barricades to notify public of areas prone to flood risk.	8000019	Lampasas	1207020303		Flood Preparedness and Resilience	7.33	Riverine, Urban	City of Lampasas	City of Lampasas		$ 100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001096	Lampasas County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Lampasas			Regulatory and Guidance			Lampasas County	Lampasas County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001097	Lee County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Lee			Regulatory and Guidance			Lee County	Lee County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001129	Lee Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Lee			Property Acquisition and Structural Elevation			Lee County	Lee County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001134	Lee Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Lee			Property Acquisition and Structural Elevation			Lee County	Lee County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000397	City of Marquez Portable Flood Pumps	Purchase portable flood pumps to be used where most needed in flood events.	8000009	Leon	1207010303, 1207010304		Flood Preparedness and Resilience	1.31	Riverine, Urban	City of Marquez	City of Marquez		$ 100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000402	Limestone County Improve & Flood Proof Critical Facilities	Increase resiliency of critical facilities to flood events.	8000012	Limestone	1206020207, 1207010102, 1207010103, 1207010105, 1207010301, 1207010302, 1207010303, 1207010304		Floodproofing		Riverine, Urban	Limestone County	Limestone County		$ 500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000403	Improve & Flood Proof Critical Facilities in City of Coolidge	Increase resiliency of critical facilities to flood events.	8000012	Limestone	1207010301		Floodproofing		Riverine, Urban	City of Coolidge	City of Coolidge		$ 500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000407	City of Kosse Improve & Flood Proof Critical Facilities	Increase resiliency of critical facilities to flood events.	8000012	Limestone	1207010103, 1207010302		Floodproofing		Riverine, Urban	City of Kosse	City of Kosse		$ 500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000408	City of Kosse Automated Floodgates	Implementation of automated gates to block public from areas prone to flood risk.	8000016	Limestone	1207010103, 1207010302		Flood Preparedness and Resilience		Riverine, Urban	City of Kosse	City of Kosse		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000409	City of Mexia Improve & Flood Proof Critical Facilities	Increase resiliency of critical facilities to flood events.	8000012	Limestone	1207010301		Floodproofing		Riverine, Urban	City of Mexia	City of Mexia		$ 500,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000410	City of Thornton Open Space Preservation Program	Preserve and create more open space to naturally store and discharge flood waters.	8000009	Limestone	1207010302		Nature Based Projects		Urban	City of Thornton	City of Thornton		$ 85,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001099	Limestone County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Limestone			Regulatory and Guidance			Limestone County	Limestone County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

