

**2023 REGIONAL FLOOD PLAN**  
**DRAFT: TECHNICAL**  
**MEMORANDUM**  
**REGION 6**  
**SAN JACINTO**  
DRAFT - December 2021

PREPARED FOR THE **SAN JACINTO**  
**REGIONAL FLOOD PLANNING GROUP**



# DRAFT: TECHNICAL MEMORANDUM

## PREPARED FOR:

TWDB on behalf of Region 6 San Jacinto Regional Flood Planning Group

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### DRAFT

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TABLE OF CONTENTS

EXECUTIVE SUMMARY ..... 3

INTRODUCTION.....4

TASK 4C – TECHNICAL MEMORANDUM .....7

    A. Existing Political Subdivisions..... 7

    B. Previous Flood Studies ..... 9

    C. 1% and 0.2% Annual Chance Flood Events .....12

    D. Additional Flood-Prone Areas ..... 13

    E. Existing Hydrologic and Hydraulic Models ..... 14

    F. List of Flood-Related Models..... 14

    G. Flood Mitigation and Floodplain Management Goals .....17

    H. Process to Identify Potential FMEs and Potentially Feasible FMSs & FMPs..... 20

    I. List of Potential FMEs and Potentially Feasible FMSs and FMPs ..... 23

    J. List of Infeasible FMSs and FMPs ..... 23

APPENDICES.....24

## LIST OF TABLES

Table 1: Technical Memorandum Deliverables .....	5
Table 2: Technical Memorandum Spatial Deliverables .....	6
Table 3: Political Subdivisions with Flood-Related Authority - Counties.....	7
Table 4: Political Subdivisions with Flood-Related Authority - Municipalities .....	8
Table 5: Previous Flood Studies .....	9
Table 6: Available Flood-Related Models .....	14
Table 7: Regional Flood Plan Flood Mitigation and Floodplain Management Goals.....	18

## LIST OF FIGURES

Figure 1: San Jacinto Flood Planning Region .....	4
Figure 2: Flood-Prone Area Survey Response Example .....	13
Figure 3: RFPG Prioritization of Flood Mitigation and Floodplain Management Goal Categories .....	17
Figure 4: Flood Risk Reduction Action Classification Process .....	21

## APPENDICES

Appendix 1-A	List of Special District Political Subdivisions
Appendix 2-A	List of Potential FMEs
Appendix 2-B	List of Potentially Feasible FMSs
Appendix 2-C	List of Potentially Feasible FMPs
Appendix 2-D	List of Infeasible Actions

## EXECUTIVE SUMMARY

Freese and Nichols Inc. (FNI) has been retained as the Technical Consultant to the San Jacinto Regional Flood Planning Group (SJRFPG) to develop the first-ever Regional Flood Plan (RFP), as part of the state flood planning process administered by the Texas Water Development Board (TWDB). As this first planning cycle is underway, this Technical Memorandum serves as a preliminary check on the Regional Flood Planning Group's (RFPG's) progress towards the complete RFP by providing an overview of various tasks, processes used, and data collected. All the provided materials in this memo are subject to change prior to the submittal of the full draft flood plan due in August of 2022.

### Definitions

This section provides definitions of key terms and acronyms.

A **Flood Management Evaluation (FME)** is 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.

A **Flood Management Strategy (FMS)** is a proposed plan to reduce flood risk or mitigate flood hazards to life or property. At a minimum, RFPGs should include as FMSs any proposed action that the group would like to identify, evaluate, and recommend that does not qualify as either a FME or FMP.

A **Flood Mitigation Project (FMP)** is a proposed project, either structural or non-structural, that has non-zero capital costs or other non-recurring costs and when implemented will reduce flood risk or mitigate flood hazards to life or property.



## INTRODUCTION

In 2019, the 86<sup>th</sup> Texas Legislature enacted Senate Bill 8 directing the creation of the first State Flood Plan. The Texas Legislature also adopted changes to the Texas Water Code §16.061 to establish the regional and state flood planning processes that are overseen by the Texas Water Development Board (TWDB). The State Flood Plan follows a region-driven, bottom-up approach that has been used to develop the State Water Plan in Texas for over 20 years. As outlined by the Texas Water Code, the purpose of the Regional and State Flood Plans is to:

- Provide orderly preparation and response to flood conditions to protect against loss of life and property;
- Guide state and local flood control policy; and
- Contribute to water development, where possible.

TWDB established 15 flood planning regions based on river basin boundaries. Figure 1 shows the delineation of the fifteen flood planning regions as well as the boundary of and counties within the San Jacinto Flood Planning Region. The San Jacinto Region encompasses all the San Jacinto River and its tributaries, covering an area of approximately 5,089 square miles containing approximately 3,696 stream miles. Over 81 municipalities and 11 counties are included within the region.



*Figure 1: San Jacinto Flood Planning Region*

The first deliverable for the RFP, due to the TWDB on January 7, 2022, is an interim Technical Memorandum intended to demonstrate progress towards compiling the necessary technical information and analyses needed to develop the RFP and meet contract requirements. The Technical Memorandum includes the information required in the Scope of Work and guidance documents provided by the TWDB that pertains to aspects of the following project tasks:

- Task 1: Planning Area Description
- Task 2: Flood Risk Analysis
- Task 3: Floodplain Management Practices and Flood Protection Goals
- Task 4: Assessment and Identification of Flood Mitigation Needs

The TWDB extended the deadline to submit certain portions of the Technical Memorandum deliverables based on the release of the Cursory Floodplain (Fathom 3m) data. The required deliverables and corresponding deadlines are listed below in Table 1. Items listed in gray italic text correspond reflect those deliverables for which TWDB has extended the submittal deadline to March 7, 2022.

**Table 1: Technical Memorandum Deliverables**

TWDB Task	Description	Location	Deadline
4C.1.a	List of existing political subdivisions with flood-related authority	Table 3, Table 4, Appendix 1-A	January 7, 2022
4C.1.b	List of previous flood studies	Table 5	January 7, 2022
4C.1.c	<i>1% and 0.2% annual chance inundation boundary</i>	<i>N/A</i>	<i>March 7, 2022</i>
4C.1.d	<i>Flood-prone areas</i>	<i>N/A</i>	<i>March 7, 2022</i>
4C.1.e	<i>Existing hydraulic and hydrologic models</i>	<i>N/A</i>	<i>March 7, 2022</i>
4C.1.f	Existing flood-related models	Table 6	January 7, 2022
4C.1.g	Adopted floodplain management and flood mitigation goals	Table 7	January 7, 2022
4C.1.h	Process used to identify FMEs, FMSs, and FMPs	Section H	January 7, 2022
4C.1.i	List of potential FMEs and potentially feasible FMSs and FMPs	Appendix 2-A, 2-B, 2-C	January 7, 2022
4C.1.j	List of infeasible FMSs and FMPs including the primary reason for infeasibility	Appendix 2-D	January 7, 2022

As outlined in Exhibit D, *Data Submittal Guidelines*, the spatial feature deliverables required with the submission of the Technical Memorandum are listed below in Table 2 with corresponding deadlines. The various data required will be provided in the form of a map book, online dashboard (for RFPG review and approval), or geodatabase, where applicable. Items listed in gray italic text correspond reflect those deliverables for which TWDB has extended the submittal deadline to March 7, 2022.

**Table 2: Technical Memorandum Spatial Deliverables**

Feature Class Name	Description	Deadline
Entities	Entities with flood-related authority	January 7, 2022
Watersheds	Watersheds (HUC-8,10,12)	January 7, 2022
ExFldInfraPol/ExFldInfraLn/ExFldInfraPt	Existing natural flood mitigation features and constructed flood infrastructure	January 7, 2022
ExFldProjs	Proposed or ongoing flood mitigation projects	January 7, 2022
<i>ExFldHazard</i>	<i>Existing conditions inundation boundary for the 1.0% and 0.2% events</i>	<i>March 7, 2022</i>
<i>Fld_Map_Gaps</i>	<i>Gaps in inundation boundary mapping</i>	<i>March 7, 2022</i>
<i>ExFldExpPol / ExFldExpLn / ExFldExpPt ExFldExpAll</i>	<i>Existing conditions flood exposure layer identifying people and places at risk for the 1.0% and 0.2% events</i>	<i>March 7, 2022</i>
<i>FutFldHazard</i>	<i>Future conditions inundation boundary for the 1.0% and 0.2% events</i>	<i>March 7, 2022</i>
<i>FutFldExpPol / FutFldExpLn / FutFldExpPt FutFldExpAll</i>	<i>Future conditions flood exposure layer identifying people and places at risk for the 1.0% and 0.2% events</i>	<i>March 7, 2022</i>
ExFpMP	Areas with existing floodplain management practices	January 7, 2022
Goals	Adopted flood mitigation and floodplain management goals with associated areas	January 7, 2022
Streams	Streams relevant to proposed FMEs, FMSs, and FMPs	January 7, 2022
FME/FMS/FMP	Proposed FMEs, FMSs, and FMPs with associated areas	January 7, 2022

## TASK 4C – TECHNICAL MEMORANDUM

### A. Existing Political Subdivisions

The list of political subdivisions in the flood planning region with flood-related authority was created based on the Entities layer provided in the Texas Water Development Board (TWDB) Data Hub. Entities and Political Subdivisions that have flood-related authority can be defined as, but are not limited to, entities that have the authority to enact and enforce National Flood Insurance Program (NFIP) floodplain regulations and those that construct, maintain, manage, sponsor, or perform various actions associated with drainage infrastructure or flood control. Determination of whether an entity is actively involved in flood planning began with research on floodplain ordinances and regulations. Floodplain ordinances regulate development and various impacts on a community's floodplain. Participation in the National Flood Insurance Program (NFIP) ensures regulations regarding flooding properly consider flood hazards. Research on floodplain regulation began with documents provided by TWDB and was supplemented with open-source research. Entities that do not have established flood-related regulations or ordinances were determined to not be active in flood planning.

The RFPG developed two surveys targeted toward members of the public as well as stakeholders to receive both technical and non-technical flooding information. In both the stakeholder and member of the public engagement surveys, the user is prompted to provide any flood-related jurisdictions in their area they are aware of. Responses to the survey were used to validate and supplement the initial research.

For the purpose of populating this table as part of the January Technical Memorandum submittal, political subdivisions were defined as those entities whose leadership are determined through open elections. All political subdivisions that were identified as having flood-related authority within the San Jacinto Region are shown in Table 3, Table 4, and Appendix 1-A, listing 1019 political subdivisions that have flood-related authority, 88 of which are active in flood planning. Political Subdivisions active in flood planning include 75 municipalities, 11 counties, and 2 special districts. All other special district political subdivision types such as Utility Districts, Management Districts, Improvement Districts, etc. are included in Appendix 1-A.

**Table 3: Political Subdivisions with Flood-Related Authority - Counties**

Entity	Actively Involved in Flood Planning?
Brazoria	Yes
Chambers	Yes
Fort Bend	Yes
Galveston	Yes
Grimes	Yes
Harris	Yes
Liberty	Yes
Montgomery	Yes
San Jacinto	Yes
Walker	Yes
Waller	Yes

**Table 4: Political Subdivisions with Flood-Related Authority - Municipalities**

Entity	Actively Involved in Flood Planning?
City of Alvin	Yes
City of Arcola	Yes
City of Bayou Vista	Yes
City of Baytown	Yes
City of Beach City	Yes
City of Bellaire	Yes
City of Brookside Village	Yes
City of Bunker Hill Village	Yes
City of Clear Lake Shores	Yes
City of Cleveland	Yes
City of Coldspring	No
City of Conroe	Yes
City of Cut and Shoot	Yes
City of Dayton	Yes
City of Deer Park	Yes
City of Dickinson	Yes
City of El Lago	Yes
City of Friendswood	Yes
City of Fulshear	No
City of Galena Park	Yes
City of Galveston	Yes
City of Hedwig Village	Yes
City of Hillcrest	Yes
City of Hilshire Village	Yes
City of Hitchcock	Yes
City of Houston	Yes
City of Humble	Yes
City of Hunters Creek Village	Yes
City of Huntsville	Yes
City of Iowa Colony	Yes
City of Jacinto City	Yes
City of Jamaica Beach	Yes
City of Jersey Village	Yes
City of Katy	Yes
City of Kemah	Yes
City of La Marque	Yes
City of La Porte	Yes
City of League City	Yes
City of Liverpool	Yes
City of Magnolia	Yes
City of Manvel	Yes

Entity	Actively Involved in Flood Planning?
City of Meadows Place	Yes
City of Missouri City	Yes
City of Mont Belvieu	Yes
City of Montgomery	Yes
City of Morgan's Point	Yes
City of Nassau Bay	Yes
City of New Waverly	Yes
City of North Cleveland	No
City of Oak Ridge North	Yes
City of Panorama Village	Yes
City of Pasadena	Yes
City of Patton Village	Yes
City of Pearland	Yes
City of Piney Point Village	Yes
City of Plantersville	Yes
City of Plum Grove	No
City of Prairie View	Yes
City of Roman Forest	Yes
City of Santa Fe	Yes
City of Seabrook	Yes
City of Shenandoah	Yes
City of Shoreacres	Yes
City of South Houston	Yes
City of Southside Place	No
City of Splendora	Yes
City of Spring Valley Village	Yes
City of Stafford	Yes
City of Stagecoach	Yes
City of Sugar Land	Yes
City of Taylor Lake Village	Yes
City of Texas City	Yes
City of Tiki Island	Yes
City of Todd Mission	Yes
City of Tomball	Yes
City of Waller	Yes
City of Webster	Yes
City of West University Place	Yes
City of Willis	Yes
City of Woodbranch	Yes
Town of Woodloch	Yes

## B. Previous Flood Studies

Several types of previous flood studies were considered to be relevant to development of the RFP including: Flood Insurance Studies and Base Level Engineering performed by FEMA, Large Watershed Studies, Hazard Mitigation Action Plans, Master Drainage Plans, and Capital Improvement Plans. The list of relevant previous flood studies can be found in Table 5.

**Table 5: Previous Flood Studies**

Flood Study	Sponsor	Study Area	Date
2017 Brazoria County Hazard Mitigation Action Plan	Brazoria County	Brazoria County	2018
Brazoria County Drainage District 5 Hazard Mitigation Plan	Brazoria County Drainage District 5	Brazoria County Drainage District No. 5	2020
Chambers County Master Drainage Plan	Chambers County	Chambers County	2014
Chambers County Hazard Mitigation Plan	Chambers County, Texas A&M AgriLife, U.S Army Corps of Engineers	Chambers County	2018
City of Arcola Fort Bend County Hazard Mitigation Plan Update	City of Arcola, City of Fresno, Fort Bend County	City of Arcola	
City of Bunker Hill Master Drainage Plan	City of Bunker Hill Village	City of Bunker Hill Village	2017
West Fork San Jacinto River Flood Protection Planning Study	City of Conroe, San Jacinto River Authority, Montgomery County	Montgomery County	2019
City of Galveston Master Drainage Plan	City of Galveston	City of Galveston	2003
Chimney Rock Master Drainage Plan	City of Houston	City of Houston	2019
Greater OST Drainage Analysis	City of Houston	City of Houston south of downtown	2021
Pleasantville Drainage Analysis	City of Houston	Pleasantville Neighborhood	2020
City of Houston Hazard Mitigation Plan Update 2018	City of Houston, Harris county Flood Control District	City of Houston	2018
Kingwood Drainage Analysis	City of Houston, Harris County Flood Control District	Kingwood Neighborhood	2020
City of Huntsville Drainage Study	City of Huntsville	City of Huntsville	2016
City of Manvel Master Drainage Plan	City of Manvel	City of Manvel	2014
City of Pearland, Texas Hazard Mitigation Plan	City of Pearland	City of Pearland	2019
City of Pearland Master Drainage Plan	City of Pearland, Brazoria County Drainage District 4	City of Pearland	2018
City of Tomball Master Drainage Plan	City of Tomball	City of Tomball	2014
Brazoria County Flood Insurance Study	FEMA	Brazoria County	2020
Chambers County Flood Insurance Study	FEMA	Chambers County	2018
Fort Bend County Flood Insurance Study	FEMA	Fort Bend County	2021
Galveston County Flood Insurance Study	FEMA	Galveston County	2019
Grimes County Flood Insurance Study	FEMA	Grimes County	2012
Harris County Flood Insurance Study	FEMA	Harris County	2019
Liberty County Flood Insurance Study	FEMA	Liberty County	2018

