

AGENDA

REGION 8 - LOWER BRAZOS REGIONAL FLOOD PLANNING GROUP

Virtual Meeting

10:00 a.m. – Thursday, December 10, 2020

[Click here to join the meeting](#)

Phone: 469-206-8623 Conference ID: 566 051 473#

Meeting agendas and materials are available online at www.lowerbrazosflood.org

If you wish to provide written comments prior to or after the meeting, please email your comments to pamela.hannemann@brazos.org and include “Lower Brazos Flood Planning Group Meeting” in the subject line of the email.

Members of the public are invited to address the Lower Brazos RFPG during the public comment section of the meeting. Those wishing to do so may access the meeting via video and/or telephone conference using Microsoft Teams.

The link to access the meeting via an internet web browser on your computer or smartphone is provided below.

[Click here to join the meeting](#)

You may also join the meeting by telephone by dialing [+1 469-206-8623](tel:+14692068623) and entering the conference ID: **566 051 473#**

As a courtesy, when joining the meeting we ask that you please mute your computer or phone audio, unless you are addressing the Lower Brazos RFPG during the public comment period.

- 1. Call Meeting to Order.**
- 2. Attendance and Announcements**
- 3. Approval of Minutes from the October 30, 2020 meeting**
- 4. Public Input - Public questions and comments on agenda items or flood planning issues (*limited to 3 minutes each*)**
- 5. Report and possible discussion on report from Texas Water Development Board (TWDB) staff**
- 6. Discussion and possible action on nomination and election of RFPG Vice Chair, Secretary and two (2) members-at-large to serve on the Executive Committee.**
 - 6.1. Nominations, discussion and possible action on election of Vice Chair**
 - 6.2. Nominations, discussion and possible action on election of Secretary**
 - 6.3. Nominations, discussion and possible action on election of two (2) members-at-large to serve on the Executive Committee**
- 7. Report by Lower Brazos RFPG Sponsor (Brazos River Authority)**
- 8. Report from Lower Brazos RFPG Chair**

9. Discussion and possible action on new business to be considered at next meeting
10. Confirmation of next meeting date
11. Adjourn

Agenda items may be considered, deliberated and/or acted upon in a different order than set forth above.

For additional information, please contact

pamela.hannemann@brazos.org, 254-761-3135, Brazos River Authority, 4600 Cobbs Dr. Waco, TX 76710

Region 8 - Lower Brazos

Regional Flood Planning Group

LOWER BRAZOS REGIONAL FLOOD PLANNING GROUP

DECEMBER 10, 2020

10:00 AM

VIRTUAL MEETING

Region 8 - Lower Brazos

Regional Flood Planning Group

- 1. Call Meeting to Order**
- 2. Attendance and Announcements**
- 3. Approval of Minutes from the Previous Meeting**
- 4. Public Input**

Region 8 - Lower Brazos

Regional Flood Planning Group

5. Report and possible discussion on report from Texas Water Development Board (TWDB) staff

Texas Water Development Board Flood Planning Presentation Regional Flood Planning Group 2nd Meeting

TABLE OF CONTENTS:

- Flooding 101 (20 minutes)
- Request for Applications Process & Contract Details (5 minutes)
- RFPG Responsibilities: Scope of Work Overview(20 minutes)

Flooding 101

(20 minutes)

Flooding 101: Watersheds

Flood planning regions follow Hydrological Unit Code (HUC-8) watershed boundaries.