FMS ID	Flood Risk										Reduction in Flood Risk															
	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads from 100-year Flood Risk (mi)	Estimated Active Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Fatalities (if available)	Estimated Reduction in Injuries (if available)	Cost/ Structure Removed	Consideration of Nature-Based Solution	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	BCR
82001117	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000377	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001096	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001097	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001129	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001134	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000397	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000402	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000403	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000407	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000408	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000409	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000410	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001099	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC 10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Strategy Cost ($)	Potential Funding Sources and Amount
82001101	McLennan County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	McLennan			Regulatory and Guidance			McLennan County	McLennan County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001122	McLennan Early Flood Warning System	Implement system to monitor flood waters.	8000019	McLennan			Early Flood Warning System			McLennan County	McLennan County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001131	McLennan Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	McLennan			Property Acquisition and Structural Elevation			McLennan County	McLennan County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001143	City of Waco Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	McLennan			Property Acquisition and Structural Elevation			City of Waco	City of Waco		$ -	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000293	Participate with Milam County Emergency Response Board	Establish plan for emergency response to expedite public response.	8000016	Milam	1207020401, 1207020402		Flood Preparedness and Resilience		Riverine, Urban	City of Buckholts	City of Buckholts		$ 500	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001102	Milam County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Milam			Regulatory and Guidance			Milam County	Milam County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001104	Palo Pinto County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Palo Pinto			Regulatory and Guidance			Palo Pinto County	Palo Pinto County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000554	Robertson County Portable Flood Pumps	Purchase portable flood pumps to be used where most needed in flood events.	8000009	Robertson	1207010103, 1207010105, 1207010106, 1207010302, 1207010303, 1207010304, 1207010305		Flood Preparedness and Resilience		Riverine, Urban	Robertson County	Robertson County		$ 250,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000557	City of Bremond Portable Flood Pumps	Purchase portable flood pumps to be used where most needed in flood events.	8000009	Robertson	1207010103, 1207010105		Flood Preparedness and Resilience		Riverine, Urban	City of Bremond	City of Bremond		$ 250,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000561	City of Calvert Portable Flood Pumps	Purchase portable flood pumps to be used where most needed in flood events.	8000009	Robertson	1207010106		Flood Preparedness and Resilience		Riverine, Urban	City of Calvert	City of Calvert		$ 250,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000565	City of Franklin Portable Flood Pumps	Purchase portable flood pumps to be used where most needed in flood events.	8000009	Robertson	1207010106, 1207010304, 1207010305		Flood Preparedness and Resilience		Riverine, Urban	City of Franklin	City of Franklin		$ 250,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000569	City of Hearne Portable Flood Pumps	Purchase portable flood pumps to be used where most needed in flood events.	8000009	Robertson	1207010106		Flood Preparedness and Resilience		Riverine, Urban	City of Hearne	City of Hearne		$ 250,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001106	Robertson County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Robertson			Regulatory and Guidance			Robertson County	Robertson County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000570	Somervell County Low Water Crossings Mitigation	Improve low water crossings to reduce flooding.	8000007	Somervell	1206020113, 1206020201, 1206020203, 1206020403		Infrastructure Improvements		Riverine, Urban	Somervell County	Somervell County		$ 250,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

FMS ID	Flood Risk										Reduction in Flood Risk															
	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads from 100-year Flood Risk (mi)	Estimated Active Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Fatalities (if available)	Estimated Reduction in Injuries (if available)	Cost/ Structure Removed	Consideration of Nature-Based Solution	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	BCR
82001101	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001122	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001131	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001143	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000293	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001102	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001104	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000554	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000557	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000561	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000565	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000569	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001106	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000570	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	No	No	N/A