Flood Study	Sponsor	Study Area	Date
Montgomery County Flood Insurance Study	FEMA	Montgomery County	2014
San Jacinto County Flood Insurance Study	FEMA	San Jacinto County	2018
Walker County Flood Insurance Study	FEMA	Walker County	2011
Waller County Flood Insurance Study	FEMA	Waller County	2019
East Fork San Jacinto Base Level Engineering	FEMA	East Fork San Jacinto	2018
West Fork San Jacinto Base Level Engineering	FEMA	West Fork San Jacinto	2018
Fort Bend Count Hazard Mitigation Plan Update	Fort Bend County, Fort Bend CISD, Various Cities in the County	Fort Bend County	
Galveston County Multi-Jurisdiction Hazard Mitigation Plan	Galveston County	Galveston County	
Grimes County Hazard Mitigation	Grimes County	Grimes County	2018
Addicks Tributary Watershed Planning Study	Harris County Flood Control District	Addicks Watershed	
Armand Bayou Watershed Planning Project	Harris County Flood Control District	Armand Bayou Watershed	2021
Brookglen Flooding Mitigation Analysis	Harris County Flood Control District	Harris County	
Carpenters Bayou Watershed Planning Project	Harris County Flood Control District	Carpenters Bayou Watershed	2021
Cedar Bayou Flood Risk Reducing Study	Harris County Flood Control District	Cedar Bayou Watershed	
Cypress Creek Overflow Management Plan	Harris County Flood Control District	Cypress Creek Watershed	2015
Galveston Bay Watershed Planning Project	Harris County Flood Control District	Galveston Bay Watershed	2021
Goose Creek Watershed Planning Project	Harris County Flood Control District	Goose Creek Watershed	2021
Huffman Drainage Analysis	Harris County Flood Control District	Huffman Neighborhood	
Inwood Forest Stormwater Detention Basin	Harris County Flood Control District	Inwood Forest Neighborhood	
Jackson Bayou Watershed Planning Project	Harris County Flood Control District	Jackson Bayou Watershed	2021
Luce Bayou Watershed Planning Project	Harris County Flood Control District	Luce Bayou Watershed	2021
Spring Creek Watershed Planning Project	Harris County Flood Control District	Spring Creek Watershed	2021
Spring Gully Watershed Planning Project	Harris County Flood Control District	Spring Gully Watershed	2021
Study of the Feasibility of Construction Storm Water Conveyance Tunnels	Harris County Flood Control District	Harris County	2019
Vince Bayou Watershed Planning Project	Harris County Flood Control District	Vince Bayou Watershed	2021
Willow Creek Watershed Planning Project	Harris County Flood Control District	Willow Creek Watershed	2021
Saltwater Ditch Drainage Study	Harris County Flood Control District	Sims Bayou Watershed	2020

Flood Study	Sponsor	Study Area	Date
Little Cypress Creek Master Drainage Plan	Harris County Flood Control District	Little Cypress Creek Watershed	2018
San Jacinto River Watershed Master Drainage Plan	Harris County Flood Control District, Montgomery County, San Jacinto River Authority, City of Houston	Lake Houston Watershed	2020
Harris County All Hazard Mitigation Plan	Harris County, Harris County Flood Control District	Harris County	
City of Bellaire Flood Hazard Mitigation Report	Harris County, Harris County Flood Control District, US Army Corps of Engineers	City of Bellaire	
Lower Clear Creek & Dickinson Bayou Flood Protection Plan	League City, Harris County Flood Control District	Lower Clear Creek Watershed	2021
Liberty County Hazard Mitigation Plan	Liberty County, Texas A&M AgriLife	Liberty County	2017
Missouri City Master Drainage Plan	Missouri City	Missouri City	2021
Montgomery County Hazard Mitigation Plan	Montgomery County	Montgomery County	
Coastal Texas Protection and Restoration Feasibility Study	USACE, Texas General Land Office	Texas Gulf Coast	2021
Walker County Hazard Mitigation Plan	Walker County	Walker County	
Upper Barker Flood Protection Planning Study	Waller County	Waller County	2014
Upper Cypress Flood Protection Planning Study	Waller County	Upper Cypress Creek Watershed	2012
Waller County Hazard Mitigation Plan	Waller County	Waller County	



### C. 1% and 0.2% Annual Chance Flood Events

As defined in the Scope of Work the “RFPGs shall perform existing condition flood hazard analysis to determine the location and magnitude of both 1% annual chance and 0.2% annual chance flood events.” The text below is provided to highlight the process used to create the flood hazard information. Due to the release of Cursory Floodplain (3m Fathom) data in late October, the spatial data associated with existing flood hazard (Task 2A) will be provided with the Technical Memorandum submission in March 2022.

Existing flood hazard was determined based on available floodplain mapping information in the Flood Hazard Quilt provided by TWDB in the Flood Planning Data Hub. In locations where mapping information overlapped, the information used followed the hierarchy provided by TWDB. The hierarchy list approved by the San Jacinto Regional Flood Planning Group (SJRFPG) is provided below in order of descending data source priority.

1. **FEMA Map Service Center (MSC)** (<https://msc.fema.gov/portal/home>)
  - a. Pending Flood Hazard data
  - b. Preliminary Flood Hazard data
  - c. Effective Flood Hazard data
2. **FEMA/USGS/TWDB Estimated Base Flood Elevation Viewer** (<https://webapps.usgs.gov/infrm/estbfe/>)
  - a. Base Level Engineering data
3. **First American Flood Data Services (FAFDS)**
4. **Cursory Floodplain (Fathom) (Provided October 2021)** (<https://firststreet.org/flood-factor/>)
  - a. Cursory Floodplain data will likely not be incorporated in the San Jacinto Region due to TWDB’s recommendation that the data “may not appropriately depict flood risk associated with: Constructed features that may alter flow patterns (roadways, railroads, urban areas, storm drainage systems, dams, levees, embankments, etc.).”<sup>1</sup> Since the Cursory Floodplain dataset is considered approximate due to the coarse level of detail, intended only to be used in areas where no other data is available, and constructed features are prevalent in the region, the use of the Cursory Floodplain Data has been made a low priority. However, the Technical Consultant anticipates performing a more thorough review of the Cursory Floodplain Data in the San Jacinto Region in rural non-urban areas prior to the March 2022 Technical Memorandum submission.

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<sup>1</sup> Source: TWDB Cursory Floodplain Data Overview <https://bit.ly/3HZAYVN> (accessed November 2021 from TWDB Data Hub)


## D. Additional Flood-Prone Areas

The description provided below of the flood-prone area data capture process was provided to demonstrate the methods the Technical Consultant and SJRFG are currently using to collect flood-prone area data. The spatial components will be provided with the March 2022 Technical Memorandum submission.

Flood-prone areas are being considered as known locations that experience flooding outside the extent of the existing flood hazard area. Members of the public and regional stakeholders were provided the opportunity to identify flood-prone areas using an online interactive map where users were allowed to provide input as points and polygons. The following four questions are required for any comment submission on the web map.

1. How often does the location flood?
2. What level of storm intensity causes the area to flood?
3. What appears to be the main cause of the flooding at each location?
4. What is impacted by the flooding?

Additionally, users can provide written comments and attach photos with each submission. The online interactive map was made available for public comment on August 17, 2021. An example screenshot of a user response from the web map survey can be seen below in Figure 2.



**< Flood Prone Areas (Add a polygon)**

Flood Prone Area: Roadway

How often does the location flood?	Every couple of months
What level of storm intensity causes the area to flood?	Only during heavy or prolonged rain events
What appears to be the main cause of the flooding at each location?	Unmaintained drainage system
What is impacted by the flooding?	Roadway
Comments	
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*Figure 2: Flood-Prone Area Survey Response Example*

## E. Existing Hydrologic and Hydraulic Models

A geodatabase and associated maps will be provided in the March 2022 submission to identify where existing Hydrologic and Hydraulics (H&H) models are available to evaluate FMSs and FMPs, as well as identify where there are gaps in available data. The SJRFPG will continue to refine the list of models as the RFP process progresses through coordination with regional stakeholders, continued data collection efforts and coordination with the General Land Office (GLO) *Combined River Basin Central Region Study*.

## F. List of Flood-Related Models

The list of all identified flood-related models can be found in Table 6.

**Table 6: Available Flood-Related Models**

Model Title	Software	Study Area	Sponsor	Date
Chambers County Master Drainage Plan	HEC-HMS/HEC-RAS	Chambers County	Chambers County	2013
City of Galveston Master Drainage Plan	XPSMM	City of Galveston	City of Galveston	2003
Chimney Rock Master Drainage Plan	XPSWMM	Houston from Westpark Tollway to Brays Bayou	City of Houston	2019
Greater OST Drainage Analysis	XPSWMM	Houston south of downtown	City of Houston	2021
Pleasantville Drainage Analysis	InfoWorks ICM	Pleasantville neighborhood in East Houston	City of Houston	2020
City of Manvel Master Drainage Plan	HEC-HMS/HEC-RAS	City of Manvel, Brazoria County	City of Manvel	2014
City of Pearland Master Drainage Plan	HEC-HMS/HEC-RAS	City of Pearland, Brazoria County Drainage District 4	City of Pearland and Brazoria County Drainage District 4	2018
Lake Houston Dam Spillway Improvements Project	HEC-HMS/HEC-RAS	Lake Houston	Coastal Water Authority	2022
Brazoria County Flood Insurance Study	HEC-1/HEC-2/HEC-HMS/HEC-RAS/FLOW SIM 10	Fort Bend County	FEMA	2020
Chambers County Flood Insurance Study	HEC-1/HEC-2/HEC-HMS/HEC-RAS/XP-SWMM	Chambers County	FEMA	2018
Fort Bend County Flood Insurance Study	HEC-1/HEC-2/HEC-HMS/HEC-RAS	Fort Bend County	FEMA	2021
Galveston County Flood Insurance Study	HEC-1/HEC-RAS/HEC-2/ADCIRC	Galveston County	FEMA	2019
Grimes County Flood Insurance Study	TR-20/WSP2	Grimes County	FEMA	2012
Harris County Flood Insurance Study	HEC-HMS/HEC-RAS	Harris County	FEMA	2019
Liberty County Flood Insurance Study	HEC-HMS/HEC-RAS/HEC-2/XP-SWMM/SCS WSP-2	Liberty County	FEMA	2018

Model Title	Software	Study Area	Sponsor	Date
Montgomery County Flood Insurance Study	HEC-1/HEC-2/HEC-HMS/HEC-RAS	Montgomery County	FEMA	2014
San Jacinto County Flood Insurance Study	HEC-RAS	San Jacinto County	FEMA	2018
Walker County Flood Insurance Study	HEC-1/HEC-RAS	Walker County	FEMA	2011
Waller County Flood Insurance Study	HEC-1/HEC-HMS/HEC-2/HEC-RAS	Waller County	FEMA	2019
West Fork San Jacinto Base Level Engineering	HEC-RAS	West Fork San Jacinto Watershed	FEMA	2018
East Fork San Jacinto Base Level Engineering	HEC-RAS	East Fork San Jacinto Watershed	FEMA	2018
Galveston County Master Drainage Study	HEC-RAS/HEC-HMS	Galveston County	Galveston County	2020
Addicks Tributary Watershed Planning Study	HEC-HMS/HEC-RAS	Addicks tributaries within Harris County	Harris County Flood Control District	2021
Armand Bayou Watershed Planning Project	HEC-HMS/HEC-RAS	Armand Bayou tributaries within Harris County	Harris County Flood Control District	2021
Brookglenn Flooding Mitigation Analysis	HEC-HMS/HEC-RAS	Harris County	Harris County Flood Control District	2020
Carpenters Bayou Watershed Planning Project	HEC-HMS/HEC-RAS	Carpenters Bayou tributaries within Harris County	Harris County Flood Control District	2021
Cedar Bayou Flood Risk Reduction Study	HEC-HMS/HEC-RAS	Cedar Bayou Watershed	Harris County Flood Control District	2017
Cypress Creek Overflow Management Plan	HEC-HMS/HEC-RAS	Cypress Creek Watershed; Watersheds that drain to Addicks and Barker	Harris County Flood Control District	2015
Galveston Bay Watershed Planning Project	HEC-HMS/HEC-RAS	Galveston Bay tributaries within Harris County	Harris County Flood Control District	2021
Goose Creek Watershed Planning Project	HEC-HMS/HEC-RAS	Goose Creek tributaries within Harris County	Harris County Flood Control District	2021
Inwood Forest Stormwater Detention Basin	HEC-HMS/HEC-RAS	White Oak Creek, Inwood Forest subdivision	Harris County Flood Control District	2020
Jackson Bayou Watershed Planning Project	HEC-HMS/HEC-RAS	Jackson Bayou tributaries within Harris County	Harris County Flood Control District	2021
Kingwood Drainage Analysis	HEC-HMS/HEC-RAS	Kingwood Neighborhood in the City of Houston	Harris County Flood Control District	2020
Luce Bayou Watershed Planning Project	HEC-HMS/HEC-RAS	Luce Bayou tributaries within Harris County	Harris County Flood Control District	2021

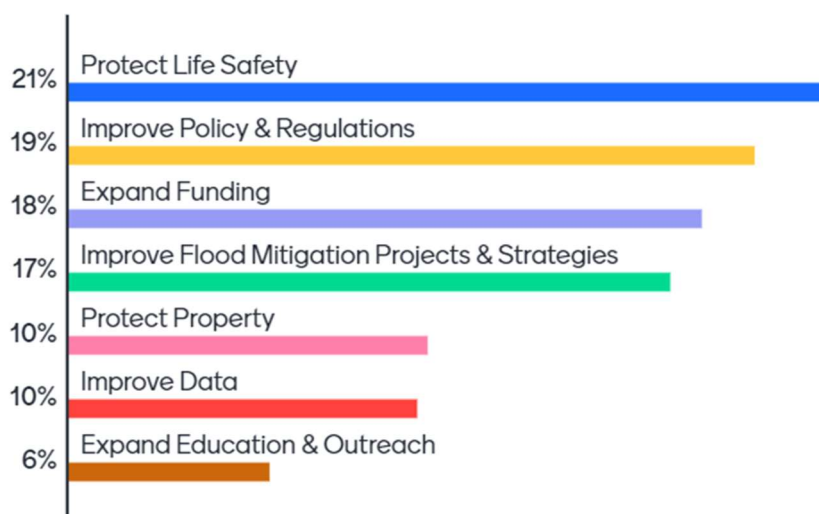
Model Title	Software	Study Area	Sponsor	Date
Saltwater Ditch Drainage Study	HEC-HMS/HEC-RAS/XPSWMM	Saltwater ditch in Sims Bayou and surrounding storm sewer	Harris County Flood Control District	2021
Spring Creek Watershed Planning Project	HEC-HMS/HEC-RAS	Spring Creek tributaries within Harris County	Harris County Flood Control District	2021
Spring Gully Watershed Planning Project	HEC-HMS/HEC-RAS	Spring Gully tributaries within Harris County	Harris County Flood Control District	2021
Vince Bayou Watershed Planning Project	HEC-HMS/HEC-RAS	Vince Bayou tributaries within Harris County	Harris County Flood Control District	2021
Willow Creek Watershed Planning Project	HEC-HMS/HEC-RAS	Willow Creek tributaries within Harris County	Harris County Flood Control District	2021
Little Cypress Creek Master Drainage Plan	HEC-HMS/HEC-RAS	Little Cypress Creek Watershed	Harris County Flood Control District	2018
San Jacinto River Watershed Master Drainage Plan	HEC-HMS/HEC-RAS	Lake Houston Watershed	Harris County Flood Control District, Montgomery County, San Jacinto River Authority, City of Houston	2020
Missouri City Master Drainage Plan	HEC-HMS/HEC-RAS	Missouri City	Missouri City	2020
West Fork San Jacinto River Flood Protection Planning Study	HEC-HMS/HEC-RAS	Lake Conroe and Alligator Creek Watersheds in Montgomery County	San Jacinto River Authority, City of Conroe, Montgomery County	2019
Upper Barker Flood Protection Planning Study	HEC-HMS/HEC-RAS	Waller County near I-10	Waller County	2014
Upper Cypress Flood Protection Planning Study	HEC-HMS/HEC-RAS	City of Waller	Waller County	2012

## G. Flood Mitigation and Floodplain Management Goals

Task 3B of the Scope of Work for the development of the Regional Flood Plan (RFP) requires the Regional Flood Planning Group (RFPG) to “identify specific and achievable flood mitigation and floodplain management goals along with target years by which to meet those goals for the flood planning region.” The RFPG adopted goals by a simple majority of voting members present at its public meeting held on November 18, 2021.

