



APPENDIX A. ADOPTION RESOLUTIONS

Fort Bend County adoption resolutions will be included in this appendix upon receipt of the Federal Emergency Management Agency (FEMA) Approval Pending Adoption (APA) status. This appendix also includes an example resolution to be submitted by Fort Bend County authorizing adoption of the Fort Bend Hazard Mitigation Plan Update.

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RESOLUTION NO. XXXX-XX
A RESOLUTION OF THE Governing Body OF THE Jurisdiction Name
AUTHORIZING THE ADOPTION OF THE
2023 FORT BEND HAZARD MITIGATION ACTION PLAN UPDATE

WHEREAS, Fort Bend has exposure to natural hazards that increase the risk to life, property, environment, and the County and local economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition between Fort Bend County and participating municipalities with like planning objectives has been formed to pool resources and create consistent mitigation strategies within the Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED that the [jurisdiction name]:

- 1) Adopts in its entirety, the 2023 Fort Bend Hazard Mitigation Plan (the "Plan") as the jurisdiction's Hazard Mitigation Plan and resolves to execute the actions identified in the Plan that pertain to this jurisdiction.
- 2) Will use the adopted and approved portions of the Plan to guide pre- and post-disaster mitigation of the hazards identified.
- 3) Will coordinate the strategies identified in the Plan with other planning programs and mechanisms under its jurisdictional authority.
- 4) Will continue its support of the Planning Team as described within the Plan.
- 5) Will help to promote and support the mitigation successes of all participants in this Plan.
- 6) Will incorporate mitigation planning as an integral component of government and partner operations.
- 7) Will provide an update of the Plan in conjunction with the County no less than every five years.

PASSED AND ADOPTED on this Xst, Xnd, Xrd, Xth day of MONTH, YEAR, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:





Mayor, City/Village/Town of _____

ATTEST: _____

Clerk, City/Village/Town of _____

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APPENDIX B. PARTICIPATION MATRIX

The matrix in Appendix B is intended to give a broad overview of FEMA, the State of Texas, county, municipal and stakeholder personnel that participated in the Fort Bend County HMP update planning process. Meeting attendees and input provided are also included. All participants were encouraged to attend the kick-off meeting and mitigation workshop. During the planning process the consultant contacted each participant to offer support, explain the process, and facilitate the submittal and review of critical documents.

Participation is defined as having input to the hazard analysis (providing critical facility, hazard event, vulnerability data), and as having participated in the mitigation workshop or alternate annex meetings as described in the HMP for the purpose of creating a mitigation strategy to be included in each jurisdictional annex in Section 9. A list of participating jurisdictions and representatives is found in Table B-1.

Several stakeholders were invited to participate in the planning process. Stakeholders were invited to meetings, asked to complete a stakeholder survey, requested to provide input on their involvement in Planning Area, and review and comment on the draft plan. However, due to the limitations on participation posed by the pandemic starting in 2020 and the strains on time and resources for many local governments and other community organizations, participation of stakeholders at the municipal level was limited. In accordance with FEMA guiding principles for inclusive participation at various levels, the planning team will place a high priority on an expanded effort on stakeholder participation with local planning committees in future plan updates. A list of stakeholders and their participation is found in Table B-2.

In preparation for the draft plan public review, each jurisdiction was asked to have their 'mitigation team' review their annex to ensure it was complete and accurate for posting to Fort Bend County's HMP website (<https://www.fortbendcountytxhmp.com/>).



Table B-1. Participation Matrix

Jurisdiction	Name	Title / Position	Attended Pre-Kick Off Meeting (09/26/22)	Attended SC Mtg #1 (11/09/22)	Municipal Kickoff Mtg (11/16/22)	Attended SC Mtg #2 (02/09/23)	Risk Ranking and Mitigation Strategy Workshop (03/29/23)	Attended SC Mtg #3 (05/30/23)	Attended Draft Plan Meeting (6/20/23)	Feedback Provided	Steering Committee Member	Planning Team Member
Fort Bend County HS&EM	Greg Babst	IHS&EM Interim Director	X	X		X	X		X	X	X	X
Fort Bend County HS&EM	Andrea James	Planning Coordinator		X	X	X	X			X		X
Fort Bend County Engineering	Mark Vogler	Chief Drainage Engineer		X	X	X	X		X	X		X
Fort Bend County HS&EM	Charles Brockett	Planning Coordinator		X	X		X			X		X
Fort Bend County	Vanessa McKeehan	Grant Manager		X						X		X
Fort Bend County Road and Bridge	Scott Wiegat	Director		X	X	X	X		X	X		X
Fort Bend County	Craig Kalkomey	Director of Fort Bend Utility		X	X	X	X		X	X		X
Fort Bend County HS&EM	Mark Flathouse	County EMC		X						X		X
Fort Bend County	Mary Staff	Project Manager / PIO		X						X		X
Fort Bend County Justice of the Peace	Elida Ubernosky	Court Clerk			X					X		X
Fort Bend County Fire Marshal	Douglas Barnes	Assistant Chief Fire Marshal			X					X		X
Fort Bend County HS&EM	Shayna Van Slyke	Administrative Manager			X					X		X
Fort Bend County Drainage District	Jeffery Janecek	Assistant Engineer			X					X		X
Fort Bend County HS&EM	Rodney Grimmer	Senior Planning Coordinator		X	X	X				X		X
Fort Bend County HS&EM	Vladimir Hidrovo	CERT Coordinator			X					X		X
Fort Bend County Engineering	Rick Staigle	Assistant County Engineer		X	X	X				X		X
Fort Bend County	Amanda Bronsell	Precinct 1 Staff Director								X		X
Fort Bend County Sheriff's Office	Ishokee Craven	Administrator								X		X
Fort Bend County	Michael Wagner	Special Projects Coordinator				X	X			X		X



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Fort Bend County Commissioners Court	Andy Meyers	Precinct 3								X		X
Fort Bend County Commissioners Court	Grady Prestage	Precinct 2			X					X		X
Fort Bend County Commissioners Court	Ken DeMerchant	Precinct 4								X		X
Fort Bend County Commissioners Court	Vincent Morales	Precinct 1								X		X
Fort Bend County Community Development	Carol Borrego	Director				X	X		X	X		X
Fort Bend County County Judge	Shaneka Smith	Chief of Staff								X		X
Fort Bend County Engineering	Stacy Slawinski	County Engineer			X					X		X
Fort Bend County HS&EM	Christina Honzell	Regional Planner								X		X
Fort Bend County HS&EM	Frank Garza	Regional Planner								X		X
Fort Bend County	Janeen Spates	Community Development							X	X		
Fort Bend County	Andy Myers	Commissioner							X	X		
Fort Bend County	Andrew Vanchau	FBC Precinct 3							X	X		
	Sharon Valiante								X	X		
Houston UASI	Shenae Theriot-Mericle	UASI Grants Manager								X		X
Inframark	Russell Piper	Manager			X					X		X
Levee Management Services	Jeff Perry	Operator			X					X		X
Quail Valley UD	Hector Acevedo	Utility Operator			X					X		X
LID Solutions	Tyler Werlin	Operations Consultant			X					X		X
Brazos River Authority	Tiffany Malzahn	Environmental and Compliance Manager			X					X		X





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Brazos River Authority	Donnie Naylor	EMC			X					X		X
Arcola (C)	Annette Guajardo	City Administrator			X					X		X
Arcola (C)	Fred Burton	Mayor								X	X	X
Beasley (C)	Misty Tiemann	City Secretary		X	X		X		X	X		X
Beasley (C)	Kenneth Reid	Mayor								X	X	X
Fairchilds (V)	Lance Bertolino	Mayor								X		X
Fulshear (C)	Felix Vargas	Sergeant		X	X				X	X		X
Fulshear (C)	Kenny Seymour	Chief of Police			X					X		X
Fulshear (C)	Aaron Groff	Mayor								X	X	X
Katy (C)	Milena Rucker	Senior Administrative Assistant								X		X
Katy (C)	Lindsay Kerr	Executive Assistant										
Katy (C)	Byron Hebert	City Administrator								X		X
Katy (C)	William "Dusty" Thiele	Mayor								X		X
Kendleton (C)	Christina Flores	City Secretary		X	X					X		X
Kendleton (C)	Darryl Humphrey Sr.	Mayor								X	X	X
Meadows Place (C)	Gary Stewart	Chief of Police		X	X				X	X		X
Meadows Place (C)	Jack Ashton	Assistant Chief of Police		X	X				X	X		X
Meadows Place (C)	Rod Hailey	Public Works Director		X	X					X		X
Meadows Place (C)	Charles Jessup	Mayor								X	X	X
Missouri City (C)	David Jordan	City Manager		X						X		X
Missouri City (C)	Trameka Jewett	EMC		X	X				X	X		X
Missouri City (C)	Sashi Kumar	Public Works Director		X	X					X		X
Missouri City (C)	Robin Elackatt	Mayor								X	X	X
Needville (C)	Michael Dickerson	Chief of Police								X		X
Needville (C)	Sandra Dorr	Mayor								X		X
Orchard (C)	Rodney Pavlock	Mayor								X	X	X
Pearland (C)	Tom Reid	Mayor								X		X
Pleak (V)	Jordan Blegan	Fire Chief								X		X
Pleak (V)	Larry Bittner	Mayor			X					X	X	X
Richmond (C)	Robert Oliver	EMC		X	X		X		X	X		X





Jurisdiction	Name	Title / Position	Attended Pre-Kick Off Meeting (09/26/22)	Attended SC Mtg #1 (11/09/22)	Municipal Kickoff Mtg (11/16/22)	Attended SC Mtg #2 (02/09/23)	Risk Ranking and Mitigation Strategy Workshop (03/29/23)	Attended SC Mtg #3 (05/30/23)	Attended Draft Plan Meeting (6/20/23)	Feedback Provided	Steering Committee Member	Planning Team Member
Richmond (C)	Jim Whitehead	Parks Superintendent		X	X				X	X		X
Richmond (C)	Rebecca Haas	Mayor								X	X	X
Rosenberg (C)	Darrell Himly	Fire Chief		X	X					X		X
Rosenberg (C)	Rigo Calzoncin	Director of Public Services		X	X				X	X		X
Rosenberg (C)	Kevin Raines	Mayor								X	X	X
Simonton (C)	Erica Molina	Secretary/EMC		X	X		X		X	X		X
Stafford (C)	Cecil Willis Jr.	Mayor								X		X
Stafford (C)	Larry Di Camillo	Fire Chief								X		X
Stafford ©	AJ Honore	Mayor									X	
Sugar Land (C)	Gabriel Lavine	EMC		X	X		X			X		X
Sugar Land (C)	Joe R. Zimmerman	Mayor								X	X	X
Sugar Land (C)	Caroline Egan								X			
Thompsons (T)	Gina Treadgold	Alderman								X		X
Thompsons (C)	Freddie Newsome	Mayor								X	X	X
Thompsons (C)	Keelan Spaulding	Fire Department							X	X		X
Weston Lakes (C)	David Heslep	EM Coordinator								X		X
Weston Lakes ©	Jeremy Barcomb	City Secretary					X			X		

Table B-2. Stakeholder Participation Matrix

Organization/Title	Stakeholder Type	Notified of Planning Process	Invited to Meetings	Attended Meetings	Invited to Take Survey	Completed Survey	Notified of Posting of Draft Plan
University of Houston at Sugar Land	Academia	X			X - 3/23/23		
Fort Bend CISD	Academia	X			X - 3/23/23		
Katy Independent School District	Academia	X			X - 3/23/23		
Lamar Consolidated Independent School District	Academia	X			X - 3/23/23		
Houston IISD	Academia	X			X - 3/23/23		



Organization/Title	Stakeholder Type	Notified of Planning Process	Invited to Meetings	Attended Meetings	Invited to Take Survey	Completed Survey	Notified of Posting of Draft Plan
Stafford Municipal School District	Academia	X			X - 3/23/23		
Texas State Technical College	Academia	X			X - 3/23/23		
Brazos ISD	Academia	X			X - 3/23/23		
Houston Community College	Academia	X			X - 3/23/23		
Houston Community College	Academia	X			X - 3/23/23		
Needville ISD	Academia						
Arcola/Fresno Club	Associations, Civic Groups	X			X - 3/23/23		
Second Mile	Associations, Civic Groups	X			X - 3/23/23		
Rosenberg Housing Authority	Associations, Civic Groups	X			X - 3/23/23		
Pinnacle Senior Center Staff	Associations, Civic Groups	X			X - 3/23/23		
American Red Cross Texas Gulf Coast Region	Associations, Civic Groups	X			X - 3/23/23		
Needville American Legion	Associations, Civic Groups						
Calpine	Commercial and Industrial Interests	X			X - 3/23/23		
Fort Bend Chamber of Commerce	Commercial and Industrial Interests	X			X - 3/23/23		
Fort Bend County EDC	Commercial and Industrial Interests	X			X - 3/23/23		
Fort Bend Herald	Commercial and Industrial Interests	X			X - 3/23/23		
Central Fort Bend	County Agencies	X			X - 3/23/23		
Houston-Galveston Area Council	County Agencies	X			X - 3/23/23		
Fort Bend County Collaborative	County Agencies	X			X - 3/23/23		



Organization/Title	Stakeholder Type	Notified of Planning Process	Invited to Meetings	Attended Meetings	Invited to Take Survey	Completed Survey	Notified of Posting of Draft Plan
Information System							
Fort Bend County Emergency Medical Service	Emergency Services	X			X - 3/23/23		
Houston Methodist Sugar Land Hospital	Hospitals and Health Care						
Memorial Hermann Sugar Land Hospital	Hospitals and Health Care						
OakBend Medical Center	Hospitals and Health Care						
Fort Bend Hope	Non-Profits	X			X - 3/23/23		
Hope Fort Bend Clubhouse	Non-Profits	X			X - 3/23/23		
Fort Bend Women's Center	Non-Profits	X			X - 3/23/23		
East Fort Bend Human Needs Ministry	Non-Profits	X			X - 3/23/23		
Wharton County	Surrounding Counties	X			X - 3/23/23		
Harris County	Surrounding Counties	X			X - 3/23/23		
Waller County	Surrounding Counties	X			X - 3/23/23		
Brazoria County	Surrounding Counties	X			X - 3/23/23		
Austin County	Surrounding Counties						
Houston Southwest Airport	Transportation	X			X - 3/23/23		
Fort Bend County Public Transportation	Transportation	X			X - 3/23/23		
Fort Bend County MUD #207	Utilities and Infrastructure	X			X - 3/23/23		
North Mission Glen Municipal Utility District	Utilities and Infrastructure	X			X - 3/23/23		



Organization/Title	Stakeholder Type	Notified of Planning Process	Invited to Meetings	Attended Meetings	Invited to Take Survey	Completed Survey	Notified of Posting of Draft Plan
Brazoria-Fort Bend Counties Municipal Utility District No. 1	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County MUD #218	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County MUD #128	Utilities and Infrastructure	X			X - 3/23/23		
Brazoria County Municipal Utility District No. 22	Utilities and Infrastructure	X			X - 3/23/23		
Cinco MUD #7	Utilities and Infrastructure	X			X - 3/23/23		
Cinco MUD #9	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County LID 7	Utilities and Infrastructure	X			X - 3/23/23		
Grand Lakes Municipal Utility District No. 1	Utilities and Infrastructure	X			X - 3/23/23		
Quail Valley Utility District	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County MUD #115	Utilities and Infrastructure	X			X - 3/23/23		
Pecan Grove MUD	Utilities and Infrastructure	X			X - 3/23/23		
Brazos River Authority	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County MUD #146	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County LID 6	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County MUD #22	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County LID 11	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County LID 17	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County LID 19	Utilities and Infrastructure	X			X - 3/23/23		



Organization/Title	Stakeholder Type	Notified of Planning Process	Invited to Meetings	Attended Meetings	Invited to Take Survey	Completed Survey	Notified of Posting of Draft Plan
First Colony LID	Utilities and Infrastructure	X			X - 3/23/23		
First Colony Levee Improvement District	Utilities and Infrastructure	X			X - 3/23/23		
First Colony LID 1	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County MUD #195	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County MUD #198	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County MUD #42	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend-Waller Counties Municipal Utility District No. 3	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County LID 2	Utilities and Infrastructure	X			X - 3/23/23		
Quail Valley UD	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County MUD # 46	Utilities and Infrastructure	X			X - 3/23/23		
Harris-Fort Bend Counties Municipal Utility District No. 1	Utilities and Infrastructure	X			X - 3/23/23		
Needville Water	Utilities and Infrastructure	X			X - 3/23/23		
Levee Management Services	Utilities and Infrastructure	X			X - 3/23/23		
Fort Bend County LID 15	Utilities and Infrastructure	X			X - 3/23/23		
Brazos River Authority	Utilities and Infrastructure	X			X - 3/23/23		
Fulshear Water	Utilities and Infrastructure	X			X - 3/23/23		
Willow Fork Drainage District	Utilities and Infrastructure	X			X - 3/23/23		



Organization/Title	Stakeholder Type	Notified of Planning Process	Invited to Meetings	Attended Meetings	Invited to Take Survey	Completed Survey	Notified of Posting of Draft Plan
Williams Ranch Municipal Utility District No. 1	Utilities and Infrastructure	X			X - 3/23/23		
AquaTexas	Utilities and Infrastructure						
Big Oaks Municipal Utility District	Utilities and Infrastructure						
BURNEY RD MUD	Utilities and Infrastructure						
CenterPoint	Utilities and Infrastructure						
Consolidated Communications	Utilities and Infrastructure						
Cornerstones Municipal Utility District	Utilities and Infrastructure						
First Colony Levee Improvement District 2	Utilities and Infrastructure						
First Colony LID 2	Utilities and Infrastructure						
FIRST COLONY MUD #10	Utilities and Infrastructure						
Fort Bend County Fresh Water Supply District 2	Utilities and Infrastructure						
Fort Bend County LID 14	Utilities and Infrastructure						
Fort Bend County LID 20	Utilities and Infrastructure						
Fort Bend County MUD #116	Utilities and Infrastructure						
Fort Bend County MUD #118	Utilities and Infrastructure						
Fort Bend County MUD #119	Utilities and Infrastructure						
Fort Bend County MUD #129	Utilities and Infrastructure						



Organization/Title	Stakeholder Type	Notified of Planning Process	Invited to Meetings	Attended Meetings	Invited to Take Survey	Completed Survey	Notified of Posting of Draft Plan
Fort Bend County MUD #131	Utilities and Infrastructure						
Fort Bend County MUD #134 B	Utilities and Infrastructure						
Fort Bend County MUD #134 C	Utilities and Infrastructure						
Fort Bend County MUD #136	Utilities and Infrastructure						
Fort Bend County MUD #137	Utilities and Infrastructure						
Fort Bend County MUD #138	Utilities and Infrastructure						
Fort Bend County MUD #139	Utilities and Infrastructure						
Fort Bend County MUD #140	Utilities and Infrastructure						
Fort Bend County MUD #142	Utilities and Infrastructure						
Fort Bend County MUD #149	Utilities and Infrastructure						
Fort Bend County MUD #151	Utilities and Infrastructure						
Fort Bend County MUD #152	Utilities and Infrastructure						
Fort Bend County MUD #185	Utilities and Infrastructure						
Fort Bend County MUD #187	Utilities and Infrastructure						
Fort Bend County MUD #194	Utilities and Infrastructure						
Fort Bend County MUD #2	Utilities and Infrastructure						
Fort Bend County MUD #225	Utilities and Infrastructure						
Fort Bend County MUD #23	Utilities and Infrastructure						
Fort Bend County MUD #24	Utilities and Infrastructure						



Organization/Title	Stakeholder Type	Notified of Planning Process	Invited to Meetings	Attended Meetings	Invited to Take Survey	Completed Survey	Notified of Posting of Draft Plan
Fort Bend County MUD #25	Utilities and Infrastructure						
Fort Bend County MUD #26	Utilities and Infrastructure						
Fort Bend County MUD #34	Utilities and Infrastructure						
Fort Bend County MUD #41	Utilities and Infrastructure						
Fort Bend County MUD #46	Utilities and Infrastructure						
Fort Bend County MUD #47	Utilities and Infrastructure						
Fort Bend County MUD #48	Utilities and Infrastructure						
Fort Bend County MUD #81	Utilities and Infrastructure						
Fort Bend County Water Control and Improvement District 3	Utilities and Infrastructure						
Grand Mission MUD #1	Utilities and Infrastructure						
LID Solutions	Utilities and Infrastructure						
MEADOWCREEK MUD (PARTIALY IN PCT 3)	Utilities and Infrastructure						
PALMER MUD #1	Utilities and Infrastructure						
PALMER MUD #2	Utilities and Infrastructure						
Palmer Plantation MUD # 1	Utilities and Infrastructure						
Palmer Plantation MUD # 2	Utilities and Infrastructure						
Palmer Plantation MUD #1	Utilities and Infrastructure						
Pecan Grove Municipal Utility District	Utilities and Infrastructure						



Organization/Title	Stakeholder Type	Notified of Planning Process	Invited to Meetings	Attended Meetings	Invited to Take Survey	Completed Survey	Notified of Posting of Draft Plan
Sienna Parks & LID	Utilities and Infrastructure						
WEST KEEGANS BAYOU IMP DIST	Utilities and Infrastructure	X			X - 3/23/23		

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APPENDIX C. MEETING DOCUMENTATION

Appendix C includes meeting agendas, sign-in sheets, and minutes (where applicable and available) for meetings convened during the development of the Fort Bend County Hazard Mitigation Plan Update.

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Fort Bend County HMP Update Pre-Kick-Off Meeting - Agenda September 26, 2022



1. **Meeting Goals:** Agree on draft workplan and schedule; determine degree of support for CRS credits; confirm SOW and additional items; agree on areas to expedite; agree on schedule drivers; confirm County and Tt responsibilities

2. Introductions

3. Planning Team

- Core Planning Team (CPT) meetings –
 - Fort Bend OEM
 - Tetra Tech
- Steering Committee -
 - Commissioners Court
 - Community Development
 - Drainage District
 - Engineering
 - OEM
 - Road and Bridge
- Local Mitigation Planning Team –
 - Steering Committee and municipalities:

▪ Fort Bend County	▪ Needville (C)
▪ Arcola (C)	▪ Orchard (C)
▪ Beasley (C)	▪ Pearland (C) (CRS 6) <i>did not participate in 2018</i>
▪ Fairchilds (V)	▪ Pleak (V)
▪ Fulshear (C)	▪ Richmond (C)
▪ Katy (C) <i>did not participate in 2018</i>	▪ Rosenberg (C)
▪ Kendleton (C)	▪ Simonton (C)
▪ Meadows Place (C)	▪ Stafford (C)
▪ Missouri City (C) (CRS 7)	▪ Thompsons (T)
	▪ Weston Lakes (C)
- Stakeholders
 - Businesses
 - Coastal Plains Soil and Water Conservation District
 - Fort Bend Chamber of Commerce
 - Health care – hospitals, clinics, nursing homes, local and county health departments
 - Levee Improvement Districts
 - Municipal and County Services – OEM, police, fire, roads/bridges, etc.
 - Neighboring Counties
 - Schools/Universities
 - Utility Providers – phone/electricity/water/gas
- Public meetings – all planning team meetings will be open to the public

4. Data Collection



Fort Bend County HMP Update Pre-Kick-Off Meeting - Agenda September 26, 2022



- Grant agreement from TDEM and FEMA – if applicable
- FEMA Plan Review Tool from previous plan
- Stakeholders
- Information Gathering Worksheets
- Critical Facility Inventory
- Data Wish List
- NFIP Data Request
- FEMA CAV request
- Dam request
- HMP website

5. Hazards of Concern Identification

- Tt suggests the following (but will confirm with the Planning Partnership during their kick-off meeting):

2018 HMP	2019 State HMP	2023 County HMP Update
Dam/Levee Failure	Dam/Levee Failure	Dam/Levee Failure
Drought	Drought	Drought
Expansive Soils	Expansive Soils	Expansive Soils
Extreme Heat	Extreme Heat	Extreme Temperature (heat/cold)
Floods	Riverine Flooding	Flood (Riverine/Flash/Stormwater)
Hailstorms	Hailstorms	Hailstorms
Hurricanes/Tropical Storms	Hurricanes, Tropical Storms and Depressions	Hurricanes and Tropical Storms
Land Subsidence	Land Subsidence	Land Subsidence
Lightning	Lightning	Lightning
-	-	Pandemic/Disease Outbreak
Tornadoes	Tornadoes	Tornado
Wildfires	Wildfire	Wildfire
Windstorms	Severe Winds	Windstorms
Severe Winter Storms	Winter Weather	Winter Weather
-	Severe Coastal Flooding	-
-	High Wind	-
-	Earthquakes	-
-	Extreme Cold	-
-	Coastal Erosion	-
-	Inland Erosion	-

6. Public and Stakeholder Outreach

- Steering Committee
- Planning Partnership
- Stakeholders



Fort Bend County HMP Update Pre-Kick-Off Meeting - Agenda September 26, 2022



- General Public

7. In-Kind Services Tracking

8. Work Plan

- Current plan expires in February 2023
- Kick-Off Meetings
 - Core Planning Team – September 26th
 - Steering Committee – week of October 10th
 - Planning Partnership – week of October 17th
- Goals and Objectives –
 - Steering Committee – week of November 7th
- Mitigation Strategy Workshop – December 2022
- Risk Assessment Workshop – February 2023 (Tt to confirm with GIS of their schedule)
- Public Review Period – February 2023 (14 days)
- Draft to TDEM – March 2023
- Draft to FEMA – April 2023
- Tentative APA – May 2023
 - If the plan is approved before mid-July 2023, there should be no ramifications of having a lapse between expiration date and approval date
 - Fort Bend County to notify TDEM of this schedule to confirm this submittal date is acceptable

9. Next Steps



Virtual Meeting

[Join Online](#) | Meeting ID: 253 766 967 547 | Passcode: 2udezq

Or

Dial-in Number (toll): 832-856-3579 | Conference ID: 561 368 964#

1. **Welcome and Introductions**
2. **In-Kind Services Tracking**
3. **Benefits of Hazard Mitigation and Overview**
 - Purpose and expected outcomes of the Hazard Mitigation Plan
 - 2023 enhancements
4. **Project Organization**
 - Key Agencies
 - Municipal Participants
 - Stakeholders
5. **Steering Committee Roles and Responsibilities**
6. **Hazards of Concern Identification**
7. **Critical Facilities and Lifelines**
8. **Goals and Objectives**
9. **Public and Stakeholder Outreach**
 - Strategy – press releases, social media posts, capture of miscellaneous outreach, HMP website
 - Tracking
10. **Schedule**
 - Overview and Milestones
 - Meeting Schedule
11. **Questions / Wrap-Up**



Purpose of Meeting: Planning Partnership Meeting #1

Location of Meeting: Microsoft Teams

Date/Time of Meeting: November 9, 2022

Attendees: Misty Tiemann- Secretary of Beasley
 Rodney Grimmer-Senior Coordinator of Fort Bend
 Andrea James- Planning Coordinator of Fort Bend
 Charles Brockett- Fort Bend
 Mark Vogler-Fort Bend
 Mary Staff-Fort Bend
 Scott Wiegat-Fort Bend
 Vanessa McKeenan-Fort Bend
 Greg Babst- Deputy Coordinator of County HS&EM
 Mark Flathouse-County EMC
 Craig Kalkomey-Director of Fort Bend Utility Auth.
 Felix Vargas-Fulshear
 Christina Flores-City of Kendleton Secretary
 Gary Stewart Chief of Police of Meadows Place
 Jack Ashton- Meadows Place Asst. Chief of Police
 Rod Haaney- Public Works Director of Meadows Place
 Trameka Jewett-EMC for Missouri City
 Jim Whitehead- Richmond
 Robert Oliver-Richmond
 Darrell Himly-Rosenberg
 Rigo Calzoncin-Rosenberg
 Erica Molina-Simonton
 Gabriel Lavine-Sugar Land
 Brian Rutherford-Tetra Tech
 Heather Apgar-Tetra Tech
 (281) 533-0172
 David Jordan (Guest)
 Melissa
 Rick Staigle
 Shashi Kumar (Guest)

Agenda Summary: HMP Overview, Planning partnership, public and stake holder outreach, worksheets

Item No.	Description	Action By:
1.	Welcome and Introductions •	Heather
2.	In-Kind Tracking •	Heather
3.	Benefits of Hazard Mitigation and Overview •	Heather
4.	Project Organization and Overview •	Heather



5.	Steering Committee Roles and Responsibilities •	Heather
6.	Hazards of Concern Identification	
7.	Critical Facilities and Lifelines •	Heather
8.	Goals and Objectives	
9.	Public and Stakeholder Outreach	
10.	Schedule	
11.	Questions/Wrap-Up	



Fort Bend County, Texas Hazard Mitigation Plan – 2023 Update

Steering Committee Kick-Off Meeting | November 9, 2022

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Agenda



- Welcome and Introductions
- Benefits of Hazard Mitigation
- Hazard Mitigation Planning Overview
- Project Organization
- Steering Committee Responsibilities
- Public and Stakeholder Outreach
- Update Hazards of Concern and Risk Assessment
- Critical Facilities and Lifelines
- Goals and Objectives
- Schedule
- Questions/Next Steps/Wrap Up



3

3



Hazard Mitigation Planning Overview

- What is hazard mitigation?
- How does this support resiliency and recovery?
- Why update the plan?
- What is the process?

- ✓ Authorized by the Disaster Mitigation Act of 2000
- ✓ Provides an overview of the impacts of natural hazards on communities
- ✓ Provides a roadmap to reducing the impact of these hazards
- ✓ Requires a FEMA-approved natural hazard mitigation plan to be eligible for Pre-Disaster Mitigation Funding
- ✓ 5 year updates required to maintain eligibility



4



Hazard Mitigation – What is it?

Mitigation is a sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event

-or-

Any action taken to reduce future disaster losses

“provides the blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and local ability...” (CFR).



5

Why Update?

- The mitigation plan update will:
 - Help the County prepare for and mitigate the effects of disasters
 - Continue to allow the County and participating partners to be eligible for pre- and post-disaster mitigation funding
 - Support Community Rating System (CRS) participation/rating of municipalities

Hazard	Losses (1950 - June 2022)
Dam/Levee Failure	-
Drought	\$1 million (property) \$7.3 million (crop)
Expansive Soils	-
Extreme Cold	-
Extreme Heat	-
Flood (Flash)	\$805 billion (property) \$52,000 (crop)
Hailstorms	\$2.897 million (property)
Hurricanes	\$400 million (property)
Land Subsidence	-
Lightning	\$574,000 (property)
Pandemic/Disease Outbreak	-
Tropical Storms	\$12.34 million (property)
Tornadoes	\$16.183 million (property)
Wildfires	-
Windstorms	-
Severe Winter Storms	-
TOTAL	\$805,432,994 billion (property) \$7.404 million (crop)

Source: NOAA-NCEI 2022

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What's at Risk?

FEMA Disaster Declarations

-  11 Hurricane
-  5 Flood
-  3 Fire
-  3 Severe Storm(s)
-  2 Biological
-  2 Severe Ice Storm
-  1 Coastal Storm



Year of Declaration Date	Declaration Title	Disaster Number
1983	HURRICANE ALICIA	689
1991	SEVERE THUNDERSTORMS	930
1994	SEVERE THUNDERSTORMS AND FLOODING	1041
1998	TROPICAL STORM CHARLEY	1239
	TX-FLOODING 10/18/98	1257
1999	EXTREME FIRE HAZARDS	3142
2001	TX-TROPICAL STORM ALLISON-06-06-2001	1379
2002	SEVERE STORMS, TORNADOES AND FLOODING	1439
2005	HURRICANE KATRINA EVACUATION	3216
	HURRICANE RITA	1606
		3261
2006	EXTREME WILDFIRE THREAT	1624
	LAKE OLYMPIA FIRE	2639
2007	HURRICANE DEAN	3277
2008	HURRICANE GUSTAV	3290
	HURRICANE IKE	1791
		3294
2015	SEVERE STORMS, TORNADOES, STRAIGHT-LINE WINDS AND ...	4223
2016	SEVERE STORMS AND FLOODING	4269
		4272
2017	HURRICANE HARVEY	4332
2020	COVID-19	3458
	COVID-19 PANDEMIC	4485
	HURRICANE HANNA	3530
	TROPICAL STORMS MARCO AND LAURA	3540
2021	SEVERE WINTER STORM	3554
	SEVERE WINTER STORMS	4586

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Steering Committee Responsibilities

- Guide the Planning Team (jurisdictions) through the HMP update process
- Oversee the planning process from start to finish
- Actively contribute, review and provide feedback, identify mitigation actions, etc. This includes:
 - Formalizing the natural hazards of concern
 - Updating/developing mitigation goals and objectives
 - Developing a public and stakeholder outreach strategy
 - Assisting with the development of the county-level mitigation strategy
 - Reviewing plan documents



Update Risk Assessment

- Update assets
- Examine previous impacts
- Analyze risks
- Review with Steering Committee and Planning Partnership
- Risk assessment meeting – open to the public





2018 Hazards of Concern

- Dam/Levee Failure
- Drought
- Expansive Soils
- Extreme Heat
- Floods
- Hailstorms
- Hurricanes/Tropical Storms
- Land Subsidence
- Lightning
- Tornadoes
- Wildfires
- Windstorms
- Severe Winter Storms

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2023 Potential Hazards of Concern

- Dam/Levee Failure
- Derechos
- Drought
- **Extreme Temperature** (heat/cold)
- Flood (**Riverine/Flash/Stormwater**)
- **Geologic Hazards** (expansive soils, subsidence)
- Hurricane/Tropical Storm
- **Pandemic/Disease Outbreak**
- **Severe Weather** (Lighting/Hail/Wind/Derechos)
- Tornado
- Wildfire
- Winter Weather

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EXERCISE – Identifying Hazards of Concern

- Looking at the hazards included in the 2018 plan...
 - Have additional hazards impacted the County since 2018?
 - Have hazard been mitigated and no longer cause damage?
 - Should hazards be regrouped to align with the 2019 State HMP?
 - Should additional hazards be included?
- How have hazards affected the county? Where are your problem areas?
- Quick survey!
 - We will send around a quick online survey to get your input on the hazards of concern for the 2023 HMP – Stay tuned!