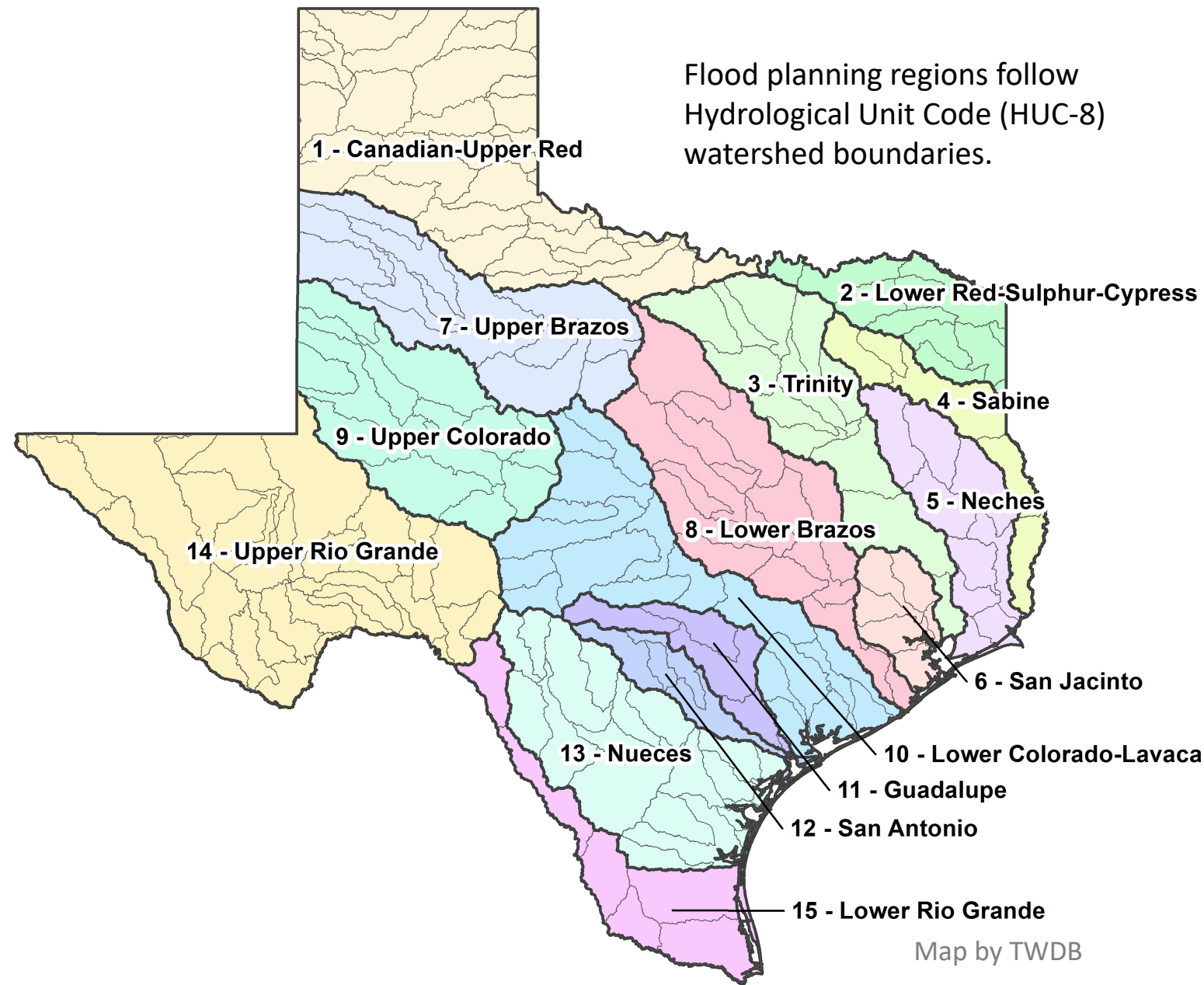
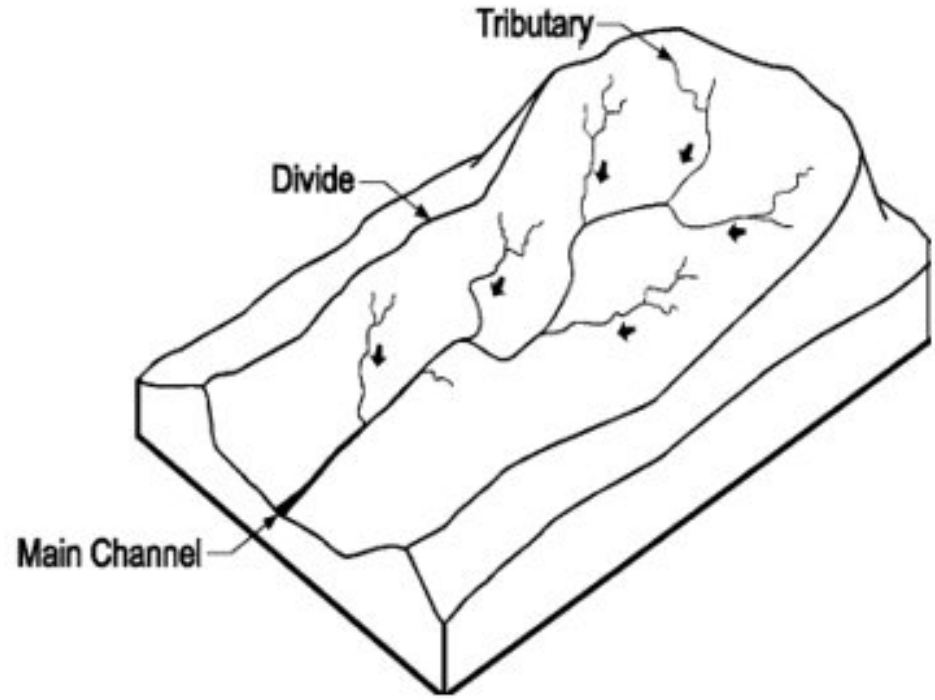