The overarching goal of all regional flood plans is to protect against the loss of life and property. Identifying SMART goals (Specific, Measurable, Attainable, Relevant, and Time-bound) will allow the SJRFPG to track progress toward reducing flood risk to life and property in the region. To help guide the overall approach and recommendations in the plan, every project, evaluation, and strategy to mitigate flood risk identified will be associated with adopted and defined goals.

The goals were developed by both the SJRFPG Technical Committee and the full RFPG. Throughout the goal development process, the Technical Committee, RFPG members, and members of the public were able to provide feedback and comments during multiple public meetings as well as direct comment to the Technical Consultant. During the August 2021 Technical Committee and September 2021 RFPG meetings, the Mentimeter live polling platform was used to focus the direction of the draft goals and to identify which goal categories were of the highest importance. For example, one of the questions asked the RFPG was “Which RFPG goal category should be the most important for the San Jacinto Region (Assign weight out of 100 points)”. The results of the poll are shown in Figure 3, with the resultant category’s importance identified by the members:



**Figure 3: RFPG Prioritization of Flood Mitigation and Floodplain Management Goal Categories**

For each of the seven goal categories shown above, several subgoals were presented. The subgoals are more specific and directed ways in which the larger goal categories can be achieved. For example, under the “Protect Life Safety” goal category, the presented subgoals included “reducing the number of flood-related deaths” and “improving emergency access and response”. Using Mentimeter, RFPG members were asked to rank the subgoals based on importance. Using the goal category and subgoal ranking, an overall weighted ranking was calculated for each subgoal. The process of polling the RFPG and calculating the weighted ranking value for the subgoals assisted in narrowing down and establishing a suite of 10 draft goals, corresponding to the top 10 weighted subgoal ranks. These adopted goals can continue to evolve as part of this first planning cycle and subsequent planning cycles based on stakeholder input, survey results, and group members’ recommendations based on constituent feedback. Goals adopted by the RFPG on November 18, 2021, are listed below in Table 7.



Table 7: Regional Flood Plan Flood Mitigation and Floodplain Management Goals

Goal ID	RFPG No.	RFPG Name	Goal	Term of Goal	Target Year	Applicable To	Residual Risk	How will the Goal be Measured?	Overarching Goal	Associated Goal IDs
06000001	06	San Jacinto	There will be 0 flood-related fatalities on average within the San Jacinto Region by 2053.	Long Term (30-year)	2053	Entire RFPG	No guaranteed change in flood risk. Risk to life associated with indirect causes such as loss of power generation or isolation from medical care remain.	Number of direct flood-related fatalities	Protect against loss of life and property (31 TAC §362.3.b.13-14)	
06000002	06	San Jacinto	Increase the value of state and federal funds awarded within the San Jacinto Region by 10%.	Short Term (10-year)	2033	Entire RFPG	Communities that need but were not awarded funding. No direct change to mapped flood risk.	State grant and loan funds awarded to communities within the San Jacinto Region	Protect against loss of life and property (31 TAC § 362.3.b.13-14)	
06000003	06	San Jacinto	Reduce the miles of major roadways subject to inundation during the 100-year event by 10% by 2033.	Short Term (10-year)	2033	Entire RFPG	Does not address risks related to less frequent events (ex. 500-year event); No change to the extent of inundation along minor roadways; 90% of major thoroughfares subject to inundation during the 100-year event maintain the same risk.	Number of miles of major roadways subject to existing 100-year flood risk	Protect against loss of life and property (31 TAC § 362.3.b.13-14)	06000004
06000004	06	San Jacinto	Reduce the miles of major roadways subject to inundation during the 100-year event by 25% by 2053.	Long Term (30-year)	2053	Entire RFPG	Does not address risks related to less frequent events (ex. 500-year event); No change to the extent of inundation along minor roadways; 75% of major thoroughfares currently subject to inundation during the 100-year event maintain the same risk.	Number of miles of major roadways subject to existing 100-year flood risk	Protect against loss of life and property (31 TAC §362.3.b.13-14)	06000003
06000005	06	San Jacinto	Increase the number of entities that invest in stormwater infrastructure by 10% by 2033.	Short Term (10-year)	2033	Entire RFPG	No change in mapped flood risk; however, new funding will maintain or reduce risk as stormwater O&M and capital improvement projects are implemented.	Number of public entities that dedicate funding towards stormwater infrastructure and planning	Protect against loss of life and property (31 TAC § 362.3.b.13-14)	06000006
06000006	06	San Jacinto	Increase the number of entities that invest in stormwater infrastructure by 25% by 2053.	Long Term (30-year)	2053	Entire RFPG	No change in mapped flood risk; however, new funding will maintain or reduce risk as stormwater O&M and capital improvement projects are implemented.	Number of public entities that dedicate funding towards stormwater infrastructure and planning	Protect against loss of life and property (31 TAC § 362.3.b.13-14)	06000005
06000007	06	San Jacinto	All flood regulatory authorities within the region will adopt standards equal to or exceeding minimums as recommended by the San Jacinto RFPG in the first cycle of regional flood planning.	Short Term (10-year)	2033	Entire RFPG	No change in flood risk; reduced flood risk for new development.	Number of flood regulatory authorities that adopt standards equal to or exceeding recommended minimums by the RFPG in the first cycle	Consider floodplain management and development regulation (31 TAC § 362.b.6-7,26)	
06000008	06	San Jacinto	Improve interjurisdictional coordination through participation in the SJRF Planning process. Target to ensure that 50% of identified stakeholders complete the SJRFP stakeholder survey and provide data for inclusion in the regional flood plan by 2033.	Short Term (10-year)	2033	Entire RFPG	No change to flood risk. Participation in the San Jacinto Region is intended to reduce flood risk by improving coordination of data sharing, planning, and identification of funding opportunities for mitigation solutions.	Number of identified stakeholders who submit survey responses or provide data for inclusion in the San Jacinto Regional Flood Plan	No neighboring areas are negatively affected and consider floodplain management and development regulation (31 TAC § 362.3.b.6-7,10,26)	06000009
06000009	06	San Jacinto	Improve interjurisdictional coordination through participation in the SJRF Planning process. Target to ensure that 90% of identified stakeholders complete the SJRFP stakeholder survey and provide data for inclusion in the regional flood plan by 2053.	Long Term (30-year)	2053	Entire RFPG	No change to flood risk. Participation in the San Jacinto Region is intended to reduce flood risk by improving coordination of data sharing, planning, and identification of funding opportunities for mitigation solutions.	Number of identified stakeholders who submit survey responses or provide data for inclusion in the San Jacinto Regional Flood Plan	No neighboring areas are negatively affected and consider floodplain management and development regulation (31 TAC § 362.3.b.6-7,10,26)	06000008

Goal ID	RFPG No.	RFPG Name	Goal	Term of Goal	Target Year	Applicable To	Residual Risk	How will the Goal be Measured?	Overarching Goal	Associated Goal IDs
06000010	06	San Jacinto	Expand the understanding of flood risk in the San Jacinto Region.	Short Term (10-year)	2033	Entire RFPG	Does not account for ongoing impacts of climate change; improves understanding of flood risk by accounting for updated rainfall data (NOAA Atlas 14).	Percentage of the floodplain quilt, by studied stream length, that is based on NOAA Atlas 14 rainfall data	Based on the best available science, data, models, and flood risk mapping (31 TAC § 362.3.b, 2)	
06000011	06	San Jacinto	Reduce the number of critical facilities subject to inundation during the 100-year event by 5% by 2033.	Short Term (10-year)	2033	Entire RFPG	Does not address risks related to less frequent events (ex. 500-year event); 95% of critical facilities subject to inundation during the 100-year event maintain the same flood risk.	Number of critical facilities subject to existing 100-year flood risk	Protect against loss of life and property (31 TAC § 362.3.b.13-14)	06000012
06000012	06	San Jacinto	Reduce the number of critical facilities subject to inundation during the 100-year event by 20% by 2053.	Long Term (30-year)	2053	Entire RFPG	Does not address risks related to less frequent events (ex. 500-year event); 80% of critical facilities subject to inundation during the 100-year event maintain the same flood risk.	Number of critical facilities subject to existing 100-year flood risk	Protect against loss of life and property (31 TAC § 362.3.b.13-14)	06000011
06000013	06	San Jacinto	At least 35% of all flood mitigation strategies (FMSs) and flood mitigation projects (FMPs) identified within the regional flood plan will incorporate nature-based practices by 2033.	Short Term (10-year)	2033	Entire RFPG	No residual risk as compared to equivalent conventional practices.	Number of FMSs and FMPs that incorporate nature-based practices as defined within the San Jacinto Regional Flood Plan	Include nature-based features (31 TAC § 362.3.b. 17,24)	06000014
06000014	06	San Jacinto	At least 90% of flood mitigation strategies (FMSs) and flood mitigation projects (FMPs) identified within the regional flood plan will incorporate nature-based practices by 2053.	Long Term (30-year)	2053	Entire RFPG	No residual risk as compared to equivalent conventional practices.	Number of FMSs and FMPs that incorporate nature-based practices as defined within the San Jacinto Regional Flood Plan	Include nature-based features (31 TAC § 362.3.b. 17,24)	06000013
06000015	06	San Jacinto	Reduce the number of structures subject to inundation during the 100-year event by 25% by 2053.	Long Term (30-year)	2053	Entire RFPG	Does not address flood risk to structures associated with less frequent events (ex. 500-year event); 75% of structures remain in the 100-year floodplain.	Number of structures removed from the 100-year flood risk	Protect against loss of life and property (31 TAC § 362.3.b.13-14)	



## H. Process to Identify Potential FMEs and Potentially Feasible FMSs & FMPs

### Identification

The first step in identifying potential FMEs and potentially feasible FMSs & FMPs began with conducting research on stakeholder input and publicly available data. Due to time, budget, and data constraints, it is not anticipated that the Technical Consultant will develop new FMSs and FMPs as part of this planning cycle. Rather, the list of potentially feasible FMSs and FMPs will be compiled based on contributions from the RFPG, stakeholder outreach, and from sources such as previous flood studies, drainage master plans, Capital Improvement Plans (CIPs), Hazard Mitigation Plans (HMPs), bond programs, Flood Infrastructure Fund (FIF) Applications, Community Development Block Grant Mitigation Program (CDBG-MIT) Applications, Building Resilient Infrastructure and Communities (BRIC) Application, and other references as applicable.

The Flood Mitigation Needs Analysis performed in Task 4A will be used to supplement the actions identified in the public information research. The process for evaluating the greatest flood mitigation and flood risk study needs will follow the considerations outlined in the *Scope of Work* and *Technical Guidelines*.

Generally, Task 4A will guide the evaluation of potential actions by highlighting:

- The areas with the greatest gaps in flood risk knowledge that should be considered for potential FMEs.
- The areas of greatest known flood risk and flood mitigation needs that should be considered for implementation of potentially feasible FMSs and FMPs.

### Feasibility Assessment

After conducting an initial search, approximately 650 potential actions were identified from various sources. In general, actions identified that were not related to flooding or flood risk were omitted from further consideration in the assessment. Various actions that lacked direct flood risk reduction but had some relation to flooding, storms or hazard preparedness were included but were classified as infeasible.

To continue to refine the initial list of actions, a feasibility assessment was performed to filter out actions proposed prior to 2018, based on the general assumption that the actions do not consider the best-available rainfall data, NOAA Atlas-14, that was published in 2018. The actions proposed prior to 2018 are currently considered to be infeasible due to the additional effort required to adequately evaluate these actions using this best-available data.

The secondary criterion for evaluating the feasibility of an identified FMS or FMP was whether the action had a broad or undefined scope or was lacking in sufficient detail. The level of detail required to be considered feasible was defined by the FME/FMS/FMP table requirements outlined in the *Technical Guidelines*. For example, actions are required to have a brief description and a potential sponsor entity, as well as other required data.

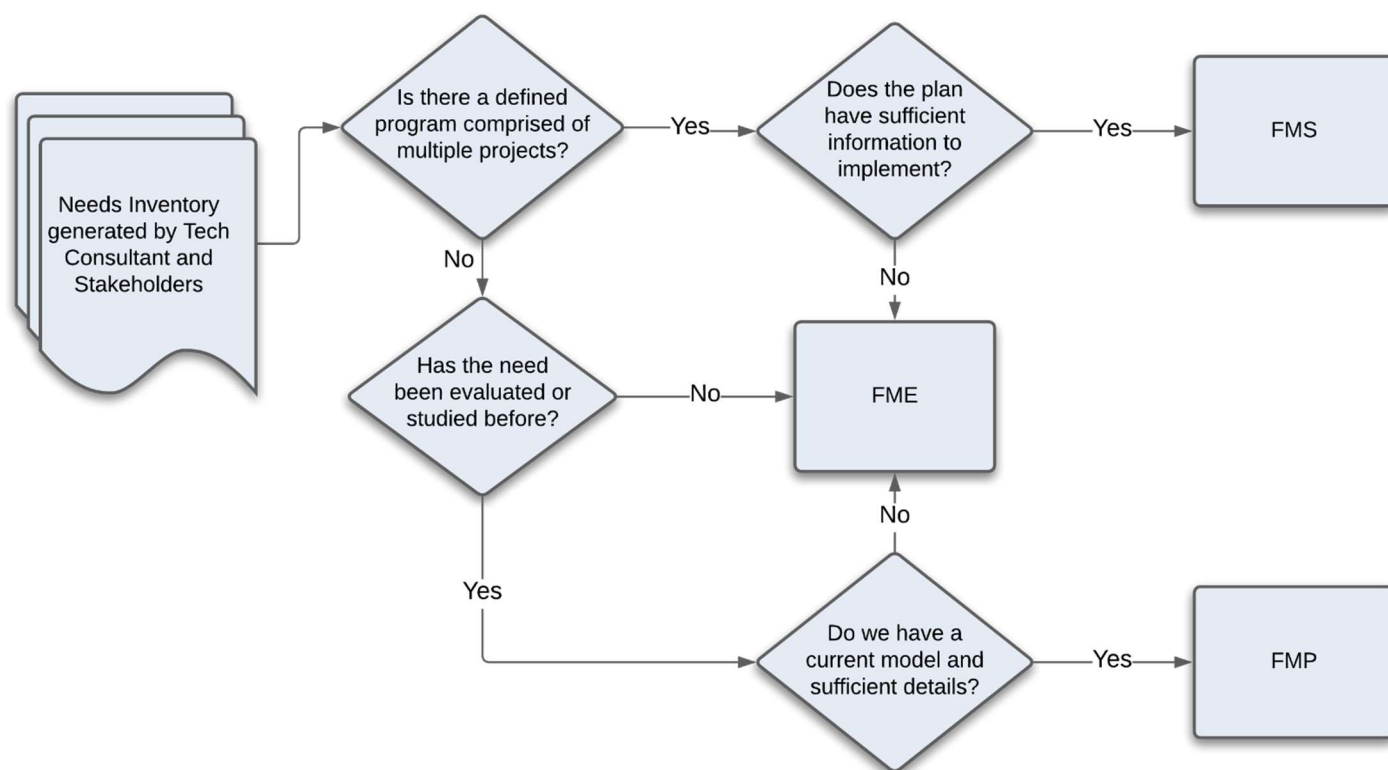
The third criterion for evaluating the feasibility of an identified action involved considering whether the size of the proposed action was appropriate for inclusion in the RFP. Actions with a contributing drainage area less than or equal to one square mile were considered to be infeasible at this time in accordance with the *Technical Guidelines*.

The preliminary feasibility assessment yielded approximately 110 potentially feasible actions. The SJRFPG will continue to refine this list and the approach to defining feasibility as the RFP process progresses through coordination with regional stakeholders, continued data collection efforts and coordination with the General Land Office (GLO) *Combined River Basin Central Region Study*, and as the Task 4A needs analysis is completed. Additional funding allocated to the regional flood planning effort will also be used to evaluate FMEs in order to

develop and identify FMPs. The overarching goal of the feasibility assessment, at this time, is to distill the initial list of collected actions to help focus the effort of the RFPG towards the inclusion and recommendation of FMEs/FMSs/FMPs in Task 5.