Community Lifelines

- Review 2018 critical facility inventory to ensure complete
- Crosswalk and identify lifelines

Lifelines provide indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security

Critical Facilities are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard. As defined for this HMP, critical facilities include essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities, and hazardous material facilities.

Essential facilities are a subset of critical facilities that include those facilities that are important to ensure a full recovery following the occurrence of a hazard event. For the County risk assessment, this category was defined to include police, fire, EMS, schools/colleges, shelters, senior facilities, and medical facilities.



Community Lifelines




- To be reviewed:
 - Alert and Warning Systems
 - Critical Infrastructure
 - Energy and Utilities
 - EMS sites
 - Fire departments
 - Government Services
 - Hazardous Facilities
 - Healthcare Facilities
 - Long Term Care Facilities
 - Mass Transit
 - Parks and Open Space
 - Police departments
 - Rail lines
 - Responder Communications
 - Rivers/Streams
 - Roadways
 - Sheltering Locations

Community Lifelines



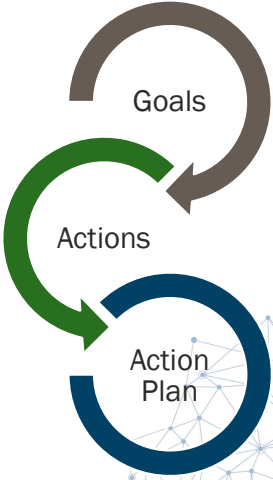

- What additional facilities and lifelines should we add? Types to consider:
 - Utility locations – substations, pump stations, treatment plants
 - Critical food establishments – food pantries, grocery stores, senior nutrition
 - COVID-19 locations – testing and vaccination sites
 - Others?






Mitigation Strategy

- Goals
 - What outcomes do you want to achieve?
- Actions
 - What specific actions will be taken to reduce risk from hazards?
- Action Plan
 - How will the actions be prioritized and implemented?

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Goals and Objectives Review and Update

Goal Number	Goal
1	Educate and inform citizens regarding potential emergency situations related to natural hazards, including those resulting from groundwater depletion.
2	Decrease the risk to life and property through planning, preparing and mitigating.
3	Performing projects that reduce the impact of natural hazards in order to increase resiliency and enhance the ability to recover.

Goal


Minimize new development in hazard-prone areas

Objectives

Reduce the number of vulnerable structures in flood hazard areas.

Actions

Amend zoning ordinance to permit only open space and uses within floodplains.



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Public and Stakeholder Outreach

- Social Media Posts
- Press Release
- HMP website – will work with the County to set this up
- Planning Partnership meetings open to the public
- Stakeholder Survey
- Public Survey
- Neighboring County Outreach
 - Notified of planning process
 - Survey



Next Steps / Upcoming Schedule


- Take online survey to update goals – *to be distributed via email*
- Planning Partnership Kick-Off (Steering Committee and Municipalities) – November 16th
- Steering Committee Meeting to discuss goals/objectives – December
- Mitigation Strategy Workshop – early February (tentatively)
- Risk Assessment Meeting – late March (tentatively)
- Public Review Period – April 2023
- Draft Plan to TDEM – April 2023
- Final Draft to FEMA – May 2023
- APA – June 2023




Questions?



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Fort Bend County Project Contacts		
Greg Babst, Deputy Emergency Management Coordinator (281) 238-3428 Gregory.Babst@fortbendcountytx.gov		
Tetra Tech Project Contacts		
Brian Rutherford, Project Manager (281) 414-6741 brian.rutherford@tetrattech.com	Heather Apgar, Lead Planner (973) 630-8046 heather.apgar@tetrattech.com	

Thank You!



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1. **Welcome and Introductions**
2. **In-Kind Services Tracking**
3. **Benefits of Hazard Mitigation and Project Overview**
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6. **Worksheets**
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 - Overview and Milestones
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Join meeting remotely:

- Dial-in by phone: 832-856-3579 Phone Conference ID: 706 121 334#
- Or join via MS Teams – [click here to join](#)
 - Meeting ID: 250 159 412 945
 - Passcode: Ckdtbd



Purpose of Meeting:	Planning Partnership Meeting #1
Location of Meeting:	Microsoft Teams
Date/Time of Meeting:	11 AM-November 16, 2022

Attendees: Heather Apgar- Tetra Tech Emily Vassallo-Tetra Tech Erika Corsi- Tetra Tech Brian Rutherford- Tetra Tech Jim Whitehead Rick Staigle FBC Jim Bass-Tetra Tech Rigo Calzoncin- City of Rosenberg, Director of Public Services Donnie Naylor-Brazos River Authority Emergency Management Coordinator Scott Wieghat-Fort Bend Tyler Werlin- LID Solutions Stacy Slawinski -Fort Bend Jeffery Janecek-Fort Bend Robert Oliver- City of Richmond EMC Trameka Jewett-Missouri City EMC Mark Vogler Annette Guajardo-Arcola Craig Kalkomey-Director of Fort Bend Utility Auth. Erica Molina-Simonton Felix Vargas-City of Fulshear Gabriel Lavine-Sugar Land Vladimir Hidrovo-Alban -Fort Bend Darrell Himly-Rosenberg Sashi Kumar	Tiffany Malzahn-Brazos River Authority Shayna Van Slyke-Fort Bend Misty Tiemann-Secretary of Beasley Rodney Grimmer-Senior Coordinator Fort Bend Andrea James-Planning Coordinator Fort Bend Charles Brockett-Fort Bend Mark Vogler Greg Babst-Deputy Coordinator Fort Bend HSEM Christina Flores- Secretary of Kendleton Gary Stewart- Chief of Police Meadows Place Jack Ashton- Assist. Police Chief Meadows Place Rod Hainey-Public Works Director Meadows Place 281-533-0172 832-361-9677 832-490-6903 Rick Staigle Douglas Barners-Fort Bend Elida Ubernosky-Fort Bend Grady Prestage Shenae Theriot-Mericle-UASI Grants Manager Christina Honzell-Fort Bend HSEM Regional Planner Frank Garza- Fort Bend HSEM Regional Planner Kenny Seymour-Fulshear Russell Piper-Inframark Jeff Perry-Levee Management Services Tyler Werlein-LID Solutions Larry Bittner- Mayor of Pleak Hector Acevedo-Quail Valley UD
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Agenda Summary:	HMP Overview, Planning partnership, public and stake holder outreach, worksheets
------------------------	--

Item No.	Description	Action By:
1.	Welcome and Introductions <ul style="list-style-type: none"> • Heather introduces 2023 HMP update- explains this meeting will assist how to fill out worksheets. 	-
2.	In-Kind Tracking <ul style="list-style-type: none"> • Explanation of participation recording: meetings, input, worksheets, outreach, surveys 	Tetra Tech to provide link to in-kind tracker
3.	Benefits of Hazard Mitigation and Overview <ul style="list-style-type: none"> • Make connections, evaluate risks, look at specific hazards and actions that can be taken. Integrating hazard mitigation plan into day-to-day operation, Incorporate new FEMA local HMP guidance • Need two mitigation actions for every HOC • Understand impact of climate change on hazards 	-



	<ul style="list-style-type: none"> Look at socially vulnerable populations- what is county and jurisdiction doing to address this? Overview is broken into 7 steps Hazard mitigation definition- sustained action taken to reduce or eliminate risk to life and property from a hazard event Why update? - FEMA requirement; helps look at new impacts/hazards; allows us to look at new data and allows municipalities to provide new input 	
4.	<p>Project Organization and Overview</p> <ul style="list-style-type: none"> Planning partnership- Each participating municipality that would like to adopt the plan; must complete worksheets, provide input to planners; attend meetings; identify mitigation actions for your community; involve the public <ul style="list-style-type: none"> Participation Tracker explanation Steering Committee- guides planning partnership and oversees planning process Stakeholders- local business, nonprofits, emergency services present in county TDEM- provide guidance to County to meet FEMA guides; will evaluate plan 	-
5.	<p>Update Risk Assessment</p> <ul style="list-style-type: none"> Look at previous impacts, update assets, analyze risks Review of 2018 HOC List 2023 Potential HOC <ul style="list-style-type: none"> Include Heat and Cold for extreme temp Include riverine/flash/stormwater flood Include severe weather as one HOC Pandemic/Health and Safety addition <p>Update Capability Assessment</p> <ul style="list-style-type: none"> Planning, Administrative, technical, financial, educational and outreach capabilities <p>Update Mitigation Strategy</p> <ul style="list-style-type: none"> Evaluate status of mitigation actions Identify New actions/projects Mitigation Workshop-TBD <p>Update Other Sections of Plan</p> <ul style="list-style-type: none"> County Profile Planning Process Plan Maintenance <p>Submit HMP for Review</p> <ul style="list-style-type: none"> Review draft with planning team Public review for 14 days 	Tetra Tech to distribute worksheets to participants
6.	<p>Went over each Worksheet</p> <ul style="list-style-type: none"> Worksheet A- first table is an explanation of affects felt from County and each jurisdiction from list of FEMA hazards in the worksheet; can add other events that were not FEMA declarations in second table: helps planners see damages and problems Worksheet B-We prepopulated data from 2018 plan; Looks at building code, zoning, and land use codes, staffing available, public outreach Worksheet C-NFIP, CRS Floodplain administrator questionnaire: whoever is most knowledgeable of NFIP program and flooding should fill out Worksheet E- new building permits, looks at new major development and anticipated major development; survey being sent out <p>Worksheet D- update mitigation strategy status from the plan in 2018 and note if it needs to be included in update; worksheets will be blank for those that did not participate in 2018 plan. Heather provides description of table information and status rankings: no progress, ongoing, complete. Another table present for additional actions/projects that may be needed</p>	Tetra Tech to distribute worksheets to participants



<p>7.</p>	<p>Public and Stakeholder Outreach</p> <ul style="list-style-type: none"> • Social Media Posts, • Press Release, • HMP website • Surveys for stakeholder, public and neighboring counties <ul style="list-style-type: none"> ◦ Heather provides information and tips for getting surveys out there; requests photos of social media posts and actions taken by jurisdictions to spread the word <p>Next Steps</p> <ul style="list-style-type: none"> • Heather provides tentative schedule to all meeting attendees • Complete worksheets, workshops, risk assessment meetings, public review, rough draft, final draft public review meeting • Submission to TDEM (30 days) • They can add comments for review • Submit to FEMA (45 days) • They can add comments for review • Approvable Pending Adoption Status • Then HMP can be adopted 	<p>-</p>
	<p>Worksheets-</p> <ul style="list-style-type: none"> • Worksheet A – Hazard Event History – dollar amounts incredibly helpful for this • Worksheet B – Capability Assessment • Worksheet C – NFIP FPA Questionnaire – best person to fill this out is Floodplain Admin – if no Floodplain Admin, person with most knowledge about flooding should fill this worksheet out • Worksheet D – Action Review – previous actions, need progress description of those actions for plan update. If no progress – please explain why • Worksheet E – Building Permits – need to document how much development has/will occur within the county in the next 5 years 	<p>Tetra Tech to distribute worksheets to participants</p>

Meeting concurred at 11:47 AM with no questions or concerns from the attendees. Craig and Brian offer help and assistance to all the municipalities involved.



Fort Bend County, Texas Hazard Mitigation Plan – 2023 Update

Planning Partnership Kick-Off Meeting | November 16, 2022

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Agenda



- Welcome and Introductions
- Hazard Mitigation Planning Overview
- Planning Partnership Responsibilities
- Public and Stakeholder Outreach
- Completing Worksheets
- Schedule
- Questions/Next Steps/Wrap Up



3

3



Hazard Mitigation Planning Overview

- What is hazard mitigation?
- How does this support resiliency and recovery?
- Why update the plan?
- What is the process?

- ✓ Authorized by the Disaster Mitigation Act of 2000
- ✓ Provides an overview of the impacts of natural hazards on communities
- ✓ Provides a roadmap to reducing the impact of these hazards
- ✓ Requires a FEMA-approved natural hazard mitigation plan to be eligible for Pre- and Post-Disaster Mitigation Funding
- ✓ 5-year updates required to maintain eligibility



4



Hazard Mitigation – What is it?

Mitigation is a sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event

-or-

Any action taken to reduce future disaster losses

“provides the blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and local ability...” (CFR).



5

Why Update?

- The mitigation plan update will:
 - Help the County prepare for and mitigate the effects of disasters
 - Continue to allow the County and participating partners to be eligible for pre- and post-disaster mitigation funding
 - Support CRS participation/rating of municipalities

Hazard	Losses (1950 - June 2022)
Dam/Levee Failure	-
Drought	\$1 million (property) \$7.3 million (crop)
Expansive Soils	-
Extreme Cold	-
Extreme Heat	-
Flood (Flash)	\$805 billion (property) \$52,000 (crop)
Hailstorms	\$2.897 million (property)
Hurricanes	\$400 million (property)
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Source: NOAA-NCEI 2022



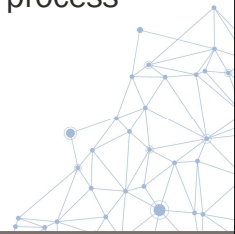
Project Organization





Planning Partnership Roles and Responsibilities

- As the municipal representative for your community, you need to actively participate throughout the process in order to be included in the plan. This includes:
 - Coordinate and facilitate local efforts
 - Attend meetings
 - Provide information and feedback (e.g., complete municipal worksheets)
 - Involve the public and community stakeholders in the planning process
 - Identify mitigation actions for your community
 - Adopt the plan
 - Implement the plan and monitor its progress
- All participation will be documented in the HMP



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Participation Tracker

Jurisdiction Name	Requirements Met (Y/N)					
	Planning Process	Hazard Identification and Risk Assessment	Mitigation Strategy	Plan Review, Evaluation, and Implementation	Plan Adoption	State Requirements



9

Update Risk Assessment

- Update assets
- Examine previous impacts
- Analyze risks
- Review with Steering Committee and Planning Partnership
- Risk assessment meeting – open to the public



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2018 Hazards of Concern

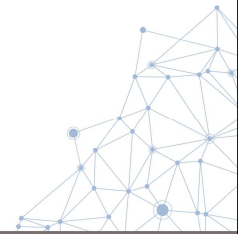
- Dam/Levee Failure
- Drought
- Expansive Soils
- Extreme Heat
- Floods
- Hailstorms
- Hurricanes/Tropical Storms
- Land Subsidence
- Lightning
- Tornadoes
- Wildfires
- Windstorms
- Severe Winter Storms

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2023 Potential Hazards of Concern

- Dam/Levee Failure
- Derechos
- Drought
- Earthquake?
- Expansive Soils
- Extreme Temperature (heat/cold)
- Flood (Riverine/Flash/Stormwater)
- Hailstorms
- Hurricane/Tropical Storm
- Inland Erosion
- Land Subsidence
- Lightning
- Pandemic/Health and Safety
- Severe Weather (Lightning/Hail/Wind)
- Tornado
- Wildfire
- Winter Weather



Worksheet A – Hazard Event History

Fort Bend County | Hazard Mitigation Plan 2023 Update
Worksheet A – Hazard Events

Please send all electronic Word versions by December 7, 2022:
Heather Aggar, Tetra Tech | heather.aggar@tetratech.com

Municipality: _____

Name and Title of Individual Completing Worksheet: _____

Fort Bend County has frequently experienced natural hazard events. Please complete the table below to summarize specific loss and damages experienced during hazard events since the last hazard mitigation plan update (2016). Information already populated in the table below is based on County-wide events that resulted in significant damages and losses.

Please update the table to provide a summary of local impacts to the listed events AND note other local hazard events that resulted in damages, closures, or other impacts:

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
01/20/2020 – continuing	EM-3458 – Covid-19	Yes	Covid-19	
01/20/2020 – continuing	DIR-4485 – Covid-19 Pandemic	Yes	Covid-19 pandemic declared	
07/25/2020 – 07/31/2020	EM-3530 – Hurricane Hanna	Yes	Hurricane force winds resulted in significant number of downed trees and utility lines.	
08/23/2020 – 08/27/2020	EM-3540 – Tropical Storms Marco and Laura	Yes	Hurricane Marco and Laura	
02/11/2021 – 02/21/2021	EM-3554 – Severe Winter Storm	Yes	Severe Winter Storm	
02/11/2021 – 02/21/2021	DIR-4586 – Severe Winter Storms	Yes	Winter Storm Uri distributed a record amount of snow throughout Texas. Snow, ice, and ultra-low temperatures caused widespread road closures.	


Fort Bend County | Hazard Mitigation Plan 2023 Update
Worksheet A – Hazard Events

Please identify other hazard events that have caused damage/losses in your community. Refer to FEMA project worksheets (PWS), overtime records, police/fire reports, repair costs (invoices), etc.

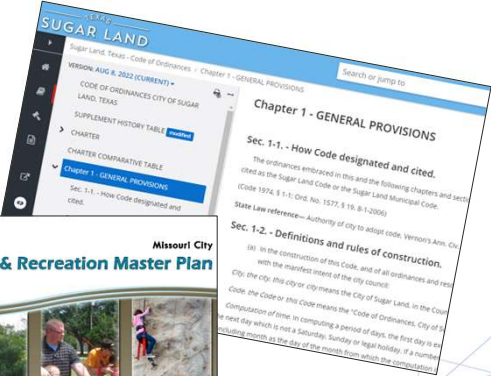
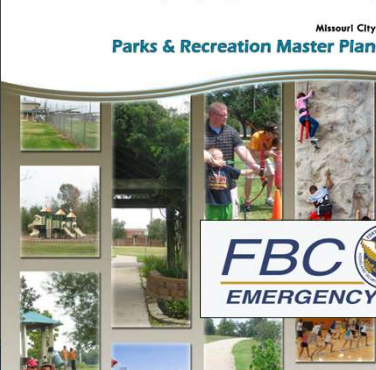

Date of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses






Update the Capability Assessment




- Capabilities
 - Planning and Regulatory Capability
 - Administrative and Technical Capability
 - Financial Capability
 - Education and Outreach

Worksheet B – Capability Assessment



Fort Bend County, TX | Hazard Mitigation Plan 2023 Update
Worksheet B – Capability Assessment

Please send all electronic Word versions by December 7, 2022:
Heather Aggar, Tetra Tech | heather.aggar@tetratech.com

Municipality:
Name and Title of Individual Completing Worksheet:

Who can assist with completing these tables: Municipal Planner, Clerk, Code Official, Admin Officer.

Planning and Regulatory Capability

Please complete the following table to summarize the regulatory tools that are available to you in the jurisdiction, and code citation and date. For existing regulatory tools, note hazards or how it could be updated to better integrate hazard mitigation concepts to reduce risk.

Codes, Ordinances, & Regulations	Jurisdiction has this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Building Code <i>How does this reduce risk?</i> The building code requires design standards for new construction or the substantial improvement of existing structures to be more resistant to hazards, including hurricane winds and tornadoes.	Yes	Chapter 103 – Buildings and Building Regulations	Local	Code Enforcement
Zoning/Land Use Code <i>How does this reduce risk?</i> The land use code promotes development and redevelopment patterns that are at less risk from known hazards. The code also reduces potential for damages caused by negligent or imprudent permitting or land use decisions.	Yes	Chapter 101 – General and Administrative Provisions	Local	Code Enforcement

Consider the following:




- Prior to zoning changes, or development permitting, does your jurisdiction review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use?
- Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains?
- Does it contain natural overlay zones that set conditions?
- Does the ordinance require developers to take additional actions to mitigate natural hazard risk?
- Do reporting procedures recognize natural hazard areas as limits on zoning changes that allow greater in Subdivision Ordinance?

How does this reduce risk?

Consider the following:

- Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas?
- Do the regulations provide for conservation subdivisions or cluster subdivisions in order to conserve areas?
- Do the regulations allow density transfers where hazard areas exist?

Site Plan Ordinance
How does this reduce risk?

Worksheet C – NFIP FPA Questionnaire



Fort Bend County | Hazard Mitigation Plan 2023 Update
Worksheet C – NFIP Floodplain Administrator Questionnaire

Please send all electronic Word versions by December 7, 2022:
Heather Appgar, Tetra Tech | heather.appgar@tetratech.com

Municipality: _____
Name and Title of Individual Completing Worksheet: _____

Who can assist with completing this table: NFIP Floodplain Administrator – as identified by role/title in your Flood Damage Prevention Ordinance.

NFIP Topic	Comments
Flood Vulnerability Summary Describe areas prone to flooding in your jurisdiction. <ul style="list-style-type: none"> Do you maintain a list of properties that have been damaged by flooding? Do you maintain a list of property owners interested in flood mitigation? How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)? Are any RiskMAP projects currently underway in your jurisdiction? <ul style="list-style-type: none"> If so, state what projects are underway. How do you make Substantial Damage determinations? <ul style="list-style-type: none"> How many were declared for recent flood events in your jurisdiction? If there are mitigated properties, how were the projects funded? Do your flood hazard maps adequately address the flood risk within your jurisdiction? <ul style="list-style-type: none"> If not, state why. 	Flood Vulnerability Summary Describe areas prone to flooding in your jurisdiction. <ul style="list-style-type: none"> Do you maintain a list of properties that have been damaged by flooding? Do you maintain a list of property owners interested in flood mitigation? <ul style="list-style-type: none"> How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)? If so, state what projects are underway. How do you make Substantial Damage determinations? <ul style="list-style-type: none"> How many were declared for recent flood events in your jurisdiction? How many properties have been mitigated (elevation or acquisition) in your jurisdiction? <ul style="list-style-type: none"> If there are mitigation properties, how were the projects funded? Do your flood hazard maps adequately address the flood risk within your jurisdiction? <ul style="list-style-type: none"> If not, state why.
The intersection of Main Street and Maple Road routinely flood during heavy rain events. This leads to road closures and impacts emergency response time and access. The City does not maintain a list of flood-damaged properties.	At this time, there has been no interest in residential flood mitigation.
No	The Building Inspector conducts substantial damage determinations after a flood event. During the last flood event, two determinations were made.
To date, no properties have been mitigated in the City.	Yes

Worksheet E – Building Permits



Fort Bend County | Hazard Mitigation Plan 2023 Update
Worksheet E – Building Permits Review

Please send all electronic Word versions by December 7, 2022:
Heather Appgar, Tetra Tech | heather.appgar@tetratech.com

Municipality: _____
Name and Title of Individual Completing Worksheet: _____

Who can assist with completing these tables: The Building Department, Planning Department, and NFIP Floodplain Administrator

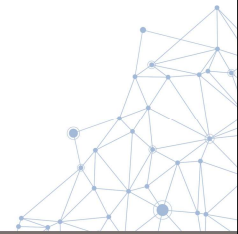
Type of Development	2016		2017		2018		2019		2020		2021		2022	
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Single Family														
Multi-Family														
Other (commercial, mixed-use, etc.)														
Total Permits Issued														

SFHA = Special Flood Hazard Area (1% annual chance flood event)
*Only location-specific hazard zones or vulnerabilities identified.



Update the Mitigation Strategy

- Determine the status of mitigation actions
- Identify new mitigation actions/projects
 - Focus on specific, implementable, and achievable actions!
 - Look at your list of critical facilities and lifelines – what do they need to be operational during a disaster?
 - Two mitigation actions for every hazard of concern!
- Conduct Mitigation Strategy Workshop – date TBD



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Worksheet D – Action Review

Fort Bend County | Hazard Mitigation Plan 2023 Update
Worksheet D – Mitigation Action Review

Please send all electronic Word versions by December 7, 2022:
Heather Appar, Tetra Tech | heather.appar@tetratech.com

Municipality: Fort Bend County

Name and Title of Individual Completing Worksheet: _____

Who should provide you information about past mitigation actions: We suggest that your Engineer and Public Works Superintendent take the first pass at updating this table after which you coordinate with other officials/responsible parties as noted (e.g., Code Official, Planner, OEM Coordinator) to determine the status of each action. This project status update is a FEMA requirement. It will also help in identifying ongoing actions for our current plan.

Use the following table to indicate progress and next steps on your community as detailed as possible.

Project #	Project	Responsible Party	What is the status (e.g., In Progress, No Ongoing Capability, Completed)? If in progress or not, please describe the source, cost and implementation.	What is the status? (e.g., In Progress, No Progress, Ongoing Capability, or Completed)		If you did not complete the action, should the action be included in the 2023 HMP (i.e., there is still a need, this is still a priority)?	
				If in progress or completed, please describe the funding source, cost and who is implementing.	Yes/No	If Yes, please describe the original problem (i.e., hazard, location, historic losses)	If Yes, identify the responsible department/person to implement the project.
1	Conduct Traffic Study	FBC OEM	Choose an item.	No Progress	Yes	Need to determine whether current transportation infrastructure can support additional vehicles in the County.	Community Development and Engineering
2	Expansion of Big Creek Channel	FBC Drainage District	Choose an item.	In Progress	Yes	The design of the expansion is underway; however, additional funding is needed to implement the project.	County Drainage District and Engineering
3	Ensure the County has Adequate Plans and Resources	FBC OEM, FBC Road and Bridge	Choose an item.	Ongoing	No	--	--
4	Initiate a Fuel Load Reduction Campaign	Fire Marshal, FBC Public Works	Choose an item.				
5	Improvements to Stafford Run Creek	FBC Drainage District	Choose an item.				
6	Develop Feasibility Study	FBC OEM	Choose an item.				
7	Construction of a Regional Detention Facility	Missouri City FBC Drainage District	Choose an item.				
8	Excavation of Bull Head Slough and Upper Oyster Creek	FBC Drainage District	Choose an item.				

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Update Other Sections of Plan

- County Profile
 - Taking the previous profile from the last plan and updating it accordingly
- Planning Process
 - Documentation of the update process
- Plan Maintenance
 - Incorporation into other plans as well as identifying way to incorporate other plans into the updated HMP
 - Identify a game plan for annually reviewing and updating the HMP



Submit HMP for Review

- Review Draft with Planning Team
- 14-day Public Comment Period
- Conduct Public Meeting to Review the Draft
- Submit for Texas Division of Emergency Management (TDEM) Review
 - 30 days
- Submit for Federal Emergency Management Agency (FEMA) Review
 - 45 days
- “Approvable Pending Adoption” Status



Adopt the HMP

- Fort Bend County and at least one participating municipality need to adopt the HMP in order for it be considered ‘approved’
- Once FEMA approves the plan, adoption can begin
- Adoption deadline – TBD

Implement the HMP

- Regular Planning Team meetings
- Stakeholder meetings
- Implement mitigation actions and projects
 - Integrate actions where appropriate

Public and Stakeholder Outreach

- Social Media Posts
- Press Release
- HMP website – will work with the County to set this up
- Planning Partnership meetings open to the public
- Stakeholder Survey
- Public Survey
- Neighboring County Outreach
 - Notified of planning process
 - Survey

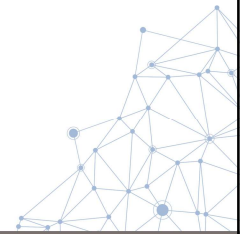


The screenshot shows the website for the Cape May County Hazard Mitigation Plan. At the top, there is a navigation bar with links for Home, About, Where Mitigation?, Calendar, Meetings, and Further the Plan. The main content area features a 'Home' section with a '2021 Cape May County HMP Update' announcement. Below this, there is a 'Core Planning Team' section listing various roles and names. The website also includes a 'Hazard Mitigation Plan' logo and a 'Public Survey' link.



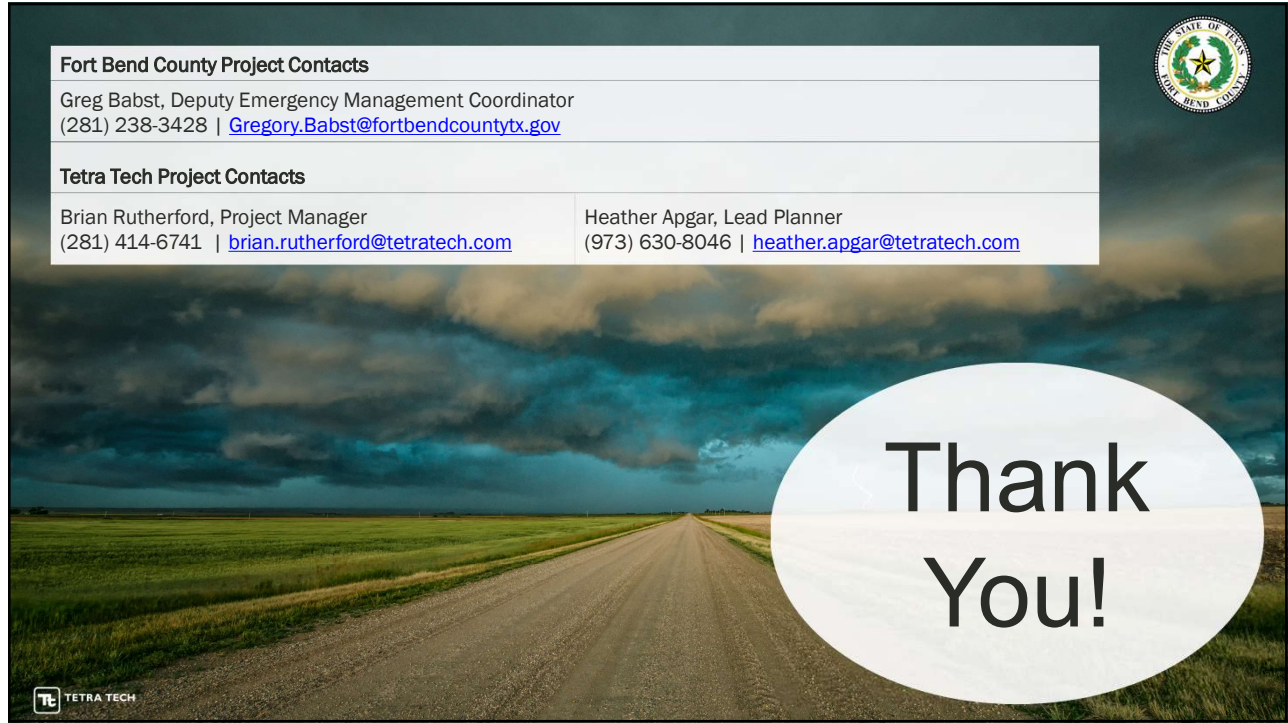
Next Steps / Upcoming Schedule

- Complete worksheets – to be distributed via email – due December 7th
- Mitigation Strategy Workshop – early February (tentatively)
- Risk Assessment Meeting – late March (tentatively)
- Public Review Period – April 2023 (tentatively)
- Draft Plan to TDEM – April 2023 (tentatively)
- Final Draft to FEMA – May 2023 (tentatively)
- APA – June 2023 (tentatively)






Questions?