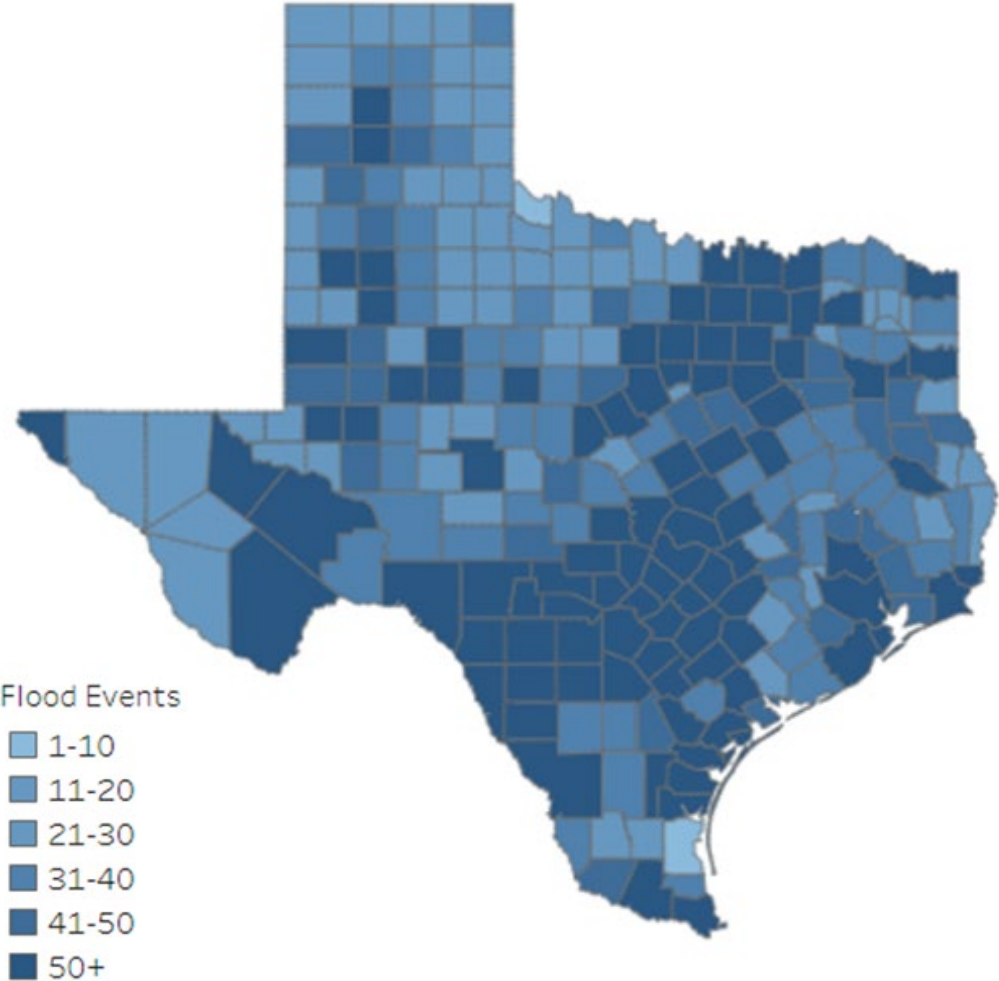