### Classification

Once potential flood risk reduction actions are identified, the Technical Consultant will perform an initial classification to sort actions into an appropriate category. The *Scope of Work* and *Technical Guidelines* require FMSs and FMPs to be developed at a sufficient level of detail (no negative impact, quantitative reporting of estimated benefits, detailed Hydrology and Hydraulic modeling, etc.) to be included in the RFP. Generally, FMEs will be recommended for remaining areas with potential flood risk and exposure that do not have a corresponding flood risk reduction action or for FMSs and FMPs that do not meet requirements for inclusion. The classification process shown below in was developed by the Technical Consultant based on the requirements in the *Scope of Work* and *Technical Guidelines* and was discussed by the Technical Committee and approved by the RFPG at the meeting held on October 14, 2021. The classification of actions are preliminary classifications and are by no means final. As additional data is collected from regional stakeholders and through effort made possible by the additional funding allocation, classifications may be subject to change.



**Figure 4: Flood Risk Reduction Action Classification Process**

The Technical Consultant and RFPG will seek to identify and recommend a comprehensive list of potential flood risk reduction actions for inclusion in the RFP (not in the Technical Memorandum). All recommended actions will be required to meet the requirements outlined in the *Technical Guidelines*. However, some potential actions that meet these baseline requirements may not be appropriate for recommendation. While this is not a comprehensive list, some potential reasons a project may not be recommended in Task 5 include:

- Action does not align with the flood mitigation goal(s) adopted by the region and/or the guidelines and principles set forth by the state.
- Action duplicates the benefits of other included or recommended action(s).
- Action cannot obtain a Memorandum of Understanding or other form of concurrence from impacted entities.
- Action does not demonstrate a sensible benefit-cost ratio or other similar metrics.
- Public input regarding the action demonstrates a need for further evaluation or consensus building with regional stakeholders.
- Action does not receive a simple majority vote from a quorum of the RFPG members.

**I. List of Potential FMEs and Potentially Feasible FMSs and FMPs**

The process of the drafting the list of potential FMEs and potential feasible FMSs and FMPs has been described in Section H above. The lists of potential FMEs and potentially feasible FMSs and FMPs have been provided in Appendix 2-A, 2-B, and 2-C, respectively.

**J. List of Infeasible FMSs and FMPs**

The process of drafting the list of infeasible actions has been describe in Section H above. The list of infeasible actions has been provided in Appendix 2-D.

## **APPENDICES**

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Addicks Utility District	No
Airline Improvement District	No
Aldine PUD	No
Arcadian Gardens MUD	No
Bacliff MUD	No
Baker Road MUD	No
Bammel Utility District	No
Barker Cypress MUD	No
Bauer Landing WCID	No
Bay Colony West MUD	No
Baybrook MUD 1	No
Baytown Area Water Authority	No
Bayview MUD	No
Bear Creek MUD	No
Beechnut MUD	No
Beltway 8 MUD 1	No
Beltway 8 MUD 2	No
Beltway 8 MUD 3	No
Big Oaks MUD	No
Bilma PUD	No
Bissonnet MUD	No
Blaketree MUD 1 of Montgomery County	No
Blaketree MUD 2 of Montgomery County	No
Blue Ridge West MUD	No
Brazoria County MUD 16	No
Brazoria County MUD 17	No
Brazoria County MUD 18	No
Brazoria County MUD 19	No
Brazoria County MUD 2	No
Brazoria County MUD 21	No
Brazoria County MUD 22	No
Brazoria County MUD 23	No
Brazoria County MUD 24	No
Brazoria County MUD 25	No
Brazoria County MUD 26	No
Brazoria County MUD 28	No
Brazoria County MUD 29	No
Brazoria County MUD 3	No
Brazoria County MUD 30	No
Brazoria County MUD 31	No
Brazoria County MUD 32	No
Brazoria County MUD 34	No
Brazoria County MUD 35	No
Brazoria County MUD 36	No
Brazoria County MUD 38	No
Brazoria County MUD 39	No
Brazoria County MUD 40	No
Brazoria County MUD 42	No
Brazoria County MUD 43	No
Brazoria County MUD 48	No
Brazoria County MUD 49	No
Brazoria County MUD 50	No
Brazoria County MUD 51	No
Brazoria County MUD 53	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Brazoria County MUD 55	No
Brazoria County MUD 56	No
Brazoria County MUD 57	No
Brazoria County MUD 6	No
Brazoria County MUD 61	No
Brazoria County MUD 66	No
Brazoria County MUD 69	No
Brazoria County MUD 7	No
Brazoria County MUD 70	No
Brazoria County MUD 73	No
Brazoria County MUD 77	No
Brazoria-Fort Bend Counties MUD 3	No
Brazoria-Fort Bend County MUD 1	No
Brazos Bend Water Authority	No
Briar Ridge MUD	No
Bridgestone MUD	No
Burney Road MUD	No
Camfield MUD	No
Castlewood MUD	No
Cedar Bayou Park Utility District	No
Central Harris County Regional Water Authority	No
Chambers County Improvement District 1	No
Chambers County Improvement District 2	No
Chambers County Improvement District 3	No
Chambers County MUD 1	No
Chambers County MUD 2	No
Chambers County MUD 3	No
Chambers-Liberty Counties Improvement District	No
Charleston MUD	No
Charterwood MUD	No
Chateau Woods MUD	No
Chelford City MUD	No
Chelford One MUD	No
Chimney Hill MUD	No
Cimarron MUD	No
Cinco MUD 1	No
Cinco MUD 10	No
Cinco MUD 12	No
Cinco MUD 14	No
Cinco MUD 2	No
Cinco MUD 3	No
Cinco MUD 5	No
Cinco MUD 6	No
Cinco MUD 7	No
Cinco MUD 8	No
Cinco MUD 9	No
Cinco Southwest MUD 1	No
Cinco Southwest MUD 2	No
Cinco Southwest MUD 3	No
Cinco Southwest MUD 4	No
Clay Road MUD	No
Clear Brook City MUD	No
Clear Creek Forest MUD 1	No
Clear Creek Forest MUD 2	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Clear Lake City Water Authority	No
Clovercreek MUD	No
CNP Utility District	No
Coastal Water Authority	No
Conroe MUD 1	No
Corinthian Point MUD 2	No
Cornerstones MUD	No
Crosby MUD	No
CY Champ PUD	No
CY Fair Community Improvement District	No
Cypress Creek Utility District	No
Cypress Forest PUD	No
Cypress Hill MUD 1	No
Cypress-Klein Utility District	No
Cypresswood Utility District	No
Dowdell PUD	No
East Downtown Mgmt District	No
East Montgomery County Improvement District	No
East Montgomery County MUD 10	No
East Montgomery County MUD 11	No
East Montgomery County MUD 12	No
East Montgomery County MUD 13	No
East Montgomery County MUD 14	No
East Montgomery County MUD 3	No
East Montgomery County MUD 4	No
East Montgomery County MUD 5	No
East Montgomery County MUD 6	No
East Montgomery County MUD 7	No
East Montgomery County MUD 8	No
East Montgomery County MUD 9	No
East Plantation Utility District	No
El Dorado Utility District	No
Emerald Forest Utility District	No
Encanto Real Utility District	No
Enchanted Place PUD	No
Fallbrook Utility District	No
Far Hills Utility District	No
Faulkey Gully MUD	No
Five Corners Improvement District	No
Flamingo Isles MUD	No
Forest Hills MUD	No
Forests Edge MUD	No
Fort Bend County FWSD 1	No
Fort Bend County FWSD 2	No
Fort Bend County LID 12	Yes
Fort Bend County MUD 122	No
Fort Bend County MUD 123	No
Fort Bend County MUD 124	No
Fort Bend County MUD 130	No
Fort Bend County MUD 131	No



Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Fort Bend County MUD 134 C	No
Fort Bend County MUD 141	No
Fort Bend County MUD 142	No
Fort Bend County MUD 151	No
Fort Bend County MUD 156	No
Fort Bend County MUD 161	No
Fort Bend County MUD 163	No
Fort Bend County MUD 168	No
Fort Bend County MUD 173	No
Fort Bend County MUD 182	No
Fort Bend County MUD 185	No
Fort Bend County MUD 189	No
Fort Bend County MUD 190	No
Fort Bend County MUD 199	No
Fort Bend County MUD 2	No
Fort Bend County MUD 206	No
Fort Bend County MUD 21	No
Fort Bend County MUD 23	No
Fort Bend County MUD 26	No
Fort Bend County MUD 30	No
Fort Bend County MUD 34	No
Fort Bend County MUD 35	No
Fort Bend County MUD 37	No
Fort Bend County MUD 45	No
Fort Bend County MUD 48	No
Fort Bend County MUD 50	No
Fort Bend County MUD 53	No
Fort Bend County MUD 57	No
Fort Bend County MUD 58	No
Fort Bend County WCID 2	No
Fort Bend County MUD 133	No
Fort Bend-Waller Counties MUD 2	No
Fort Bend-Waller Counties MUD 3	No
Fountainhead MUD	No
Fry Road MUD	No
Fulshear MUD 3	No
Galveston County FWSD 6	No
Galveston County MUD 12	No
Galveston County MUD 13	No
Galveston County MUD 14	No
Galveston County MUD 15	No
Galveston County MUD 18	No
Galveston County MUD 2	No
Galveston County MUD 29	No
Galveston County MUD 3	No
Galveston County MUD 30	No
Galveston County MUD 31	No
Galveston County MUD 32	No
Galveston County MUD 34	No
Galveston County MUD 35	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Galveston County MUD 36	No
Galveston County MUD 39	No
Galveston County MUD 43	No
Galveston County MUD 44	No
Galveston County MUD 45	No
Galveston County MUD 46	No
Galveston County MUD 51	No
Galveston County MUD 52	No
Galveston County MUD 53	No
Galveston County MUD 54	No
Galveston County MUD 55	No
Galveston County MUD 56	No
Galveston County MUD 57	No
Galveston County MUD 58	No
Galveston County MUD 59	No
Galveston County MUD 6	No
Galveston County MUD 60	No
Galveston County MUD 61	No
Galveston County MUD 62	No
Galveston County MUD 63	No
Galveston County MUD 64	No
Galveston County MUD 65	No
Galveston County MUD 66	No
Galveston County MUD 68	No
Galveston County MUD 72	No
Galveston County MUD 73	No
Galveston County MUD 74	No
Galveston County MUD 76	No
Galveston County WCID 1	No
Galveston County WCID 12	No
Galveston County WCID 19	No
Galveston County WCID 8	No
Grand Lakes MUD 1	No
Grand Lakes MUD 2	No
Grand Lakes MUD 4	No
Grand Lakes WCID	No
Grand Mission MUD 1	No
Grand Mission MUD 2	No
Grand Northwest MUD	No
Grand Oaks MUD	No
Grant Road PUD	No
Greater East End MGMT District	No
Green Trails MUD	No
Green Tree Park MUD	No
Greens Parkway MUD	No
Greenwood Utility District	No
Grimes County MUD 1	No
Gulf Coast Water Authority	Yes
Hardin Store Road MUD 1	No
Harris County FWSD 1A	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Harris County FWSD 1-B	No
Harris County FWSD 27	No
Harris County FWSD 45	No
Harris County FWSD 47	No
Harris County FWSD 48	No
Harris County FWSD 51	No
Harris County FWSD 52	No
Harris County FWSD 58	No
Harris County FWSD 6	No
Harris County FWSD 61	No
Harris County Improvement District 25	No
Harris County Improvement District 1	No
Harris County Improvement District 10A	No
Harris County Improvement District 12	No
Harris County Improvement District 13	No
Harris County Improvement District 14	No
Harris County Improvement District 15	No
Harris County Improvement District 16	No
Harris County Improvement District 18	No
Harris County Improvement District 20	No
Harris County Improvement District 21	No
Harris County Improvement District 24	No
Harris County Improvement District 27	No
Harris County Improvement District 3	No
Harris County Improvement District 4	No
Harris County Improvement District 5	No
Harris County Improvement District 7	No
Harris County Improvement District 8	No
Harris County Improvement District 9	No
Harris County MUD 1	No
Harris County MUD 101	No
Harris County MUD 102	No
Harris County MUD 104	No
Harris County MUD 105	No
Harris County MUD 106	No
Harris County MUD 109	No
Harris County MUD 11	No
Harris County MUD 118	No
Harris County MUD 119	No
Harris County MUD 120	No
Harris County MUD 122	No
Harris County MUD 127	No
Harris County MUD 130	No
Harris County MUD 132	No
Harris County MUD 136	No
Harris County MUD 144	No
Harris County MUD 147	No
Harris County MUD 148	No
Harris County MUD 149	No
Harris County MUD 150	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Harris County MUD 151	No
Harris County MUD 152	No
Harris County MUD 153	No
Harris County MUD 154	No
Harris County MUD 155	No
Harris County MUD 156	No
Harris County MUD 157	No
Harris County MUD 158	No
Harris County MUD 16	No
Harris County MUD 162	No
Harris County MUD 163	No
Harris County MUD 165	No
Harris County MUD 166	No
Harris County MUD 167	No
Harris County MUD 168	No
Harris County MUD 170	No
Harris County MUD 171	No
Harris County MUD 172	No
Harris County MUD 173	No
Harris County MUD 179	No
Harris County MUD 18	No
Harris County MUD 180	No
Harris County MUD 182	No
Harris County MUD 183	No
Harris County MUD 185	No
Harris County MUD 186	No
Harris County MUD 188	No
Harris County MUD 189	No
Harris County MUD 19	No
Harris County MUD 191	No
Harris County MUD 196	No
Harris County MUD 200	No
Harris County MUD 202	No
Harris County MUD 205	No
Harris County MUD 208	No
Harris County MUD 211	No
Harris County MUD 213	No
Harris County MUD 215	No
Harris County MUD 216	No
Harris County MUD 217	No
Harris County MUD 220	No
Harris County MUD 221	No
Harris County MUD 222	No
Harris County MUD 225	No
Harris County MUD 23	No
Harris County MUD 230	No
Harris County MUD 231	No
Harris County MUD 233	No
Harris County MUD 238	No
Harris County MUD 239	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Harris County MUD 24	No
Harris County MUD 243	No
Harris County MUD 248	No
Harris County MUD 249	No
Harris County MUD 25	No
Harris County MUD 250	No
Harris County MUD 255	No
Harris County MUD 257	No
Harris County MUD 26	No
Harris County MUD 261	No
Harris County MUD 264	No
Harris County MUD 271	No
Harris County MUD 273	No
Harris County MUD 275	No
Harris County MUD 276	No
Harris County MUD 278	No
Harris County MUD 280	No
Harris County MUD 281	No
Harris County MUD 282	No
Harris County MUD 284	No
Harris County MUD 285	No
Harris County MUD 286	No
Harris County MUD 287	No
Harris County MUD 290	No
Harris County MUD 304	No
Harris County MUD 306	No
Harris County MUD 316	No
Harris County MUD 317	No
Harris County MUD 318	No
Harris County MUD 319	No
Harris County MUD 321	No
Harris County MUD 322	No
Harris County MUD 327	No
Harris County MUD 33	No
Harris County MUD 341	No
Harris County MUD 342	No
Harris County MUD 344	No
Harris County MUD 345	No
Harris County MUD 346	No
Harris County MUD 354	No
Harris County MUD 355	No
Harris County MUD 358	No
Harris County MUD 359	No
Harris County MUD 36	No
Harris County MUD 360	No
Harris County MUD 361	No
Harris County MUD 364	No
Harris County MUD 365	No
Harris County MUD 366	No
Harris County MUD 367	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Harris County MUD 368	No
Harris County MUD 370	No
Harris County MUD 371	No
Harris County MUD 372	No
Harris County MUD 373	No
Harris County MUD 374	No
Harris County MUD 375	No
Harris County MUD 376	No
Harris County MUD 377	No
Harris County MUD 378	No
Harris County MUD 379	No
Harris County MUD 380	No
Harris County MUD 381	No
Harris County MUD 382	No
Harris County MUD 383	No
Harris County MUD 387	No
Harris County MUD 388	No
Harris County MUD 389	No
Harris County MUD 390	No
Harris County MUD 391	No
Harris County MUD 393	No
Harris County MUD 396	No
Harris County MUD 397	No
Harris County MUD 399	No
Harris County MUD 400	No
Harris County MUD 401	No
Harris County MUD 403	No
Harris County MUD 404	No
Harris County MUD 405	No
Harris County MUD 406	No
Harris County MUD 407	No
Harris County MUD 409	No
Harris County MUD 410	No
Harris County MUD 411	No
Harris County MUD 412	No
Harris County MUD 415	No
Harris County MUD 416	No
Harris County MUD 418	No
Harris County MUD 419	No
Harris County MUD 420	No
Harris County MUD 421	No
Harris County MUD 422	No
Harris County MUD 423	No
Harris County MUD 424	No
Harris County MUD 425	No
Harris County MUD 426	No
Harris County MUD 427	No
Harris County MUD 428	No
Harris County MUD 429	No
Harris County MUD 43	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Harris County MUD 432	No
Harris County MUD 433	No
Harris County MUD 434	No
Harris County MUD 436	No
Harris County MUD 437	No
Harris County MUD 438	No
Harris County MUD 439	No
Harris County MUD 44	No
Harris County MUD 441	No
Harris County MUD 449	No
Harris County MUD 449	No
Harris County MUD 450	No
Harris County MUD 451	No
Harris County MUD 452	No
Harris County MUD 454	No
Harris County MUD 457	No
Harris County MUD 458	No
Harris County MUD 459	No
Harris County MUD 46	No
Harris County MUD 460	No
Harris County MUD 461	No
Harris County MUD 462	No
Harris County MUD 463	No
Harris County MUD 465	No
Harris County MUD 468	No
Harris County MUD 473	No
Harris County MUD 476	No
Harris County MUD 477	No
Harris County MUD 478	No
Harris County MUD 48	No
Harris County MUD 480	No
Harris County MUD 481	No
Harris County MUD 482	No
Harris County MUD 483	No
Harris County MUD 484	No
Harris County MUD 485	No
Harris County MUD 489	No
Harris County MUD 49	No
Harris County MUD 490	No
Harris County MUD 491	No
Harris County MUD 492	No
Harris County MUD 493	No
Harris County MUD 494	No
Harris County MUD 495	No
Harris County MUD 496	No
Harris County MUD 497	No
Harris County MUD 498	No
Harris County MUD 499	No
Harris County MUD 5	No
Harris County MUD 50	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Harris County MUD 500	No
Harris County MUD 501	No
Harris County MUD 502	No
Harris County MUD 503	No
Harris County MUD 504	No
Harris County MUD 505	No
Harris County MUD 506	No
Harris County MUD 514	No
Harris County MUD 515	No
Harris County MUD 516	No
Harris County MUD 517	No
Harris County MUD 518	No
Harris County MUD 519	No
Harris County MUD 520	No
Harris County MUD 525	No
Harris County MUD 529	No
Harris County MUD 53	No
Harris County MUD 530	No
Harris County MUD 531	No
Harris County MUD 532	No
Harris County MUD 533	No
Harris County MUD 534	No
Harris County MUD 535	No
Harris County MUD 536	No
Harris County MUD 537	No
Harris County MUD 538	No
Harris County MUD 540	No
Harris County MUD 542	No
Harris County MUD 544	No
Harris County MUD 544	No
Harris County MUD 547	No
Harris County MUD 55	No
Harris County MUD 551	No
Harris County MUD 552	No
Harris County MUD 553	No
Harris County MUD 554	No
Harris County MUD 555	No
Harris County MUD 557	No
Harris County MUD 558	No
Harris County MUD 565	No
Harris County MUD 566	No
Harris County MUD 568	No
Harris County MUD 569	No
Harris County MUD 570	No
Harris County MUD 571	No
Harris County MUD 572	No
Harris County MUD 58	No
Harris County MUD 6	No
Harris County MUD 61	No
Harris County MUD 62	No



Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Harris County MUD 63	No
Harris County MUD 64	No
Harris County MUD 65	No
Harris County MUD 69	No
Harris County MUD 70	No
Harris County MUD 71	No
Harris County MUD 8	No
Harris County MUD 80	No
Harris County MUD 81	No
Harris County MUD 82	No
Harris County MUD 86	No
Harris County MUD 91	No
Harris County MUD 96	No
Harris County Road Improvement District 1	No
Harris County Road Improvement District 2	No
Harris County Utility District 14	No
Harris County Utility District 15	No
Harris County Utility District 16	No
Harris County Utility District 6	No
Harris County WCID 1	No
Harris County WCID 109	No
Harris County WCID 110	No
Harris County WCID 113	No
Harris County WCID 114	No
Harris County WCID 116	No
Harris County WCID 119	No
Harris County WCID 132	No
Harris County WCID 133	No
Harris County WCID 136	No
Harris County WCID 145	No
Harris County WCID 155	No
Harris County WCID 156	No
Harris County WCID 157	No
Harris County WCID 158	No
Harris County WCID 159	No
Harris County WCID 160	No
Harris County WCID 161	No
Harris County WCID 163	No
Harris County WCID 21	No
Harris County WCID 36	No
Harris County WCID 50	No
Harris County WCID 70	No
Harris County WCID 74	No
Harris County WCID 84	No
Harris County WCID 89	No
Harris County WCID 91	No
Harris County WCID 92	No
Harris County WCID 96	No
Harris County WCID 99	No
Harris County WCID-Fondren Road	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Harris Fort Bend Counties MUD 1	No
Harris Fort Bend Counties MUD 3	No
Harris Fort Bend Counties MUD 4	No
Harris Fort Bend Counties MUD 5	No
Harris Waller Counties MUD 4	No
Harris-Brazoria Counties MUD 509	No
Harris-Liberty Counties MUD 1	No
Harris-Montgomery Counties MUD 386	No
Harris-Waller Counties MUD 2	No
Harris-Waller Counties MUD 3	No
Heatherloch MUD	No
Highland MUD	No
H-M-W SUD	No
Horsepen Bayou MUD	No
Hunter's Glen MUD	No
Intercontinental MUD	No
Interstate MUD	No
Inverness Forest Improvement District	No
Jackrabbit Road PUD	No
Kickapoo FWSD of Waller County	No
Kings Manor MUD	No
Kingsbridge MUD	No
Kirkmont MUD	No
Klein PUD	No
Kleinwood MUD	No
La Porte Area Water Authority	No
Lago Bello MUD 1	No
Lake Conroe Hills MUD	No
Lake Forest Utility District	No
Lake MUD	No
Lakewood Improvement District	No
Lakewood MUD 1	No
Lakewood MUD 2	No
Lakewood MUD 3	No
Langham Creek Utility District	No
Lazy River Improvement District	No
League City Improvement District	No
Liberty County MUD 2	No
Liberty County MUD 3	No
Liberty County MUD 6	No
Liberty County MUD 7	No
Liberty Grand MUD 1	No
Liberty Lakes FWSD 1	No
Longhorn Town Utility District	No
Louetta North PUD	No
Louetta Road Utility District	No
Luce Bayou PUD	No
Magnolia East MUD	No
Magnolia Woods MUD 1	No
Magnolia Woods MUD 1	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Malcomson Road Utility District	No
Martin Creek MUD	No
Mason Creek Utility District	No
Mayde Creek MUD	No
Meadowcreek MUD	No
Meadowhill Regional MUD	No
Memorial Hills Utility District	No
Memorial MUD	No
Memorial Villages Water Authority	No
Mills Road MUD	No
Mission Bend MUD 1	No
Mission Bend MUD 2	No
Montgomery County FWSD 6	No
Montgomery County FWSD 7	No
Montgomery County MUD 100	No
Montgomery County MUD 101	No
Montgomery County MUD 102	No
Montgomery County MUD 103	No
Montgomery County MUD 104	No
Montgomery County MUD 105	No
Montgomery County MUD 106	No
Montgomery County MUD 107	No
Montgomery County MUD 108	No
Montgomery County MUD 111	No
Montgomery County MUD 112	No
Montgomery County MUD 113	No
Montgomery County MUD 114	No
Montgomery County MUD 115	No
Montgomery County MUD 116	No
Montgomery County MUD 117	No
Montgomery County MUD 119	No
Montgomery County MUD 121	No
Montgomery County MUD 123	No
Montgomery County MUD 124	No
Montgomery County MUD 125	No
Montgomery County MUD 126	No
Montgomery County MUD 127	No
Montgomery County MUD 128	No
Montgomery County MUD 130	No
Montgomery County MUD 131	No
Montgomery County MUD 132	No
Montgomery County MUD 135	No
Montgomery County MUD 136	No
Montgomery County MUD 137	No
Montgomery County MUD 138	No
Montgomery County MUD 139	No
Montgomery County MUD 140	No
Montgomery County MUD 142	No
Montgomery County MUD 148	No
Montgomery County MUD 15	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Montgomery County MUD 154A	No
Montgomery County MUD 155	No
Montgomery County MUD 157	No
Montgomery County MUD 158	No
Montgomery County MUD 159	No
Montgomery County MUD 16	No
Montgomery County MUD 161	No
Montgomery County MUD 162	No
Montgomery County MUD 163	No
Montgomery County MUD 164	No
Montgomery County MUD 165	No
Montgomery County MUD 166	No
Montgomery County MUD 167	No
Montgomery County MUD 173	No
Montgomery County MUD 174	No
Montgomery County MUD 175	No
Montgomery County MUD 176	No
Montgomery County MUD 177	No
Montgomery County MUD 178	No
Montgomery County MUD 179	No
Montgomery County MUD 18	No
Montgomery County MUD 180	No
Montgomery County MUD 19	No
Montgomery County MUD 24	No
Montgomery County MUD 30	No
Montgomery County MUD 36	No
Montgomery County MUD 38	No
Montgomery County MUD 39	No
Montgomery County MUD 42	No
Montgomery County MUD 45	No
Montgomery County MUD 46	No
Montgomery County MUD 47	No
Montgomery County MUD 56	No
Montgomery County MUD 6	No
Montgomery County MUD 60	No
Montgomery County MUD 66	No
Montgomery County MUD 67	No
Montgomery County MUD 68	No
Montgomery County MUD 7	No
Montgomery County MUD 8	No
Montgomery County MUD 83	No
Montgomery County MUD 84	No
Montgomery County MUD 85	No
Montgomery County MUD 86	No
Montgomery County MUD 87	No
Montgomery County MUD 88	No
Montgomery County MUD 89	No
Montgomery County MUD 9	No
Montgomery County MUD 90	No
Montgomery County MUD 92	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Montgomery County MUD 94	No
Montgomery County MUD 95	No
Montgomery County MUD 96	No
Montgomery County MUD 98	No
Montgomery County MUD 99	No
Montgomery County Utility District 2	No
Montgomery County Utility District 3	No
Montgomery County Utility District 4	No
Montgomery County WCID 1	No
Montgomery County WCID 3	No
Montgomery County WCID 4	No
Morton Road MUD	No
Mount Houston Road MUD	No
New Caney MUD	No
Newport MUD	No
North Belt Utility District	No
North Channel Water Authority	No
North Forest MUD	No
North Fort Bend Water Authority	No
North Green MUD	No
North Harris County Regional Water Authority	No
North Mission Glen MUD	No
North Park PUD	No
Northampton MUD	No
Northeast Harris County MUD 1	No
Northgate Crossing MUD 1	No
Northgate Crossing MUD 2	No
Northgate Crossing Road Utility District	No
Northpointe WCID	No
Northwest Freeway MUD	No
Northwest Harris County MUD 10	No
Northwest Harris County MUD 12	No
Northwest Harris County MUD 15	No
Northwest Harris County MUD 16	No
Northwest Harris County MUD 19	No
Northwest Harris County MUD 20	No
Northwest Harris County MUD 21	No
Northwest Harris County MUD 22	No
Northwest Harris County MUD 23	No
Northwest Harris County MUD 24	No
Northwest Harris County MUD 27	No
Northwest Harris County MUD 28	No
Northwest Harris County MUD 29	No
Northwest Harris County MUD 30	No
Northwest Harris County MUD 32	No
Northwest Harris County MUD 36	No
Northwest Harris County MUD 5	No
Northwest Harris County MUD 6	No
Northwest Harris County MUD 9	No
Northwest Park MUD	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Northwood MUD 1	No
Nottingham Country MUD	No
Oak Manor MUD	No
Oakmont Public Utility District	No
Old Town Spring Improvement District	No
Palmer Plantation MUD 2	No
Parkway Utility District	No
Phelps SUD	No
Pine Bough PUD	No
Pine Forest MUD	No
Pine Village PUD	No
Plum Creek FWSD 1	No
Point Aquarius MUD	No
Ponderosa Forest Utility District	No
Porter MUD	No
Porter SUD	No
Post Wood MUD	No
Prestonwood Forest Utility District	No
Quail Valley Utility District	No
Rankin Road West MUD	No
Rayford Road MUD	No
Reid Road MUD 1	No
Reid Road MUD 2	No
Remington MUD 1	No
Renn Road MUD	No
Ricewood MUD	No
Richey Road MUD	No
Richfield Ranch WCID	No
River Plantation MUD	No
Robin PUD	No
Rolling Creek Utility District	No
Rolling Fork PUD	No
Roman Forest Consolidated MUD	No
Roman Forest PUD 3	No
Roman Forest PUD 4	No
Royalwood MUD	No
Sagemeadow Utility District	No
San Leon MUD	No
Sedona Lakes MUD 1 of Brazoria County	No
Sequoia Improvement District	No
Shasla PUD	No
Sheldon Road MUD	No
Sienna Plantation LID	No
Smith Ridge MUD	No
South Shore Harbor MUD 6	No
South Shore Harbor MUD 7	No
Southbend MUD	No
Southeast Montgomery County MUD 1	No
Southern Montgomery County MUD	No
Southwest Harris County MUD 1	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
Spanish Cove PUD	No
Spencer Road PUD	No
Spring Creek Forest PUD	No
Spring Creek Utility District	No
Spring Meadows MUD	No
Spring West MUD	No
Stanley Lake MUD	No
Sunbelt FWSD	No
Tara Glen MUD	No
Tarkington SUD	No
Tattor Road MUD	No
Terranova West MUD	No
Texas Heritage Parkway ID	No
Texas National MUD	No
The Woodlands Metro Center MUD	No
The Woodlands MUD 1	No
Thunderbird Utility District	No
Timber Lane Utility District	No
Timberlake Improvement District	No
Tower Oaks Plaza MUD	No
Town Center Improvement District	No
Trail of the Lakes MUD	No
Trinity Lakes MUD of Montgomery County	No
Valley Ranch MUD 1	No
Waller County Improvement District 1	No
Waller County Improvement District 2	No
Waller County MUD 1	No
Waller County MUD 17	No
Waller County MUD 33	No
Waller County MUD 34	No
Waller County MUD 35	No
Waller County MUD 9	No
Waller County Road Improvement District 1	No
Waller County WCID 2	No
Waller County WCID 3	No
West Harris County MUD 1	No
West Harris County MUD 10	No
West Harris County MUD 11	No
West Harris County MUD 14	No
West Harris County MUD 15	No
West Harris County MUD 16	No
West Harris County MUD 17	No
West Harris County MUD 2	No
West Harris County MUD 21	No
West Harris County MUD 4	No
West Harris County MUD 5	No
West Harris County MUD 6	No
West Harris County MUD 7	No
West Harris County MUD 9	No
West Harris County RWA	No

Appendix 1-A - List of Special District Political Subdivisions

ENTITY	ACTIVELY INVOLVED IN FLOOD PLANNING?
West Keegans Bayou Improvement District	No
West Memorial MUD	No
West Park MUD	No
Westador MUD	No
Westlake MUD 1	No
Weston MUD	No
Westwood Magnolia Parkway Improvement District	No
White Oak Bend MUD	No
Willow Creek Farms MUD	No
Willow Point MUD	No
Windfern Forest Utility District	No
Wood Trace MUD 1	No
Wood Trace MUD 2	No
Wood Trace MUD 3	No
Wood Trace MUD 4	No
Wood Trace WCID of Montgomery County	No
Woodcreek MUD	No
Woodcreek Reserve MUD	No
Woodridge MUD	No