Fort Bend County Project Contacts	
Greg Babst, Deputy Emergency Management Coordinator (281) 238-3428 Gregory.Babst@fortbendcountytx.gov	
Tetra Tech Project Contacts	
Brian Rutherford, Project Manager (281) 414-6741 brian.rutherford@tetrattech.com	Heather Apgar, Lead Planner (973) 630-8046 heather.apgar@tetrattech.com





Virtual Meeting - [Join by Computer \(https://tinyurl.com/2s3mrvsu\)](https://tinyurl.com/2s3mrvsu)

Or

Dial-in Number (toll): 832-856-3579 | Conference ID: 846 610 411# | Passcode: 3hiuA6

1. **Welcome and Introductions**
2. **In-Kind Services Tracking**
3. **Participation Status**
 - (28/43) jurisdictions have not submitted any worksheets
 - (3/43) jurisdictions submitted some worksheets
 - (12/43) jurisdictions submitted all worksheets
4. **Project Schedule and Status**
 - Risk Assessment Meeting – TBD
 - Public Involvement – Ongoing
 - Stakeholders – Ongoing
 - Mitigation Strategy Workshop – TBD
 - Draft Plan to Core Planning Team – April/May 2023
 - Final Draft Plan to OEMA – June 2023
 - Final Draft Plan to FEMA – August 2023
5. **Review/Finalize Hazards of Concern Review**
6. **Review/Finalize Goals and Objectives**
7. **Public and Stakeholder Outreach**
 - Strategy – press releases, social media posts, capture of miscellaneous outreach, HMP website
 - Tracking
8. **Next Steps/Questions**



Purpose of Meeting: Steering Committee Meeting #2		
Location of Meeting: Microsoft Teams		
Date/Time of Meeting: February 9, 2023		
Attendees: Heather Apgar – Tetra Tech Jessica Stokes – Tetra Tech Brian Rutherford – Tetra Tech Mark Vogler – Fort Bend Engineering, Chief Drainage Engineer Michael Wagner – Fort Bend County, Special Projects Coordinator Scott Wieghat – Fort Bend Roads and Bridges, Director Gregory Babst – Fort Bend HS&EM, Deputy Coordinator Carol Borrego – Fort Bend Community Development, Director Andrea James – Fort Bend HS&EM, Planning Coordinator Rick Staigle – Fort Bend Engineering, Assistant County Engineer Craig Kalkomey – Fort Bend County, Director of Fort Bend Utility Rodney Grimmer – Fort Bend HS&EM, Senior Planning Coordinator		
Agenda Summary: Participation status, project schedule and status, review/finalize hazards of concern, review/finalize goals and objectives, public and stakeholder outreach		
Item No.	Description	Action By:
1.	Welcome and Introductions	--
2.	In-Kind Tracking	--
3.	Participation Status <ul style="list-style-type: none"> (5/43) jurisdictions have not submitted any worksheets (3/43) jurisdictions submitted some worksheets (10/43) jurisdictions submitted all worksheets (7/18) jurisdictions need to submit their LOIP 	Tetra Tech <ul style="list-style-type: none"> Will continue to reach out to jurisdictions to assist with Worksheet completion. Will be sending out survey tomorrow (02/10) to collect input on critical facilities.
4.	Project Schedule and Status <ul style="list-style-type: none"> Risk Assessment Meeting – 03/22/23 Public Involvement/Stakeholders – Ongoing Website up and running Mitigation Strategy Workshop – 03/01/23 Draft Plan to Core Planning Team – April/May 2023 Final Draft Plan to TDEM – May/June 2023 Final Draft Plan to FEMA – July/August 2023 Plan Adoption – September/October 2023 Stakeholder and Public surveys running by 02/10 	Tetra Tech <ul style="list-style-type: none"> Arrange meeting with Steering Committee to have separate meeting to finalize hazard ranking.
5.	Review/Finalize Hazards of Concern Review <ul style="list-style-type: none"> Review polling results <ul style="list-style-type: none"> Steering Committee is in agreement on 2023 Hazards of Concern, including addition of Pandemic/Disease Outbreak 	--



6.	Review/Finalize Goals and Objectives <ul style="list-style-type: none"> • Review polling results <ul style="list-style-type: none"> ◦ Steering Committee is in agreement on 2023 updated goals ◦ Steering Committee is in agreement on 2023 objectives 	--
7.	Public and Stakeholder Outreach <ul style="list-style-type: none"> • Strategy – press releases, social media posts, capture of miscellaneous outreach, HMP website • Stakeholder and Public surveys running by 02/10 • Website up and running 	Tetra Tech <ul style="list-style-type: none"> • Wrapping up surveys and sending to County by 02/10.
8.	Next Steps/Questions <ul style="list-style-type: none"> • Risk Assessment Meeting – 03/22/23 • Public Involvement/Stakeholders – Ongoing • Website up and running • Mitigation Strategy Workshop – 03/01/23 • Draft Plan to Core Planning Team – April/May 2023 • Final Draft Plan to TDEM – May/June 2023 • Final Draft Plan to FEMA – July/August 2023 • Plan Adoption – September/October 2023 • Stakeholder and Public surveys running by 02/10 	County <ul style="list-style-type: none"> • Submit critical facilities survey responses by 02/21. Tetra Tech <ul style="list-style-type: none"> • Will send critical facilities survey by 02/10.
9.	Conclusion Call ended at 10:30 CST/11:30 EST	--



Tt TETRA TECH

Fort Bend County, TX Hazard Mitigation Plan – 2023 Update



**Steering Committee Meeting – Goals, Objectives,
and Hazards of Concern**
February 9, 2023

Leading with Science®

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Agenda

- Participation Status
- Project Schedule and Status
- Review/Finalize Hazards of Concern Review
- Review/Finalize Goals and Objectives
- Public and Stakeholder Outreach
- Next Steps/Questions

Tt TETRA TECH

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Participation Status

- Annex updates are in progress
- Homework Worksheets were sent out to all participating jurisdictions
 - The jurisdictions that have not yet submitted any worksheets can be found on the following slide
- Critical Facilities and Community Lifelines
 - Ongoing
 - We will be sending out a survey this week to collect input on the critical facilities



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Jurisdiction	Tt Assignment	LOIP	Worksheet A - Hazard Event History	Worksheet B - Cap. Mgt.	Worksheet C - NFIP EPA	Worksheet D - Past Action Progress	Worksheet E - Building Permits
Fort Bend County	Brian/Heather	N/A					
Arcola (C)	Emily V.						
Beasley (C)	Emily V.	X	X	X	X	X	X
Fairchilds (V)	Emily V.		X	X			
Fulshear (C)	Emily V.	X	X	X	X	X	X
Katy (C)	Emily V.	City is not participating					
Kendleton (C)	Emily V.	X					
Meadows Place (C)	Chris H.	X	X	X	X	X	
Missouri City (C)	Chris H.	X	X	X	X	X	X
Needville (C)	Chris H.						
Orchard (C)	Chris H.	X					

Jurisdiction	Tt Assignment	LOIP	Worksheet A - Hazard Event History	Worksheet B - Cap. Mgt.	Worksheet C - NFIP EPA	Worksheet D - Past Action Progress	Worksheet E - Building Permits
Pearland (C)	Chris H.	City is not participating - County to confirm					
Pleak (V)	Chris H.	X	X	X	X	X	X
Richmond (C)	Mike F.	X	X	X	X	X	X
Rosenberg (C)	Mike F.		X	X	X	X	X
Simonton (C)	Erika C.	X	X	X	X	X	X
Stafford (C)	Erika C.	X	X	X	X	X	X
Sugar Land (C)	Heather/Brian	X	X	X	X	X	X
Thompsons (C)	Erika C.		X	X	X	X	X
Weston Lakes (C)	Erika C.		X	X	X	X	X

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Schedule – Overview and Milestones

- Planning Process - ongoing
- Steering Committee Meeting #2 – **TODAY!**
- Risk Assessment Meeting – **March 22, 2023**
 - Does the Steering Committee want a separate meeting to finalize the ranking for the County?
- Update Risk Assessment – **Ongoing**
- Mitigation Strategy Workshop – **March 1, 2023**
- Review Hazards of Concern – **Today!**
- Goals and Objectives – **Today!**
- Public Involvement – **Ongoing**
 - Inform public of HMP and HMP website via social media and local websites
 - <https://www.fortbendcountytxhmp.com/>
- Stakeholders – **Ongoing**
 - Need to finalize the list of stakeholders and send out survey
- Draft Plan to Steering Committee – **April/May 2023**
- Final Draft Plan to TDEM – **May/June 2023**
- Final Draft Plan to TDEM – **July/August 2023**




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Project Status

Data Collection – In Progress	Risk Assessment - In Progress	Public Involvement - Ongoing	Mitigation Strategy
<ul style="list-style-type: none"> • Plan Collection – In progress • General Building Stock – Update in Progress • Critical Facility Inventory – Update In Progress 	<ul style="list-style-type: none"> • Hazard Profile Drafts – In progress • Vulnerability Assessment – In progress • Risk Assessment Meeting – 3/22/23 	<ul style="list-style-type: none"> • Social Media Posts • Public Survey • Stakeholder Surveys • Public Outreach – Tetra Tech to provide materials 	<ul style="list-style-type: none"> • Confirm Goals And Objectives – Today! • Confirm Hazards of Concern – Today! • Municipal Annex Updates - In Progress • Mitigation Workshop – 3/1/23 • Develop Mitigation Strategy – Pending • We will need to have a meeting with the SC to identify new actions

Phase 1
Organize the Resources

Phase 2
Risk Assessment

Phase 3
Public Involvement Strategy


Phase 4
Update Mitigation Strategy

Phase 5
Update Maintenance Strategy

Phase 6
Assemble the Plan

Phase 7
Plan Review and Adoption

Phase 8
Project Management


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Update Risk Assessment



- Update assets
- Examine previous impacts
- Analyze risks
- Review with Steering Committee and Planning Partnership
- Risk assessment meeting



2018 Hazards of Concern



- Dam/Levee Failure
- Drought
- Expansive Soils
- Extreme Heat
- Floods
- Hailstorms
- Hurricanes/Tropical Storms
- Land Subsidence
- Lightning
- Tornadoes
- Wildfires
- Windstorms
- Severe Winter Storms



2023 Potential Hazards of Concern

- Dam/Levee Failure
- Drought
- Extreme Temperature (heat/cold)
- Flood (Riverine/Flash/Stormwater)
- Geologic Hazards (expansive soils, subsidence)
- Hurricane/Tropical Storm
- Pandemic/Disease Outbreak
- Severe Weather
- Tornado
- Wildfire
- Winter Weather



Hazards of Concern – Survey Input

- Dam/Levee Failure
- Disease Outbreak
- Drought
- Extreme Temperature (heat/cold)
- Flood (Riverine/Flash/Stormwater)
- Geologic Hazards (expansive soils, subsidence)
- Hurricane/Tropical Storm
- Severe Weather (Lighting/Hail/Wind/Derechos)
- Tornado
- Wildfire
- Winter Weather

Hazards of Concern



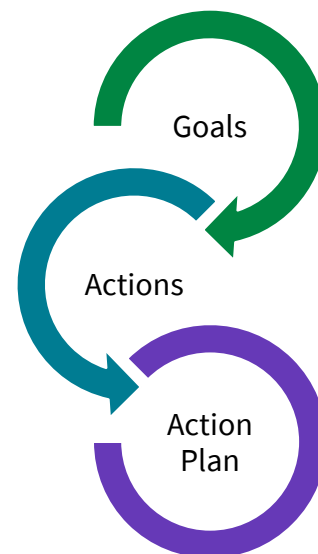
- Are there any new or additional natural hazards that should be considered for the plan update?
 - Climate Change – will be incorporated throughout the HMP to meet FEMA requirements
 - Vectors (Mosquitos)
 - Urban heat island
 - Utility outages – will be incorporated into profiles where appropriate
 - Secondary impacts – will be incorporated in each hazard profile

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Mitigation Strategy




- Goals
 - What outcomes do you want to achieve?
- Actions
 - What specific actions will be taken to reduce risk from hazards?
- Action Plan
 - How will the actions be prioritized and implemented?



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Goals and Objectives – Review and Update




Goal Number	Goal	Modify, Add, or Remove?
1	Educate and inform citizens regarding potential emergency situations related to natural hazards , including those resulting from groundwater depletion.	
2	Decrease the risk to life and property from hazards through planning, preparing and mitigating.	
3	Performing projects that reduce the impact of natural hazards in order to increase resiliency and enhance the ability to recover.	
4	Enhance coordination between local, county, state, and federal agencies by understanding the impact of hazards in Fort Bend County and developing policies and strategies to effectively manage and reduce risk.	
5	Support continuity of operations pre-, during, and post- hazard events including the support of community lifelines and critical facilities.	

Goal
 Minimize new development in hazard-prone areas


Objectives
 Reduce the number of vulnerable structures in flood hazard areas.

Actions
 Amend zoning ordinance to permit only open space and uses within floodplains.



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Goals and Objectives Review and Update



Objective Number	Objectives
1	Evaluate and improve safety & loss reduction codes/standards for hazards that affect Fort Bend County and its municipalities.
2	Develop and strengthen public/private partnerships between the County, non-profits, and the business community.
3	Identify funding sources and increase awareness of funding sources to obtain funding for mitigation projects from a variety of federal, state, regional and local entities.
4	Promote sustainable communities and hazard resilient development.
5	Promote the use of emergency notification systems and weather alert systems for all hazards.
6	Develop publications and information on all hazards that could potentially impact Fort Bend County.
7	Incorporate hazard mitigation into community planning mechanisms, codes/ordinances, day-to-day operations, and projects.
8	Identify, protect, and assist socially vulnerable populations recover from hazard impacts.
9	Ensure continuity of operations of government, non-government, commerce, private sector, non-profit, and infrastructure.
10	Implement mitigation measures that promote the reliability of community lifeline systems.


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Public and Stakeholder Outreach



- Social Media Posts
- Press Release
- HMP website – <https://www.fortbendcountytXHMP.com/>
- Planning Team meetings open to the public and stakeholders
- Stakeholder Survey
- Public Survey
- Neighboring County Outreach
 - Notified of the planning process
 - Survey



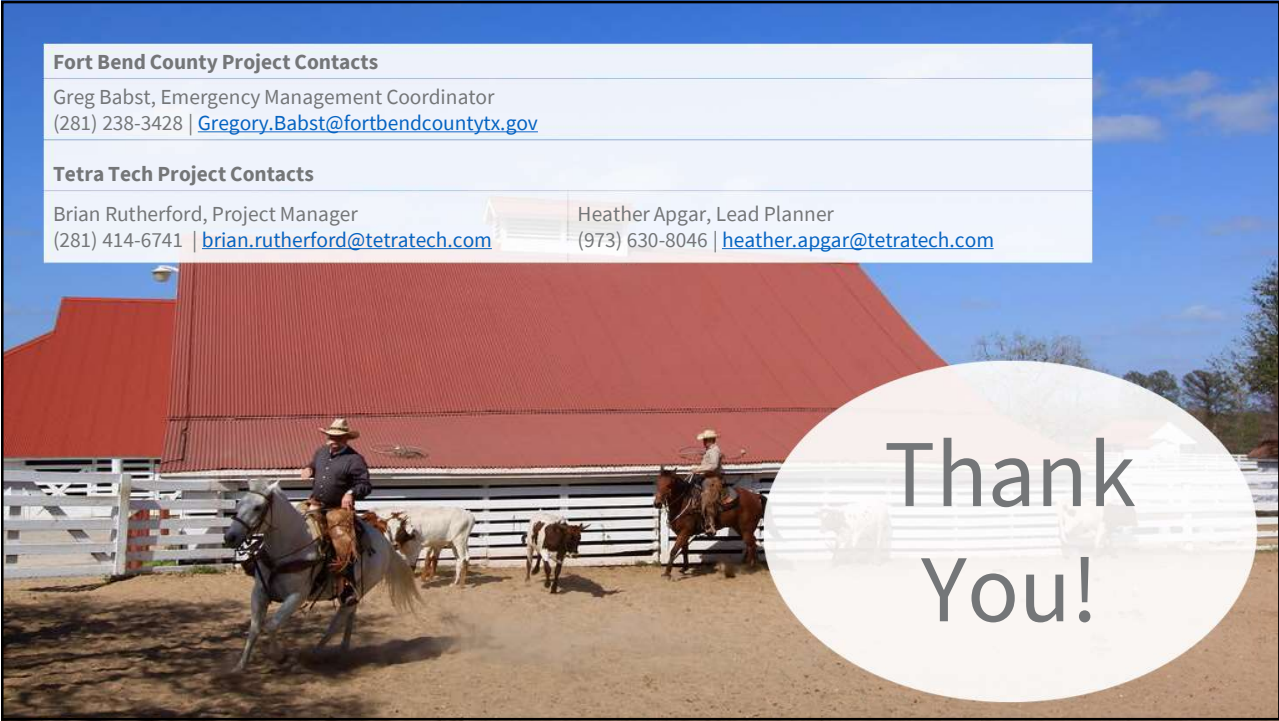
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Next Steps/Schedule



- **Planning Process**
 - Steering Committee Meeting #2 – **TODAY!**
- **Update Risk Assessment**
 - Data collection is underway; confirm building and critical facility inventory
 - Discuss risk assessment results – **March 22nd**
- **Public and Stakeholder Outreach**
 - Ongoing throughout the planning process
- **Capability Assessment**
 - Currently working on reviewing plans, studies, codes, and ordinances
- **Mitigation Strategy**
 - Continue working with municipalities
 - Mitigation Strategy Workshop with FEMA and State – **March 1st**
- **Plan Maintenance**
 - Utilizing the BATool to review/update actions from 2023 HMP
 - Finalize plan maintenance procedures
- **Develop Plan**
 - Draft Plan to SC – **April/May 2023**
 - Draft to TDEM – **May/June 2023**
 - Draft to FEMA – **July/August 2023**
 - Adoption – **September/October 2023**

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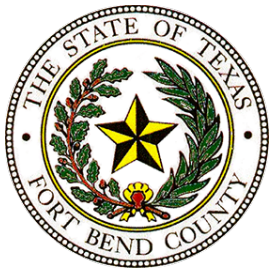


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Thank You!



- 1) Welcome
- 2) Progress Report
 - Participation Status
 - Next steps in updating annexes
- 3) Public and Stakeholder Outreach
 - Strategy – press releases, social media posts, capture of miscellaneous outreach, HMP website
 - Tracking
- 4) Risk Assessment
 - What is risk?
 - Process
 - Preliminary results
- 5) Identifying Mitigation Strategies
 - How do you reduce risk?
 - Identifying mitigations actions and strategies
 - Complete one form for every action - <https://forms.office.com/r/skApygNAJZ>
- 6) Schedule
- 7) Questions / Wrap-Up



Fort Bend County Hazard Mitigation Action Plan 2023 Update

Risk Assessment and Mitigation
Strategy Workshop
March 28, 2023 | 10:00 am

If you are joining virtually,
please enter your name and
department/agency in the
chat.



Today's Agenda

1. Welcome
2. Progress Report
3. Public and Stakeholder Outreach
4. Risk Assessment Overview
5. Identifying Mitigation Strategies
6. Schedule
7. Questions/Next Steps/Wrap Up

Project Schedule

- ✓ November 9, 2022 Steering Committee Kick-Off Meeting
- ✓ November 19, 2022 Municipal Kick-Off Meeting
- ✓ November – February Data Collection and Update Hazard Profiles
- ✓ February 9, 2023 Steering Committee Meeting #2 (Goals and Objectives)
- ✓ March 29, 2023 – TODAY! Risk Assessment Presentation and Identifying Mitigation Actions
- April 2023 Update and Finalize Jurisdictional Annexes
- May 2023 (tentative) Public Review Period
- May-June 2023 (tentative) Submit Plan to TDEM and FEMA
- July-August 2023 (tentative) APA



Participation Status

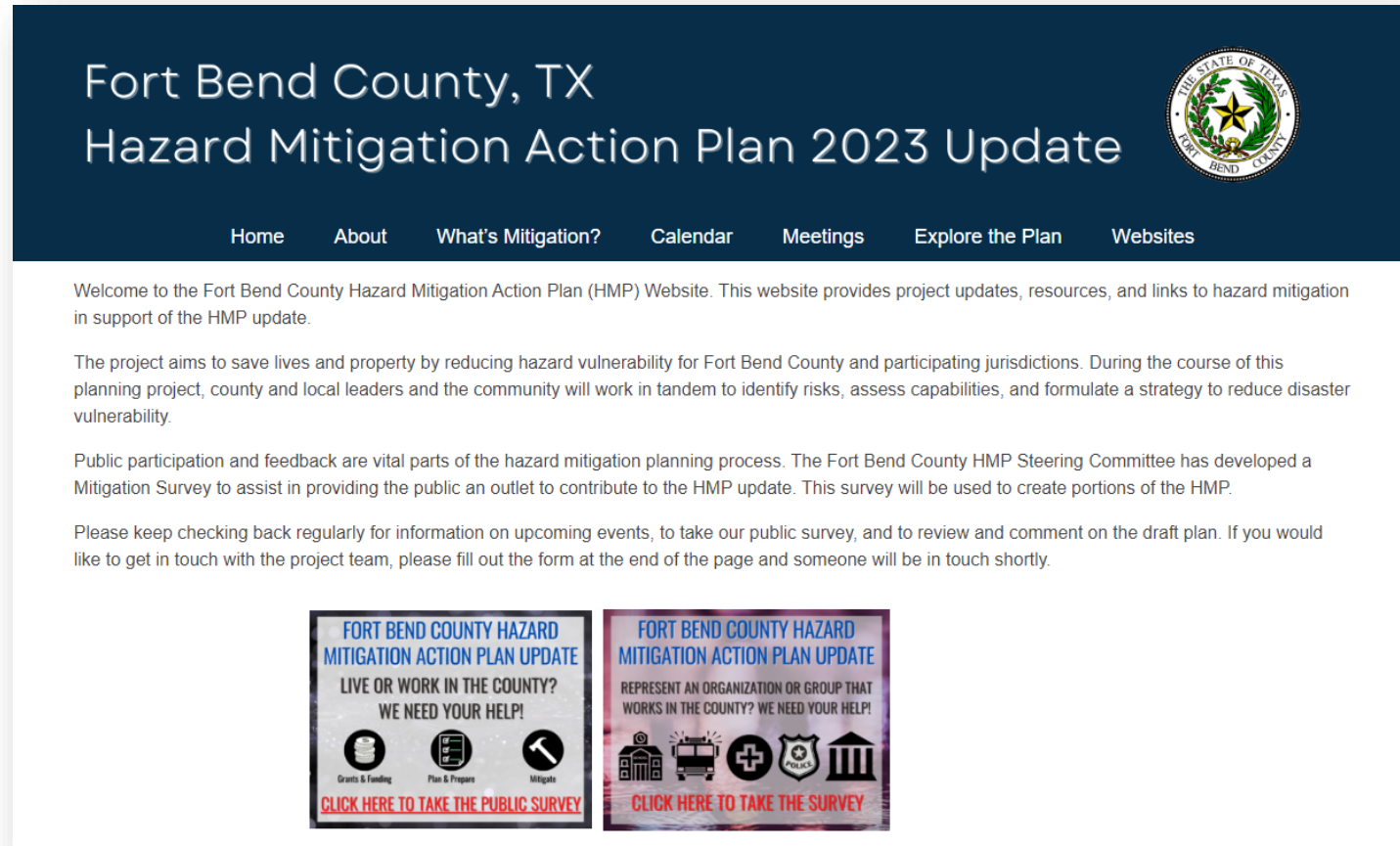
- Annex updates are in progress
- Next round of worksheets (online forms) will go out in the next week
 - Feedback on hazard ranking
 - Mitigation actions
- If your municipality is highlighted, we are missing information for your annex

- Fort Bend County
- Arcola (C)
- Beasley (C)
- **Fairchilds (V)**
- Fulshear (C)
- Katy (C) – not participating
- **Kendleton (C)**
- **Meadows Place (C)**
- Missouri City (C)
- **Needville (C)**
- **Orchard (C)**
- Pearland (C) – not participating
- Pleak (V)
- Richmond (C)
- Rosenberg (C)
- Simonton (C)
- Stafford (C)
- Sugar Land (C)
- Thompsons (C)
- Weston Lakes (C)



Public and Stakeholder Outreach

- Public Outreach Toolkit
 - Social media templates and posts
 - Press release templates
 - Printable materials
- Surveys
 - Stakeholders
 - Neighboring communities
 - Public
- County Project Website
- Thank you to everyone for helping with this!



The screenshot shows the website header with the title "Fort Bend County, TX Hazard Mitigation Action Plan 2023 Update" and the Fort Bend County seal. Below the title is a navigation menu with links: Home, About, What's Mitigation?, Calendar, Meetings, Explore the Plan, and Websites. The main content area contains three paragraphs of introductory text and two survey call-to-action buttons. The first button is for "LIVE OR WORK IN THE COUNTY?" and the second is for "REPRESENT AN ORGANIZATION OR GROUP THAT WORKS IN THE COUNTY?". Both buttons include icons for "Grants & Funding", "Plan & Prepare", and "Mitigate".



Fort Bend County Levee Improvement District No. 2
 HOME ABOUT CONSTRUCTION EMERGENCY OPS MEETINGS RESOURCE CENTER CONTACT



Hazard Mitigation Plan
 March 23, 2023 by FBCLID 2

Fort Bend County is updating its Hazard Mitigation Plan.

Fort Bend County Levee Improvement District No. 2 is participating in the County's plan and is looking for your input! If you live or work in Fort Bend County, we would appreciate your contribution to help us better understand the hazards that impact you and your community.

Take a few minutes to complete the survey:
<https://www.surveymonkey.com/r/FortBendHMPPublic>

Fort Bend County Hazard Mitigation Action Plan

Fort Bend County Hazard Mitigation Plan 2023 Update

Fort Bend County and participating jurisdictions are updating the countywide Hazard Mitigation Plan. The goal of this plan is to identify projects that can reduce damages from future hazards and make the County more resilient.

As part of the planning process, we are looking for your input on what hazards affect you most and what the County can do to reduce hazard impacts.

Live or work in Fort Bend County? Take our survey!
<https://www.surveymonkey.com/r/FortBendHMPPublic>

Upcoming Meetings
 Wednesday, April 26, 2023 at 9:30 AM
 Join Microsoft Teams Meeting
 +1 840 758-3424
 United States: Houston (TX)
 (985) 495-4224
 United States (Taipei)
 Conference ID: 210 608 336

The Board generally meets on the third Wednesday at 9:30 AM. Please check agenda for meeting location.

Quick Links
 FBCLID 2 Rain and Stream Gauges
 Brazos River Levee Gauge
 Financial & Tax Information
 Landowner's Bill of Rights and
 Contamination Procedures
 Play Your Part!

ADA Notice
 For persons with questions or needing help regarding website accessibility, or to request the provided information in alternative formats, please call (713) 850-6400.

Weston Lakes, TX - Follow
 21h · 0

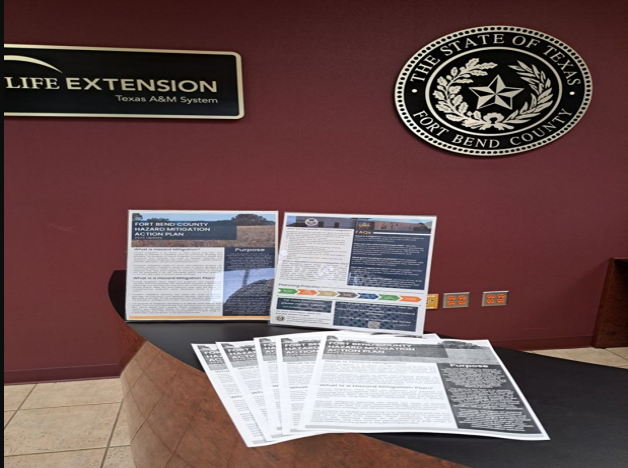
Fort Bend County Hazard Mitigation Plan 2023 Update

Fort Bend County and participating jurisdictions are updating the countywide Hazard Mitigation Plan. The goal of this plan is to identify projects that can reduce damages from future hazards and make the County more resilient.

As part of the planning process, we are looking for your input on what hazards affect you most and what the County can do to reduce hazard impacts.

Live or work in Fort Bend County? Take our survey!
<https://www.surveymonkey.com/r/FortBendHMPPublic>

For more information about this process, please contact:
 Greg Babst, HS&M Interim Director
Gregory.Babst@fortbendcountytx.gov

FORT BEND COUNTY HAZARD MITIGATION ACTION PLAN UPDATE

Complete the Fort Bend County Hazard Mitigation Plan Survey today.
Your opinion matters!

Find out more on our website - <https://www.fortbendcountytxhmp.com/>

FORT BEND COUNTY HAZARD MITIGATION ACTION PLAN 2023 Update

What is Hazard Mitigation?
 Hazard mitigation is an action to help reduce the harm or damage caused by hazards or disasters, such as hurricanes, flooding and drought. The purpose of hazard mitigation is to protect people and property, and to reduce the costs of disaster response and recovery. Hazard mitigation can take many forms: capital projects, policy, education, and environmental protection.


Purpose
 The Fort Bend County Office of Emergency Management Services is leading the Fort Bend County Hazard Mitigation Plan process. The purpose of this plan is to identify projects that can reduce damages from future hazards and make the County more resilient.

What is required in a Hazard Mitigation Plan?
 The plan must include a list of hazards, a list of projects that can reduce damages from future hazards, and a list of projects that can reduce damages from future hazards.

Planning Process

For more information, please visit our website:
<https://www.fortbendcountytxhmp.com/>

Live or work in Fort Bend County? Take our survey!
<https://www.surveymonkey.com/r/FortBendHMPPublic>



Fort Bend County Office of Emergency Management · Follow
 4d · 0

Is your family storm-ready? Have ideas for making Fort Bend County more resilient to disasters? Let us know! We are updating the County's Hazard Mitigation Plan and are looking for your involvement to help us update the HMP. Take a few minutes to complete the survey.
<https://www.surveymonkey.com/r/FortBendHMPPublic>


Fort Bend County Hazard Mitigation Plan 2023 Update

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FORT BEND COUNTY MITIGATION PLAN PUBLIC SURVEY

FORT BEND COUNTY IS SEEKING INPUT FOR THE 2023 HAZARD MITIGATION ACTION PLAN. THE PLAN WILL ADDRESS THE COUNTY'S RISKS POSED BY HAZARDS AND IDENTIFY SPECIFIC STRATEGIES TO HELP REDUCE OR ELIMINATE RISKS.

TAKE THE SURVEY TODAY

<https://www.surveymonkey.com/r/FortBendHMPPublic>



Fort Bend County, TX
 Hazard Mitigation Action Plan 2023 Update

Home About What's Mitigation? Calendar Meetings Explore the Plan Websites

Welcome to the Fort Bend County Hazard Mitigation Action Plan (HMP) Website. This website provides project updates, resources, and links to hazard mitigation in support of the HMP update.

The project aims to save lives and property by reducing hazard vulnerability for Fort Bend County and participating jurisdictions. During the course of this planning project, county and local leaders and the community will work in tandem to identify risks, assess capabilities, and formulate a strategy to reduce disaster vulnerability.

Public participation and feedback are vital parts of the hazard mitigation planning process. The Fort Bend County HMP Steering Committee has developed a Mitigation Survey to assist in providing the public an outlet to contribute to the HMP update. This survey will be used to create portions of the HMP.

Please keep checking back regularly for information on upcoming events, to take our public survey, and to review and comment on the draft plan. If you would like to get in touch with the project team, please fill out the form at the end of the page and someone will be in touch shortly.