Figure 1-2. Riverine Watershed and Floodplain
Image by FEMA

Map by TWDB

Flooding 101: Flooding in Texas



Map: FEMA

Data: NOAA Storm Event Database 1996-2020

State Flood Assessment

REPORT TO THE LEGISLATURE

86TH LEGISLATIVE SESSION

STATE FLOOD ASSESSMENT

Texas Water Development Board

Flooding 101: What is a Flood?

A general and temporary condition of partial or complete inundation of normally dry land area from overflow of inland or tidal waters or from the unusual and rapid accumulation or runoff of surface waters from any source.



Agricultural flooding damaging crops and hay.

Flooding 101: Floodplains

The area of land subject to periodic inundation by floodwaters.

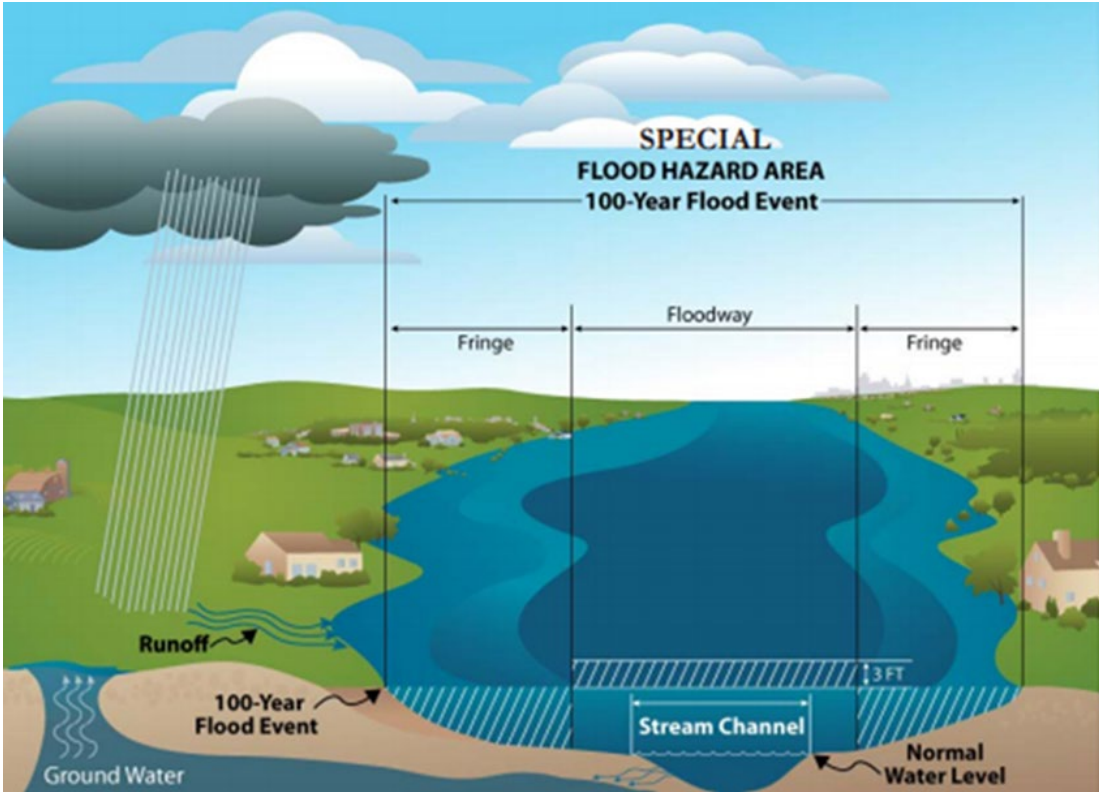


Image: FEMA



Image: FEMA

Flooding 101: Benefits of Floods

When floodplains are preserved in their natural state, they provide many benefits:

- Reduce severity of floods by storing floodwaters, reducing flood velocities, and curbing sedimentation and erosion
- Contribute to groundwater recharge
- Provide recreation and quality of life
- Create habitats for many plants and animals.