Appendix 2-A - List of Potential FMEs

FME ID	FME NAME	DESCRIPTION	RFPG NUMBER	RFPG NAME	COUNTY	HUC8	ASSOCIATED GOAL	AREA (SQMI)	FME TYPE	FLOOD RISK TYPE	SPONSOR	ESTIMATED COST	POTENTIAL FUNDING SOURCES
061000001	Durant Street Storm Sewer and Pavement Improvements - Phase 1	First phase of a project to add storm sewer system, concrete curb, and gutter pavement and sidewalk along Durant Street.	06	San Jacinto	Brazoria	12040204	06000015	25.1	Project Planning	Urban/Local	City of Alvin	\$ 2,050,000.00	Unknown
061000002	Durant Street Storm Sewer and Pavement Improvements - Phase 2	Second phase of a project to add storm sewer system, concrete curb, and gutter pavement and sidewalk along Durant Street.	06	San Jacinto	Brazoria	12040204	06000015	25.1	Project Planning	Urban/Local	City of Alvin	\$ 1,800,000.00	Unknown
061000003	City of Arcola Regional Drainage Improvements	Minimize repetitive loss flooding in Arcola by implementing the installation of 2 detention ponds, 2 or more pump stations, and road grade elevation improvements.	06	San Jacinto	Fort Bend	12040204	06000015	2.6	Project Planning	Urban/Local	City of Arcola, Fort Bend Drainage District	Unknown	Unknown
061000004	City of Stafford Drainage Improvements	Drainage improvements to Stafford Oaks by installation of a storm sewer under existing ditch, cleaning of ditch, and replacing bridges the impede drainage flow.	06	San Jacinto	Fort Bend,Harris	12040104, 12040204	06000015	7.0	Project Planning	Urban/Local	City of Stafford	Unknown	General Local Fund
061000005	Implement Drainage Improvements	Implement Drainage improvements in Missouri City Estates – replace open ditches by – installing storm sewers and level ground to reduce overland and shallow flooding within neighborhoods.	06	San Jacinto	Fort Bend,Harris	12040104, 12040204	06000015	7.0	Project Planning	Urban/Local	City of Stafford	\$ 4,350,000.00	General Fund/In-kind Services
061000006	Bolivar Roads Gate System	As proposed in the Coastal Texas Study Final Feasibility Report (2021), the surge mitigation gate would stretch across the entrance to the Houston Ship Channel between Bolivar Peninsula and Galveston Island.	06	San Jacinto	Galveston	12040204	06000015	211.1	Project Planning	Coastal	USACE	Unknown	Unknown
061000007	Galveston Sea Wall	As proposed in the Coastal Texas Study Final Feasibility Report (2021), the existing 10-mile seawall on Galveston Island will be improved along with an increase in height in some regions.	06	San Jacinto	Galveston	12040204	06000015	211.1	Project Planning	Coastal	USACE	Unknown	Unknown
061000008	Beach and Dune Improvements	As proposed in the Coastal Texas Study Final Feasibility Report (2021), the Upper Coast plan includes 43 miles of beach and dune improvements on Bolivar Peninsula and West Galveston Island to reduce storm surge from entering the Bay system.	06	San Jacinto	Galveston	12040204	06000015	211.1	Project Planning	Coastal	USACE	Unknown	Unknown
061000009	Ring Barrier System	As proposed in the Coastal Texas Study Final Feasibility Report (2021), the proposed system is comprised of an 18-mile Galveston Ring Barrier System that prevents Bay waters from flooding the City of Galveston.	06	San Jacinto	Galveston	12040204	06000015	211.1	Project Planning	Coastal	USACE	Unknown	Unknown
061000010	Galveston Pumping Stations	As proposed in the Coastal Texas Study Final Feasibility Report (2021), the plan would add a forced drainage system consisting of approximately six new pump stations to move water off the island.	06	San Jacinto	Galveston	12040204	06000015	211.1	Project Planning	Coastal	USACE	Unknown	Unknown
061000011	Master Drainage Study	FIF application information unavailable.	06	San Jacinto	Galveston	12040204	06000010	211.1	Watershed Planning	Coastal, Urban/Local	City of Galveston	\$ 800,000.00	Unknown
061000012	Bolivar Peninsula and West Bay Gulf Intracoastal Waterway (GIWW) Shoreline and Island Protection	This evaluation involves ecosystem restoration efforts planned along the GIWW such as the restoration of wetlands and islands, construction of breakwaters, and oyster reef scaling will provide natural buffer from coastal storm surge and prevent erosion.	06	San Jacinto	Galveston	12040204	06000013	211.1	Project Planning	Coastal	USACE	Unknown	Unknown
061000013	City of Bellaire Drainage System Repair Plan	Expedite a plan to repair and replace the highly critical local drainage systems in the current Bonds for Better Bellaire 2016.	06	San Jacinto	Harris	12040104	06000015	3.6	Project Planning	Urban/Local	City of Bellaire	Unknown	Bonds for Better Bellaire 2016
061000014	City of Bellaire Additional Detention Facilities	Local detention facilities are needed (In addition to project Brays) to move remaining areas such as Post Oak Terrace and Southdale out of 100-year floodplain and to reduce or prevent wide spread damage in the events that are as significant as Harvey.	06	San Jacinto	Harris	12040104	06000015	3.6	Project Planning	Riverine, Urban/Local	City of Bellaire	Unknown	Unknown
061000015	City of Bellaire Newcastle System drainage upgrades	The Newcastle storm sewer system outfalls to Cypress Ditch through 2-8'x7' RCBs. The Newcastle storm sewer system is undersized for the large urban watershed area currently serviced by the related major trunk line.	06	San Jacinto	Harris	12040104	06000015	3.6	Project Planning	Urban/Local	City of Bellaire	Unknown	Unknown
061000016	City of Bunker Hill Drainage Projects	Localized and regional drainage projects within the City of Bunker Hill.	06	San Jacinto	Harris	12040104	06000015	1.4	Watershed Planning	Urban/Local	City of Bunker Hill Village	Unknown	General Fund Capital Project Fund
061000017	City of Bunker Hill Master Drainage and Stormwater Management Plan	Master Drainage and Stormwater Management Plan for the City of Bunker Hill.	06	San Jacinto	Harris	12040104	06000015	1.4	Watershed Planning	Urban/Local	City of Bunker Hill Village	Unknown	Unknown

Appendix 2-A - List of Potential FMEs

FME ID	FME NAME	DESCRIPTION	RFPG NUMBER	RFPG NAME	COUNTY	HUC8	ASSOCIATED GOAL	AREA (SQMI)	FME TYPE	FLOOD RISK TYPE	SPONSOR	ESTIMATED COST	POTENTIAL FUNDING SOURCES
061000018	Lower Clear Creek & Dickinson Bayou Flood Mitigation Plan - Lower Clear Creek Alternative 1	Further refine the LCC Alt. Combination 1 as proposed as part of the LCCDBFMP (2021), including detention basins, clearing and de-snagging, capacity improvements, an auxiliary opening, and an outlet expansion.	06	San Jacinto	Brazoria,Galveston, Fort Bend,Harris	12040204	06000015	261.6	Project Planning	Riverine, Coastal, Urban/Local	City of League City	Unknown	Unknown
061000019	Lower Clear Creek & Dickinson Bayou Flood Mitigation Plan - Lower Clear Creek Alternative 2	Further refine the LCC Alt. Combination 2 as proposed as part of the LCCDBFMP (2021), including detention basins, clearing and de-snagging, a diversion tunnel, capacity improvements, an auxiliary opening, and an outlet expansion.	06	San Jacinto	Brazoria,Galveston, Fort Bend,Harris	12040204	06000015	261.6	Project Planning	Riverine, Coastal, Urban/Local	City of League City	Unknown	Unknown
061000020	Lower Clear Creek & Dickinson Bayou Flood Mitigation Plan - Lower Clear Creek Alternative 3	Further refine the LCC Alt. Combination 3 as proposed as part of the LCCDBFMP (2021), including detention channel benching, a diversion tunnel, capacity improvements, and an auxiliary opening.	06	San Jacinto	Brazoria,Galveston, Fort Bend,Harris	12040204	06000015	261.6	Project Planning	Riverine, Coastal, Urban/Local	City of League City	Unknown	Unknown
061000021	Lower Clear Creek & Dickinson Bayou Flood Mitigation Plan - Dickinson Bayou Alternative 1	Further refine the DB Alt. Combination 1 proposed in the LCCDBFMP (2021), including McFarland Detention Basin, W Cemetery Rd. Detention Basin, Hilton Detention Basin, and Magnolia Bayou & Borden Gully Detention Basins.	06	San Jacinto	Brazoria,Galveston, Fort Bend,Harris	12040204	06000015	261.6	Project Planning	Riverine, Coastal, Urban/Local	City of League City	Unknown	Unknown
061000022	Lower Clear Creek & Dickinson Bayou Flood Mitigation Plan - Dickinson Bayou Alternative 2	Further refine the DB Alt. Combination 2 proposed in the LCCDBFMP (2021), including McFarland Detention Basin, W Cemetery Rd. Detention Basin, Hilton Detention Basin, Magnolia Bayou & Borden Gully Detention Basins, and a Diversion Channel at Desel Dr.	06	San Jacinto	Brazoria,Galveston, Fort Bend,Harris	12040204	06000015	261.6	Project Planning	Riverine, Coastal, Urban/Local	City of League City	Unknown	Unknown
061000023	Clear Lake & Dickinson Bay Surge Gates and Stormwater Pump Stations	As proposed in the Coastal Texas Study Final Feasibility Report (2021), two surge gates and accompanying pump stations would be implemented on the west perimeter of Galveston Bay at Clear Lake and Dickinson Bay to reduce the threat of storm surge.	06	San Jacinto	Brazoria,Galveston	12040204	06000015	253.2	Project Planning	Riverine, Coastal, Urban/Local	USACE	Unknown	Unknown
061000024	West Fork San Jacinto River - Kingwood Benching	The goal of the channel improvement is to reduce flooding in the West Fork watershed by widening a 5-mile-long stretch to increase conveyance capacity of West Fork in order to lower the water surface elevation.	06	San Jacinto	Harris,Montgomery	12040101	06000015	58.5	Project Planning	Riverine, Urban/Local	Harris County, Montgomery County, SJRA, USACE, City of Houston	\$ 837,000,000.00	GLO

Appendix 2-B - List of Potentially Feasible FMSs

FMS ID	FMS NAME	DESCRIPTION	RFPG NUM	RFPG NAME	COUNTY	HUC8	ASSOCIATED GOAL	AREA (SQMI)	FMS TYPE	FLOOD RISK TYPE	SPONSOR	ESTIMATED COST	POTENTIAL FUNDING SOURCES
062000001	City of Bellaire Roadway and Drainage Improvements	Increase the size of existing storm water drainage culverts in Bellaire while continuing to utilize drainage impact when selecting and designing roads to be reconstructed to strategically account for storage and conveyance.	06	San Jacinto	Harris	12040104	06000015	3.6	Infrastructure Projects	Urban/Local	City of Bellaire	Unknown	Capital Improvements Budget
062000002	City of Bellaire Resident Property Support	Ensure adequate city resources are in place to assist residents when applying for buy-out and elevation grants.	06	San Jacinto	Harris	12040104	06000015,06000001	3.6	Property Acquisition and Structural Elevation	Urban/Local	City of Bellaire	Unknown	Operating Budget
062000003	City of Bellaire Commercial Drainage Requirements	Develop Bellaire specific commercial drainage requirements.	06	San Jacinto	Harris	12040104	06000015,06000005	3.6	Regulatory and Guidance	Urban/Local	City of Bellaire	Unknown	Operating Budget
062000004	City of Bellaire Surrounding Area Detention and Drainage Improvements	Contact surrounding municipalities and the agencies that own the storm sewers to consider upgrading their storm sewers and providing more detention.	06	San Jacinto	Harris	12040104	06000008,06000015,06000005	3.6	Other	Urban/Local	City of Bellaire	Unknown	Capital Improvements Budget
062000005	City of Bellaire Floodwater Public Awareness Initiatives	Periodically distribute messages to residents warning of dangers of walking or playing in floodwaters. Develop a plan with local schools to educate children to avoid walking, playing, or riding bicycles in floodwaters.	06	San Jacinto	Harris	12040104	06000001,06000015	3.6	Education and Outreach	Riverine, Urban/Local	City of Bellaire	Unknown	Operating Budget
062000006	City of Bunker Hill Community Outreach	Community Outreach (flooded street identification, marking and signage)	06	San Jacinto	Harris	12040104	06000001	1.4	Education and Outreach	Urban/Local	City of Bunker Hill Village	Unknown	HMGP, PDM
062000007	City of Bunker Hill Dam/Levee Maintenance and Monitoring Plan	Minimize the risk of dam/levee failure and related damage to existing and proposed structures by monitoring the maintenance and inspection schedules.	06	San Jacinto	Harris	12040104	06000001,06000015	1.4	Other	Urban/Local, Other	City of Bunker Hill Village	Unknown	HMGP, PDM
062000008	Harris County Hazard Mitigation Action AW-3	Utilizing the existing public outreach capability to develop, deploy, and disseminate targeted outreach projects promoting risk communication, mitigation and resilience to all the hazards of concern.	06	San Jacinto	Harris	12040101, 12040102, 12040103, 12040104, 12040203, 12040204	06000001,06000015	1770.8	Education and Outreach	Riverine, Coastal, Urban/Local	Harris County Office Of Homeland Security & Emergency Management (HCOHSEM)	Unknown	HCOHSEM Funds
062000009	Harris County Hazard Mitigation Action AW-4	Strive to capture time-sensitive data such as high-water marks, extent and location of hazard, and loss information to support future updates to risk assessments as well as other plans and programs that utilize hazard extent data.	06	San Jacinto	Harris	12040101, 12040102, 12040103, 12040104, 12040203, 12040204	06000001,06000015	1770.8	Flood Measurement and Warning	Riverine, Coastal, Urban/Local	HCOHSEM	Unknown	Local Funding
062000010	Harris County Hazard Mitigation Action AW-5	Continue to develop, improve, and implement an enhanced mass public warning and alert system within the Harris County Joint Information Center to provide warning capability throughout Harris County to support the emergency management of all hazards.	06	San Jacinto	Harris	12040101, 12040102, 12040103, 12040104, 12040203, 12040204	06000001,06000015	1770.8	Flood Measurement and Warning	Riverine, Coastal, Urban/Local	HCOHSEM	Unknown	HCOHSEM Funds, EMPG, UWASI
062000011	Harris County Hazard Mitigation Action AW-6	Utilize viable and relevant information, data and tools (Hazus models) developed as part of the update to the risk assessment of this plan update to support training and exercise of the County's preparedness, response and recovery programs.	06	San Jacinto	Harris	12040101, 12040102, 12040103, 12040104, 12040203, 12040204	06000001	1770.8	Flood Measurement and Warning	Riverine, Coastal, Urban/Local	HCOHSEM	Unknown	HCOHSEM Funds, EMPG, UWASI