FORT BEND COUNTY HAZARD MITIGATION ACTION PLAN UPDATE LIVE OR WORK IN THE COUNTY? WE NEED YOUR HELP!
 CLICK HERE TO TAKE THE PUBLIC SURVEY

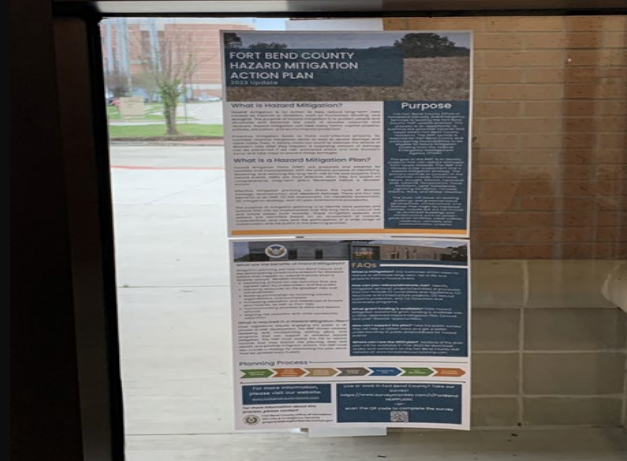
FORT BEND COUNTY HAZARD MITIGATION ACTION PLAN UPDATE REPRESENT AN ORGANIZATION OR GROUP THAT WORKS IN THE COUNTY? WE NEED YOUR HELP!
 CLICK HERE TO TAKE THE SURVEY

Upcoming Meetings
 Events in March 2023-February 2024

FORT BEND COUNTY HAZARD MITIGATION ACTION PLAN 2023 UPDATE

YOUR INPUT IS NEEDED TO HELP REDUCE LOSSES FROM DISASTERS

VISIT THE HAZARD MITIGATION WEBSITE TO LEARN MORE
<https://www.fortbendcountytxhmp.com>

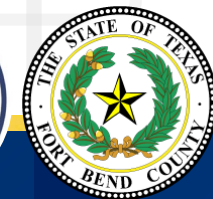


Risk Assessment

*How are the rankings calculated?
What is the preliminary ranking?*

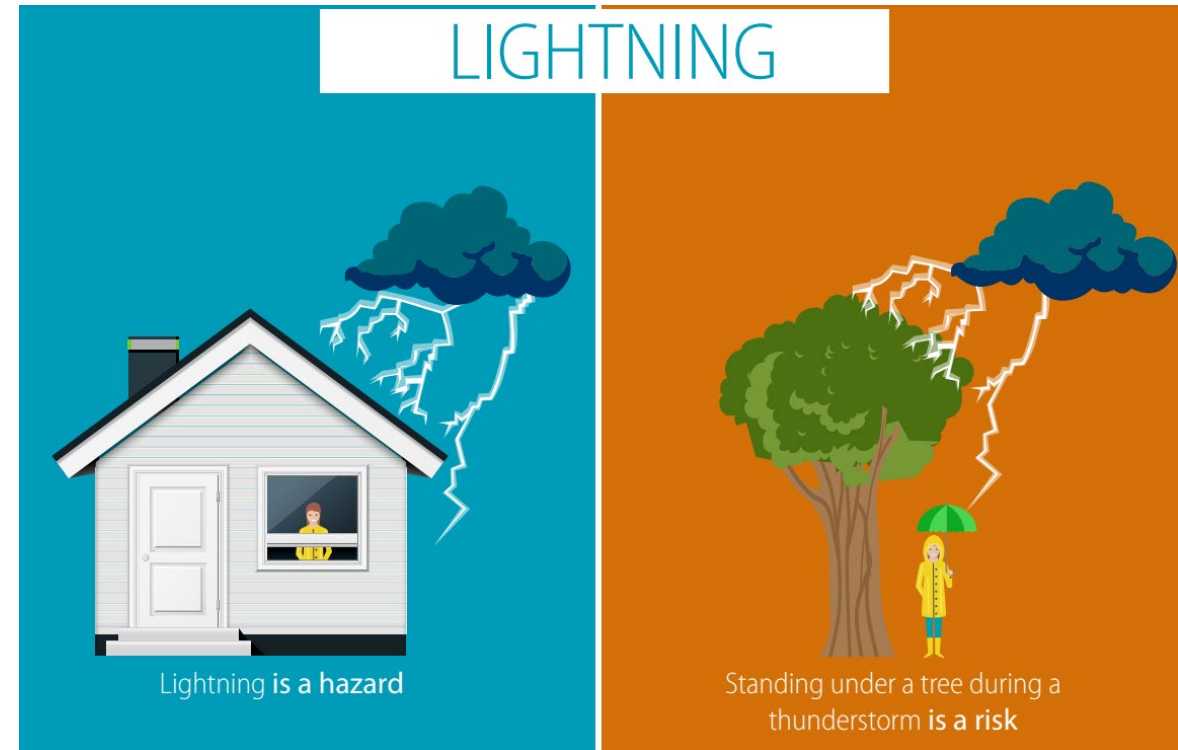
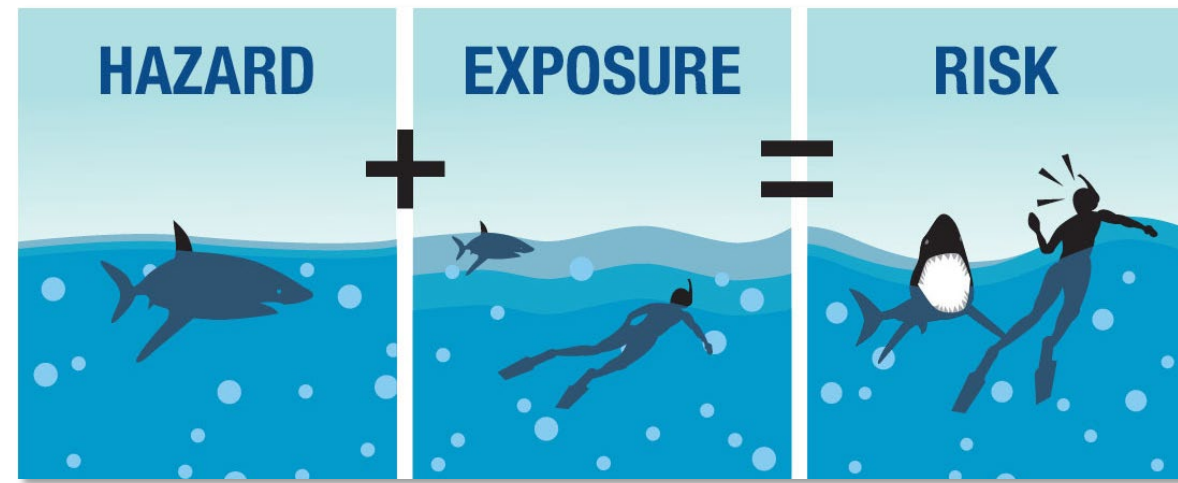
2023 Hazards of Concern

- Dam/Levee Failure
- Disease Outbreak
- Drought
- Extreme Temperature (heat/cold)
- Flood (Riverine/Flash/Stormwater)
- Geologic Hazards (expansive soils, erosion)
- Hurricane/Tropical Storm
- Severe Weather (Lightning/Hail/Wind/Derechos)
- Tornado
- Wildfire
- Winter Weather



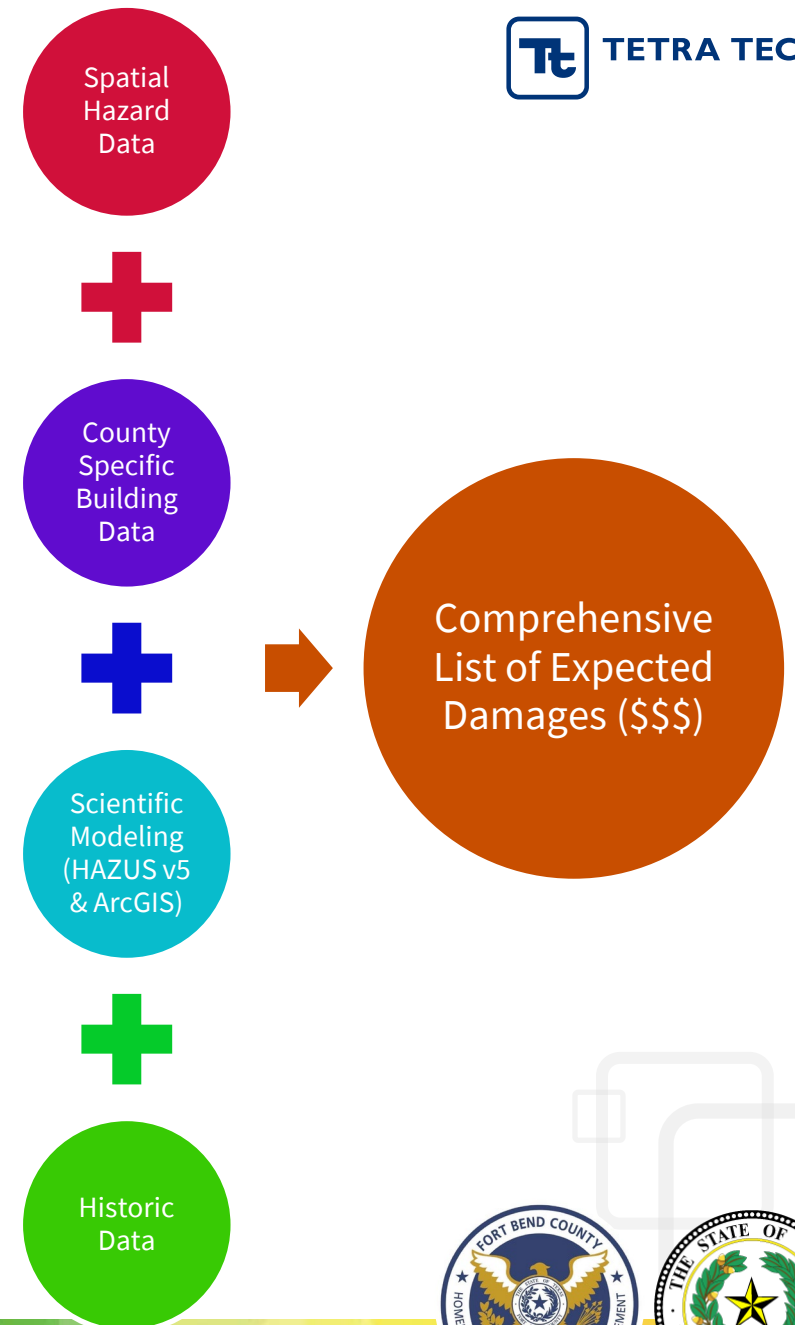
What is Risk?

- ✓ Hazard
 - *Something that has the potential to cause damage*
- ✓ Exposure
 - *People, property and infrastructure located in hazard-prone areas*
- ✓ Vulnerability
 - *Characteristics of community assets that make them susceptible to damages from the hazard*
- ✓ Risk
 - *Probability of damages to people, property, and infrastructure*

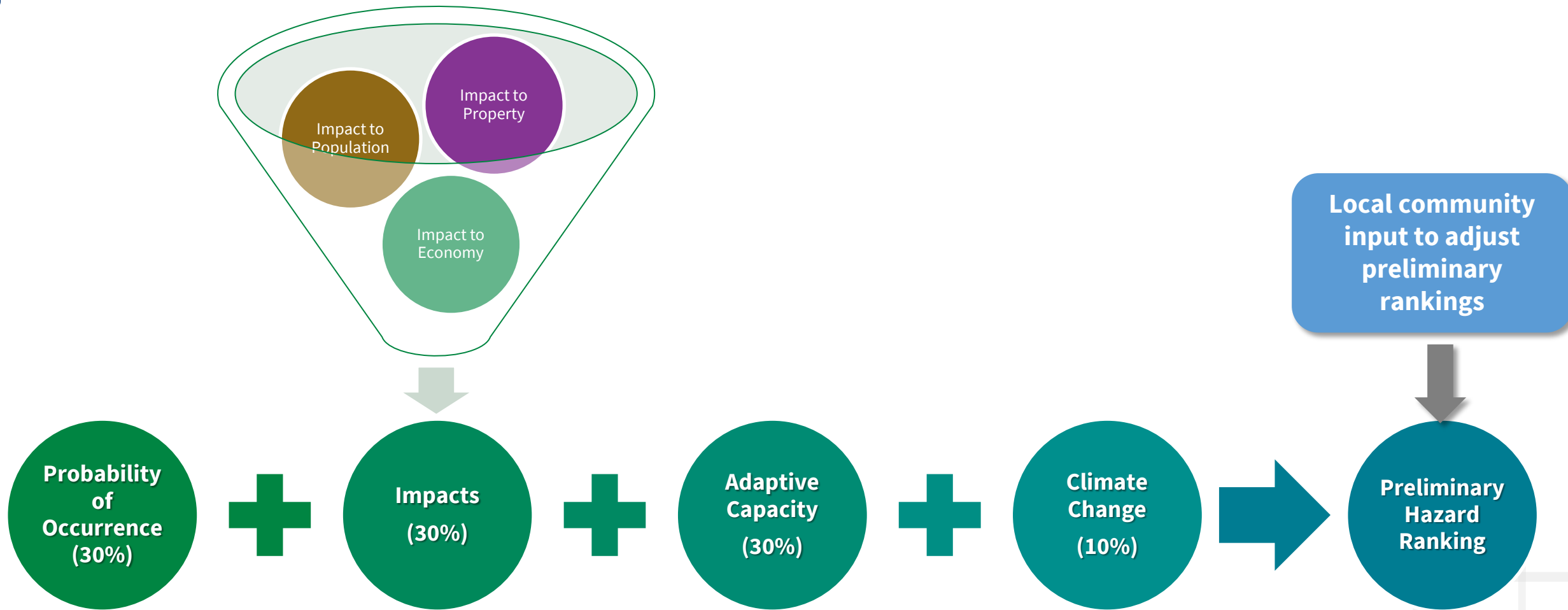


Purpose of the Risk Assessment

- To get a better understanding of the risks you face
- Initial results based on available data
- Quantitative data (population/structures exposed, structural damages within hazard zones) used when available
- Qualitative community input (such as unmapped flood areas) integrated to adjust results
- Local community input to adjust relative rankings



Preliminary Hazard Ranking Formula



How did we measure impact?



Probability of Occurring

- **Unlikely** - not likely to occur or less than 1% annual chance of occurring
- **Rare** - between 1 and 10% annual chance of occurring
- **Occasional** - between 10 and 100% annual chance of occurring
- **Frequent** - 100% chance occurring; occurs multiple times a year



- **Low** - <15% exposed
- **Medium** - 15-29% exposed
- **High** - >30% exposed



- **Low** - <9% exposed
- **Medium** - 10-19% exposed
- **High** - >20% exposed



- **Low** - <15% exposed
- **Medium** - 15-29% exposed
- **High** - >30% exposed



How did we measure impact?



Capacity

- **Low** (-1) - Weak/outdated/inconsistent plans, policies, codes/ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.
- **Medium** (0) - Plans, policies, codes/ordinances in place and meet minimum requirements; mitigation strategies identified but not implemented on a widespread scale; county/jurisdiction can recover but needs outside resources; moderate county/jurisdiction capabilities.
- **High** (1) - Plans, policies, codes/ordinances in place and exceed minimum requirements; mitigation/protective measures in place; county/jurisdiction has ability to recover quickly because resources are readily available, and capabilities are high.

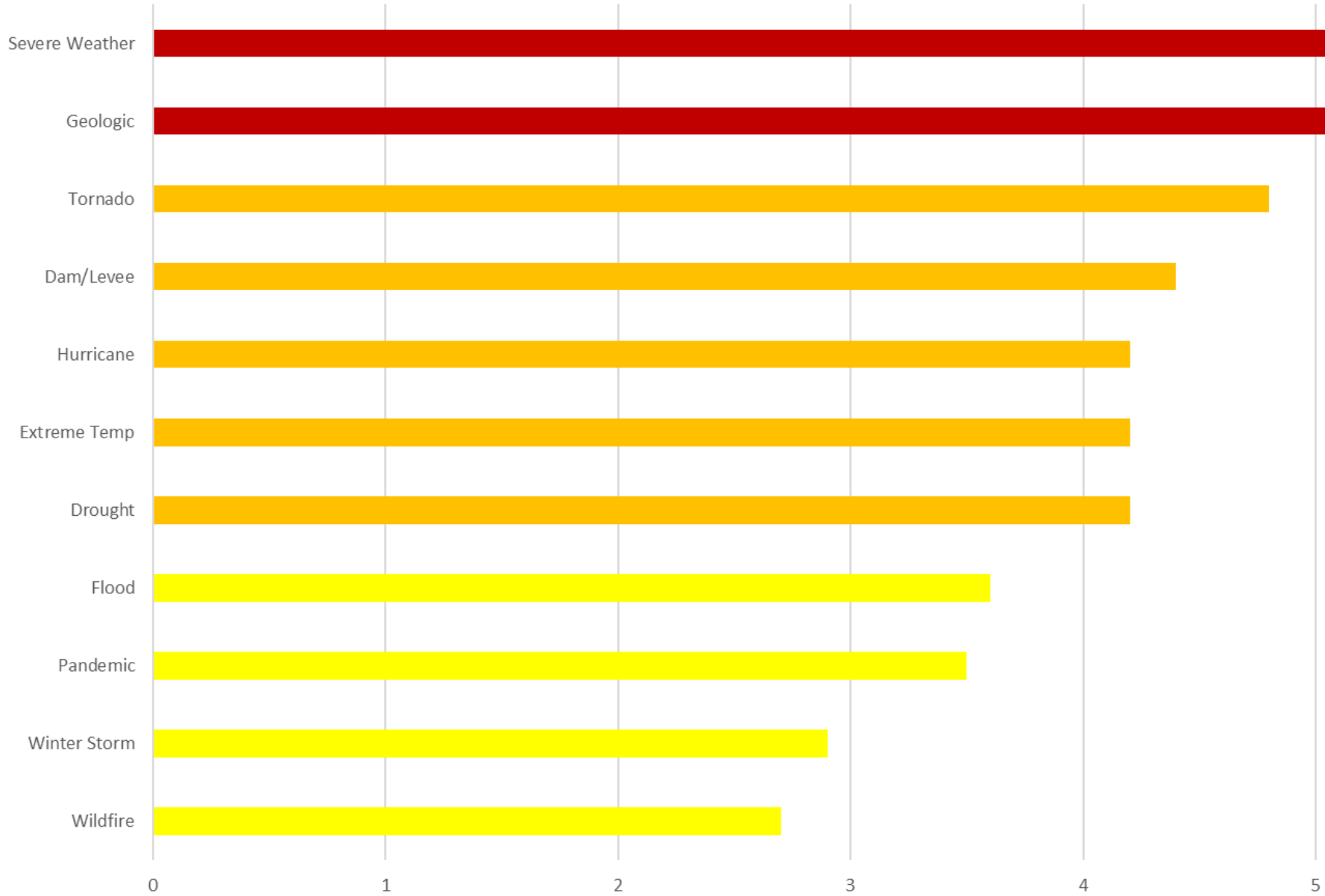


Climate Change

- **Low** (1) - No local data is available; modeling projects are uncertain on whether there is increased future risk; confidence level is low (inconclusive evidence).
- **Medium** (2) - Studies and modeling projections indicate a potential for exacerbated conditions due to climate change; confidence level is medium to high (suggestive to moderate evidence).
- **High** (3) - Studies and modeling projections indicate exacerbated conditions/increased future risk due to climate change; very high confidence level (strong evidence, well-documented and acceptable methods).



Preliminary Hazard Ranking Fort Bend County, Texas



Preliminary Hazard Ranking

Jurisdictions	Hazard Ranking											
	Dam/Levee	Drought	Extreme Temp	Flood	Geologic (Erosion)	Geologic (Expansive Soils)	Hurricane	Pandemic	Severe Weather	Tornado	Winter Storm	Wildfire
Arcola (C)	Low	Low	Low	Low	Low	High	Medium	Low	High	Medium	Low	Low
Beasley (C)	Low	Medium	Medium	Low	Low	High	Medium	Low	High	Medium	Low	Low
Fairchilds (V)	Medium	Medium	Medium	High	Low	High	Medium	Low	High	Medium	Low	Low
Fulshear (C)	Low	Low	Low	Low	High	Low	Medium	Low	High	Medium	Low	Low
Kendleton (C)	Medium	Medium	Medium	Low	Low	High	Medium	Low	High	Medium	Low	Low
Meadows Place (C)	Low	Medium	Medium	Low	Low	High	Medium	Low	High	Medium	Low	Low
Missouri City (C)	Medium	Medium	Medium	Low	Medium	High	Medium	Low	High	Medium	Low	Low
Needville (C)	Medium	Medium	Medium	Low	High	Medium	Medium	Low	High	Medium	Low	Low
Orchard (C)	Low	Medium	Medium	Low	Low	Medium	Medium	Medium	High	Medium	Low	Low
Pleak (V)	Low	Low	Low	Low	High	High	Medium	Low	High	Medium	Low	Low
Richmond (C)	Medium	Medium	Medium	Low	Low	High	Medium	Low	High	Medium	Low	Low
Thompsons (T)	Medium	Low	Low	High	High	High	Medium	Low	High	Medium	Low	Low
Weston Lakes (C)	Low	Low	Low	Low	High	High	Medium	Low	High	Medium	Low	Low
Fort Bend County	Medium	Medium	Medium	Low	High	High	Medium	Low	High	Medium	Low	Low



Dam/Levee Failure

- Number of dams
 - 20 dams (USACE) – none identified as high hazard
- Number of levees
 - 12 levee systems (USACE); majority used for flood risk reduction
- No reported failures or incidents
 - Any events we should include?
- Potential mitigation actions

Preliminary Hazard
Ranking

MEDIUM



Disease Outbreak/Pandemic

- Previous Events –
 - Looked at COVID-19, Influenza, and West Nile Virus
- Exposure –
 - Entire county exposed and vulnerable; however, not occurring multiple times a year
 - Severe events can lead to staffing and bed shortages in hospitals
- Potential mitigation actions

Preliminary Hazard
Ranking

LOW



Drought

- Previous Events –
 - Between 1996 and 2022, 13 events reported; however, this may not represent all drought events
- Exposure –
 - Entire county exposed and vulnerable
 - Increased risk to vulnerable populations (65+ / <5)
- Potential Impacts –
 - Increase wildfire/brush fire risk
 - Impacts to farms
 - Drinking water supply
- Potential mitigation actions

Preliminary Hazard
Ranking

MEDIUM



Extreme Temperature (heat/cold)

- Previous Events –
 - Looked at both hot and cold events
 - Between 1999 and 2022, 9 events reported; however, this may not represent all events
- Exposure –
 - Entire county exposed and vulnerable
 - Increased risk to vulnerable populations (65+ / <5)
- Potential Impacts –
 - Increase wildfire/brush fire risk
 - Impacts to farms
 - Long periods of warm temperatures can lead to drought conditions
- Potential mitigation actions

Preliminary Hazard
Ranking

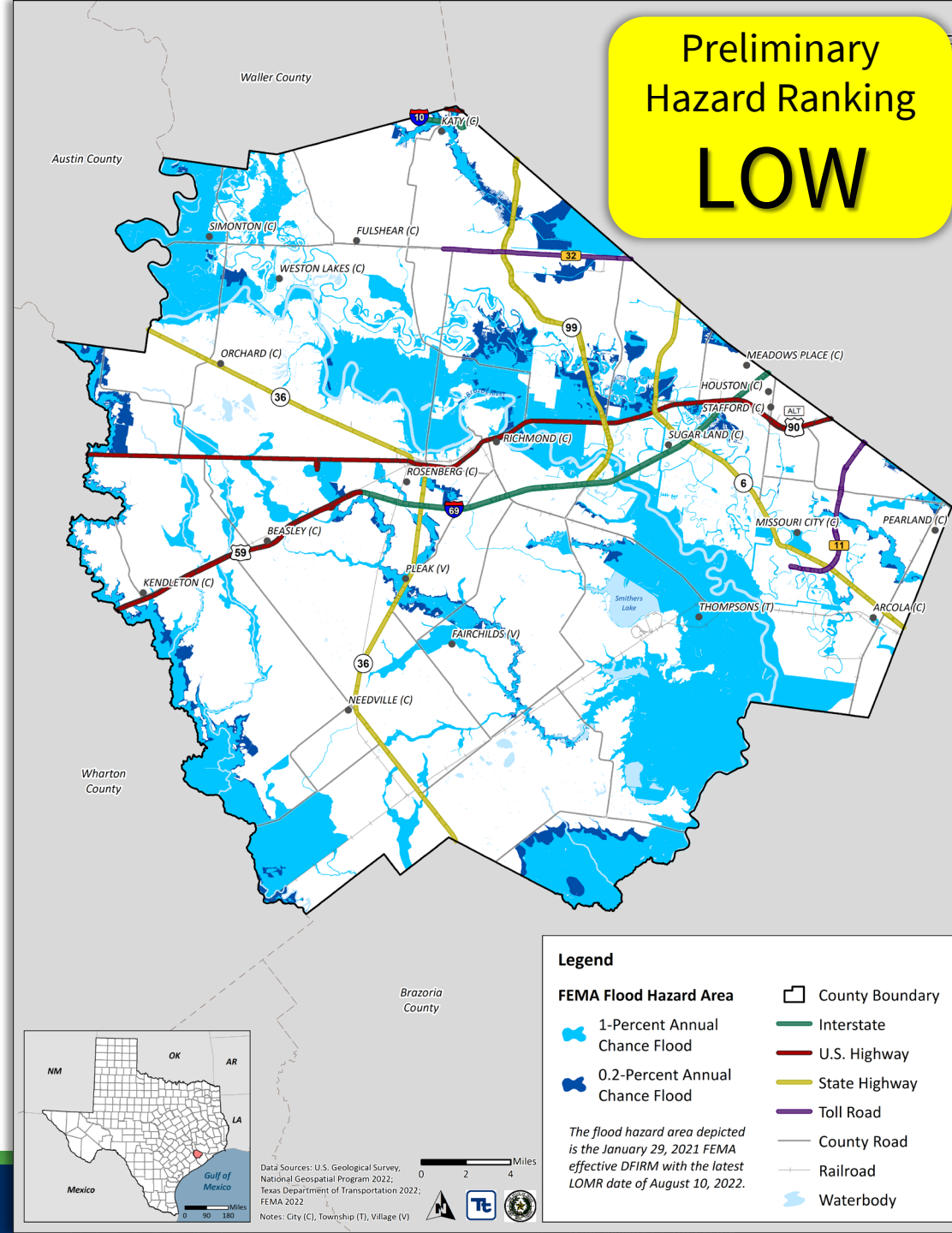
MEDIUM



Flood (Riverine, Flash, Stormwater)

- Previous Events –
 - Looked at riverine, flash, and stormwater flooding
 - Between 1997 and 2022, 58 events reported; however, this may not represent all events
 - \$8 billion in property damage
- Exposure –
 - 17,793 people living in the 1% SFHA (2.2% of total population)
 - 26% of land located in 1% SFHA
 - 20% of community lifelines in 1% SFHA
- Potential mitigation actions

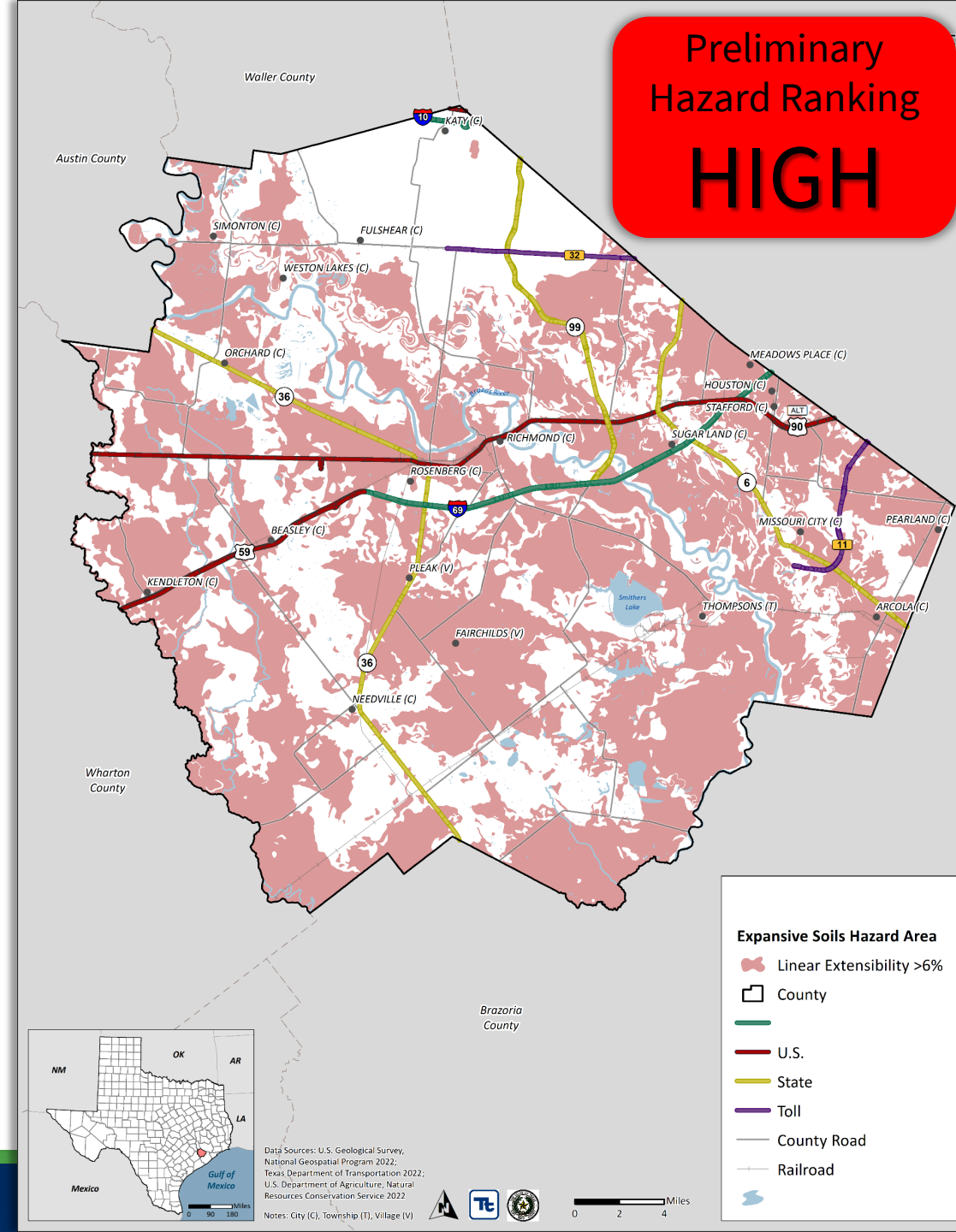
Preliminary Hazard Ranking
LOW



Geological Hazards

- Expansive Soils
 - Little to no information on incidents in the County
 - Exposure – assets located in areas with >6% extensibility (shrink-swell potential of soils) – high is anything over 6%
- Potential mitigation actions