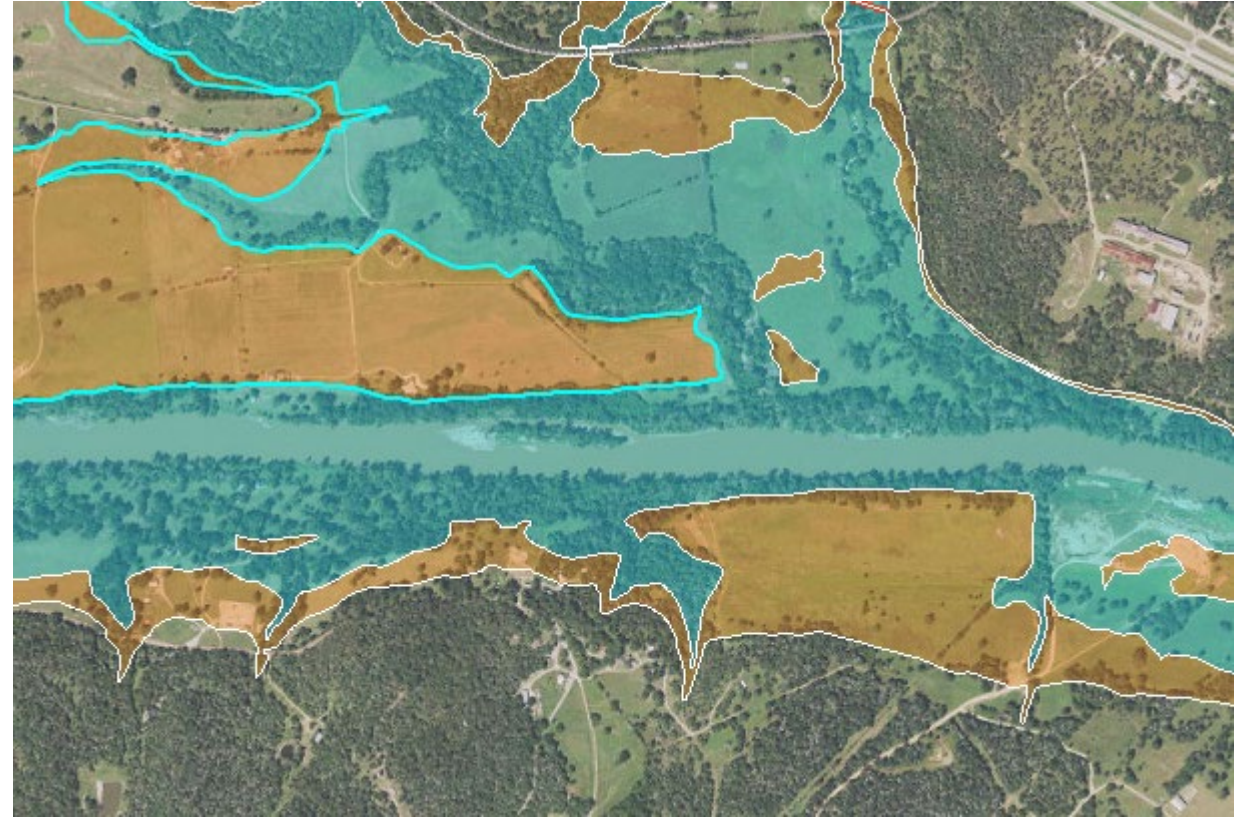


Wetlands at Galveston Island State Park provide natural ecosystem services.

Image: [Yinan Chen CC-PD](#)

Flooding 101: Quantifying Flood Events

- 1.0% annual chance flood event
 - flood event having a 1.0% chance of happening in any given year = **every year**
 - also referred to as the "base flood" or "100-year flood"
- 0.2% annual chance flood event
 - flood event having a 0.2% chance of happening in any given year
 - also referred to as the "500-year flood"



The 1% annual chance floodplain is shown in blue.
The 0.2% annual chance floodplain is shown in orange.
Image by FEMA

Flooding 101: Types of Flooding



2019 Lake Dunlap Spillway Failure.
Guadalupe-Blanco River Authority



Texas National Guard, Houston, TX
Texas National Guard CC-BY-2.0



Blue Hole Park, South San Gabriel River,
Georgetown, TX. FEMA



Flash flooding in San Marcos, TX. [CC-BY-SA-3.0](#)



Cadillac Ranch sculpture near Amarillo, TX.
© Rachel Goad, used by permission.



Coastal flooding in Galveston, TX
[pixabay, no attrib. req.](#)

Flooding 101: Flood Mitigation

The implementation of actions, including both **structural** and **non-structural solutions**, to reduce flood risk to protect against the loss of life and property.



Mangroves on the Texas Coast stabilize shorelines and help absorb storm surge; an example of a non-structural flood mitigation solution.