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC 10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Strategy Cost ($)	Potential Funding Sources and Amount
82000575	City of Glen Rose Mitigate Low Water Crossings	Improve low water crossings to reduce flooding.	8000007	Somervell	1206020201, 1206020203		Infrastructure Improvements		Riverine, Urban	City of Glen Rose	City of Glen Rose		$ 250,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001107	Somervell County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Somervell			Regulatory and Guidance			Somervell County	Somervell County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001109	Waller County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Waller			Regulatory and Guidance			Waller County	Waller County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001123	Waller Early Flood Warning System	Install flood gages to monitor flood waters.	8000019	Waller			Early Flood Warning System			Waller County	Waller County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001131	McLennan Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	McLennan			Property Acquisition and Structural Elevation			McLennan County	McLennan County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000592	High Water Barricades on Meyersville Rd	Implementation of signage/ barricades to notify public of areas prone to flood risk.	8000019	Washington	1207010107, 1207010108, 1207010109, 1207010203, 1207010205, 1207010401, 1207010402		Flood Preparedness and Resilience		Riverine, Urban	Washington County	Washington County		$ 100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000593	High Water Barricades on County Roads	Implementation of signage/ barricades to notify public of areas prone to flood risk.	8000019	Washington	1207010107, 1207010108, 1207010109, 1207010203, 1207010205, 1207010401, 1207010402		Flood Preparedness and Resilience		Riverine, Urban	Washington County	Washington County		$ 30,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000594	High Water Barricades on Winedale Road	Implementation of signage/ barricades to notify public of areas prone to flood risk.	8000019	Washington	1207010107, 1207010108, 1207010109, 1207010203, 1207010205, 1207010401, 1207010402		Flood Preparedness and Resilience		Riverine, Urban	Washington County	Washington County		$ 100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000595	High Water Barricades on Jeske Road	Implementation of signage/ barricades to notify public of areas prone to flood risk.	8000019	Washington	1207010107, 1207010108, 1207010109, 1207010203, 1207010205, 1207010401, 1207010402		Flood Preparedness and Resilience		Riverine, Urban	Washington County	Washington County		$ 100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000599	City of Brenham Low Water Crossing Improvements	Improvements to culverts and roads to mitigate flooding at low water crossings.	8000009	Washington	1207010109, 1207010402		Infrastructure Improvements		Riverine, Urban	City of Brenham	City of Brenham		$ 2,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001110	Washington County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Washington			Regulatory and Guidance			Washington County	Washington County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001132	Washington Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Washington			Property Acquisition and Structural Elevation			Washington County	Washington County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000645	Williamson County Early Flood Warning System	Installation of a flood monitoring system.	8000016	Williamson			Early Flood Warning System	1135	Riverine, Urban	Williamson County	Williamson County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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	Flood Risk										Reduction in Flood Risk															
FMS ID	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads from 100-year Flood Risk (mi)	Estimated Active Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Fatalities (if available)	Estimated Reduction in Injuries (if available)	Cost/ Structure Removed	Consideration of Nature-Based Solution	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	BCR
82000575	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	No	No	N/A
82001107	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001109	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001123	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001131	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000592	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000593	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000594	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000595	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000599	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	No	No	N/A
82001110	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001132	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000645	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC 10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Strategy Cost ($)	Potential Funding Sources and Amount
82000928	City of Georgetown Lift Station Floodproofing	Flood proof city lift stations and manholes located in the SFHA.	8000012	Williamson	1207020501, 1207020502, 1207020503, 1207020504, 1207020505		Floodproofing		Riverine, Urban	City of Georgetown	City of Georgetown		$ -	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000933	City of Hutto Acquire Flood Prone Land	Dedicate acquired, undeveloped land to open space areas to prevent development.	8000009	Williamson	1207020504		Flood Preparedness and Resilience		Riverine, Urban	City of Hutto	City of Hutto		$ -	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000938	City of Leander Automated Barriers	Install low water crossing automated barriers and warning signs.	8000007	Williamson	1207020501, 1207020502, 1207020504		Flood Preparedness and Resilience		Riverine, Urban	City of Leander	City of Leander		$ -	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001111	Williamson County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Williamson			Regulatory and Guidance			Williamson County	Williamson County		$ 400,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001136	Williamson Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Williamson			Property Acquisition and Structural Elevation			Williamson County	Williamson County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001141	City of Georgetown Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Williamson			Property Acquisition and Structural Elevation			City of Georgetown	City of Georgetown		$ -	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001142	City of Leander Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Williamson			Property Acquisition and Structural Elevation			City of Leander	City of Leander		$ -	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000511	Improve & Flood Proof Critical Facilities in Young County	Increase resiliency of critical facilities to flood events.	8000012	Young	1206020101, 1206020102, 1206020105		Floodproofing		Riverine, Urban	Young County	Young County		$ 1,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000519	City of Graham TADD Promotion	Increase awareness of flood risk and hazards.	8000019	Young	1206020101, 1206020105		Flood Preparedness and Resilience		Riverine, Urban	City of Graham	City of Graham		$ 10,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000521	City of Graham Flood Proof Sewage Treatment Plan	Increase resiliency of critical facilities to flood events.	8000012	Young			Floodproofing	0.96	Riverine, Urban	City of Graham	City of Graham		$ 250,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000522	City of Graham Open Space Preservation Program	Preserve and create more open space to naturally store and discharge flood waters.	8000009	Young	1206020101, 1206020105		Nature Based Projects		Urban	City of Graham	City of Graham		$ 1,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000529	City of Olney Develop Evacuation Routes	Establish evacuation routes to expedite public response to flood events.	8000016	Young	1206020101		Flood Preparedness and Resilience		Riverine, Urban	City of Olney	City of Olney		$ 5,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000530	City of Olney Watertight Covers and Inflow Guard Implementation	Implementation of floodproofing features to increase resiliency of structure to flood events.	8000009	Young	1206020101		Floodproofing		Riverine, Urban	City of Olney	City of Olney		$ 100,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000537	City of Olney Add Vegetation to River Banks	Control erosion of river bank to preserve channelization.	8000009	Young	1206020101		Nature Based Projects		Riverine	City of Olney	City of Olney		$ 20,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