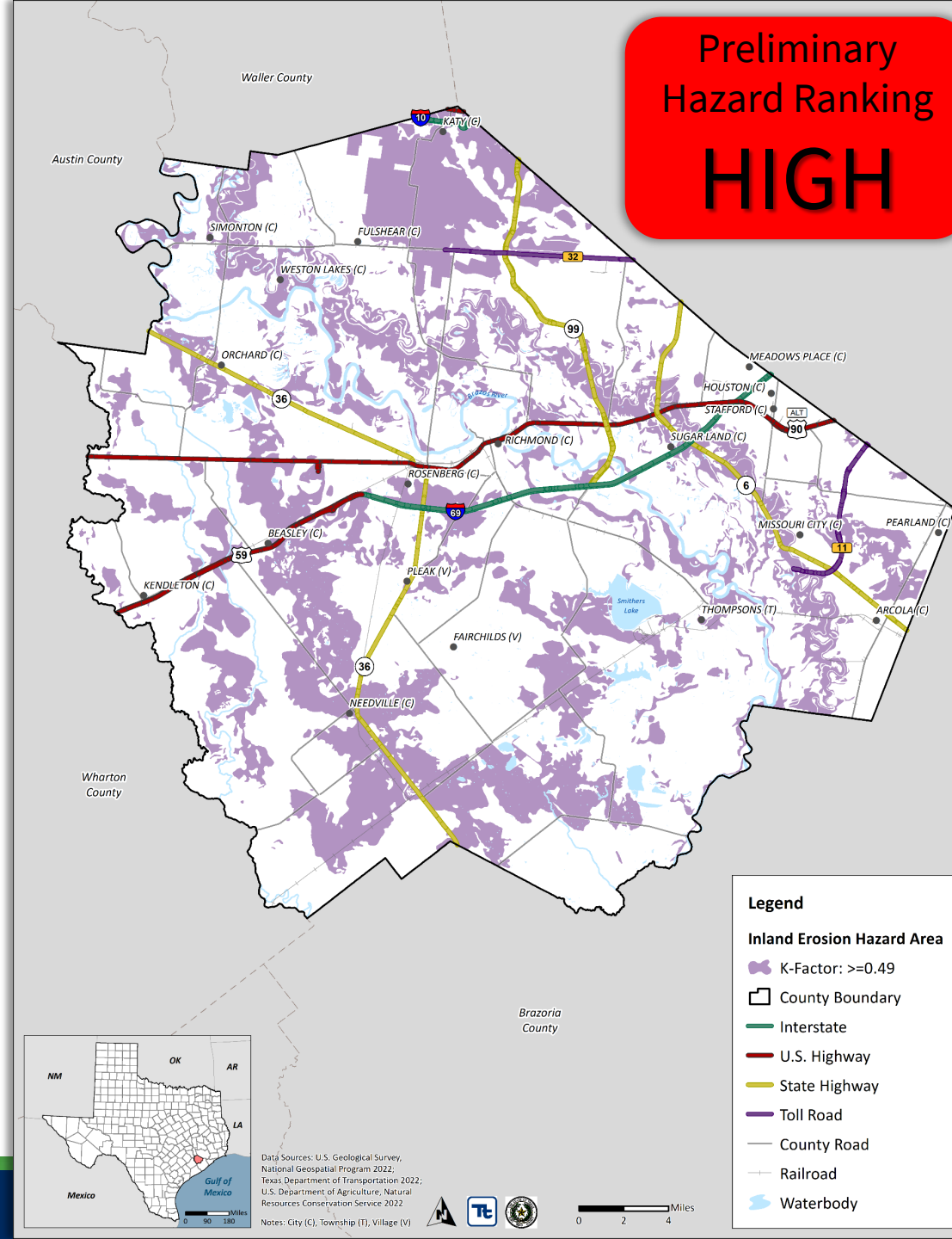
Preliminary Hazard Ranking
HIGH



Geological Hazards

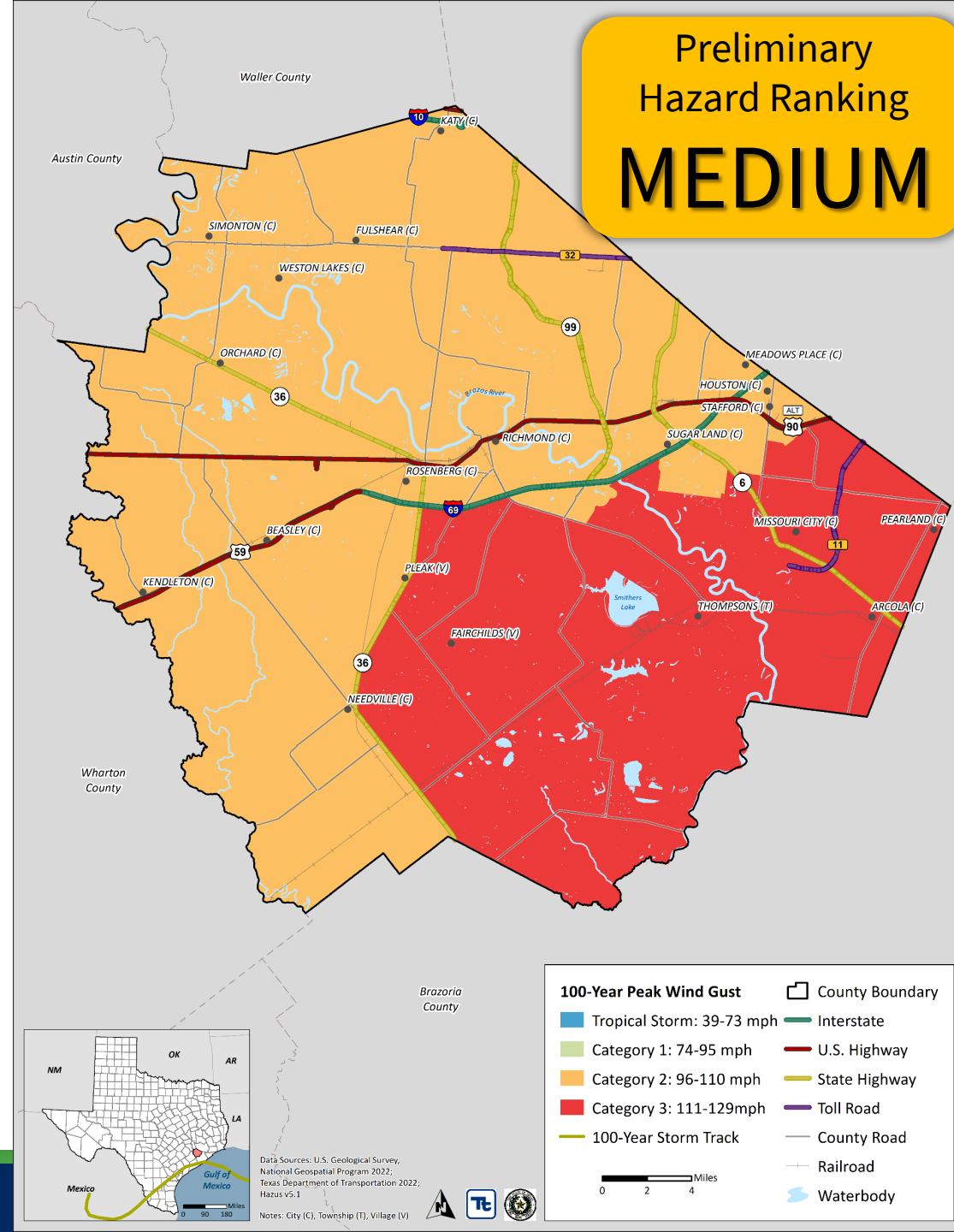
- Erosion
 - Previous events – any events we can include in our profile?
 - Exposure – assets located in areas with K-factor >0.49
- Potential mitigation actions

Preliminary
Hazard Ranking
HIGH



Hurricane/Tropical Storm

- Previous events –
 - 36 storms recorded within 60 miles of Fort Bend County
 - 12 FEMA declarations
- Exposure –
 - Assets exposed to 100-year peak wind gusts (Cat 2 and 3-level winds)
- Potential Impacts –
 - Power outages
 - Infrastructure damage
- Potential mitigation actions



Severe Weather (Lightning, Hail, Wind, Derechos)

- Previous events –
 - Over 200 severe weather events; \$7.8 million in damages
 - 3 FEMA declarations
- Exposure –
 - All assets exposed
- Potential Impacts –
 - Power outages
 - Infrastructure damage
- Potential mitigation actions

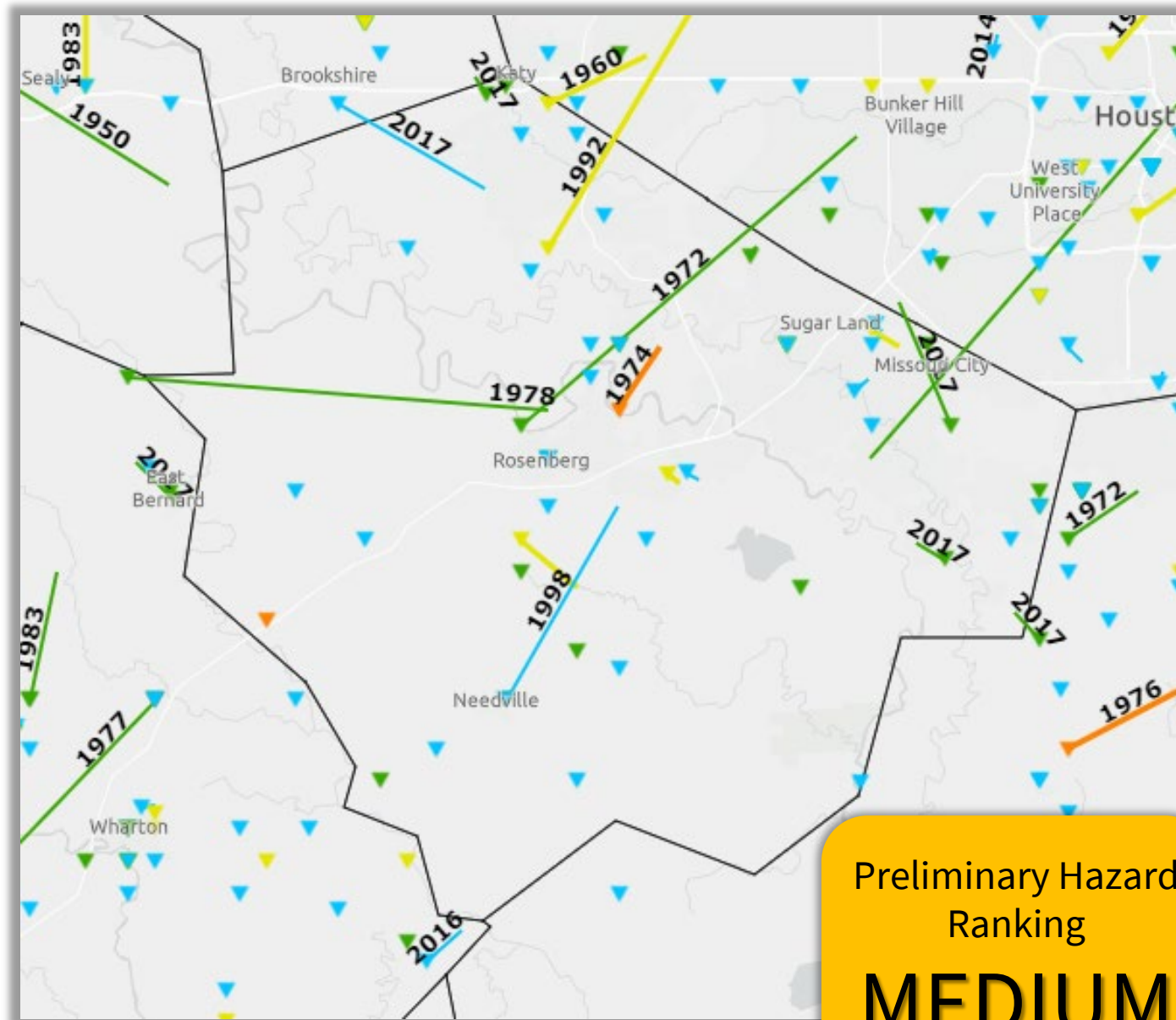
Preliminary Hazard
Ranking

HIGH



Tornado

- Previous events –
 - 74 tornadoes since 1950; over \$15 million in damages
- Exposure –
 - All assets exposed
- Potential Impacts –
 - Power outages
 - Infrastructure damage
- Potential mitigation actions



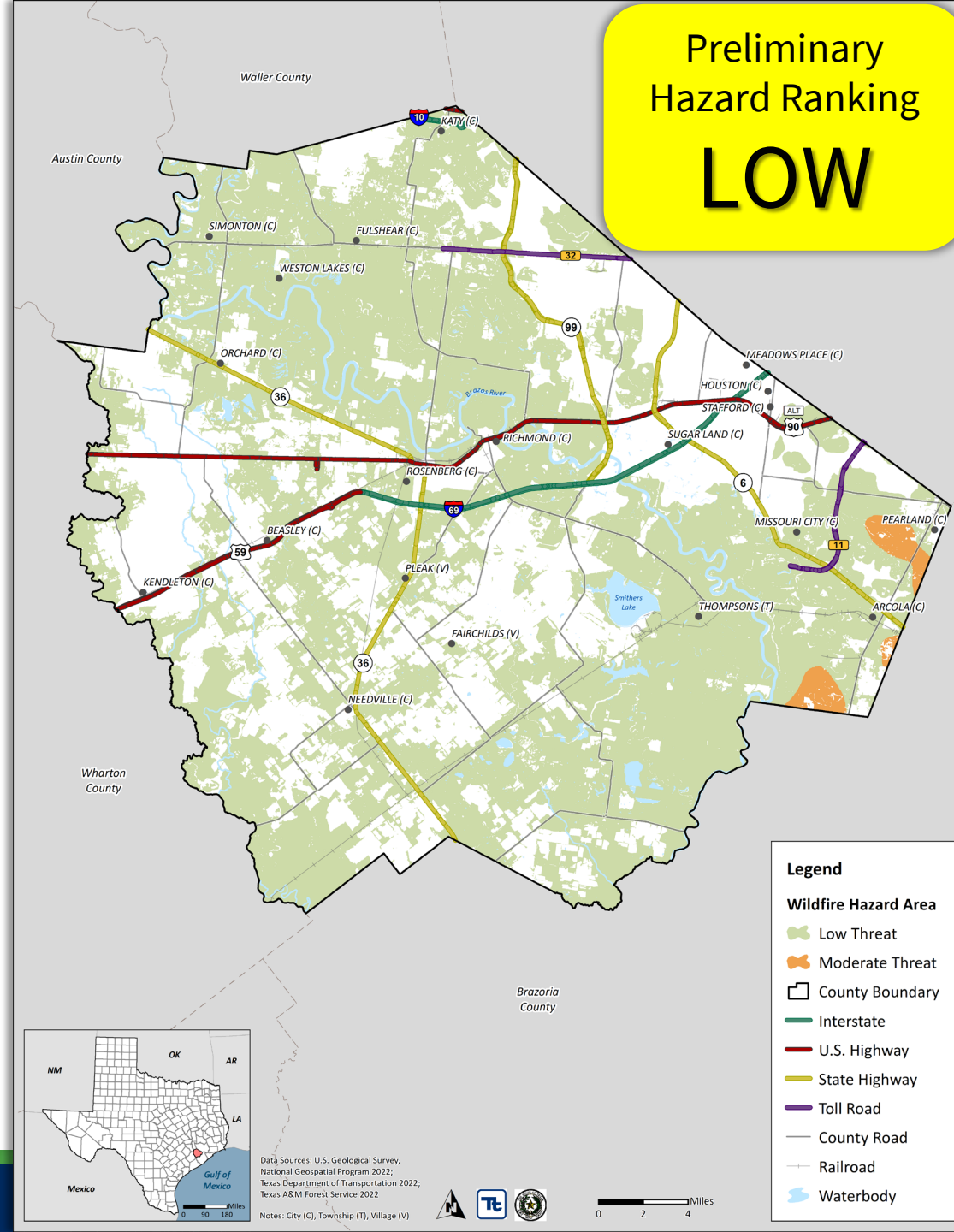
Preliminary Hazard Ranking

MEDIUM

Wildfire

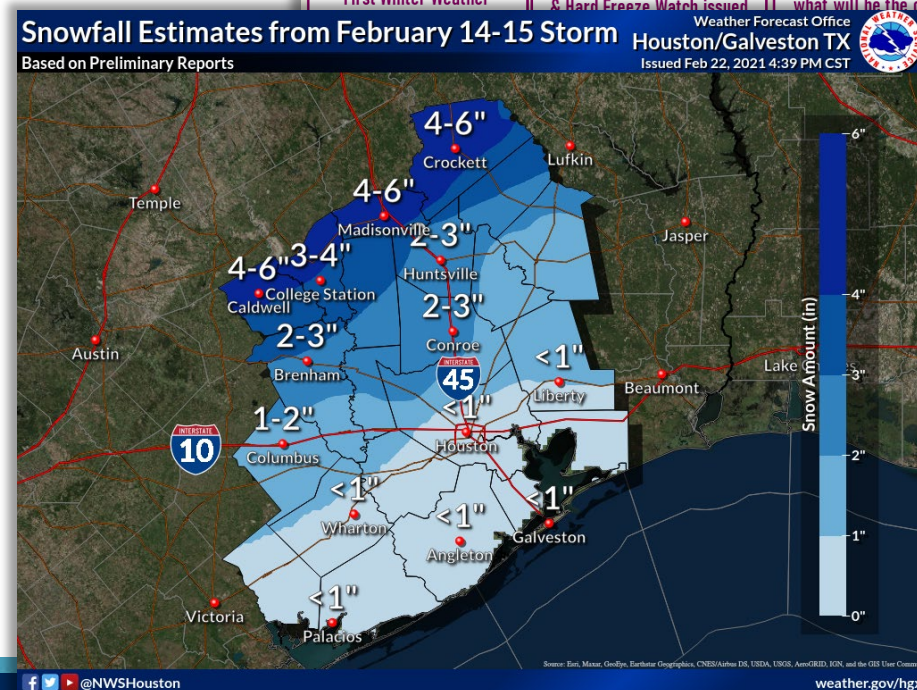
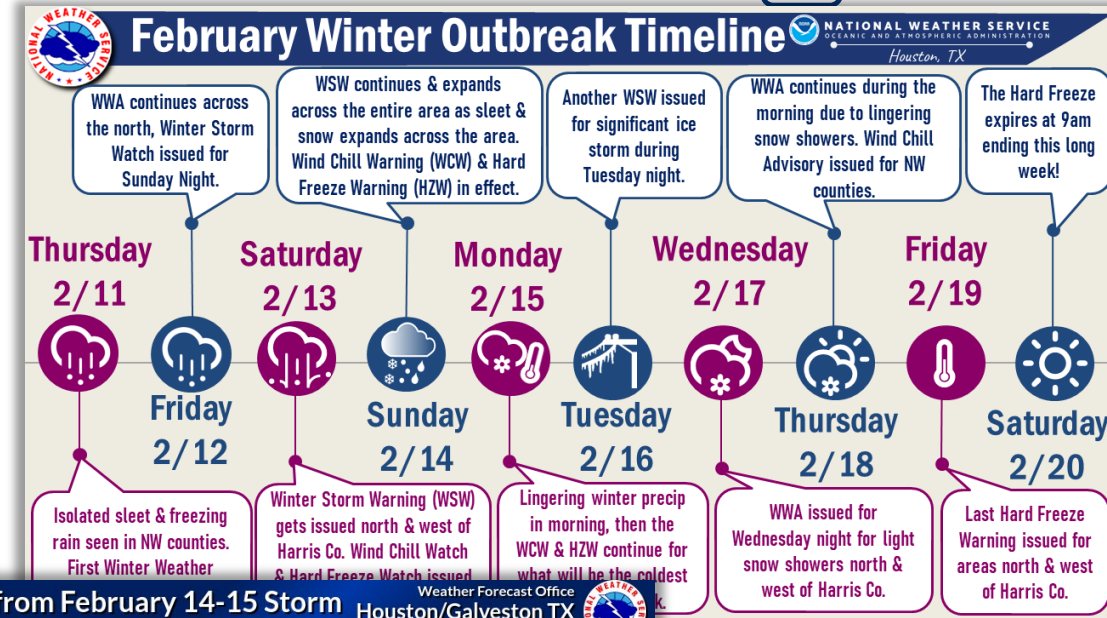
- Previous events –
 - Most fire occurred on November 24, 2020 in Needville
 - 3 FEMA declarations – wildfire threat (1999 and 2006) and Lake Olympia Fire (2006)
 - Any other events we should include?
- Exposure –
 - Assets located in Moderate Threat areas
- Potential mitigation actions

Preliminary
Hazard Ranking
LOW



Winter Weather

- Previous events –
 - 9 events since 1997 with most recent storm in February 2022
 - 2 FEMA declarations (2021 and 2022)
- Exposure –
 - All assets exposed; vulnerable populations at higher risk
- Potential Impacts –
 - Power outages
 - No heat
- Potential mitigation actions



Preliminary Hazard Ranking

LOW

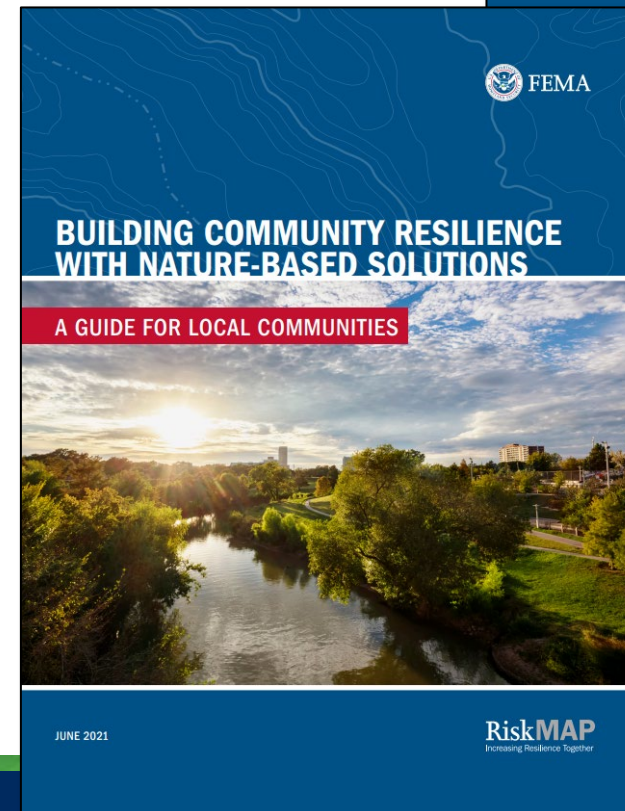




Mitigation Strategy

How do you reduce risk?

- How do you reduce risk for a hazard?
 - **Manipulate the Hazard**
 - Structural flood control (e.g., flood walls, levees)
 - **Reduce/Eliminate Exposure**
 - Acquire floodprone properties
 - **Reduce Vulnerability**
 - Retrofit (e.g., floodproofing structures)
 - **Increase Capability**
 - \$, preparation, technical assistance, planning enforcement



Using Your Mitigation Strategy to Reduce Risk

- What is a **Mitigation Strategy**?
 - A group of projects or actions to reduce the impacts of the hazards of concern on your community
 - Plans and Regulations
 - Structure and Infrastructure Studies and Projects
 - Natural Systems Protection Studies and Projects
 - Education and Awareness Programs
- Terms to describe the Mitigation Strategy include:
 - **Mitigation Action Plan** or **Action Plan**
 - **Mitigation Projects** or **Initiatives** or **Actions**

Your Mitigation Strategy table is included in your annex. We will use action worksheets and online forms to collect details on the actions you will include in the 2023 Update.

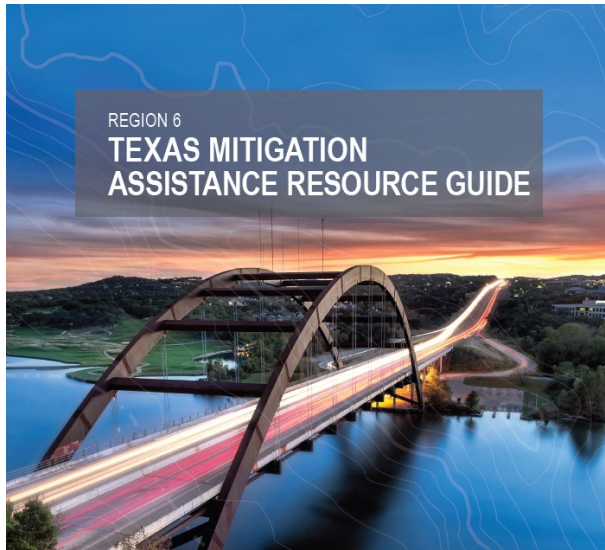


Requirements for the Mitigation Strategy Update

- TDEM and FEMA would like to see more creative/big projects that would work well under the BRIC grant program
- 2018 projects
 - If a project is not finished and still a priority, include in 2023 HMP
 - Remove general projects or make more specific
 - Remove routine maintenance
 - Remove ongoing capabilities
- Minimum of 2 mitigation actions for EACH hazard of concern
 - One action can cover multiple hazards and jurisdictions. For example, education program on mitigation technics you can implement – applies to all hazards and all jurisdictions.



Other Mitigation Actions to Consider



Mitigation Ideas

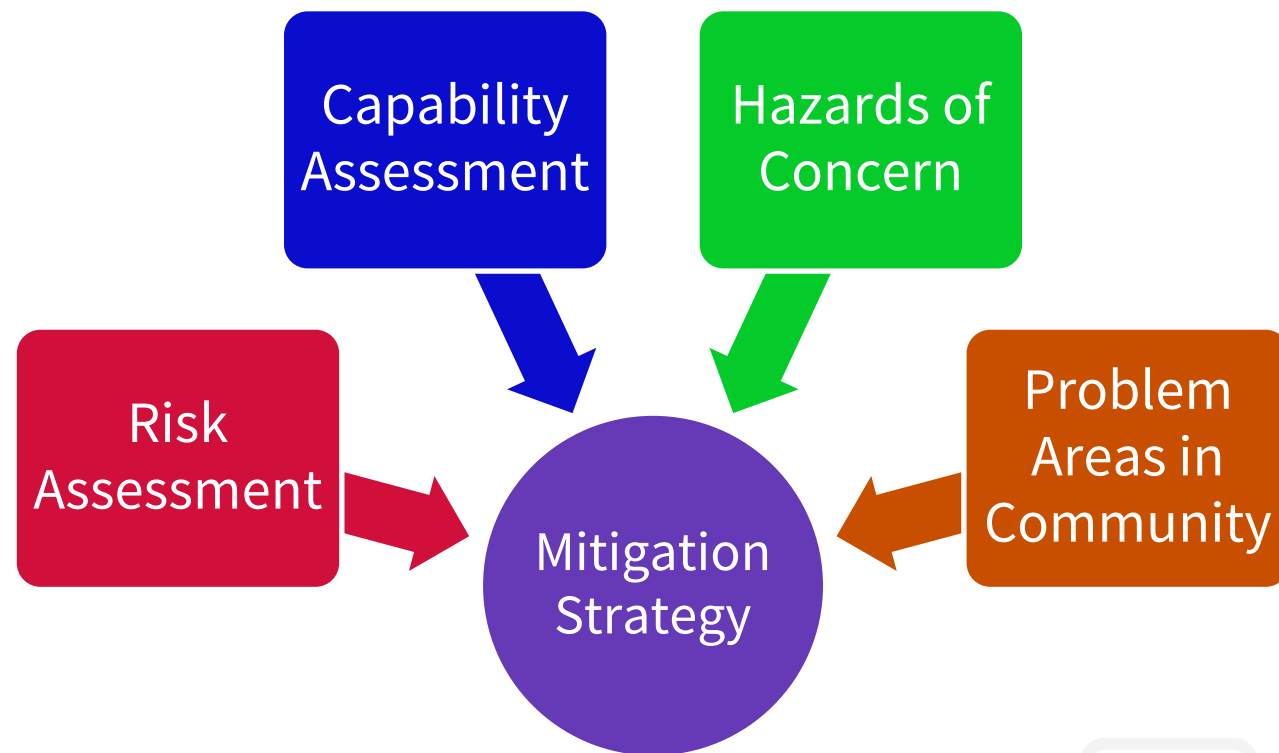
A Resource for Reducing Risk to Natural Hazards

- Local Disaster Debris Management Plans
- Substantial Damage Management Plan
- Actions to address high-hazard or significant-hazard dams
- Public education and outreach programs
- Generators at critical facilities and community lifelines
- Floodproofing critical facilities and community lifelines
- Addressing repetitive and severe repetitive loss properties



Connecting to the Mitigation Strategy

- Need a clear connection between vulnerability and proposed mitigation actions.
- Capability assessment provides insight into challenges and opportunities for the mitigation strategy.
- Provides the factual basis for activities proposed in the mitigation strategy.



Where do you need to focus?

- Stronger connection between the risk assessment and mitigation strategy
- More specific, achievable actions
 - Specific projects, in specific locations, in a specific timeframe
- Diverse actions
 - You need at least 2 actions per hazard of concern. Think about actions that can cover multiple hazards.
 - Include a variety of action types (e.g., developing plans, outreach, structural, etc.)



Where do you start?

- **Problems –**
 - Turn challenges/obstacles/gaps into mitigation actions
 - Examine historic impacts
 - Review the risk and capability assessment results
 - RL/SRL properties
 - Stormwater/urban flooding areas
 - Critical facilities and lifelines located in a hazard area (if feasible)
 - Additional areas of vulnerability
 - Previous FEMA HMA submitted projects – awarded/unawarded
- Include ‘carry-over’ actions from the 2018 HMP
 - More specific or address different aspects of the original problem
- Identify new actions
- Two actions for every hazard of concern



Range of Mitigation Actions

- Primary types of mitigation actions to reduce long-term vulnerabilities include:

Local Plans and Regulations

- Substantial Damage Management Plans
- Update comprehensive plans to include hazard mitigation
- Open space plan
- Debris management plan

Structural Projects

- Structural elevations of flood-prone properties
- Drainage improvements
- Stormwater improvements
- Backup power to critical facilities and community lifelines

Natural Systems Protection

- Stream and wetland restoration
- Erosion control
- Vegetative management to help with flooding, erosion, etc.
- Water quality improvement

Education and Outreach

- Developing and implementing multi-hazard public awareness programs
- Enhancing municipal website to include hazard mitigation and preparedness
- Real estate disclosure for flooding and other hazards
- Working with the private sector to enhance hazard awareness



Proposed Action Table

- Each municipality will need to complete the *Proposed Hazard Mitigation Initiatives* table in your annex
- Each column needs to be filled in. Tetra Tech will assist you with completing each cell.
- Action Worksheets will need to be completed for all projects.
 - Online form

Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met
2021-Your Town-001	Repetitive Loss Property Outreach	<p>Problem: There are 100 repetitive loss properties located in the City. According to NFIP claims records, these properties have experienced extensive flood damage through the years. Without proper mitigation, the structures will continue to experience flood damages.</p> <p>Solution: Conduct outreach to the property owners to inform them of their repetitive loss designation and provide mitigation options to protect the structures. If the property owners choose elevation or acquisition, the City will develop a grant application to fund acquisitions or elevations of the properties.</p>	Existing	Flood, Severe Storm, Hurricanes/ Tropical Storms	All

Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category
City Floodplain Administrator, Property Owner	Borough Budget for outreach; FEMA FMA or HMGP for mitigation measures	Increase resilience of structure and City; decrease flood damages	<\$10,000 for outreach; mitigation costs vary depending on project	One year for outreach; 5 years for mitigation measures	High	EAP, SIP



Next Steps / Upcoming Schedule

- Complete worksheets – to be distributed via email – due December 7th
- Mitigation Strategy Workshop – early February (tentatively)
- Risk Assessment Meeting – late March (tentatively)
- Public Review Period – April 2023 (tentatively)
- Draft Plan to TDEM – April 2023 (tentatively)
- Final Draft to FEMA – May 2023 (tentatively)
- APA – June 2023 (tentatively)



Questions?



Fort Bend County Project Contacts

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Tetra Tech Project Contacts

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(281) 414-6741 | brian.rutherford@tetrattech.com

Heather Apgar, Lead Planner
(973) 630-8046 | heather.apgar@tetrattech.com



Thank
You!



Fort Bend County Hazard Mitigation Action Plan 2023 Update

Steering Committee Meeting #4
Plan Maintenance & Mitigation
Actions
May 30, 2023 | 1:00 pm

If you are joining virtually,
please enter your name and
department/agency in the
chat.

1

Today's Agenda

1. Welcome
2. Progress Report
3. Public and Stakeholder Outreach
4. Maintaining the 2023 HMP
5. Identifying Mitigation Strategies
6. Schedule
7. Questions/Next Steps/Wrap Up

2



Project Schedule

- ✓ November 2022 Kick-Off Meetings
- ✓ November – February Data Collection and Update Hazard Profiles
- ✓ February 9, 2023 Steering Committee Meeting #2 (Goals and Objectives)
- ✓ March 29, 2023 Risk Assessment Presentation and Identifying Mitigation Actions
- June 7, 2023 Mitigation actions due (County)
- June 9, 2023 Draft sections (Volume I) available for Steering Committee Review (OneDrive)
- June 16, 2023 All input from Steering Committee and Planning Partnership due
- June 19-July 3, 2023 Public Review Period
- June 19, 2023 Draft Plan Presentation (virtual) – confirm date
- July 7, 2023 (tentative) Submit Plan to TDEM
- August 21, 2023 (tentative) Submit Plan to FEMA
- October 5, 2023 (tentative) APA




Fort Bend County Hazard Mitigation Action Plan Update

3

Jurisdiction	Mitigation Actions	Notes
Fort Bend County	NEED ACTIONS	Need to identify mitigation actions for the County and for the LIDs
Arcola (C)	X	No input on actions received to date; Tt developed actions for the city; annex will be sent to city on 5/30/23
Beasley (C)	X	Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex will be sent to city on 5/30/23
Fairchilds (V)	X	Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex will be sent to village on 5/30/23
Fulshear (C)	X	Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex will be sent to city on 5/30/23
Katy (C)	Not Participating	
Kendleton (C)	X	Annex will be sent to city on 5/30/23
Meadows Place (C)	X	Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex will be sent to village on 5/30/23
Missouri City (C)	X	Annex will be sent to city on 5/30/23
Needville (C)	X	Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex will be sent to village on 5/30/23
Orchard (C)	X	Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex will be sent to village on 5/30/23
Pearland (C)	Not Participating	
Pleak (V)	X	Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex will be sent to village on 5/30/23
Richmond (C)	X	Received actions; need to identify two actions for disease outbreak/pandemic
Rosenberg (C)	X	Received actions; need to identify two actions for disease outbreak/pandemic
Simonton (C)	X	Received actions; need to identify two actions for disease outbreak/pandemic
Stafford (C)	NEED ACTIONS	No input on actions received to date
Sugar Land (C)	X	Received actions; need to identify two actions for disease outbreak/pandemic
Thompsons (C)	NEED ACTIONS	No input on actions received to date
Weston Lakes (C)	NEED ACTIONS	No input on actions received to date

4




Public and Stakeholder Outreach

- Public Outreach Toolkit
 - Social media templates and posts
 - Press release templates
 - Printable materials
- Surveys
 - Stakeholders
 - Neighboring communities
 - Public
- County HMP website
- Thank you to everyone for helping with this!

Fort Bend County, TX

Hazard Mitigation Action Plan 2023 Update





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Welcome to the Fort Bend County Hazard Mitigation Action Plan (HMP) Website. This website provides project updates, resources, and links to hazard mitigation in support of the HMP update.

The project aims to save lives and property by reducing hazard vulnerability for Fort Bend County and participating jurisdictions. During the course of this planning project, county and local leaders and the community will work in tandem to identify risks, assess capabilities, and formulate a strategy to reduce disaster vulnerability.

Public participation and feedback are vital parts of the hazard mitigation planning process. The Fort Bend County HMP Steering Committee has developed a Mitigation Survey to assist in providing the public an outlet to contribute to the HMP update. This survey will be used to create portions of the HMP.