Photo by Univ. Of Texas Marine Science Institute



Galveston Seawall, a structural flood mitigation solution. Image by [Yinan Chen CC-PD](#)

Flooding 101: Structural Solutions to Flooding

Examples include the construction of levees, dikes, floodwalls/seawalls, dams, channel alterations, culverts, flood gates, and detention and retention basins.



Anzelduas Dam on the Rio Grande near Mission, TX. Image: TWDB



Storm Drains



Streambank Stabilization in Austin, TX. Image by City of Austin Watershed Protection

Flooding 101: Non-Structural Solutions to Flooding

Examples include open space preservation, property buyouts and relocation, zoning and building codes, wetland restoration, elevated structures, flood warning systems, educational campaigns, and participation in the National Flood Insurance Program.



Homes that survived the ~20-foot-high storm surge of Hurricane Ike in Bolivar Peninsula, near the community of Caplen.
Image: TWDB



Turn Around, Don't Drown educational campaign.
Image: Weather.gov



Engineered Wetlands in in the Houston Audubon Society's The Oaks Nature Preserve . Image: TWDB

Flooding 101: National Flood Insurance Program

Based on an agreement between local communities and the federal government.

- Local communities agree to adopt floodplain management regulations to reduce flood risks
- The federal government makes flood insurance and disaster assistance available to the community