Appendix 2-C - List of Potentially Feasible FMPs

FMP ID	FMP NAME	DESCRIPTION	RFPG NUMBER	RFPG NAME	COUNTY	HUC8	ASSOCIATED GOAL	AREA (SQMI)	FMP TYPE	FLOOD RISK TYPE	SPONSOR	ESTIMATED COST	POTENTIAL FUNDING SOURCES
063000001	City of Stafford Run Creek Detention Pond Construction	Construction of detention ponds immediately downstream of Brand Lane and Independence Park.	06	San Jacinto	Fort Bend,Harris	12040104	06000015	95.6	Detention Pond	Riverine, Urban/Local	Fort Bend County Drainage District, City of Stafford	\$ 7,200,000.00	Unknown
063000002	Fort Bend County Willow Fork Channel Improvements	A combination of 11 different channel improvements were identified along Willow Fork and its tributaries as part of the Fort Bend County Master Drainage Plan that, when combined, will provide a 100-year level of service.	06	San Jacinto	Fort Bend, Harris,Waller	12040104	06000015	27.1	Comprehensive	Riverine, Urban/Local	Fort Bend County Drainage District	\$ 281,802,730.00	Unknown
063000003	37th Street, Galveston, Drainage Project	The existing storm sewer system will be replaced and upgraded using the city’s updated drainage criteria that now require a 25-year storm drainage capacity. Also the 100-year storm will be retained in the city’s right-of-way.	06	San Jacinto	Brazoria,Galveston	12040204	06000015	253.2	Storm Drain	Riverine, Urban/Local	Houston-Galveston Area Council (HGAC)	\$ 84,420,648.00	CDBG-MIT
063000004	Unincorporated Areas of Bacliff and San Leon Roadside Ditches & Driveway Culverts Improvements	This unfunded CDBG-MIT project consists of various areas of roadside ditch and driveway culvert improvements in Bacliff and San Leon.	06	San Jacinto	Brazoria,Galveston	12040204	06000015	253.2	Infrastructure	Urban/Local	HGAC	\$ 13,920,937.50	CDBG-MIT
063000005	Lake Creek - Garretts Creek Detention	The goal of the detention pond is to reduce flooding in the Lake Creek and West Fork watersheds by constructing a 1.2-mile-long earthen impoundment that captures runoff from Garrett’s Creek.	06	San Jacinto	Montgomery, Grimes,Walker	12040101	06000015	644.3	Detention Pond	Riverine, Urban/Local	Grimes County, Montgomery County, TxDOT, SJRA, USACE, HCFCD	\$ 131,000,000.00	TWDB, GLO
063000006	Lake Creek - Caney Creek Detention	Provide more flood-hardened rain and flood stage gages for better flood forecasting to determine if additional improvements to Brays Bayou are possible beyond Project Brays to further increase capacity.	06	San Jacinto	Montgomery, Grimes,Walker	12040101	06000015	644.3	Detention Pond	Riverine, Urban/Local	Grimes County, Montgomery County, SJRA, USACE, HCFCD	\$ 163,000,000.00	TWDB, GLO
063000007	City of Bellaire Flood Rescue Plan	Develop a plan to address rescues from one-story homes and older two-story homes. Develop a plan to evacuate disabled/physically impaired/elderly individuals from homes in advance of anticipated high rainfall events. (Bellaire Fire Department)	06	San Jacinto	Fort Bend,Harris	12040104	06000001, 06000015	95.6	Preparedness	Riverine, Urban/Local	City of Bellaire	Unknown	Operating Budget
063000008	City of Bellaire Flood Early Warning System Improvements	Provide more flood-hardened rain and flood stage gages for better flood forecasting to determine if additional improvements to Brays Bayou are possible beyond Project Brays to further increase capacity.	06	San Jacinto	Harris	12040104	06000001, 06000015	45.6	Preparedness	Riverine, Urban/Local	City of Bellaire	Unknown	Unknown
063000009	City of Bunker Hill Village Non-Structural Mitigation Projects	Non-structural mitigation measure - buried powerlines, tree management and generators	06	San Jacinto	Harris	12040104	06000001	52.1	Other	Riverine, Urban/Local	City of Bunker Hill Village	Unknown	HMGP, PDM
063000010	Danubina Drainage Improvements	This CDBG-MIT application involves the installation and construction of various storm sewer and detention infrastructure.	06	San Jacinto	Chambers,Harris	12040203	06000001, 06000015	48.4	Infrastructure	Urban/Local	HGAC	\$ 18,467,088.00	CDBG-MIT
063000011	North Alexander Drainage Improvements	This CDBG-MIT application involves the installation and construction of various storm sewer and detention infrastructure.	06	San Jacinto	Chambers,Harris	12040203	06000001, 06000015	48.4	Infrastructure	Urban/Local	HGAC	\$ 15,174,558.10	CDBG-MIT
063000012	City of Friendswood - Clear Creek Inline & Offline Detention - Bay Area Blvd. Phase I	This project, which includes terraces, detention, and a trail network, will reduce water surface elevations on Clear Creek within the City of Friendswood and will make the Blackhawk Wastewater Treatment Facility more resilient.	06	San Jacinto	Brazoria,Galveston, Fort Bend,Harris	12040204	06000001, 06000015	261.6	Detention Pond	Riverine, Urban/Local	HGAC	\$ 78,937,267.20	CDBG-MIT
063000013	White Oak Bayou Kolbe Road Drainage Improvements	The flood and drainage activity for Kolbe Road include the addition of storm sewers under the existing roadside ditches. The increased drainage capacity, along with the detention component, reduces ponding depths up to 7 inches.	06	San Jacinto	Harris	12040104	06000001, 06000015	51.3	Infrastructure	Riverine, Urban/Local	HGAC	\$ 100,000,000.00	CDBG-MIT
063000014	P133-00-00 Drainage Improvements	The improvements propose to mitigate P133-00-00 overflows into the Parkland Estates and Humble Road Place subdivisions and improve the capacity and conveyance of the internal drainage systems.	06	San Jacinto	Harris	12040104	06000001, 06000015	207.8	Infrastructure	Riverine, Urban/Local	HGAC	\$ 100,000,000.00	CDBG-MIT
063000015	Aldine Westfield Stormwater Detention Basin --- Phase II	This project included in this grant application is Phase II of an overall stormwater detention basin, which will increase the capacity of the basin by 570 ac-ft and provide additional flood risk reduction benefits to the community.	06	San Jacinto	Harris	12040104	06000001, 06000015	207.8	Detention Pond	Riverine, Urban/Local	HGAC	\$ 10,000,000.00	CDBG-MIT



Appendix 2-C - List of Potentially Feasible FMPs

FMP ID	FMP NAME	DESCRIPTION	RFPG NUMBER	RFPG NAME	COUNTY	HUC8	ASSOCIATED GOAL	AREA (SQMI)	FMP TYPE	FLOOD RISK TYPE	SPONSOR	ESTIMATED COST	POTENTIAL FUNDING SOURCES
063000016	Greens Bayou, Jackson Bayou, White Oak Bayou, Cypress Creek and San Jacinto River Areas Subdivision Drainage Mitigation Project	This proposed solution recommends establishing positive drainage and clear flow lines, which are expected to reduce the water surface elevation in the subdivision to mitigate the structural flood risk for all 1,445 beneficiaries.	06	San Jacinto	Harris	12040101, 12040102, 12040103, 12040104, 12040203, 12040204	06000001, 06000015	1770.8	Infrastructure	Riverine, Urban/Local	HGAC	\$ 100,000,000.00	CDBG-MIT
063000017	Greens Bayou, White Oak Bayou and Cypress Creek Areas Subdivision Drainage Mitigation Project	The mitigation solution for Cypress Creek Estates is to install storm sewer systems along West Shadow Lake, East Shadow Lake, North Shadow Lake and Winding Lane, to re-grade the roadside ditches, and to remove and replace of all driveways and culverts.	06	San Jacinto	Harris	12040101, 12040102, 12040103, 12040104, 12040203, 12040204	06000001, 06000015	1770.8	Storm Drain	Riverine, Urban/Local	HGAC	\$ 99,997,209.62	CDBG-MIT
063000018	Harris County Mitigation Buyout and Relocation Program	This program is designed to assist owners whose properties were damaged by a natural disaster and or in an area that is designated hopelessly deep in the floodplain and repetitively flooded, to relocate outside the threat of flooding.	06	San Jacinto	Harris	12040101, 12040102, 12040103, 12040104, 12040203, 12040204	06000001, 06000015	1770.8	Property Acquisition	Riverine, Coastal, Urban/Local	HGAC	\$ 75,000,000.00	CDBG-MIT
063000019	TC Jester Detention Basin	Construction of a 25 acre stormwater detention basin. Estimated construction cost is \$10,047,910. this application is requesting \$10,000,000.00 of these funds.	06	San Jacinto	Harris	12040101, 12040102, 12040103, 12040104, 12040203, 12040204	06000001, 06000015	1770.8	Detention Pond	Riverine, Urban/Local	HGAC	\$ 10,000,000.00	CDBG-MIT
063000020	Westador Stormwater Detention Basin	The Westador Detention Basin is a proposed detention mitigation project within the Cypress Creek Watershed and located south of Cypress Creek and east and west of K141-00-00.	06	San Jacinto	Harris,Waller	12040102	06000001, 06000015	316.9	Detention Pond	Riverine, Urban/Local	HGAC	\$ 10,000,000.00	CDBG-MIT
063000021	Brays Bayou Watershed Mitigation Project	The project, improvements to Bintliff Ditch (HCFCD Channel D133-00-00) and the Sharpstown Area, is composed of various drainage and flood control improvements including improved channel conveyance and stormwater detention basins.	06	San Jacinto	Fort Bend,Harris	12040104	06000001, 06000015	141.2	Comprehensive	Riverine, Urban/Local	HGAC	\$ 100,000,000.00	CDBG-MIT
063000022	Halls Bayou Watershed Mitigation Application 1	The goal of the C-23 activity, located south of Tidwell road and west of Wayside drive, is to improve stormwater channel conveyance of Halls Bayou tributary P118-08-00 and to create approximately 50 acre-feet of stormwater detention storage.	06	San Jacinto	Harris	12040104	06000001, 06000015	51.8	Infrastructure	Riverine, Urban/Local	HGAC	\$ 100,000,000.00	CDBG-MIT
063000023	Sims Bayou Channel Widening	Mitigation activity consists of channel widening 7,000-feet of channel C147-00-00 from Sims Bayou to diversion channel C147-02-00. The bridge crossings at Tiffany Rd, Fuqua Gardens View Rd, and South Post Oak Rd will be replaced.	06	San Jacinto	Fort Bend,Harris	12040104	06000001, 06000015	95.0	Infrastructure	Riverine, Urban/Local	HGAC	\$ 100,000,000.00	CDBG-MIT
063000024	Houston Sunnyside Area Flood Mitigation	The project includes new storm sewer trunk systems on major thoroughfares and new or improved neighborhood storm sewer systems. The project will also require construction of detention basins to mitigate the proposed improvements.	06	San Jacinto	Fort Bend,Harris	12040104	06000001, 06000015	95.0	Infrastructure	Urban/Local	HGAC	\$ 100,000,000.00	CDBG-MIT
063000025	Houston Fifth Area Flood Mitigation	This unfunded CDBG-MIT application involves installing various storm sewer infrastructure in the Fifth Ward within the City of Houston.	06	San Jacinto	Harris	12040104	06000001, 06000015	40.6	Infrastructure	Riverine, Urban/Local	HGAC	\$ 100,000,000.00	CDBG-MIT
063000026	Houston Port Area Flood Mitigation	The project includes storm sewer improvements on nearly every street in the Pleasantville neighborhood to improve conveyance capacity of the complete system and construction of a detention basin on Port Houston property to mitigate the improvements.	06	San Jacinto	Harris	12040104	06000001, 06000015	40.6	Infrastructure	Riverine, Urban/Local	HGAC	\$ 98,031,137.01	CDBG-MIT

Appendix 2-C - List of Potentially Feasible FMPs

FMP ID	FMP NAME	DESCRIPTION	RFPG NUMBER	RFPG NAME	COUNTY	HUC8	ASSOCIATED GOAL	AREA (SQMI)	FMP TYPE	FLOOD RISK TYPE	SPONSOR	ESTIMATED COST	POTENTIAL FUNDING SOURCES
063000027	Houston Braeburn Glen Area Flood Mitigation	The proposed project includes upsizing of the existing stormwater system with new pipes, inlets, and manholes. Lateral improvement will be completed on Mahoning Drive and Valley View Lane.	06	San Jacinto	Fort Bend,Harris	12040104	06000001, 06000015	95.6	Storm Drain	Urban/Local	HGAC	\$ 6,314,409.66	CDBG-MIT
063000028	Houston Huntington Village Area Flood Mitigation	The project includes storm sewer improvements to nearly every street in the Huntington Village neighborhood to reduce structural flood loss. The project includes improvements to conveyance infrastructure, including streets and storm network.	06	San Jacinto	Fort Bend,Harris	12040104	06000001, 06000015	95.6	Storm Drain	Urban/Local	HGAC	\$ 77,802,401.58	CDBG-MIT
063000029	Houston Kashmere Gardens Area Flood Mitigation	The project includes improvements to storm sewer, roadside ditch systems, culverts, sewer inlets, and the construction of detention basins. Green storm water infrastructure improvements will be constructed in the western portion of the project area.	06	San Jacinto	Harris	12040104	06000001, 06000013, 06000015	40.6	Natural	Riverine, Urban/Local	HGAC	\$ 93,931,059.92	CDBG-MIT
063000030	Blalock Road Drainage Improvement Project	The proposed drainage improvements include increasing the capacity of the drainage system with a 9’x9’ RCB to replace dual 36-inch RCP along the east side of the road and an open ditch with driveway culverts on the west side of the road.	06	San Jacinto	Harris	12040104	06000001, 06000015	103.4	Infrastructure	Riverine, Urban/Local	HGAC	\$ 9,651,798.00	CDBG-MIT
063000031	City of Southside Place - Auden Street Drainage Improvement Project	This project provides for design and construction of a new stormwater conveyance system for the City of Southside Place, that will have the capacity to covey a City standard storm event (2-year storm).	06	San Jacinto	Harris	12040104	06000001, 06000015	45.6	Infrastructure	Urban/Local	HGAC	\$ 5,350,518.00	CDBG-MIT
063000032	City of Tomball Drainage Improvements	The drainage project for the City of Tomball is comprised of building storm sewer systems and channel conveyance to enable flood waters to be removed from portions of the city bounded by Holderrieth Road, SH 249, UPRR, and FM 2920.	06	San Jacinto	Harris,Montgomery	12040102	06000001, 06000015	13.0	Infrastructure	Riverine, Urban/Local	HGAC	\$ 8,397,170.69	CDBG-MIT
063000033	Woodland Trails Basin	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	51.3	Detention Pond	Riverine, Urban/Local	Harris County	\$ 64,880,515.00	Unknown
063000034	Dredging of Channels that Exit Into Lake Houston	FIF application information unavailable.	06	San Jacinto	Harris,Liberty, Montgomery	12040101, 12040103	06000001, 06000015	155.8	Channel	Riverine, Urban/Local	Harris County	\$ 50,000,000.00	Unknown
063000035	Beaumont Place Subdivision Drainage Improvement Phase 2	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	28.9	Storm Drain	Urban/Local	Harris County	\$ 16,145,000.00	Unknown
063000036	Halls Bayou Drainage Project Bond C-26 & C-27	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	51.8	Comprehensive	Riverine, Urban/Local	Harris County	\$ 31,316,863.00	Unknown
063000037	Hurricane Harvey Drainage Mitigation Project 1	FIF application information unavailable.	06	San Jacinto	Harris	12040101, 12040102, 12040103, 12040104, 12040203, 12040204	06000001, 06000015	1770.8	Infrastructure	Riverine, Urban/Local	City of Pasadena	\$ 154,756,817.00	Unknown
063000038	Hurricane Harvey Drainage Mitigation Project 2	FIF application information unavailable.	06	San Jacinto	Harris	12040101, 12040102, 12040103, 12040104, 12040203, 12040204	06000001, 06000015	1770.8	Infrastructure	Riverine, Urban/Local	City of Pasadena	\$ 203,000,000.00	Unknown
063000039	Hurricane Harvey Drainage Mitigation Project 3	FIF application information unavailable.	06	San Jacinto	Harris	12040101, 12040102, 12040103, 12040104, 12040203, 12040204	06000001, 06000015	1770.8	Infrastructure	Riverine, Urban/Local	City of Pasadena	\$ 37,543,000.00	Unknown
063000040	Lauder Stormwater Detention Basin	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	40.6	Detention Pond	Riverine, Urban/Local	Harris County	\$ 38,069,507.00	Unknown
063000041	Barker Reservoir Flood Risk Reduction and Park Project	FIF application information unavailable.	06	San Jacinto	Fort Bend, Harris,Waller	12040104	06000001, 06000015	27.1	Reservoir	Riverine, Urban/Local	Willow Fork Drainage District	\$ 48,880,000.00	Unknown
063000042	Middle Armand Bayou Protection Project	FIF application information unavailable.	06	San Jacinto	Brazoria,Galveston, Fort Bend,Harris	12040204	06000001, 06000015	261.6	Infrastructure	Riverine, Urban/Local	City of Pasadena	\$ 19,700,000.00	Unknown
063000043	Halls Bayou Drainage Project Bond C-24	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	51.8	Infrastructure	Riverine, Urban/Local	Harris County	\$ 38,512,031.00	Unknown