Please keep checking back regularly for information on upcoming events, to take our public survey, and to review and comment on the draft plan. If you would like to get in touch with the project team, please fill out the form at the end of the page and someone will be in touch shortly.

Fort Bend County Hazard Mitigation Action Plan Update

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Plan Maintenance

How is Fort Bend County and the participating jurisdictions going to keep the plan current over the next five years?

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Plan Maintenance

- HMP Coordinator
- Monitoring
- Integration of hazard mitigation with existing and future programs
- Continuous evaluation and progress reports
 - FEMA Worksheets and BAToolSM
- Updating
- Continued public involvement

Plan Maintenance = keeping the HMP accurate, current, and relevant

Fort Bend County Hazard Mitigation Action Plan Update

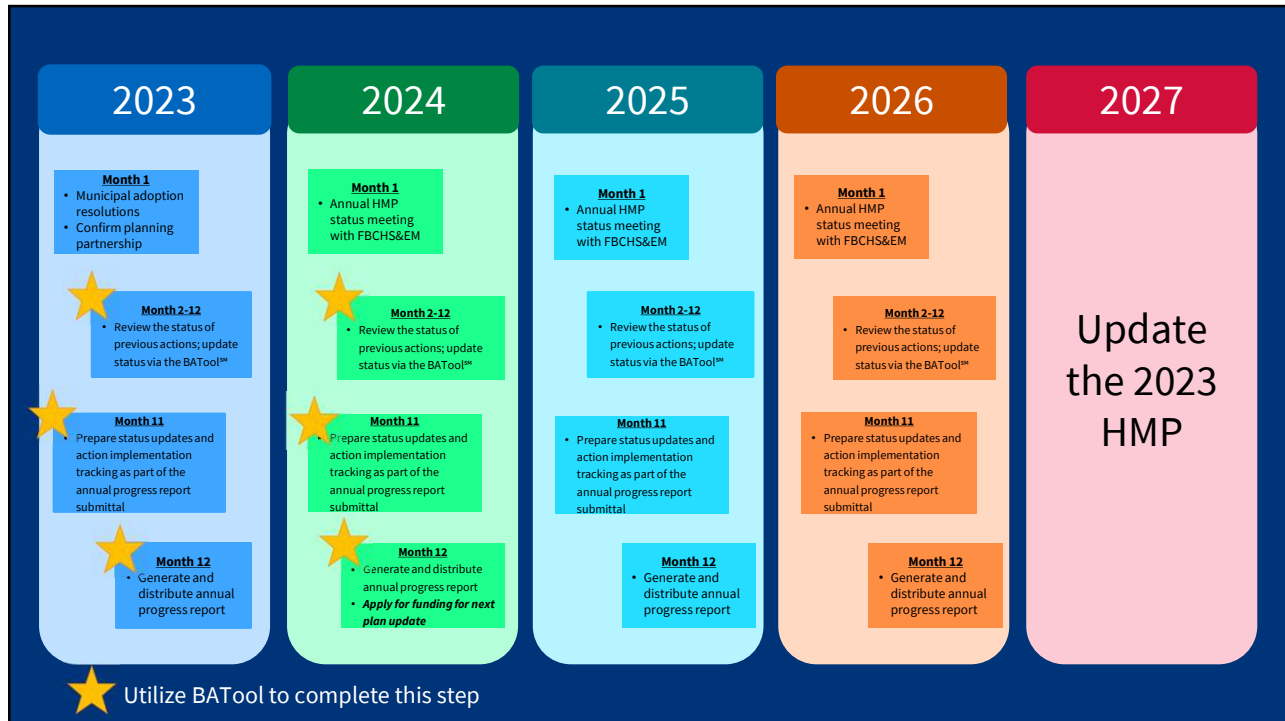
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Plan Maintenance Matrix



Task	Approach	Timeline	Lead Responsibility	Support Responsibility
Monitoring	Preparation of status updates and action implementation tracking as part of submission for Annual Progress Report.	October or upon major update to Comprehensive Plan or major disaster	Jurisdictional points of contact identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)	Jurisdictional implementation lead identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)
Integration	In order for integration of mitigation principles action to become an organic part of the ongoing county and municipal activities, the county will incorporate the distribution of the safe growth worksheet for annual review and update by all participating jurisdictions.	October each year with interim email reminders to address integration in county and municipal activities.	HMP Coordinator and jurisdictional points of contact identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)	HMP Coordinator
Evaluation	Review the status of previous actions as submitted by the monitoring task lead and support to assess the effectiveness of the plan; compile and finalize the Annual Progress Report	Finalized progress report completed by October 14 th of each year	Steering Committee; Plan Maintenance element	Jurisdictional points of contacts identified in Section 9 (Jurisdictional Annexes)
Update	Reconvene the planning partners, at a minimum, every 5 years to guide a comprehensive update to review and revise the plan.	Every 5 years or upon major update to Comprehensive/Master Plan or major disaster	HMP Coordinator	Jurisdictional points of contacts identified in Section 9 (Jurisdictional Annexes)

Fort Bend County Hazard Mitigation Action Plan Update



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- What is it?
 - Online progress reporting for individual mitigation actions – pre-populated by Tetra Tech
 - Web-based, SQL server database created by Tetra Tech
 - Scalable for multiple applications: Federal, State or Local
 - Secure environment
 - Includes reporting function
- Each jurisdiction has a designated Point of Contact will log in with the general user name and password for the BATool [link: <https://www.ttbatool.org>]
 - Once the plan is approved, we will send around the user name and password
- Each jurisdiction will sign in and indicate progress made on mitigation actions
- You can add or remove actions as well

Fort Bend County Hazard Mitigation Action Plan Update

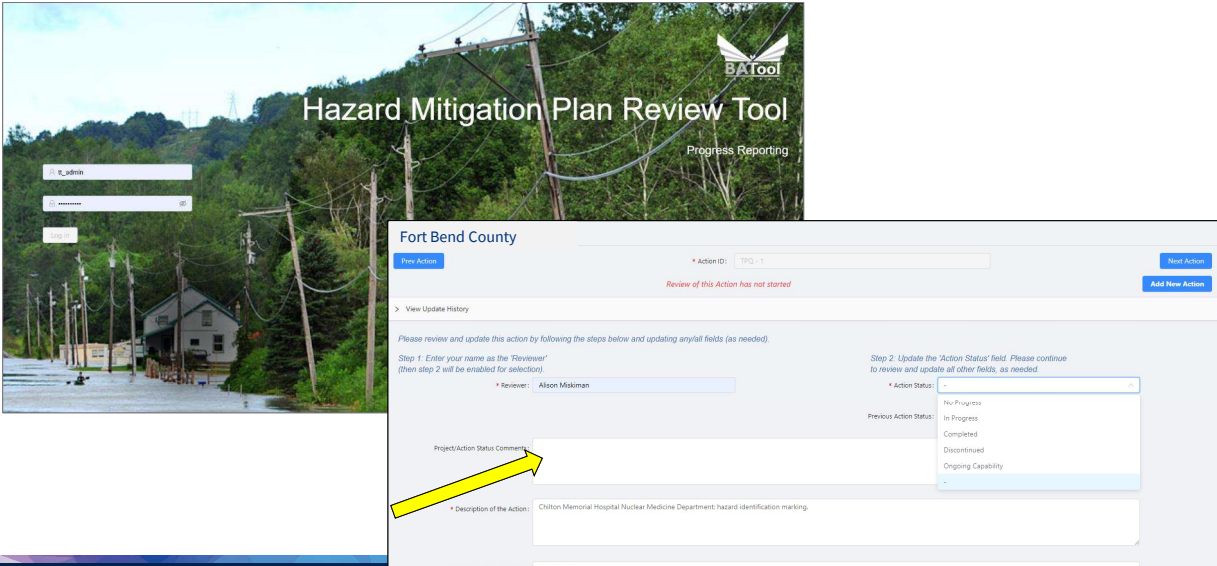
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BAToolSM



Hazard Mitigation Plan Review Tool

Progress Reporting



Fort Bend County Hazard Mitigation Action Plan Update

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2021 CAPE MAY COUNTY HAZARD MITIGATION PLAN UPDATE
PROGRESS REPORT

Guidance to the report author:

Please refer to one or more of the following to ensure all required information is captured in your progress report prior to submission: Hazard Mitigation Plan maintenance section, the latest CEM Standard, the U.S. EPCRA/ESRD/DR Action Plan, and any applicable programmatic policies and procedures. Please adapt each placeholder section as needed to ensure applicability. Additional guidance is provided throughout the template in yellow indicated text.

Reporting Period

The reporting period for this progress report is **06-18-2022** through **06-18-2022**.

Background

State the purpose of this report - whether it be for the annual update of your hazard mitigation plan, annual participation requirements per the CEM standard, or other. Example text is below for a hazard mitigation plan.

Cape May and participating local cities and districts developed a hazard mitigation plan to reduce risk from all hazards by identifying resources, information, and strategies for risk reduction. The federal Disaster Mitigation Act of 2000 requires state and local governments to develop hazard mitigation plans as a condition for federal disaster grant assistance. To prepare the plan, the participating planning partners organized resources, assessed risks from natural hazards, developed planning goals and objectives, reviewed mitigation alternatives, and developed an action plan to address probable impacts from natural hazards. By completing this process, these jurisdictions maintained compliance with the Disaster Mitigation Act, achieving eligibility for mitigation grant funding opportunities afforded under the Robert T. Stafford Act. The plan can be viewed on-line at [http://www.capeemnj.gov](#).

Purpose:

The purpose of this report is to provide an update on the implementation of the mitigation initiatives identified in the **2017 Cape May County Hazard Mitigation Plan Update**. The objective is to ensure that there is a continuing planning process that will keep the 2017 Cape May County Hazard Mitigation Plan Update dynamic and responsive to the needs and capabilities of the **Cape May County**, and stakeholders.

Planning Committee

For the reporting period, the committee membership is listed in Table 1.

Name	Title	Jurisdiction/Agency
Marta Pajuglia		Cape May, County of
Jada Edwards		Cape May, County of

Summary Overview of Mitigation Initiatives

State a summary of the plan.

The performance period for the plan is **06-17-2021**, with the final update to be 5 years, with an annual update. The performance period for the 5-year performance period is:

- 0 out of 46 initiatives (0%)
- 46 out of 46 initiatives (100%)
- 0 out of 46 initiatives (0%)
- 0 out of 46 initiatives (0%)

Initiative	Long Term (7+ yrs)	No	No Programs Reported
2021-CapeMay-County-044 - The County proposes to undertake drainage improvements to Saxe Parkway and coordinate with Sea Isle City to facilitate drainage in the vicinity. Outfall pipes require upgrading and reporting. Drainage program initiation will be considered.			No Programs Reported
2021-CapeMay-County-045 - The County proposes to retrofit existing traffic signals to prevent life safety during bridge incidents.			No Programs Reported
2021-CapeMay-County-046 - The construction of a sea wall around the perimeter of the Ocean City Wastewater Facility would mitigate the catastrophic flood risk.			No Programs Reported

Changes That May Impact Implementation of the Plan

State a brief overview of any significant changes in the planning areas that would have a profound impact on the implementation of the plan. Specify any changes in technical, regulatory and financial capabilities identified during the plan's development.

Recommendations for Changes or Enhancements

Based on the review of this report by the Planning Committee, the following recommendations will be noted for future updates or revisions to the plan. Table 3 lists the new initiatives added this reporting period.

- _____
- _____
- _____
- _____

Public review notice

The contents of this report are considered to be public knowledge and have been prepared for total public disclosure. Copies of the report have been provided to the governing boards of all planning partners and to local media outlets. The report is posted on the [Cape May County Website](#). Any questions or comments regarding the contents of this report should be directed to [Public Outreach Staff](#).

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Mitigation Strategy

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Mitigation Strategy

- Complete one form per action – <https://forms.office.com/r/skApygNAJZ>
- Need two actions per hazard of concern

 TETRA TECH

Fort Bend County HMP - Mitigation Strategies



Please use this form to develop your mitigation strategy. One form is needed for each strategy/action and FEMA Region VI requires two actions per hazard of concern. However, one action can address multiple hazards. If you need assistance, please reach out to Heather Appgar (heather.appgar@tetratech.com).

Section 1

Contact Information
Complete this section with your contact information.

1. Name *


2. Title *

Fort Bend County Hazard Mitigation Action Plan Update


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Mitigation Actions to Consider



Action Starting Point	Dam/Levee Failure	Drought	Extreme Temperature	Flood	Geologic Hazards	Hurricane/Tropical Storm	Pandemic/Disease Outbreak	Severe Weather	Tornado	Wildfire	Winter Weather
Countywide Debris Management Plan	X			X	X	X		X	X	X	X
Substantial Damage Management Plan	X			X	X	X		X	X	X	X
Identification of key healthcare stakeholders and providers (including medical clinics and drugstores)			X				X				
Inventory of healthcare facilities (hospitals, medical clinics, long-term care facilities)			X				X				
Dam Safety Evacuation Education and Outreach	X			X							
High Water Warning Systems	X			X		X		X			
Develop and implement an education and outreach program to architects, builders and developers who work in the County to understand the hazard risks in the County	X			X	X	X		X	X	X	X
Critical facilities in the floodplain (e.g., MUD stations, WWTP)				X		X		X			
Dams – Barker Reservoir, Lake Sommerville, Kitty Hollow	X			X							

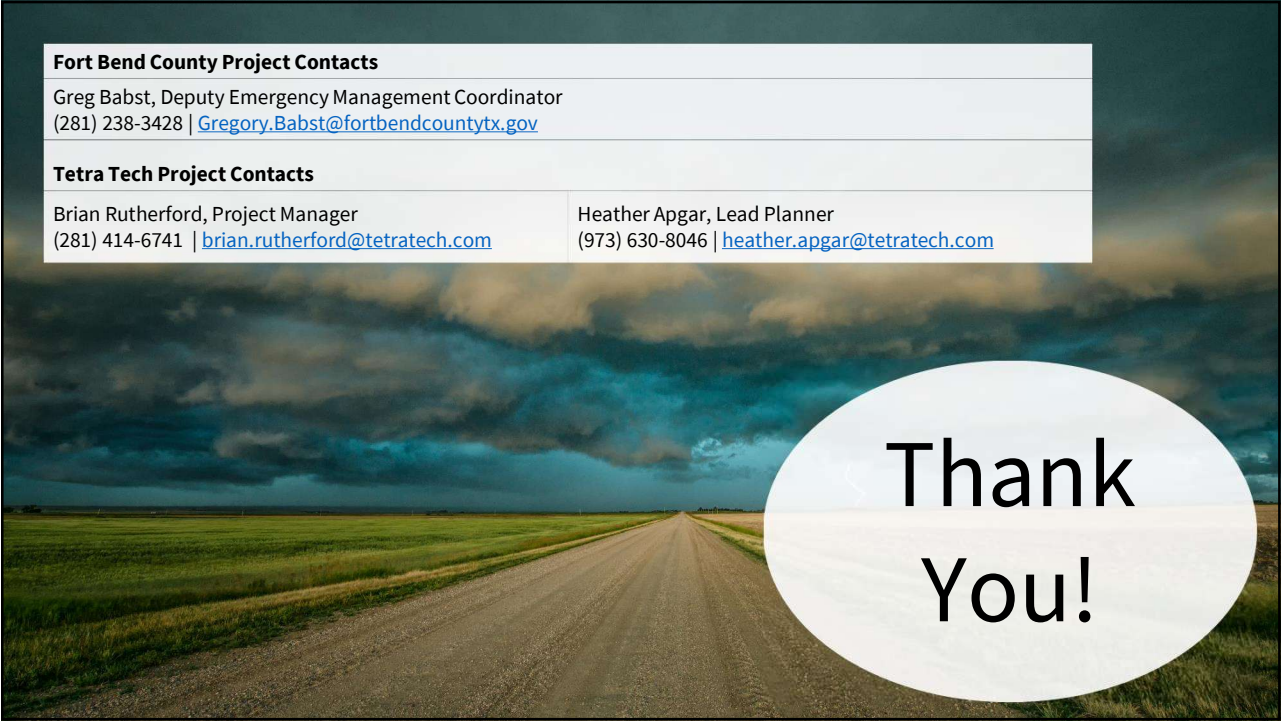
Fort Bend County Hazard Mitigation Action Plan Update



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Fort Bend County Project Contacts	
Greg Babst, Deputy Emergency Management Coordinator (281) 238-3428 Gregory.Babst@fortbendcountytx.gov	
Tetra Tech Project Contacts	
Brian Rutherford, Project Manager (281) 414-6741 brian.rutherford@tetrattech.com	Heather Apgar, Lead Planner (973) 630-8046 heather.apgar@tetrattech.com

Thank You!



Purpose of Meeting: Draft Plan Presentation
Location of Meeting: Microsoft Teams
Date/Time of Meeting: 3 PM-June 20, 2023

Attendees: Heather Apgar- Tetra Tech Emily Vassallo-Tetra Tech Andy Myers, Commissioner Robert Oliver, City of Richmond Janeen Spates, Community Development Jack Ashton, Meadows Place PD Jim Whitehead Trameka Jewett, Missouri City Caroline Egan, Sugar Land Rigo Calzoncin, City of Rosenberg Craig Kalkomey, Simonton, Fort Bend LID 2 and 14 Andrew Vanchau, FBC Precinct 3	Scott Wiegat, FBC Road and Bridge Misty Tiemann, City of Beasley Greg Babst Mark Vogler Carol Borrego Sharon Valiante Felix Vargas, City of Fulshear Chief Stewart Rick Staigle Erica Molina Keelan Spaulding, Town of Thompson VFD
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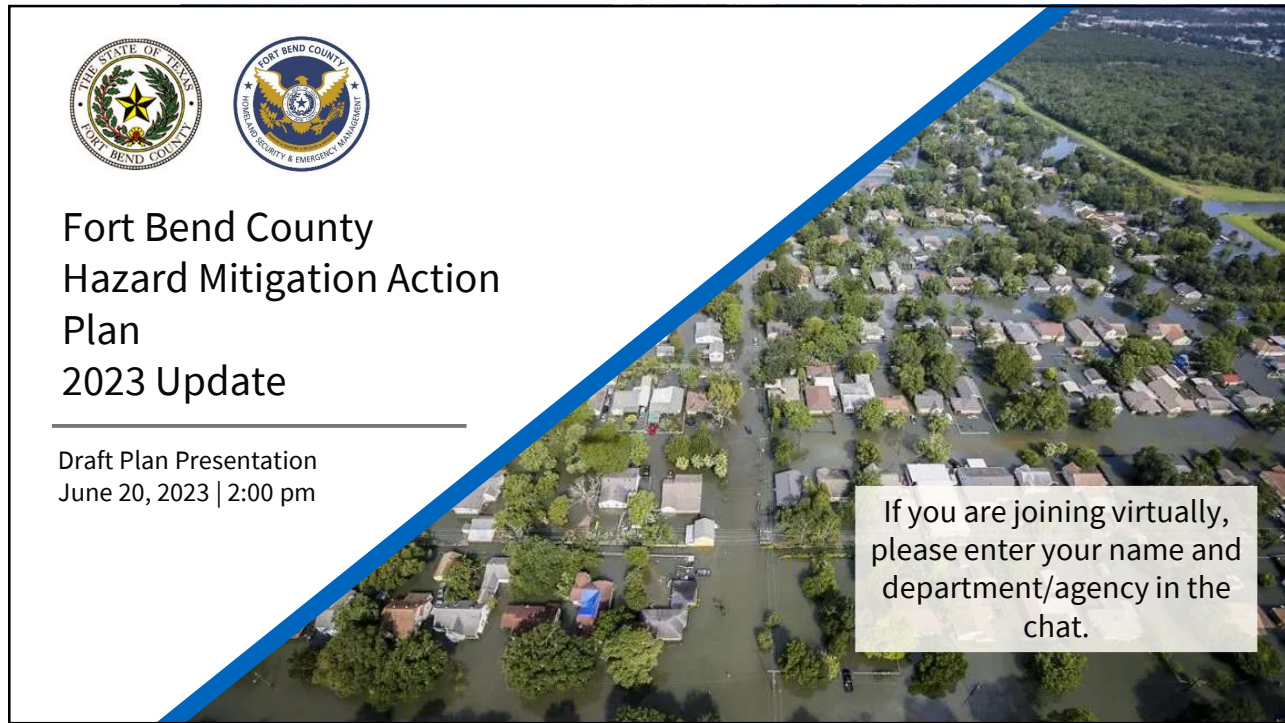
Agenda Summary: Welcome; Progress Report; Draft Plan Review; Questions/Next Steps/Wrap Up

Item No.	Description	Action By:
1.	Welcome and Introductions <ul style="list-style-type: none"> • Heather introduces herself and Greg Babst welcome’s everyone and says a few words 	-
2.	Project Schedule <ul style="list-style-type: none"> • Heather Presents the overall project schedule with dates that have been met and those that are tentative 	-
3.	Annex Progress <ul style="list-style-type: none"> • Heather presents action worksheet link for municipalities to identify additional actions. • Heather states that all municipalities have until June 23rd to review and send back an updated annex. • Heather displays a status table of all municipalities in terms of who Tt has heard back from 	County and municipalities will identify additional actions and revise their annex by June 23 rd , no later than the 27th
4.	Public and Stakeholder Outreach <ul style="list-style-type: none"> • Heather discusses public outreach toolkit, including social media templates and posts, press release templates and printable materials. • Heather discusses Survey’s used to collect input on the draft plan. • Heather discusses the HMP website 	Tt to provide outreach materials next week
5.	What’s New in the 2023 Update <ul style="list-style-type: none"> • Heather discusses the new FEMA requirements. • Heather discusses critical facilities list. • Heather discusses Hazards of Concern • Heather discusses Jurisdictional annexes 	-
6.	Section Contents <ul style="list-style-type: none"> • Volume 1: <ul style="list-style-type: none"> ○ Includes sections 1-7; planning process; county profile; risk assessment; methodology; hazards of concern; methodology; hazard rankings capability assessment; mitigation strategies; plan maintenance. • BATool 	-



	<ul style="list-style-type: none"> o Heather explains what the BATool is and who has access to the tool. • Volume 2: <ul style="list-style-type: none"> o Includes sections 8-9; planning partnership; jurisdictional annexes. • Appendices: <ul style="list-style-type: none"> o Includes Appendix A-H; Plan adoption; participation documentation; meeting documentation; public and Stakeholder outreach documentation; mitigation strategy supplementary data; plan maintenance tools; critical facilities; linkage procedures 	
7.	<p>Review the Draft Plan</p> <ul style="list-style-type: none"> • Entire plan will be posted on HMP website on Wednesday June 28th for a 14-day review period. • TDEM will begin their review after public review. • Public feedback to be incorporated as appropriate prior to submittal to TDEM/FEMA for their review. 	Tt to post for public review on June 28th
8.	<p>Next Steps</p> <ul style="list-style-type: none"> • Edits/comments due by June 27th • Annex input due June 23rd • Public Review (June 28th-July 12th) • Draft to TDEM by July 19th • Draft Plan for FEMA review/approval by September 2nd • FEMA approves plan ~October 2023 • Implement Projects and Maintain the Plan 	-
9.	<p>Questions?</p> <ul style="list-style-type: none"> • No questions 	Tt to change Greg's title to Emergency Management Coordinator

Meeting concurred at 3:41 pm with no questions or concerns from the attendees. Greg and Heather offer help and assistance to all the municipalities and County agencies involved.



The slide features two circular logos at the top left: the Seal of the State of Texas and the Fort Bend County Hazard Mitigation & Emergency Management logo. The main title is "Fort Bend County Hazard Mitigation Action Plan 2023 Update". Below the title, it says "Draft Plan Presentation June 20, 2023 | 2:00 pm". A blue diagonal line separates the text from an aerial photograph of a flooded residential neighborhood. A white text box on the right of the photo contains the instruction: "If you are joining virtually, please enter your name and department/agency in the chat."


1



The slide has a background image of tall grasses. A dark blue horizontal band across the middle contains the text "Today's Agenda" in large white font on the left and a numbered list on the right:



1. Welcome
2. Progress Report
3. Draft Plan Review
4. Questions/Next Steps/Wrap Up

2




Project Schedule

<input checked="" type="checkbox"/> November 2022	Kick-Off Meetings
<input checked="" type="checkbox"/> November – February	Data Collection and Update Hazard Profiles
<input checked="" type="checkbox"/> February 9, 2023	Steering Committee Meeting #2 (Goals and Objectives)
<input checked="" type="checkbox"/> March 29, 2023	Risk Assessment Presentation and Identifying Mitigation Actions
<input checked="" type="checkbox"/> June 7, 2023	Mitigation actions due (County)
<input type="checkbox"/> June 20, 2023	Draft Plan Presentation (virtual)
<input type="checkbox"/> June 27, 2023	Draft sections (Volume I) available for Steering Committee Review (OneDrive)
<input type="checkbox"/> July 12, 2023	All input from Steering Committee and Planning Partnership due
<input type="checkbox"/> June 28-July 12, 2023	Public Review Period
<input type="checkbox"/> July 19, 2023 (tentative)	Submit Plan to TDEM
<input type="checkbox"/> September 2, 2023 (tentative)	Submit Plan to FEMA
<input type="checkbox"/> October 17, 2023 (tentative)	APA



Fort Bend County Hazard Mitigation Action Plan Update

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Annex Progress

- Looking ahead...
 - Identify new mitigation actions ASAP (if you have not done so)
 - Complete action worksheets - <https://forms.office.com/r/skApygNAJZ>
 - Tetra Tech sent out your annex last week. You have until June 23rd to make revisions before we post for public review – if we do not hear from you by June 23rd, your annex will be posted as-is for public review





Fort Bend County Hazard Mitigation Action Plan Update


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Jurisdiction	Mitigation Actions	Municipal Feedback Provided?	Notes
Fort Bend County	X		Tt to finalize annex to send to Steering Committee for review/input
Arcola (C)	X		No input on actions received to date; Tt developed actions for the city; annex sent to City on 5/30
Beasley (C)	X		Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex sent to City on 5/30
Fairchilds (V)	X	X	Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex sent to Village on 5/30
Fulshear (C)	X		Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex sent to City on 5/30
Katy (C)	Not Participating		
Kendleton (C)	X		Annex will be sent to city on 5/30/23
Meadows Place (C)	X	X	Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex sent to City on 5/30
Missouri City (C)	X	X	Annex will be sent to city on 5/30/23
Needville (C)	X		Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex sent to City on 5/30
Orchard (C)	X		Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex sent to City on 5/30
Pearland (C)	Not Participating		
Pleak (V)	X	X	Received actions; Tt developed additional actions to meet the two actions/hazard requirement; annex sent to Village on 5/30
Richmond (C)	X		Received actions; annex sent to City on 6/16
Rosenberg (C)	X		Received actions; annex sent to City on 6/16
Simonton (C)	X		Received actions; annex sent to City on 6/15
Stafford (C)	Tt developed actions		No input on actions received to date; Tt incorporating carried over actions; annex sent to City on 6/15
Sugar Land (C)	X	X	Received actions; annex sent to City on 5/30
Thompsons (C)	Tt developed actions		No input on actions received to date; Tt incorporating carried over actions; annex sent to City on 6/15
Weston Lakes (C)	Tt developed actions		No input on actions received to date; Tt incorporating carried over actions; annex sent to City on 6/15

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Public and Stakeholder Outreach



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 - Printable materials
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Hazard Mitigation Action Plan 2023 Update





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Fort Bend County Hazard Mitigation Action Plan Update

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What's New in the 2023 Update?

- New FEMA requirements
 - Participation – engaged and actively participating throughout the process
 - Stakeholder involvement
 - Community lifelines
 - Socially vulnerable populations
 - Effects of future conditions (i.e., climate change) on hazards
 - Current and future capabilities integrating hazard mitigation
 - Two mitigation actions per hazard



Local Mitigation Planning Policy Guide

FP 206-21-0002
Released April 19, 2022, Effective April 19, 2023
OMB Collection #1660-0062






Fort Bend County Hazard Mitigation Action Plan Update

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What's New in the 2023 Update?

- **Critical facilities** – updated inventory and included community lifelines
 - This includes – airports, academia, bridges, transportation, communication, dams, utilities, pump stations, wells, etc.






Fort Bend County Hazard Mitigation Action Plan Update

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What's New in the 2023 Update?



• Hazards of Concern –

- Incorporated new hazards, and concise hazard profiles, including recent events
- Risk assessments for each hazard
- Climate change impacts incorporated into the probability of future occurrences
- Adaptive capacity to reduce vulnerability used in hazard ranking
- Impacts on population (general and socially vulnerable), buildings, lifelines, and economy

Fort Bend County Hazard Mitigation Action Plan Update



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What's New in the 2023 Update?



• Jurisdictional Annexes


- Each jurisdiction has its own 'chapter' of the HMP that focuses on what impacts your jurisdiction and the population you serve.
- Enhanced capability assessment including how hazard mitigation is integrated
- Two mitigation actions for every hazard of concern

Fort Bend County Hazard Mitigation Action Plan Update

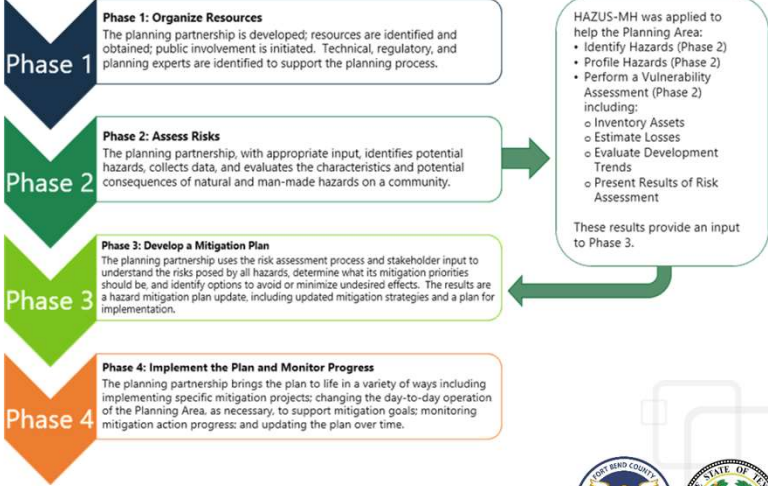


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Section Contents – Volume I



- **Section 1 – Introduction**
 - Mitigation planning overview
 - Participating jurisdictions
 - 2023 updates and summary of changes since last plan




HAZUS-MH was applied to help the Planning Area:

- Identify Hazards (Phase 2)
- Profile Hazards (Phase 2)
- Perform a Vulnerability Assessment (Phase 2) including:
 - Inventory Assets
 - Estimate Losses
 - Evaluate Development Trends
 - Present Results of Risk Assessment

These results provide an input to Phase 3.