Image by FEMA / National Flood Insurance Program



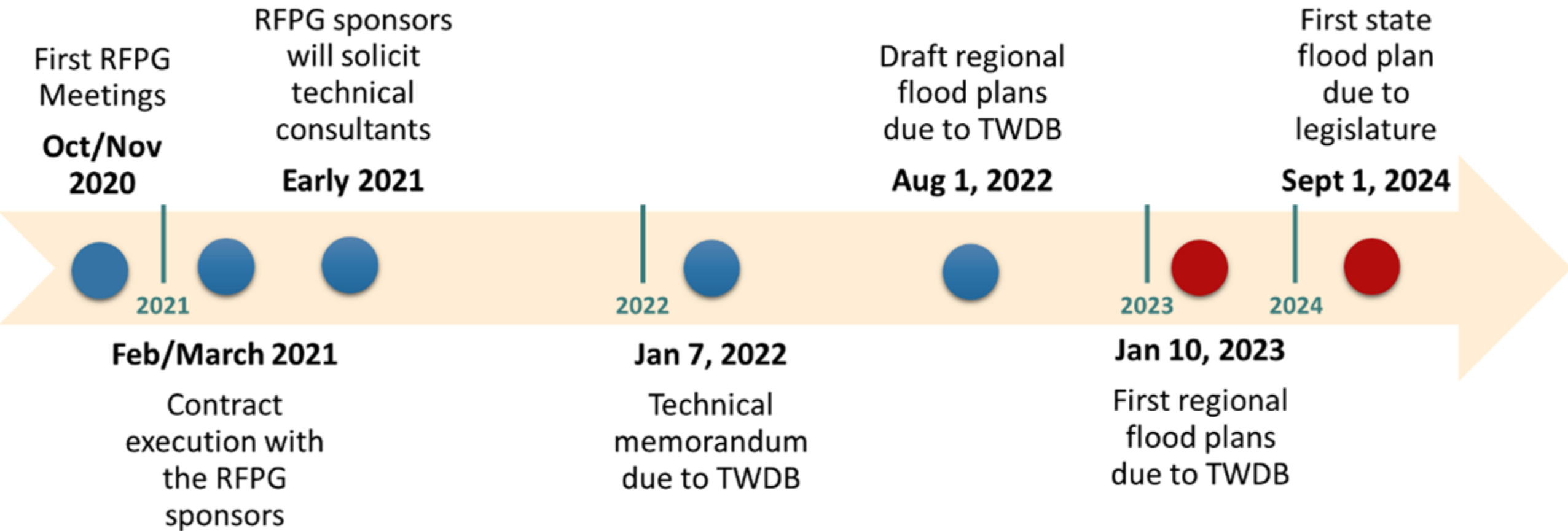
Image: Brent Hanson, U.S. Geological Survey. Public domain.

Questions? Comments?

Request for Applications Process & Contract Details

(5 minutes)

Flood Planning Timeline



Regional Flood Planning Grant RFA

- \$19.5 million in available funds to be allocated between 15 regions.
- Sponsors may submit applications November 20, 2020 - January 21, 2021
- Applications will be processed as received
- Contract execution (TWDB & sponsor) by March 31, 2020



Texas Water Development Board approved posting the Regional Flood Planning Grant Request for Applications on November 19th!

The Request for Applications and associated documents are now available on our website:

<https://www.twdb.texas.gov/flood/planning/documents/2023/index.asp>

Regional Flood Planning Grant Application Documents:

- [Request for Applications Posting](#)
- [Application Instructions](#)
- [Application Checklist](#)
- [Draft Scope of Work](#)
- [Draft Contractor \(Planning Group Sponsor\) Task Budget](#)
- [Board item document](#)

These documents are available on our website at:

<http://www.twdb.texas.gov/flood/planning/planningdocu/2023/index.asp>

Funding the Planning Process

Total \$19,500,000

Region	RFPG Name	Allocated Funds
1	Canadian-Upper Red	\$1,008,200.00
2	Lower Red-Sulphur-Cypress	\$910,400.00
3	Trinity	\$2,520,200.00
4	Sabine	\$947,600.00
5	Neches	\$1,148,900.00
6	San Jacinto	\$2,446,000.00
7	Upper Brazos	\$961,500.00
8	Lower Brazos	\$1,485,500.00
9	Upper Colorado	\$946,200.00
10	Lower Colorado-Lavaca	\$1,373,700.00
11	Guadalupe	\$961,300.00
12	San Antonio	\$1,295,000.00
13	Nueces	\$1,143,700.00
14	Upper Rio Grande	\$1,081,800.00
15	Lower Rio Grande	\$1,270,000.00



Image: Brent Hanson, U.S. Geological Survey. Public domain.