	Flood Risk										Reduction in Flood Risk														
FMS ID	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads from 100-year Flood Risk (mi)	Estimated Active Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Fatalities (if available)	Estimated Reduction in Injuries (if available)	Cost/ Structure Removed	Consideration of Nature-Based Solution	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	BCR
82000928	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000933	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000938	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001111	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001136	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001141	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001142	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000511	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000519	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000521	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000522	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000529	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000530	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000537	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A

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Table 14 - Summary of Potentially Feasible Flood Management Strategies (FMS)

FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC 10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Strategy Cost ($)	Potential Funding Sources and Amount
82000543	City of Olney TADD Promotion	Increase awareness of flood risk and hazards.	8000019	Young	1206020101		Flood Preparedness and Resilience		Riverine, Urban	City of Olney	City of Olney		$ 10,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000546	City of Olney Maintain Natural Vegetation in Channels	Control erosion of banks to preserve channelization.	8000009	Young	1206020101		Nature Based Projects		Riverine	City of Olney	City of Olney		$ 3,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000548	City of Olney Flood Proof Sewage Treatment Plan	Increase resiliency of critical facilities to flood events.	8000012	Young			Floodproofing	0.91	Riverine, Urban	City of Olney	City of Olney		$ 250,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000550	City of Olney Open Space Preservation Program	Preserve and create more open space to naturally store and discharge flood waters.	8000009	Young	1206020101		Nature Based Projects		Urban	City of Olney	City of Olney		$ 1,000,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001112	Young County Regulatory Updates	Update floodplain ordinances/subdivision regulations and drainage criteria to implement the latest rainfall data and recommended regional standards.	8000003	Young	FMS	FMS	Regulatory and Guidance	FMS	FMS	Young County	Young County		FMS	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82001137	Young Property Acquisition	Buyout program for structures located in flood hazard areas.	8000011	Young			Property Acquisition and Structural Elevation			Young County	Young County		-	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT
82000516	City of Graham Develop Evacuation Routes	Establish evacuation routes to expedite public response to flood events.	8000016	Young	1206020101, 1206020105		Flood Preparedness and Resilience		Riverine, Urban	City of Graham	City of Graham		$ 5,000	Local, TWDB FIF, TWDB CWSRF, FEMA BRIC, FEMA FMA, HUD CDBG-MIT

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FMS ID	Flood Risk										Reduction in Flood Risk															
	Area in 100-year (1% ACE) Floodplain (sq mi)	Area in 500-year (0.2% ACE) Floodplain (sq mi)	Estimated Number of Structures at 100-year Flood Risk	Residential Structures at Flood Risk	Estimated Population at Flood Risk	Critical Facilities at Flood Risk	Number of Low Water Crossings at Flood Risk	Estimated Number of Road Closures	Estimated Length of Roads at Flood Risk (mi)	Estimated Farm & Ranch Land at Flood Risk (ac)	Number of Structures with Reduced 100-year (1% ACE) Flood Risk	Number of Structures Removed from 100-year (1% ACE) Flood Risk	Number of Structures Removed from 500-year (0.2% ACE) Flood Risk	Estimated Population Removed from 100-year (1% ACE) Flood Risk	Critical Facilities Removed from 100-year (1% ACE) Flood Risk	Number of Low Water Crossings Removed from 100-year (1% ACE) Flood Risk	Estimated Reduction in Road Closure Occurances	Estimated Length of Roads from 100-year Flood Risk (mi)	Estimated Active Farm & Ranch Land Removed from 100-year Flood Risk (ac)	Estimated Reduction in Fatalities (if available)	Estimated Reduction in Injuries (if available)	Cost/ Structure Removed	Consideration of Nature-Based Solution	Negative Impact	Negative Impact Mitigation	Water Supply Benefit	BCR
82000543	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000546	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000548	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000550	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001112	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82001137	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A
82000516	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	N/A

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