Section Contents – Volume I



- **Section 2 – Planning Process**
 - Plan participants (committees, stakeholders, etc.)
 - Activities
 - Ongoing process

Date	DMA 2000 Requirement	Description of Activity	Participants
September 26, 2022	2	Pre-Kick Off Meeting with Fort Bend County: Plan timing and administration, data needs and sharing, hazards of concern, dates, and next steps.	Fort Bend OEM, Tetra Tech
November 09, 2022	2	Steering Committee Meeting #1: Introduce Steering Committee to the HMP update process, discuss mitigation planning, project organization, roles and responsibilities, data collection, hazards of concern, and schedule of the plan.	City of Beasley, Fort Bend OEM, Fort Bend County Utility Authority, City of Fulshear, City of Kendleton, City of Meadows Place PD, City of Meadows Place Public Works, Missouri City OEM, City of Richmond, City of Rosenberg, City of Simonton, City of Sugar Land, Tetra Tech
November 19, 2022	2, 4a	Planning Partnership Meeting #1: Introduce Planning Partnership to the HMP update process, discuss mitigation planning, project organization, roles and responsibilities, data collection, hazards of concern, and schedule of plan.	City of Beasley, Fort Bend OEM, Fort Bend County Utility Authority, City of Fulshear, City of Kendleton, City of Meadows Place PD, City of Meadows Place Public Works, Missouri City OEM, City of Richmond, City of Rosenberg, City of Simonton, City of Sugar Land, Brazos River Authority, LID Solutions, City of

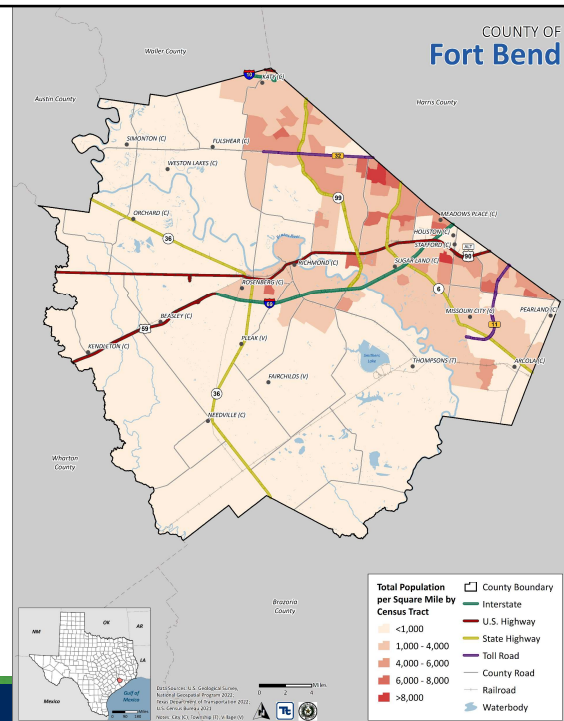


Fort Bend County Hazard Mitigation Action Plan Update

Section Contents – Volume I

- **Section 3 – County Profile**
 - History & Physical Setting
 - Major Hazard Event History
 - Population and Demographics
 - General Building Stock
 - Land Use and Population Trends
 - Critical Facilities & Community Lifelines



Fort Bend County Hazard Mitigation Action Plan Update

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Section Contents – Volume I




- **Section 4 – Risk Assessment**
 - Identification of Hazards of Concern
 - Process to go through all potential hazards and identify the hazards that have the potential to impact the Planning Area
 - Methodology and Tools
 - Describes the various procedures and tools used to complete the risk assessment
 - Steps to do so included identifying and profiling each hazard of concern; determine exposure to each hazard; and assess the vulnerability of exposed population/buildings/economy

Fort Bend County Hazard Mitigation Action Plan Update





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Section Contents – Volume I

- **Section 4 – Risk Assessment**
 - Hazard Profiles
 - Created individual sections for each hazard of concern.
 - Each section includes:
 - Hazard Profile – description, location, extent, worst-case scenario, previous occurrences, climate change projections, and probability of future events
 - Vulnerability Assessment – impact on life/health/safety, impact on building stock and critical facilities, impact on economy, impact on the environment, future changes that may impact vulnerability, and changes in vulnerability since the last plan
 - Hazard Ranking
 - Provides a preliminary ranking (high, medium, low) of each hazard to show the Planning Area’s hazards of greatest risk


Fort Bend County Hazard Mitigation Action Plan Update


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Section Contents – Volume I

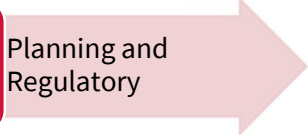
- **Section 5 – Capability Assessment**
 - What is currently available at the federal, state, and county level to support mitigation in Fort Bend County
 - Available plans, programs, & resources
 - Administrative and technical capabilities
 - Fiscal capabilities
 - Education and outreach




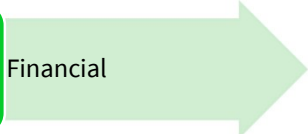


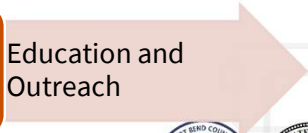














Planning and
Regulatory

Administrative and
Technical

Financial

Education and
Outreach

Fort Bend County Hazard Mitigation Action Plan Update

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Section Contents – Volume I

• Section 6 - Mitigation Strategies

- Past accomplishments
- Goals and Objectives
- Mitigation strategy development and update
 - Action identification
 - Evaluation and prioritization
 - Benefit/cost review

2023 HMP Update Goals	
1	Educate and inform citizens regarding potential emergency situations related to hazards.
2	Decrease the risk to life and property from hazards through planning, preparing, and mitigating.
3	Performing projects that reduce the impact of natural hazards in order to increase resiliency and enhance the ability to recover.
4	Enhance coordination between local, county, state, and federal agencies by understanding the impact of hazards in Fort Bend County and developing policies and strategies to effectively manage and reduce risk.
5	Support continuity of operations pre-, during, and post- hazard events including the support of community lifelines and critical facilities.

2023 HMP Update Objectives	
1	Evaluate and improve safety & loss reduction codes/standards for hazards that affect Fort Bend County and its municipalities.
2	Develop and strengthen public/private partnerships between the County, non-profits, and the business community.
3	Identify funding sources and increase awareness of funding sources to obtain funding for mitigation projects from a variety of federal, state, regional and local entities.
4	Promote sustainable communities and hazard resilient development.
5	Promote the use of emergency notification systems and weather alert systems for all hazards.
6	Develop publications and information on all hazards that could potentially impact Fort Bend County.
7	Incorporate hazard mitigation into community planning mechanisms, codes/ordinances, day-to-day operations, and projects.
8	Identify, protect, and assist socially vulnerable populations recover from hazard impacts.
9	Ensure continuity of operations of government, non-government, commerce, private sector, non-profit, and infrastructure.
10	Implement mitigation measures that promote the reliability of community lifeline systems.





Section Contents – Volume I

• Section 7 – Plan Maintenance



- Ongoing Planning Partnership – meet annually to discuss HMP
- Monitoring
- Continuous evaluation and progress reports
- Updating
- Integrating the HMP with existing and future programs
- Continued public involvement









- What is it?
 - Online progress reporting for individual mitigation actions – pre-populated by Tetra Tech
 - Web-based, SQL server database created by Tetra Tech
 - Scalable for multiple applications: federal, state or local
 - Secure environment
 - Includes reporting function
- Each jurisdiction has a designated Point of Contact will log in with the general username and password for the BATool [link: <https://www.ttbatool.org>]
 - Once the plan is approved, we will send around the username and password
- Each jurisdiction will sign in and indicate progress made on mitigation actions
- You can add or remove actions as well

Fort Bend County Hazard Mitigation Action Plan Update

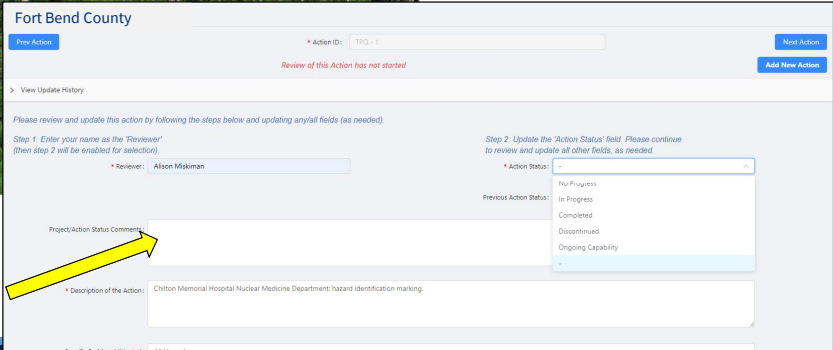
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Hazard Mitigation Plan Review Tool

Progress Reporting



Fort Bend County Hazard Mitigation Action Plan Update

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2021 CAPE MAY COUNTY HAZARD MITIGATION PLAN UPDATE PROGRESS REPORT

Guidance to the report author:
Please refer to one or more of the following to ensure all required information is captured in your progress report prior to submission: *Hazard Mitigation Plan maintenance section, the latest CRS Manual, the CEJ 35D-C286G-DR Action Plan, and any applicable programmatic policies and procedures. Please address each planholder section as needed to ensure applicability. Additional guidance is provided throughout the template in yellow-highlighted text.*

Reporting Period
The reporting period for this progress report is **05-15-2022 through 06-15-2022**.

Background
Summarize the purpose of this report - whether it is for the annual update of your hazard mitigation plan, annual jurisdiction requirements for the CRS or other. Example text is below for a hazard mitigation plan.
The performance period for the 2021 Cape May County Hazard Mitigation Plan Update was from 05/15/2022 to 06/15/2022. The performance period for the 2021 Cape May County Hazard Mitigation Plan Update was from 05/15/2022 to 06/15/2022. The performance period for the 2021 Cape May County Hazard Mitigation Plan Update was from 05/15/2022 to 06/15/2022.

Summary Overview of Mitigation Actions
Summarize a summary of the plan.
The performance period for the 2021 Cape May County Hazard Mitigation Plan Update was from 05/15/2022 to 06/15/2022. The performance period for the 2021 Cape May County Hazard Mitigation Plan Update was from 05/15/2022 to 06/15/2022. The performance period for the 2021 Cape May County Hazard Mitigation Plan Update was from 05/15/2022 to 06/15/2022.

Changes That May Impact Implementation of the Plan
Summarize a brief overview of any significant changes in the planning area that would have a profound impact on the implementation of the plan. Specify any change in technical, regulatory and financial capabilities identified during the plan's development.

Recommendations for Changes or Enhancements
Based on the review of this report by the Planning Committee, the following recommendations will be used for future updates or revisions to the plan. Table 3 lists the new initiatives added this reporting period.

Public review notice
The contents of this report are considered to be public knowledge and have been prepared for total public disclosure. Copies of the report have been provided to the governing boards of all planning partners and to local media outlets. The report is posted on the [CRS Website](#) website. Any questions or concerns regarding the contents of this report should be directed to [Report Contact: Jodi Hahn](#).

Section Contents – Volume II

- **Section 8 – Planning Partnership**
 - Participating jurisdictions
 - Introduction to jurisdictional annexes
- **Section 9 – Jurisdictional Annexes**
 - Points of Contact and Who Participated
 - Jurisdictional Profile
 - Capabilities
 - Risk Assessment
 - Status of Past Mitigation Actions
 - Current Mitigation Actions

9.9 City of Missouri City

This section presents the jurisdictional annex for the City of Missouri City that provides resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions to reduce or eliminate damage to property and people that can be implemented prior to a disaster. Information presented includes a general overview of the municipality, who in the City of Missouri City participated in the planning process, an assessment of the City of Missouri City's risk and vulnerability, the different capabilities used in the City of Missouri City, and an action plan that will be implemented to achieve a more resilient community.

9.9.1 Hazard Mitigation Planning Team

The City of Missouri City identified the hazard mitigation plan primary and alternate points of contact and developed this plan over the course of several months with input from many City of Missouri City departments, including Emergency Management, Public Works, and Development Services. The Emergency Management Coordinator represented the community on the Fort Bend County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge and contributing to the capabilities of the partnership.

Project Number	Mitigation Initiative Name	Description of Problem and Solution	New or Existing Asset?	Hazard(s) to be Mitigated	Goal in Months	Estimated Timeframe	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	High/Low	ES/CP
2023-001	Hazard Mitigation Outreach	Problems: The public is unaware of natural hazards, including hazardous area and potential mitigation projects, making them and their properties extremely vulnerable to all hazards. Solutions: Increase public awareness of natural hazards and hazardous areas; distribute information regarding hazards and potential mitigation measures to the public; promotional sources would include a tab on the City website; additional social media; and public education programs that inform the public of the hazards of concern and how to prepare for them.	New	Down/Leave Failure, Disease Outbreak, Drought, Extreme Temperature (Heat/Cold), Flood (Bovine/Flash/Stormwater), Geologic Hazards (expansive soils, erosion), Hurricane/Tropical Storm, Severe Weather (Lightning/Hail/Wind/Tornado), Wildfire, Winter Weather	1	1 Year	City Public Works	BIC, SNGP, FMA, City Budget	Residents will be more knowledgeable about the hazards of concern	\$5,000	High	Low	ES
2023-002	Drought Emergency Plan	Problems: The City does not currently have a drought contingency plan in place to inform the public on what to do during different levels of drought. Solutions: The City will partner with relevant departments and agencies to develop a...	New	Drought	2.5	1 Year	City Public Works	BIC, SNGP, FMA, City Budget	The City will be more prepared for drought events	\$5,000	High	Low	ES



Section Contents - Appendices

- Appendix A Plan Adoption
- Appendix B Participation Documentation
- Appendix C Meeting Documentation
- Appendix D Public and Stakeholder Outreach Documentation
- Appendix E Mitigation Strategy Supplementary Data
- Appendix F Plan Maintenance Tools
- Appendix G Critical Facilities
- Appendix H Linkage Procedures

Fort Bend County Hazard Mitigation Action Plan Update



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Review the Draft Plan

- The entire plan will be posted on the Fort Bend County HMP website for a 14-day review period (starting Wednesday, June 28th)
 - You can review sections of the plan during the public review, and we will incorporate any applicable revisions into the final deliverable to the State and FEMA
- TDEM will begin their review after the public review period
- Public feedback to be incorporated as appropriate prior to submittal to TDEM/FEMA for their review
 - If needed, we will hold a brief meeting to discuss public comments and how to incorporate – date TBD

Fort Bend County Hazard Mitigation Action Plan Update



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Next Steps



- Review/Edits
 - Volume I edits/comments due no later than **June 27th**
 - Annex input is due **June 23rd**
 - Any edits received after this date will not be part of the public review period
 - They will be included in the draft submitted to TDEM
- Public Review Period (14 days) – June 28th through July 12th
- Submit Draft Plan for TDEM review by July 19th
- Submit Draft Plan for FEMA review/approval by September 2nd (tentative)
- FEMA approves plan (~October 2023); begin adoption
- Implement Projects and Maintain the Plan → Increase Resilience!

Fort Bend County Hazard Mitigation Action Plan Update



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Fort Bend County Project Contacts	
Greg Babst, Deputy Emergency Management Coordinator (281) 238-3428 Gregory.Babst@fortbendcountytx.gov	
Tetra Tech Project Contacts	
Brian Rutherford, Project Manager (281) 414-6741 brian.rutherford@tetrattech.com	Heather Apgar, Lead Planner (973) 630-8046 heather.apgar@tetrattech.com

Thank You!



APPENDIX D. PUBLIC AND STAKEHOLDER OUTREACH

This appendix provides documentation of public and stakeholder outreach. Stakeholder involvement in this planning process was broad and productive as discussed and further documented in Section 2 (Planning Process). Public and stakeholder input has been incorporated throughout this HMP as appropriate, as identified in Section 2 and the References section.

D.1 Website and Social Media Post

The following provides screenshots of websites, news articles, and social media posts.

Table D-1. Website and Social Media Posts

Date of Post	Jurisdiction	Format
3/23/23	Fort Bend OEM	Facebook
3/28/23	Fort Bend County Fairgrounds	Lobby
3/28/23	FBC Constable Pct. 4	Lobby Window
3/28/23	FBC Constable Pct. 2	Bulletin Board
3/28/23	FBC Medical Examiners Office	Bulletin Board
3/28/23	FBC Transit Office	Bulletin Board
3/27/23	Justice of the Peace Pct. 2	Bulletin Board
4/3/23	City of Simonton	Facebook
4/4/23	City of Rosenberg	Website
4/4/23	County Clerk Office	Bulletin Board
5/2/23	City of Meadows Place	Website
5/2/23	City of Meadows Place	Taped to Office Desk



Figure D-1: Fort Bend OEM Facebook Post

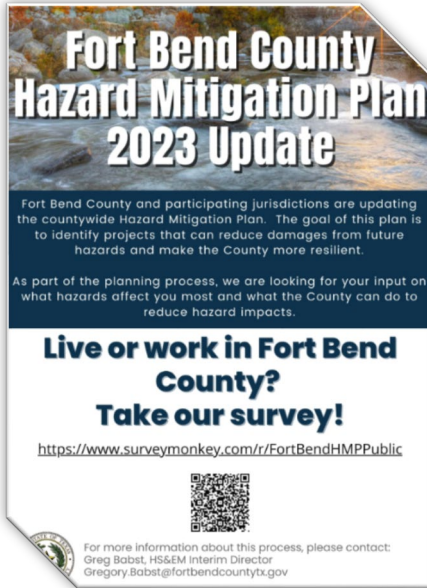


Figure D-1 shows the Facebook post on the Fort Bend Office of Emergency Management Facebook page. The post was uploaded on March 23, 2023.

Figure D-2: City of Simonton Facebook Post

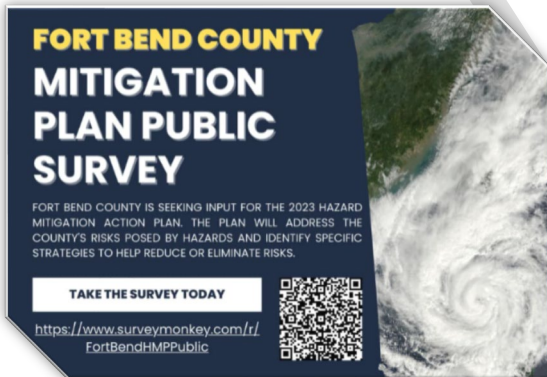


Figure D-2 shows the Facebook post on the City of Simonton Facebook page. The post was uploaded on April 3, 2023.

“Is your family storm-ready? Have ideas for making Fort Bend County more resilient to disasters? Let them know! They are updating the County’s Hazard Mitigation Plan and are looking for your involvement to help them update the HMP. Take a few minutes to complete the survey.”



Figure D-3: County Constable Bulletin Board



Figure D-3 shows the County Constable Bulletin Board where a 2-pager HMP brochure was available for the public.

Figure D-4: County Clerk Bulletin Board

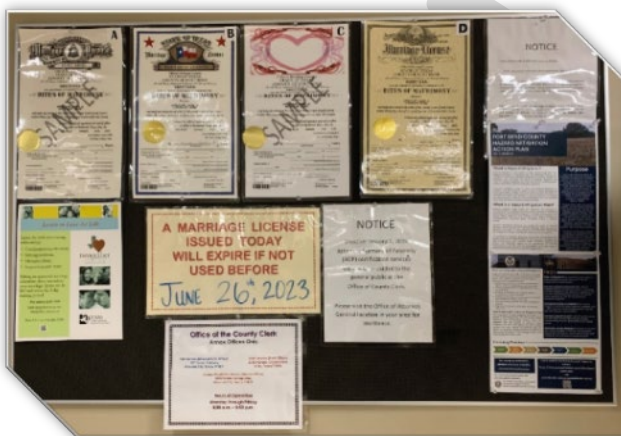


Figure D-4 shows the County Clerk Bulletin Boards where a 2-pager HMP brochure was available for the public.





Figure D-5: Medical Examiner's Office

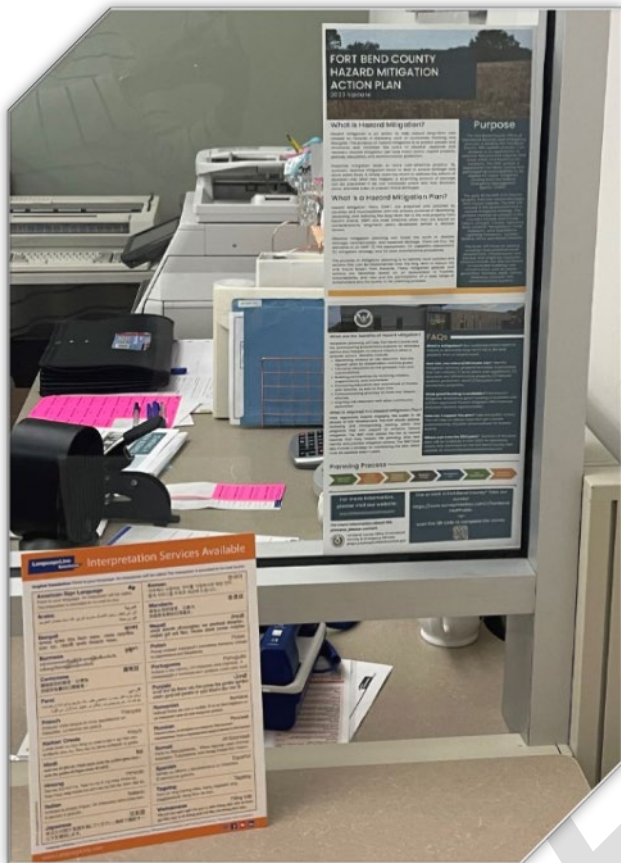


Figure D-5 the Medical Examiner's Office front desk, where a 2-pager HMP brochure was available for the public.

Figure D-6: County Constable Bulletin Board



Figure D-6 shows the County Constable Bulletin Board, along with Fort Bend police officers and officials.



Figure D-7: County Constable Bulletin Board at Precinct 2



Figure D-7 shows the County Constable Bulletin Board, along with Fort Bend police officers and officials at Precinct 2.

D.2 Stakeholder Surveys

This section contains information and results gathered from the Fort Bend HMP Stakeholder Survey. Unlike steering committee or planning partnership members, stakeholders may not be involved in all stages of the planning process, but they may have information or input to provide. In order to gather that information, the surveys were sent to the following stakeholders that provide various services to Fort Bend County (emergency services, academic/research, public works, utility providers, business/commerce, hospitals/medical services, and transportation). Results of the surveys are provided below, with personal information redacted.

D.2.1 Stakeholder Survey Results

The stakeholder survey was designed to help identify general needs for hazard mitigation and resiliency within Fort Bend County from its perspective, as well as to identify specific projects that may be included in the mitigation plan. It was distributed to identified stakeholders, including the various county and municipal departments and agencies in the county. As of April 3, 2023, nine stakeholders completed the survey, representing the following sectors: academic/research, emergency services, health and human services public works, and utilities.

Roughly 56% of respondents stated the buildings/facilities/structures they have worked in and/or are responsible for have not been impacted by a hazard. The 33% that experienced damage stated that the structure damage was primarily due to heavy rains, and flooding from Hurricane Harvey and Tax Day floods. When asked what areas are most vulnerable to hazards in the County, answers included low lying areas located in floodplains, wastewater/drainage infrastructure, academic institutions, and county utilities and structures.

The respondents stated that they have the following plans in place: Emergency Operations Plan (56%), Continuity of Government Plan (11%), and Continuity of Operations Plan (33%). Approximately 22% selected that they were unsure if there are any plans in place. Two respondents included Emergency Preparedness Plan (EPP) and Drought Contingency Plan in their responses.



D.2.2 Neighbor Survey

The neighbor survey was sent to the surrounding municipalities of the Fort Bend County due to their proximity to and because effects of hazard events that impact the Planning Area would be similar to that of their neighbors. As of March 28, 2023, two responses have been received from the five neighboring counties (Austin County, Brazoria County, Harris County, Waller County, and Wharton County) identified in the survey: Harris County OEM and Waller County OEM.

Only one response stated that Fort Bend County was involved in their community's comprehensive emergency operations planning (50%), and that they were also involved with the County's comprehensive emergency operation planning (50%). One response highlighted that their community had an Interlocal Agreement for Mutual Aid Assistance with the County. Both neighboring municipalities stated that they were not involved, or were unsure of involvement, in the County's Continuity of Operations planning.

Only one response stated that they shared risk and vulnerability assessment mapping with the County (50%) as well as having access to a contact for the County's emergency operation center (50%). The main hazards of concerns highlighted for both the neighboring municipalities and the County were flooding, especially of the Brazos River floodplain area; severe storm events, such as tornadoes and hurricanes; and hazardous material spills along major transportation routes, such as Interstate Highway 10.

D.3 Public Survey Results

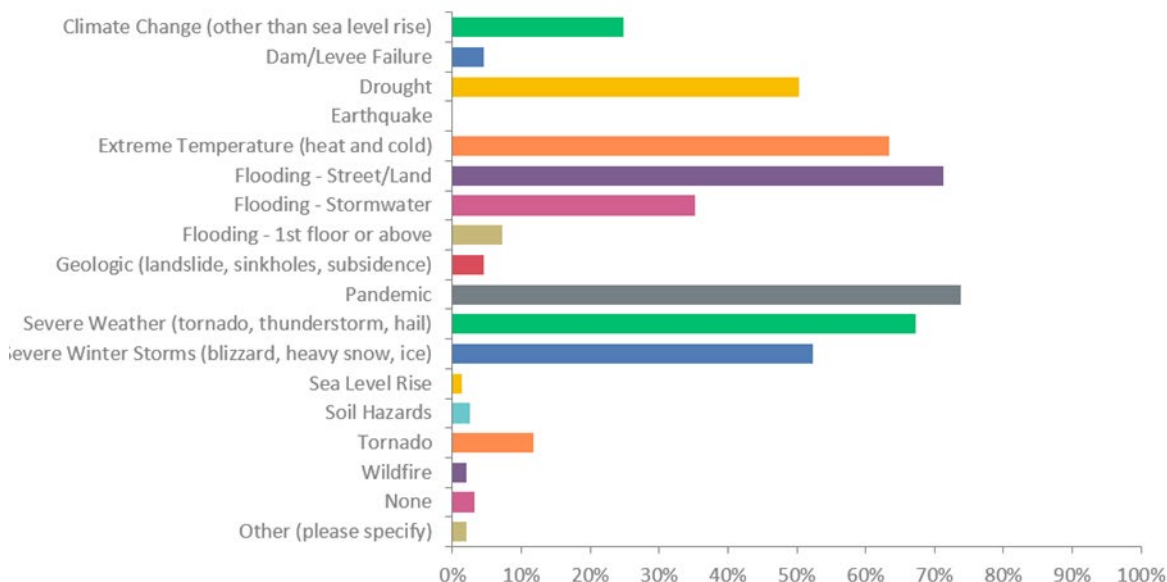
This section contains information and results gathered from the Fort Bend Public Survey. The main objective of this survey was to gather information from citizens regarding their level of knowledge regarding hazard vulnerability and knowledge of hazard mitigation information for their local communities. 153 respondents completed this survey over a period of four months during the planning process. The survey was available on the Fort Bend HMP website (<https://www.fortbendcountytXHMP.com/>) and participants posted a link to the survey through their social media accounts. Full survey responses are provided at the end of the appendix.

D.3.1 Public Survey Results

Demographically, survey respondents were from the City of Richmond, City of Rosenberg, City of Meadows Place, City of Missouri City, City of Simontown, City of Sugar Land, among others. The respondents ages ranged from 18 to over 61 years. The highest percentage being over 61 years of age (35%). The majority of respondents owned their single-family homes and have lived there for over 20 years (44%). In the past five years, the majority of respondents experienced the following hazards within Fort Bend County: pandemic (74%), street/land flooding (71%), severe weather (67%), extreme temperatures (63%), severe winter storms (52%), and drought (50%). Figure 8 lists the hazard events that respondents have experienced within the County in the last five year. Earthquake received zero responses. Residents were asked the ways in which they receive their information concerning a natural disaster, such as the hazard events listed in Figure 8. The majority of respondents rely on TV news (75%) and social media (71%) to receive information concerning these natural disasters. Over half of the respondents (67%) receive information through the internet and through the Mass Notification System (58%).

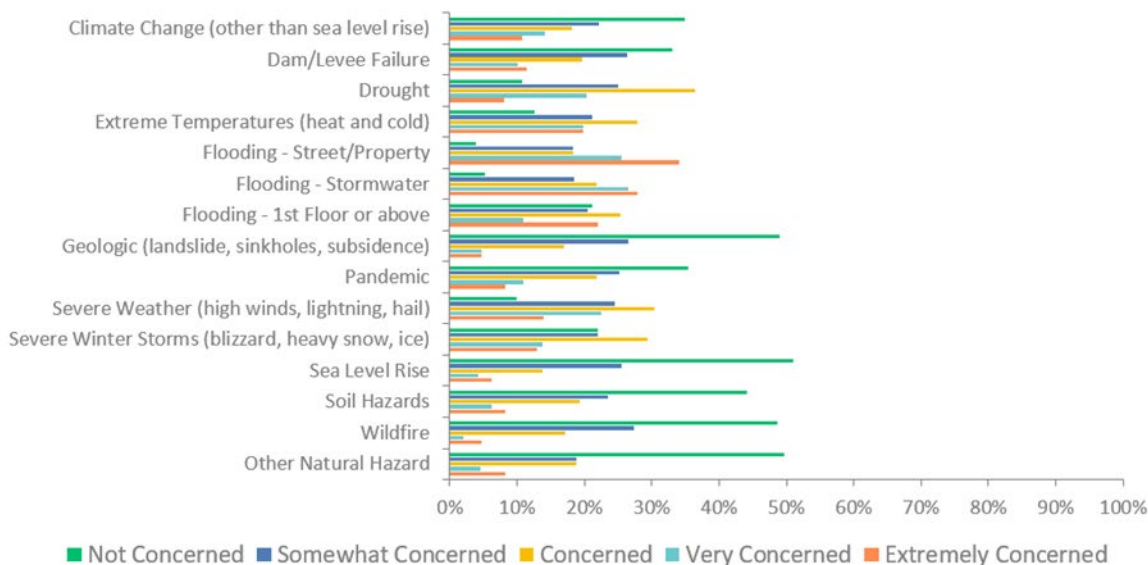


Figure D-8. Hazards experienced in the last 5 years by respondents



Survey respondents were asked how concerned they were about 17 different hazards, on a scale of not concerned to extremely concerned. Respondents were most concerned (reporting “concerned”, “very concerned”, or “extremely concerned”) about street/property/stormwater flooding, extreme temperatures (hot/cold), drought, severe weather, and severe winter storms. Figure 9 illustrates the remaining hazards with their associated level of concern. Sea level rise had the highest percentage for respondents not concerned (51%).

Figure D-9. Level of concern for hazards in Fort Bend County





About 72% of respondents' properties are not located in the floodplain, with 28% within a floodplain. Of the respondents in the floodplain, 10% do not have flood insurance, 34% do have flood insurance, and 57% were unsure. Of the residents whose properties are located outside of the floodplain, 28% do not have flood insurance, 42% have flood insurance, and 30% were unsure. Residents were then asked what types of planning projects are the most important to them within their community in terms of reducing damage and disruption of disasters in the County. The scale to evaluate the responses are "not very important" to "very important." Results for "very important" are listed below:

- (76%) Protecting private property.
- (89%) Protecting critical facilities and community lifelines.
- (69%) Preventing development in hazard areas (e.g., restrict building in the floodplain).
- (70%) Enhance the functions of natural features (e.g., streams, wetlands).
- (40%) Protecting historical and cultural landmarks.
- (85%) Protecting and reducing damages to utilities.
- (75%) Strengthening emergency services (e.g., police, fire, EMS).
- (72%) Disclosing natural hazard risks during real estate transactions.
- (66%) Promoting cooperation among public agencies, residents, non-profit organizations, and local businesses.



APPENDIX E. MITIGATION STRATEGY SUPPLEMENTARY DATA

This appendix summarizes additional activities and resources provided to plan participants to support the update of the mitigation strategy.

E.1 2018 Goals and Objectives Review

Fort Bend County’s planning documents and recent policy changes were reviewed and discussed with the Planning Team to help inform the review and update of the goals and objectives. Table E-1 and Table E-2 summarizes the Planning Team review and evaluation of the 2018 HMP goals and objectives. Table E-3 and Table E-4 summarize the goals and objectives for the 2023 HMP update.

Table E-1. 2018 Goals Evaluation

2018 Goal	2023 Goal Evaluation (Keep? Change? Add another goal?)
Goal 1: Educate and inform citizens regarding potential emergency situations related to natural hazards, including those resulting from groundwater depletion.	Change
Goal 2: Decrease the risk to life and property through planning, preparing, and mitigating.	Change
Goal 3: Perform projects that reduce the impact of natural hazards in order to increase resiliency and enhance the ability to recover.	Keep as is
Goal 4: Enhance coordination between local, county, state, and federal agencies by understanding the impact of hazards in Fort Bend County and developing policies and strategies to effectively manage and reduce risk.	New
Goal 5: Support continuity of operations pre-, during, and post-hazard events including support of community lifelines and critical facilities.	New

Table E-2. 2018 Objectives Evaluation

2018 Objective	2023 Objective Evaluation (Keep? Change? Add another objective?)
Objective 1: Evaluate and improve safety & loss reduction codes/standards for hazards that affect Fort Bend County and its municipalities.	Keep as is
Objective 2: Develop and strengthen public/private partnerships between the County, non-profits, and the business community.	Keep as is
Objective 3: Identify funding sources and increase awareness of funding sources to obtain funding for mitigation projects from a variety of federal, state, regional and local entities.	Keep as is
Objective 4: Promote sustainable communities and hazard resilient development.	Keep as is
Objective 5: Promote the use of emergency notification systems and weather alert systems for all hazards.	Keep as is
Objective 6: Develop publications and information on all hazards that could potentially impact Fort Bend County.	Keep as is
Objective 7: Incorporate hazard mitigation into community planning mechanisms, codes/ordinances, day-to-day operations, and projects.	Keep as is
Objective 8: Identify, protect, and assist socially vulnerable populations recover from hazard impacts.	Keep as is
Objective 9: Ensure continuity of operations of government, non-government, commerce, private sector, non-profit, and infrastructure.	Keep as is
Objective 10: Implement mitigation measures that promote the reliability of community lifeline systems.	Keep as is



Table E-3. 2023 Goals

2023 Goals
Goal 1: Educate and inform citizens regarding potential emergency situations related to hazards.
Goal 2: Decrease the risk to life and property from hazards through planning, preparing, and mitigating.
Goal 3: Perform projects that reduce the impact of natural hazards in order to increase resiliency and enhance the ability to recover.
Goal 4: Enhance coordination between local, county, state, and federal agencies by understanding the impact of hazards in Fort Bend County and developing policies and strategies to effectively manage and reduce risk.
Goal 5: Support continuity of operations pre-, during, and post-hazard events including support of community lifelines and critical facilities.