Appendix 2-C - List of Potentially Feasible FMPs

FMP ID	FMP NAME	DESCRIPTION	RFPG NUMBER	RFPG NAME	COUNTY	HUC8	ASSOCIATED GOAL	AREA (SQMI)	FMP TYPE	FLOOD RISK TYPE	SPONSOR	ESTIMATED COST	POTENTIAL FUNDING SOURCES
063000044	Halls Bayou Drainage Project Bond C-23	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	51.8	Infrastructure	Riverine, Urban/Local	Harris County	\$ 18,715,233.00	Unknown
063000045	Halls Bayou Drainage Project Bond C-01	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	51.8	Infrastructure	Riverine, Urban/Local	Harris County	\$ 20,332,836.00	Unknown
063000046	Eastex Freeway Forest Sections 3 & 4 Subdivision Improvements	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	40.6	Infrastructure	Urban/Local	Harris County	\$ 1,961,920.00	Unknown
063000047	Ralston Acres Subdivision Drainage Improvements	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	28.9	Infrastructure	Urban/Local	Harris County	\$ 3,526,173.00	Unknown
063000048	Fallbrook, Ridgepoint and Westpoint Subdivision Drainage Improvements	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	51.3	Infrastructure	Urban/Local	Harris County	\$ 3,049,000.00	Unknown
063000049	Catalina	FIF application information unavailable.	06	San Jacinto	Brazoria,Galveston, Fort Bend,Harris	12040204	06000001, 06000015	261.6	Infrastructure	Urban/Local	City of Houston	\$ 3,465,000.00	Unknown
063000050	Spring Shadows South	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	0.2	Infrastructure	Urban/Local	City of Houston	\$ 3,186,414.00	Unknown
063000051	Northfield Place Subdivision Drainage Improvements	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	51.8	Infrastructure	Urban/Local	Harris County	\$ 6,437,200.00	Unknown
063000052	Oak Glen Place Subdivision Drainage Improvements	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	51.8	Infrastructure	Urban/Local	Harris County	\$ 8,074,345.00	Unknown
063000053	Sandpiper Village Subdivision Drainage Improvements	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	8.9	Infrastructure	Urban/Local	Harris County	\$ 3,773,980.00	Unknown
063000054	C147/C547 Flood Risk Reduction Project	FIF application information unavailable.	06	San Jacinto	Harris	12040101, 12040102, 12040103, 12040104, 12040203, 12040204	06000001, 06000015	1770.8	Infrastructure	Riverine, Urban/Local	Harris County	\$ 30,000,000.00	Unknown
063000055	Greens Bayou Mid Reach	FIF application information unavailable.	06	San Jacinto	Harris	12040104	06000001, 06000015	207.8	Infrastructure	Riverine, Urban/Local	Harris County	\$ 51,100,000.00	Unknown
063000056	City of Cleveland Drainage Improvements	This City of Cleveland project will consist of roadside ditch excavation, drainage outfall ditch excavation, detention pond excavation, removal and replacement of culverts, road improvements, concrete lining on outfalls, and storm sewer installation.	06	San Jacinto	Liberty, Montgomery, San Jacinto	12040103	06000001, 06000015	18.7	Infrastructure	Riverine	HGAC	\$ 10,515,940.00	CDBG-MIT
063000058	Caney Creek - Detention at SH 105	The goal of the detention pond is to reduce flooding in the Caney Creek watershed by constructing a 0.8-mile-long earthen impoundment that captures runoff from Caney Creek.	06	San Jacinto	Harris,Liberty, Montgomery, San Jacinto,Walker	12040103	06000001, 06000015	370.5	Detention Pond	Riverine, Urban/Local	Montgomery County, SJRA, USACE, TxDOT	\$ 433,000,000.00	TWDB FIF grants, GLO
063000059	Spring Creek - I-45 Channelization	The goal of the channel improvement is to reduce flooding in the Spring Creek watershed by constructing a 6.9-mile-long, 300-foot-wide benched improvement. Must be constructed in tandem with detention recommendations from the SJMDP.	06	San Jacinto	Harris,Waller, Montgomery, Grimes	12040102	06000001, 06000015	437.0	Channel	Riverine, Urban/Local	Montgomery County, TxDOT, SJRA, USACE	\$ 85,000,000.00	TWDB, FEMA, GLO
063000060	Caney Creek - Detention at FM1097	The goal of the detention pond is to reduce flooding in the Caney Creek watershed by constructing a 1.2-mile-long earthen impoundment that captures runoff from Caney Creek.	06	San Jacinto	Harris,Liberty, Montgomery, San Jacinto,Walker	12040103	06000001, 06000015	370.5	Detention Pond	Riverine, Urban/Local	Montgomery County, TxDOT, SJRA, HCFCD, USACE	\$ 131,000,000.00	TWDB, GLO
063000061	Peach Creek - Detention at SH105	The goal of the detention pond is to reduce flooding in the Peach Creek watershed by constructing a 4.7-mile-long earthen impoundment that captures runoff from Peach Creek, Jayhawker Creek, and Bee Branch	06	San Jacinto	Harris,Liberty,Montgo mery,San Jacinto,Walker	12040103	06000001, 06000015	370.5	Detention Pond	Riverine, Urban/Local	Montgomery County, SJRA, USACE	\$ 433,000,000.00	TWDB, GLO
063000062	Peach Creek - Channelization at IH-69	The goal of the channel improvement is to reduce flooding in the Peach Creek watershed by widening a 4.3-mile-long stretch to increase conveyance capacity. Must be constructed in tandem with detention recommendations from the SJMDP.	06	San Jacinto	Harris,Liberty, Montgomery, San Jacinto,Walker	12040103	06000001, 06000015	370.5	Channel	Riverine, Urban/Local	Montgomery County, SJRA, USACE	\$ 159,000,000.00	TWDB, GLO
063000063	Caney Creek - Channelization at IH-69	The goal of the channel improvement is to reduce flooding in the Caney Creek watershed by benching a 7.8-mile-long stretch to increase conveyance capacity. Must be constructed in tandem with detention recommendations from the SJMDP.	06	San Jacinto	Harris,Liberty, Montgomery, San Jacinto,Walker	12040103	06000001, 06000015	370.5	Channel	Riverine, Urban/Local	Montgomery County, HCFCD, TxDOT, SJRA, USACE	\$ 189,000,000.00	TWDB, GLO

Appendix 2-C - List of Potentially Feasible FMPs

FMP ID	FMP NAME	DESCRIPTION	RFPG NUMBER	RFPG NAME	COUNTY	HUC8	ASSOCIATED GOAL	AREA (SQMI)	FMP TYPE	FLOOD RISK TYPE	SPONSOR	ESTIMATED COST	POTENTIAL FUNDING SOURCES
063000064	West Fork San Jacinto River - River Plantation Channelization	The goal of the channel improvement is to reduce flooding in the West Fork watershed by widening a 9.3-mile-long stretch to increase conveyance capacity. Must be constructed in tandem with detention recommendations from the SJMDP.	06	San Jacinto	Montgomery, Walker	12040101	06000001, 06000015	312.9	Channel	Riverine, Urban/Local	Montgomery County, SJRA	\$ 157,000,000.00	TWDB, GLO
063000065	Spring Creek - Woodlands Channelization (200')	The goal of the channel improvement is to reduce flooding in the Spring Creek watershed by constructing a 8.9-miles long, 200-feet-wide benched improvement. Must be constructed in tandem with detention recommendations from the SJMDP.	06	San Jacinto	Montgomery, Walker	12040101	06000001, 06000015	312.9	Channel	Riverine, Urban/Local	Montgomery County, SJRA, USACE, MUD 386, The Woodlands, HCFCD	\$ 56,000,000.00	TWDB, GLO
063000066	San Jacinto Watershed and Tributary Barrier and Flood Mitigation - East County Project	These funds would address costs associated with the planning, H&H studies, design, environmental review, and barrier removal for the 98.6 miles of the San Jacinto Watershed and Tributary Barrier and Flood Mitigation-East County project area.	06	San Jacinto	San Jacinto,Walker	12040103	06000001, 06000015	313.9	Other	Riverine, Urban/Local	HGAC	\$ 34,379,405.60	CDBG-MIT
063000067	Roman Forest Boulevard Bridge Elevation Project	This project involves the study, design, elevation, and replacement of the Roman Forest Boulevard Bridge to mitigate the risks associated with storms and riverine flooding for the approximate 15,000 citizens.	06	San Jacinto	Montgomery	12040103	06000001, 06000015	2.2	Infrastructure	Riverine, Urban/Local	HGAC	\$ 20,200,058.90	CDBG-MIT
063000068	San Jacinto Watershed and Tributary Barrier and Flood Mitigation - West County Project	These funds will address project costs associated with H&H study, design, tributary barrier removal, and environmental assessments for the 96.2 miles of the San Jacinto Watershed and Tributary Barrier and Flood Mitigation-West County project area.	06	San Jacinto	San Jacinto,Walker	12040103	06000001, 06000015	313.9	Other	Riverine, Urban/Local	HGAC	\$ 32,810,504.17	CDBG-MIT
063000069	Sawdust Road Bridge Elevation Project	This project involves the study, design, elevation, and replacement of the Sawdust Road Bridge to mitigate the risks associated with riverine flooding for the citizens residing in the Grogan’s Point and Timberlakes - Timberridge Subdivisions.	06	San Jacinto	Harris,Montgomery	12040102	06000001, 06000015	29.2	Infrastructure	Riverine, Urban/Local	HGAC	\$ 7,036,728.19	CDBG-MIT
063000071	Lake Creek - Little Caney Creek Detention	The goal of the detention pond is to reduce flooding in the Lake Creek and West Fork watershed by constructing a 0.83-mile-long earthen impoundment that captures runoff from Little Caney Creek.	06	San Jacinto	Montgomery, Grimes	12040101	06000001, 06000015	331.4	Detention Pond	Riverine, Urban/Local	Montgomery County, Grimes County, SJRA, USACE, HCFCD	\$ 128,000,000.00	TWDB, GLO
063000072	Peach Creek - Walker Creek Detention	The goal of the detention pond is to reduce flooding in the Peach Creek watershed by constructing a 3.2-mile-long earthen impoundment that captures runoff from Peach Creek and Boggy Creek.	06	San Jacinto	Liberty, Montgomery, San Jacinto,Walker	12040103	06000001, 06000015	155.3	Detention Pond	Riverine, Urban/Local	Montgomery County, San Jacinto County, TxDOT, SJRA, USACE	\$ 218,000,000.00	TWDB, GLO
063000073	East Fork San Jacinto River - Winters Bayou Detention	The goal of the detention facility is to reduce flooding in the East Fork watershed by constructing a 1.60-mile-long earthen impoundment that captures runoff from Winters Bayou.	06	San Jacinto	Harris,Liberty, Montgomery, San Jacinto,Walker	12040103	06000001, 06000015	408.8	Detention Pond	Riverine, Urban/Local	San Jacinto County, SJRA, TxDOT, USACE, USDA, BNSF Railroad, UPRR, HCFCD	\$ 167,000,000.00	TWDB, GLO
063000074	Spring Creek - Walnut Creek Detention	The goal of the detention facility is to reduce flooding in the Spring Creek watershed by constructing a 1.2-mile-long earthen impoundment that captures runoff from Walnut Creek.	06	San Jacinto	Harris,Waller, Montgomery, Grimes	12040102	06000001, 06000015	382.2	Detention Pond	Riverine, Urban/Local	Waller County, Montgomery County, SJRA, USACE, MUD 386, City of Tomball, The Woodlands Township	\$ 132,000,000.00	FEMA
063000075	Spring Creek - Birch Creek Detention	The goal of the detention facility is to reduce flooding in the Spring Creek watershed by constructing a 0.7-mile-long earthen impoundment that captures runoff from Birch Creek.	06	San Jacinto	Harris,Waller, Montgomery, Grimes	12040102	06000001, 06000015	382.2	Detention Pond	Riverine, Urban/Local	Waller County, Montgomery County, SJRA, USACE, MUD 386, City of Tomball, The Woodlands Township	\$ 120,000,000.00	TWDB, GLO



## Appendix 2-D - List of Infeasible Actions

ACTION / DOCUMENT NAME	DESCRIPTION	SPONSOR	REASON FOR INFEASIBILITY
City of Bellaire Drainage System Enhancements	Current inability to convey storm water adequately to Brays Bayou, therefore creating additional flooding risks. Determine partners, study alternatives, and develop cost estimates for improvements to increase capacity of the north/south drainage systems and Cypress Ditch.	City of Bellaire	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
City of Bellaire Backflow Prevention Systems	Include design and installation of backflow prevention systems in the upcoming Bonds for Better Bellaire 2016 Projects. Coordinate with neighboring agencies (e.g., TxDOT, COH, and HCFCD) to prevent backflow storm water from entering the City's underground drainage systems.	City of Bellaire	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
City of Bellaire Stormwater Infrastructure Maintenance	Perform routine maintenance, inspections, and repairs to storm water infrastructure	City of Bellaire	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
City of Bellaire Storm Communication Enhancements	Pre-populate communication outlets with needed information, allowing contacts to "opt-out", instead of having to "opt-in". Develop a communication matrix to outline what messages should be sent through which outlets.	City of Bellaire	Actions do not achieve flood risk reduction.
City of Bellaire Town Hall Meeting Actions	Create a hazard preparedness milestone for families. Utilize Town Hall meetings to discuss all hazard preparedness.	City of Bellaire	Actions do not achieve flood risk reduction.
City of Bellaire Storm Sewer Maintenance	Blockage of inlets and drainage systems by debris makes flooding more severe.	City of Bellaire	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
City of Bellaire S. Rice System Drainage Upgrades	The S. Rice drainage system within the City of Bellaire outfalls to Cypress Ditch with 2-8'x8' RCBs; there is also an overflow pipe to the S. Rice ditch south of Beechnut. The system is undersized for the large urban watershed area currently serviced by the major trunk line that outfalls into Brays Bayou.	City of Bellaire	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
City of Bellaire Railroad 96-inch Storm Sewer System Upgrades	Based on Sobek runs, this area has substantial ponding and as such storm water improvements are needed. The storm sewers are proposed on Mulberry and other lateral streets as shown on the City-wide storm sewer improvements exhibit.	City of Bellaire	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
City of Bellaire Southdale Drainage System Upgrades	The Baldwin Avenue extreme event storm sewer will be the primary drainage system for Southdale after all the intersecting streets have been reconstructed. Citizens have suggested that street flooding has increased after construction of the new Baldwin system.	City of Bellaire	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
City of Bellaire Community Input Strategy	At all stages of infrastructure project development in the floodplain, gather community input strategies to be examined; allowing the public to see the results, costs, and benefits for alternatives studied.	City of Bellaire	Actions do not achieve flood risk reduction.
City of Bellaire Code Updates	Review and revise the prioritization methods used to address problem flooding, combining multiple approaches that would include risk and event-based, as well as individual property damage and clustered property damage.	City of Bellaire	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
Waller County Hazard Mitigation Plan (2017)	All projects identified within this document.	Waller County	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
Walker County Hazard Mitigation Plan (2017)	All projects identified within this document.	Walker County	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
Montgomery County Hazard Mitigation Plan (2017)	All projects identified within this document.	Montgomery County	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
Liberty County Hazard Mitigation Action Plan (2017)	All projects identified within this document.	Liberty County	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
Grimes County Hazard Mitigation (2013)	All projects identified within this document.	Grimes County	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
Galveston County Multi-Jurisdiction Hazard Mitigation Plan (2017)	All projects identified within this document.	Galveston County	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.

Appendix 2-D - List of Infeasible Actions

ACTION / DOCUMENT NAME	DESCRIPTION	SPONSOR	REASON FOR INFEASIBILITY
Harris County All Hazard Mitigation Action Plan (2013)	All projects identified within this document.	Harris County	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
City of Arcola - Fort Bend County Hazard Mitigation Plan (2017)	All projects identified within this document.	Fort Bend County	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
Chambers County Hazard Mitigation Plan (2017)	All projects identified within this document.	Chambers County	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
Fort Bend County 2014 Capital Improvement Plan	All projects identified within this document.	Fort Bend County	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
Brazoria County 2017 Hazard Mitigation Plan	All projects identified within this document.	Brazoria County	Actions proposed prior to 2018 likely do not account for Atlas 14 rainfall data nor do they account for extensive disaster recovery efforts after Hurricane Harvey.
City of Bellaire Fiscal Year 2018 Capital Improvement Plan	All unfunded projects identified within this document.	City of Bellaire	Actions do not achieve flood risk reduction.
City of Bellaire Wastewater Treatment Plant Projects	Unfunded CDBG-MIT Application. To address resiliency and protection during storm events, all new facilities will be designed to withstand a Category 5 storm event.	Houston-Galveston Area Council (HGAC), City of Bellaire	Actions do not achieve flood risk reduction.
Hitchcock Sewer System Project	Unfunded CDBG-MIT Applications. The purpose of this project is to repair damages due to storm flooding to the wastewater system and restore these using flood-tight construction mitigation efforts.	Houston-Galveston Area Council (HGAC)	Actions do not achieve flood risk reduction.
Texas Historical Commission Mitigation Application 1 - San Jacinto Monument	Unfunded CDBG-MIT Application. This activity aims to strengthen the Monuments ability to withstand the increasing numbers and intensity of storms identified in the Texas assessment.	Texas Historical Commission	Actions do not achieve flood risk reduction.
Golden Acres WWTP	FIF Application	City of Pasadena	Actions do not achieve flood risk reduction.