Table E-4. 2023 Objectives

2023 Objectives
Objective 1: Evaluate and improve safety & loss reduction codes/standards for hazards that affect Fort Bend County and its municipalities.
Objective 2: Develop and strengthen public/private partnerships between the county, non-profits, and the business community.
Objective 3: Identify funding sources and increase awareness of funding sources to obtain funding for mitigation projects from a variety of federal, state, regional and local entities.
Objective 4: Promote sustainable communities and hazard resilient development.
Objective 5: Promote the use of emergency notification systems and weather alert systems for all hazards.
Objective 6: Develop publications and information on all hazards that could potentially impact Fort Bend County.
Objective 7: Incorporate hazard mitigation into community planning mechanisms, codes/ordinances, day-to-day operations, and projects.
Objective 8: Identify, protect, and assist socially vulnerable populations recover from hazard impacts.
Objective 9: Ensure continuity of operations of government, non-government, commerce, private sector, non-profit, and infrastructure.
Objective 10: Implement mitigation measures that promote the reliability of community lifeline systems.

E.2 MITIGATION STRATEGY WORKSHOP RESOURCES

On March 29, 2023 a Mitigation Strategy Workshop was held for all plan participants. The workshop was held virtually and was led by the contract consultant, supplemented by emails and phone calls between the County of Fort Bend and the contract consultant, for all participants to support the development of focused problem statements based on the impacts of natural hazards in the county and their communities. These problem statements were intended to provide a detailed description of the problem area, including its impacts to the municipality/jurisdiction; past damages; loss of service; etc. An effort was made to include the street address of the property/project location, adjacent streets, water bodies, and well-known structures as well as a brief description of existing conditions (topography, terrain, hydrology) of the site. These problem statements formed a bridge between the hazard risk assessment which quantifies impacts to each community with the development of actionable mitigation strategies. Resources available at the workshop and follow up discussions included the following to assist with the identification of mitigation alternatives and the development of the mitigation strategy workshops found in Section 9 (Annexes).

1. FEMA Local Mitigation Handbook





2. Public survey results
3. FEMA Mitigation action types (Table E 5)
4. FEMA Mitigation Ideas
5. FEMA Project Useful Life factsheet
6. Mitigation funding sources at the federal, state, and local levels (Table E 6)
7. FEMA Region 6 Funding Sources for Texas
8. FEMA Ecosystem Services

E.2.1 Types of Mitigation Actions

A mitigation action is a specific action, project, activity, or process taken to reduce or eliminate long-term risk to people and property from hazards and their impacts. Implementing mitigation actions helps achieve the plan’s mission and goals. The actions to reduce vulnerability to threats and hazards form the core of the plan and are a key outcome of the planning process.

The primary types of mitigation actions to reduce long-term vulnerability are:

- Local Plans and Regulations (LPR)
- Structure and Infrastructure Projects (SIP)
- Natural Systems Protection (NSP)
- Education and Awareness Programs (EAP)

Table E-5. FEMA Mitigation Action Types

Mitigation Type	Description	Examples
Local Plans and Regulations	These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.	<ul style="list-style-type: none"> • Comprehensive plans • Land use ordinances • Subdivision regulations • Development review • Building codes and enforcement • NFIP Community Rating System • Capital improvement programs • Open space preservation • Stormwater management regulations and master plans
Structure and Infrastructure Projects	<p>These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure.</p> <p>This type of action also involves projects to construct manmade structures to reduce the impact of hazards.</p> <p>Many of these types of actions are projects eligible for funding through the FEMA Hazard Mitigation Assistance program.</p>	<ul style="list-style-type: none"> • Acquisitions and elevations of structures in flood prone areas • Utility undergrounding • Structural retrofits • Floodwalls and retaining walls • Detention and retention structures • Culverts • Safe rooms
Natural Systems Protection	These are actions that minimize damage and losses and also preserve or restore the functions of natural systems.	<ul style="list-style-type: none"> • Sediment and erosion control • Stream corridor restoration • Forest management • Conservation easements • Wetland restoration and preservation



Mitigation Type	Description	Examples
Education and Awareness Programs	These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady or Firewise Communities. Although this type of mitigation reduces risk less directly than structural projects or regulation, it is an important foundation. A greater understanding and awareness of hazards and risk among local officials, stakeholders, and the public is more likely to lead to direct actions.	<ul style="list-style-type: none">• Radio or television spots• Websites with maps and information• Real estate disclosure• Presentations to school groups or neighborhood organizations• Mailings to residents in hazard-prone areas• StormReady• Firewise Communities

DRAFT



E.2.2 Potential Mitigation Funding Sources

While it is important to recognize the mitigation strategies for Fort Bend County to help achieve the mitigation goals and objectives of the HMP, it is also important to provide sources for funding to implement these strategies. Table E-6 provides a list of programs, descriptions, and links for those seeking funding sources. Please note that this table is not intended to be a comprehensive list, but rather a starting point to help identify potential sources of funding for the identified mitigation strategies.

Table E-6. Texas Mitigation Funding Sources

Program	Description	Lead Agency	Website
Federal			
Hazard Mitigation Assistance (HMA)	Grants to provide funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages – includes FMA, HMGP, PDM	FEMA	https://www.fema.gov/hazard-mitigation-assistance
Flood Mitigation Assistance (FMA)	Program Grants to States and communities for pre-disaster mitigation planning and projects to help reduce or eliminate the long-term risk of flood damage to structures insurable under the National Flood Insurance Program	FEMA	https://www.fema.gov/flood-mitigation-assistance-grant-program
Hazard Mitigation Grant Program (HMGP)	Grants to States and communities for planning and projects providing long-term hazard mitigation measures following a major disaster declaration	FEMA	https://www.fema.gov/hazard-mitigation-grant-program
Building Resilient Infrastructure and Communities (BRIC)	Supports states, local communities, tribes and territories to undertake hazard mitigation projects by reducing the risks they face from disasters and natural hazards. BRIC is a new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program.	FEMA	https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities
Public Assistance: Hazard Mitigation Funding Under Section 406	Hazard mitigation discretionary funding available under Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act following a Presidentially declared disaster	FEMA	https://www.fema.gov/press-release/20220328/fema-hazard-mitigation-grants-404-and-406
Assistance to Firefighters Grant Program	The primary goal of the Assistance to Firefighters Grants (AFG) is to enhance the safety of the public and firefighters with respect to fire-related hazards by providing direct financial assistance to eligible fire departments, nonaffiliated Emergency Medical Services organizations, and State Fire Training Academies. This funding is for critically needed resources to equip and train emergency personnel to recognized standards, enhance operations efficiencies, foster interoperability, and support community resilience.	FEMA	https://www.fema.gov/welcome-assistance-firefighters-grant-program
High Hazard Potential Dams (HHPD) Rehabilitation Grant	The Rehabilitation of High Hazard Potential Dams Grant Program (HHPD) provides technical, planning, design, and construction assistance in the form of grants to non-Federal governmental	FEMA	https://www.grants.gov/web/grants/view-opportunity.html?oppld=316238



APPENDIX E. MITIGATION STRATEGY SUPPLEMENTARY DATA

Program	Description	Lead Agency	Website
	organizations or nonprofit organizations for rehabilitation of eligible high hazard potential dams.		
Fire Management Assistance Grant Program	Assistance for the mitigation, management, and control of fires on publicly or privately-owned forests or grasslands that threaten such destruction as would constitute a major disaster. Provides a 75% Federal cost share and the State pay the remaining 25% for actual cost.	FEMA	https://www.fema.gov/fire-management-assistance-grant-program
Disaster Housing Program	Emergency assistance for housing, including minor repair of home to establish livable conditions, mortgage and rental assistance	HUD	https://www.hud.gov/program_offices/public_indian_housing/publications/dhap
HOME Investment Partnerships Program	Grants to local and state government and consortia for permanent and transitional housing, (including financial support for property acquisition and rehabilitation for low-income persons)	HUD	https://www.hud.gov/program_offices/comm_planning/affordablehousing/programs/home/
HUD Disaster Recovery Assistance	Grants to fund gaps in available recovery assistance after disasters (including mitigation)	HUD	https://www.hud.gov/info/disasterresources
Section 108 Loan Guarantee	Enables states and local governments participating in the Community Development Block Grant (CDBG) program to obtain federally guaranteed loans for disaster-distressed areas	HUD	https://www.hudexchange.info/programs/section-108/
Smart Growth Implementation Assistance (SGIA) program	The SGIA program focuses on complex or cutting-edge issues, such as stormwater management, code revision, transit-oriented development, affordable housing, infill development, corridor planning, green building, and climate change. Applicants can submit proposals under 4 categories: community resilience to disasters, job creation, the role of manufactured homes in sustainable neighborhood design or medical and social service facilities siting.	EPA	https://www.epa.gov/smartgrowth
Partners for Fish and Wildlife	Financial and technical assistance to private landowners interested in pursuing restoration projects affecting wetlands and riparian habitats	U.S. Fish and Wildlife Service	https://www.fws.gov/partners/
FHWA Emergency Relief Program	Fund for the repair or reconstruction of Federal-aid highways that have suffered serious damage as a result of (1) natural disasters or (2) catastrophic failures from an external cause	U.S. Department of Transportation (DOT)	https://www.fhwa.dot.gov/programadmin/erelief.cfm
Transportation Investment Generating Economic Recovery (TIGER)	Investing in critical road, rail, transit and port projects across the nation	U.S. DOT	https://www.transportation.gov/tags/tiger-grants
Community Facilities Direct Loan & Grant Program	This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area, and does not include private, commercial or business undertakings.	USDA	https://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program



APPENDIX E. MITIGATION STRATEGY SUPPLEMENTARY DATA

Program	Description	Lead Agency	Website
Emergency Loan Program	USDA's Farm Service Agency (FSA) provides emergency loans to help producers recover from production and physical losses due to drought, flooding, other natural disasters or quarantine	USDA	https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/emergency-farm-loans/index
Emergency Watershed Protection (EWP) Program	Provide assistance to relieve imminent hazards to life and property caused by floods, fires, drought, windstorms, and other natural occurrences	NRCS	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/
Financial Assistance	Financial assistance to help plan and implement conservation practices that address natural resource concerns or opportunities to help save energy, improve soil, water, plant, air, animal and related resources on agricultural lands and non-industrial private forest land	NRCS	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/
Emergency Management Performance Grants (EMPG) Program	Assist local, tribal, territorial, and state governments in enhancing and sustaining all-hazards emergency management capabilities	FEMA, U.S. DHS	https://www.fema.gov/emergency-management-performance-grant-program
Reimbursement for Firefighting on Federal Property	Provides reimbursement only for direct costs and losses over and above normal operating costs.	U.S. DHS	https://www.usfa.fema.gov/grants/firefighting_federal_property.html
Department of Homeland Security Grant Program (HSGP)	HSGP is composed of three interconnected grant programs including the State Homeland Security Program (SHSP), Urban Areas Security Initiative (UASI), and the Operation Stonegarden (OPSG). Together, these competitive grant programs fund a range of preparedness activities, including planning, organization, equipment purchase, training, exercises, and management and administration.	U.S. DHS	https://www.dhs.gov/homeland-security-grant-program-hsgp
Land & Water Conservation Fund	Matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities (as well as funding for shared federal land acquisition and conservation strategies)	National Park Service	https://www.nps.gov/subjects/lwcf/index.htm
Land and Water Conservation Fund	Funding to states, local and conservation organizations for outdoor recreational development, renovation, land acquisition, and planning.	U.S. Department of the Interior	https://www.doi.gov/lwcf
USSBA	Small Business Administration (SBA) provides low-interest disaster loans to homeowners, renters, business of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.	Small Business Administration (SBA)	https://www.sba.gov/funding-programs/disaster-assistance
State			
Clean Water State Revolving Fund (CWSRF) Loan Program	The Clean Water State Revolving Fund, authorized by the Clean Water Act, provides low-cost financial assistance for planning, acquisition, design, and construction of wastewater, reuse, and stormwater infrastructure	Texas Water Development Board	http://www.twdb.texas.gov/financial/programs/CWSRF/index.asp



APPENDIX E. MITIGATION STRATEGY SUPPLEMENTARY DATA

Program	Description	Lead Agency	Website
Drinking Water State Revolving Fund (DWSRF) Loan Program	The Drinking Water State Revolving Fund, authorized by the Safe Drinking Water Act, provides low-cost financial assistance for planning, acquisition, design, and construction of water infrastructure.	Texas Water Development Board	http://www.twdb.texas.gov/financial/programs/DWSRF/index.asp
Rural Water Assistance Fund (RWAFF) Program	The Rural Water Assistance Fund (RWAFF) is designed to assist small rural utilities to obtain low-cost financing for water and wastewater projects. The RWAFF offers tax-exempt equivalent interest rate loans with long-term finance options.	Texas Water Development Board	http://www.twdb.texas.gov/financial/programs/RWAFF/index.asp
State Participation-Regional Water and Wastewater Facilities	The State Participation Program enables the TWDB to provide funding and assume a temporary ownership interest in a regional water, wastewater, or flood control project when the local sponsors are unable to assume debt for an optimally sized facility. The program is intended to encourage the optimum regional development of projects by funding excess capacity for future use where the benefits can be documented, and where such development is unaffordable without state participation. The goal is to allow for the "right sizing" of projects in consideration of future needs.	Texas Water Development Board	http://www.twdb.texas.gov/financial/programs/SPP/index.asp
Flood Infrastructure Fund (FIF)	FIF rules allow for a wide range of flood projects, including structural and nonstructural projects as well as nature-based solutions.	Texas Water Development Board	https://www.twdb.texas.gov/financial/programs/FIF/index.asp#:~:text=Passed%20by%20the%20Legislature%20and,flood%20mitigation%2C%20and%20drainage%20projects.
Texas Water Development Fund (DFund)	The Water Development Fund (DFund) is a state funded loan program that does not receive federal subsidies and is not subject to federal crosscutters. The DFund enables the Board to fund multiple eligible components in one loan to our borrowers, e.g. an application for funding of water and wastewater components can be processed in a single loan.	Texas Water Development Board	http://www.twdb.texas.gov/financial/programs/TWDF/index.asp
Economically Distressed Areas Program (EDAP)	The Economically Distressed Areas Program (EDAP) provides financial assistance for projects serving economically distressed areas where water or sewer services do not exist, or systems do not meet minimum state standards.	Texas Water Development Board	http://www.twdb.texas.gov/financial/programs/EDAP/index.asp
Agricultural Water Conservation Grants Program	The Agricultural Water Conservation Grants Program offers grants to state agencies and political subdivisions – a county, city, or other body politic or corporate of the state, including any district or authority created under Article III, Section 52 or Article XVI, Section 59 of the Texas Constitution and including any interstate compact commission to which the state is a party and any nonprofit water supply corporation created and operating under Chapter 67 – for projects that:	Texas Water Development Board	http://www.twdb.texas.gov/financial/programs/AWCG/index.asp





APPENDIX E. MITIGATION STRATEGY SUPPLEMENTARY DATA

Program	Description	Lead Agency	Website
	<ul style="list-style-type: none"> support agricultural irrigation conservation strategies in alignment with the state water plan. demonstrate agricultural water conservation best management practices. 		
Agricultural Water Conservation Loan Program	Conservation projects that 1) improve water use efficiency of water delivery and application, or 2) prepare irrigated land for conversion to dry land farming, or 3) prepare dry land for more efficient use of natural precipitation, or 4) purchase and install on public or private property devices designed to indicate the amount of water withdrawn for irrigation use, or 5) brush control activities conducted under Chapter 203 of Agriculture Code, or 6) other conservation projects defined by TWDB rules.	Texas Water Development Board	http://www.twdb.texas.gov/financial/programs/AWCL/index.asp
Groundwater Conservation District Loan Program (GDLP)	The GDLP provides loans to finance the start-up costs of Groundwater Conservation Districts. The program is authorized under Water Code Chapter 36, Subchapter L, and governed by TWDB rules Chapter 363 Subchapter H	Texas Water Development Board	http://www.twdb.texas.gov/financial/programs/GDLP/index.asp
State Water Implementation Fund for Texas (SWIFT)	Affordable, ongoing financial assistance for projects in the state water plan. Passed by the Legislature and approved by Texas voters through a constitutional amendment, the SWIFT program helps communities develop and optimize water supplies at cost-effective rates. The program provides low-interest loans, extended repayment terms, deferral of loan repayments, and incremental repurchase terms for projects with state ownership aspects.	Texas Water Development Board	http://www.twdb.texas.gov/financial/programs/SWIFT/index.asp
Regional Flood Planning Grants	Studies to evaluate and recommend the most feasible alternatives to meet regional (two or more participating entities or service areas) water supply and wastewater facility needs, estimate the costs associated with implementing the recommendations, and identify any institutional arrangements that may be necessary to provide regional water supply and wastewater services. Regional systems often have inherent operational advantages or economies of scale over stand-alone systems.	Texas Water Development Board	http://www.twdb.texas.gov/flood/planning/index.asp
Coastal Erosion Planning and Response Act (CEPRA)	Since 2000, the Texas General Land Office's Coastal Erosion Planning and Response Program has received \$62 million in state funding and another \$62 million in matching funds from federal and local governments, funding more than 200 coastal erosion projects.	Texas General Land Office	https://www.glo.texas.gov/coast/grant-projects/funding/index.html
Coastal Impact Assistance Program (CIAP)	Will provide more than \$168 million to Texas. Funding comes from the federal government as compensation for damages caused by drilling in federal waters in the Gulf of Mexico.	Texas General Land Office	https://www.glo.texas.gov/coast/grant-projects/funding/index.html
Coastal Management Program (CMP)	Awards approximately \$2.2 million annually in grants. CMP goal is to ensure the long-term environmental and economic health of the Texas coast.	Texas General Land Office	https://www.glo.texas.gov/coast/grant-projects/funding/index.html



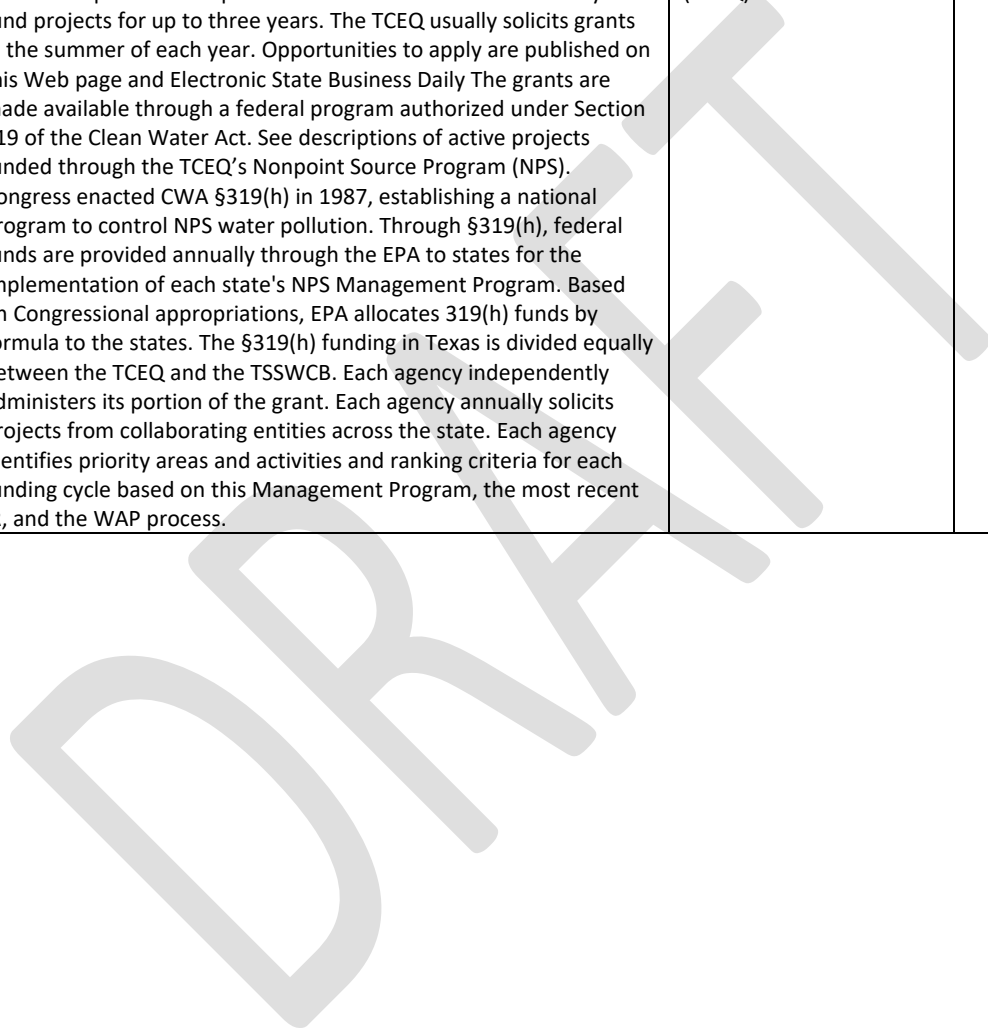


APPENDIX E. MITIGATION STRATEGY SUPPLEMENTARY DATA

Program	Description	Lead Agency	Website
Beach Maintenance Reimbursement Fund	Administered by the Texas General Land Office, typically allocates \$750,000 per year to help communities maintain beaches.	Texas General Land Office	https://www.glo.texas.gov/coast/grant-projects/funding/index.html
The Agricultural Management Assistance (AMA)	The Agricultural Management Assistance (AMA) helps agricultural producers manage financial risk through diversification, marketing or natural resource conservation practices. NRCS administers the conservation provisions while Agricultural Marketing Service and Risk Management Agency implement the production diversification and marketing provisions.	Natural Resources Conservation Service (NRCS)	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/ama/#
The Agricultural Water Enhancement Program (AWEP)	The Agricultural Water Enhancement Program (AWEP) is a voluntary conservation initiative that provides financial and technical assistance to agricultural producers to implement agricultural water enhancement activities on agricultural land to conserve surface and ground water and improve water quality.	Natural Resources Conservation Service (NRCS)	https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/financial/awep/?cid=nrsc143_008334
Conservation Innovation Grants (CIG)	Conservation Innovation Grants (CIG) is a competitive program that supports the development of new tools, approaches, practices, and technologies to further natural resource conservation on private lands. Through creative problem solving and innovation, CIG partners work to address our nation's water quality, air quality, soil health and wildlife habitat challenges, all while improving agricultural operations.	Natural Resources Conservation Service (NRCS)	https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/financial/cig/?cid=nrsc143_008205
The Environmental Quality Incentives Program (EQIP)	The Environmental Quality Incentives Program (EQIP) provides financial and technical assistance to agricultural producers and non-industrial forest managers to address natural resource concerns and deliver environmental benefits such as improved water and air quality, conserved ground and surface water, increased soil health and reduced soil erosion and sedimentation, improved or created wildlife habitat, and mitigation against drought and increasing weather volatility.	Natural Resources Conservation Service (NRCS)	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/
Community Development Block Grant (TxCDBG) Program for Rural Texas	The primary objective of the Community Development Block Grant program is to develop viable communities by providing decent housing and suitable living environments and expanding economic opportunities principally for persons of low- to moderate-income.	Texas Department of Agriculture (TDA)	https://www.texasagriculture.gov/GrantsServices/RuralEconomicDevelopment/RuralCommunityDevelopmentBlockGrant(CDBG).aspx
HOME	The HOME and Homelessness Programs Division awards funds to assist units of general local governments, public housing authorities, nonprofits, and local agencies in the provision of assistance to low-income Texans with a focus on housing and housing-related assistance and service.	Texas Department Housing and Community Affairs (TDHCA)	http://www.tdhca.state.tx.us/home-division/
Nonpoint Source Grant Program	The Nonpoint Source Grant Program awards funds to assist nonprofit organizations and Texas state agencies, to develop and implement Watershed Protection Plans.	Texas Center for Environmental Quality (TCEQ)	https://www.tceq.texas.gov/waterquality/nonpoint-source/grants/grant-pgm.html



Program	Description	Lead Agency	Website
Nonpoint Source Management Program	<p>The TCEQ and the Texas State Soil and Water Conservation Board (TSSWCB) administer federal grants for activities that prevent or reduce nonpoint source pollution. Grants are awarded annually and fund projects for up to three years. The TCEQ usually solicits grants in the summer of each year. Opportunities to apply are published on this Web page and Electronic State Business Daily. The grants are made available through a federal program authorized under Section 319 of the Clean Water Act. See descriptions of active projects funded through the TCEQ's Nonpoint Source Program (NPS). Congress enacted CWA §319(h) in 1987, establishing a national program to control NPS water pollution. Through §319(h), federal funds are provided annually through the EPA to states for the implementation of each state's NPS Management Program. Based on Congressional appropriations, EPA allocates §319(h) funds by formula to the states. The §319(h) funding in Texas is divided equally between the TCEQ and the TSSWCB. Each agency independently administers its portion of the grant. Each agency annually solicits projects from collaborating entities across the state. Each agency identifies priority areas and activities and ranking criteria for each funding cycle based on this Management Program, the most recent IR, and the WAP process.</p>	Texas Center for Environmental Quality (TCEQ)	https://www.tceq.texas.gov/assets/public/comm_exec/pubs/sfr/068_12.pdf





APPENDIX F. PLAN MAINTENANCE

This appendix includes tools and worksheets to facilitate plan maintenance and review by the Fort Bend Steering and Planning Committees.

In the first year of the performance period, an online performance progress reporting system, the BAToolSM will provide representatives direct access to their mitigation initiatives to easily update the status of each project, document successes or obstacles to implementation, and add or delete projects to maintain mitigation project implementation. This online program will capture information and roll all input into a report to summarize mitigation strategy progress.

The FEMA 386-4 guidance worksheets are also available to assist with progress reporting. These worksheets are provided below for ease of access to the HMP Coordinator and Planning Partnership to maintain the 2023 HMP throughout its period of performance.

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APPENDIX G. CRITICAL FACILITIES AND COMMUNITY LIFELINES

Due to the sensitive nature of this information, details of each have been redacted for the public document. A full list of critical facilities identified for the vulnerability analysis is available at the Fort Bend Board. Contact Greg Babst, the Emergency Management Coordinator, to view the list.

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APPENDIX H LINKAGE PROCEDURES

This Appendix contains the linkage procedures for the Fort Bend County Hazard Mitigation Action Plan 2023 Update.

H.1 Administrative Process for “Linkage” to the Fort Bend Hazard Mitigation Action Plan

The 2023 Fort Bend County Hazard Mitigation Plan (HMP) update (the Plan) included Fort Bend County and some participating municipalities. However, not all eligible local governments within the defined planning area are included in this plan. Completed jurisdictional annexes are presented in Section 9. Any non-participating local governments and other local jurisdictions such as Fire Districts, Utility Districts, School Districts, and any other eligible local government as defined in 44 CFR 201.2 within the Fort Bend planning area can join this plan as a participating jurisdiction and to ultimately achieve approved status by following the linkage procedures defined in this appendix.

It is assumed that some or all these non-participating local governments may choose to "link" to the plan at some point in time to gain eligibility for programs under the DMA. In addition, some of the current partnership may not continue to meet eligibility requirements due to the lack of active participation as prescribed by the plan. These "linkage" procedures will define the requirements established by the Fort Bend HMP Planning Team for dealing with the increase or decrease in planning partners linked to this plan. It should be noted that currently non-participating jurisdictions within the defined planning area are not obligated to link to this plan. These jurisdictions can choose to do their own "complete" plan that addresses all required elements of section 201.6 of 44CFR.

H.1.1 Increasing the Partnership Through Linkage

Eligibility

Eligible jurisdictions located in the planning area may link to this plan at any point during the plan's performance period (5 years after final approval). Eligibility will be determined by the following factors:

- The linking jurisdiction is a local government as defined by the Disaster Mitigation Act.
- The boundaries or service area of the linking jurisdiction is completely contained within the boundaries of the planning area established during the 2023 Hazard Mitigation Action Plan development process.
- The linking jurisdiction's critical facilities were included in the critical facility and infrastructure risk assessment completed during the 2023 Plan development process.

Requirements

It is expected that linking jurisdictions will complete the requirements outlined below and submit their completed template to the lead agency for review within six months of beginning the linkage process:

The Fort Bend HMP Planning Team has established an annual window for which linkage to the plan can occur. Linking jurisdictions are instructed to complete the following procedures during this time frame.

The current non-participating jurisdiction contacts the Fort Bend Hazard Mitigation Planning Coordinator for the plan and requests a "Linkage Package". The Fort Bend Hazard Mitigation Project Contact is:

Greg Babst, Emergency Management Coordinator
Fort Bend County



(281) 238-3428 | Gregory.Babst@fortbendcountytexas.gov

The Fort Bend Hazard Mitigation Planning Coordinator will provide a linkage package that includes:

- Copy of Volume 1 and 2 of the Plan (CD-ROM or flash drive).
- Planning Partner's Expectations Sheet.
- A Sample "Letter of Intent" to Link to the Plan.
- A Jurisdictional Annex Template and Instructions.
- Catalog of Hazard Mitigation Alternatives or the Mitigation Catalog.
- A copy of Section 201.6 of Chapter 44, the Code of Federal Regulations (44CFR), which defines the federal requirements for a local hazard mitigation plan.

The new jurisdiction will be required to review both volumes of the plan which includes the following key components for the planning area:

- The Fort Bend HMP risk assessment;
- The plan's goals and objectives;
- Plan implementation and maintenance procedures; and
- Catalog of potential mitigation actions.

Once this review is complete, the jurisdiction will complete its specific jurisdictional annex by following the template and its instructions for completion provided by the Fort Bend Hazard Mitigation Planning Coordinator. Technical assistance can be provided upon request by completing the request for technical assistance (TA) form provided in the linkage package. This TA may be provided by the Fort Bend Hazard Mitigation Planning Coordinator or any other resource within the Planning Team. The Fort Bend Hazard Mitigation Planning Coordinator will determine who will provide the TA and the possible level of TA based on resources available at the time of the request.

The new jurisdiction will also be required to develop a public involvement strategy that ensures their public's ability to participate in the plan development process. At a minimum, the new jurisdiction must try to solicit public opinion on hazard mitigation at the onset of this linkage process and a minimum of one public meeting to present their draft jurisdiction specific annex for comment, prior to adoption by the governing body. The Planning Partnership will have available resources to aid in the public involvement strategy such as the plan website. However, it will be the new jurisdiction's responsibility to implement and document this strategy for incorporation into their annex.

It should be noted that the Jurisdictional Annex templates do not include a section for the description of the public process. This is because the original partnership was covered under a uniform public involvement strategy that covered the operational area that is described in Volume 1 of the plan. Since the new partner was not addressed by that strategy, they will have to initiate a new strategy, and add a description of that strategy to their annex. For consistency, new partners are encouraged to follow the public involvement format utilized by the initial planning effort as described in Volume I of the plan.

Once their public involvement strategy is completed and they have completed their template, the new jurisdiction will submit the completed package to the Fort Bend Hazard Mitigation Planning Coordinator for a pre-adoption review to ensure conformance with the regional plan format.

The Fort Bend Hazard Mitigation Planning Coordinator will review for the following:





- Documentation of public involvement and mitigation action development strategies.
- Conformance of template entries with guidelines outlined in instructions.
- Chosen actions are consistent with goals, objectives, and mitigation catalog of Fort Bend Hazard Mitigation Plan.
- Designated point of contact.

The Fort Bend Hazard Mitigation Planning Coordinator may utilize members of the HMP Planning Team or other resources to complete this review. All proposed linked annexes will be submitted to the HMP Planning Team for their review and comment prior to submittal to the TDEM.

Plans approved and accepted by the HMP Planning Team will then be forwarded to TDEM for review with cover letter stating the forwarded plan meets local approved plan standards and whether the plan is submitted with local adoption or for review of the criteria met/plan not adopted.

The TDEM will review plans for state and federal compliance. Non-compliant plans are returned to the jurisdiction for correction. Compliant plans are forwarded to FEMA Region VI office for review with annotation as to the adoption status.

FEMA Region VI reviews the new jurisdiction's plan in association with the approved plan to ensure DMA compliance. Region VI notifies new jurisdiction of results of review with copies to the TDEM and approved planning authority.

New jurisdiction corrects plan's shortfalls (if necessary) and resubmits to the TDEM through the approved plan lead agency.

Region VI Director notifies new jurisdiction governing authority of plan approval.

The new jurisdiction plan is then included with the Fort Bend County HMP 2023 update, and the linking jurisdiction is committed to participate in the ongoing plan implementation and maintenance identified in Volume 1 of the HMP.