Questions? Comments?

RFPG Responsibilities: Scope of Work Overview (20 minutes)

General Document Cross-Reference

Regional Flood Planning Contract Document References			2023 Regional Flood Plan Chapter, Associated TAC Sections, and Content		
TWDB Contract Reimbursement Accounting Number ('CAS')	Exhibit A - Contract SOW Task	Exhibit C - General Guidelines for Regional Flood Plan Development	Regional Flood Plan Chapter Number	Primary TAC Section	General Content
1	1	1	1	§361.30; §361.31; §361.32	Planning Area Description
2	2A	2	2	361.33	Existing Condition Flood Risk Analyses
3	2B			361.34	Future Condition Flood Risk Analyses

Task 1 – Planning Area Description



Llano dam on the Llano river sits on the banks of the county seat.

Image: TWDB

A general description of the region, including:

- social & economic character
- flood-prone areas, types of major flood risks, and key historical flood events
- political subdivisions with flood related authority
- the extent of local regulation and development codes relevant to flooding
- existing or proposed natural flood mitigation features and constructed major flood infrastructure

Task 2A & 2B – Existing & Future Condition Flood Risk Analyses

Perform existing and future condition **flood hazard analyses** to determine the location and magnitude of both 1.0% and 0.2% annual chance flood events



Develop existing & future condition **flood exposure analyses** to identify who and what might be harmed for both 1.0% and 0.2% annual chance flood events.

Perform existing & future condition **vulnerability analyses** to identify vulnerabilities of communities and critical facilities

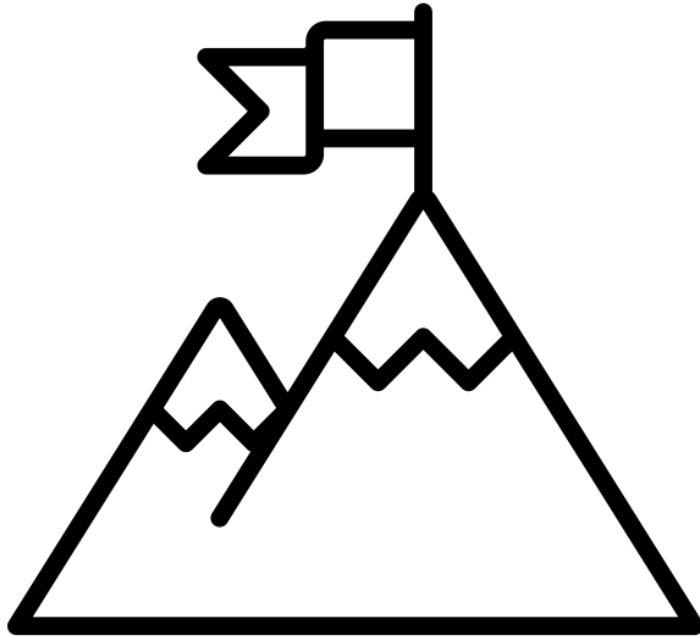
Task 3A – Evaluation & Recommendations on Floodplain Management Practices

- Consider how current floodplain management practices or regulations increase flood risks.
- Consider how the 1.0% annual chance floodplain and associated flood risks may change over time.
- Consider adopting minimum floodplain management/land use standards that an entity must adopt prior to including any evaluations, projects, or strategies in the regional flood plan.



West Fork San Jacinto River near Humble, Texas after Hurricane Harvey
Image: Steve Fitzgerald, Harris County Flood Control District

Task 3B – Flood Mitigation & Floodplain Management Goals

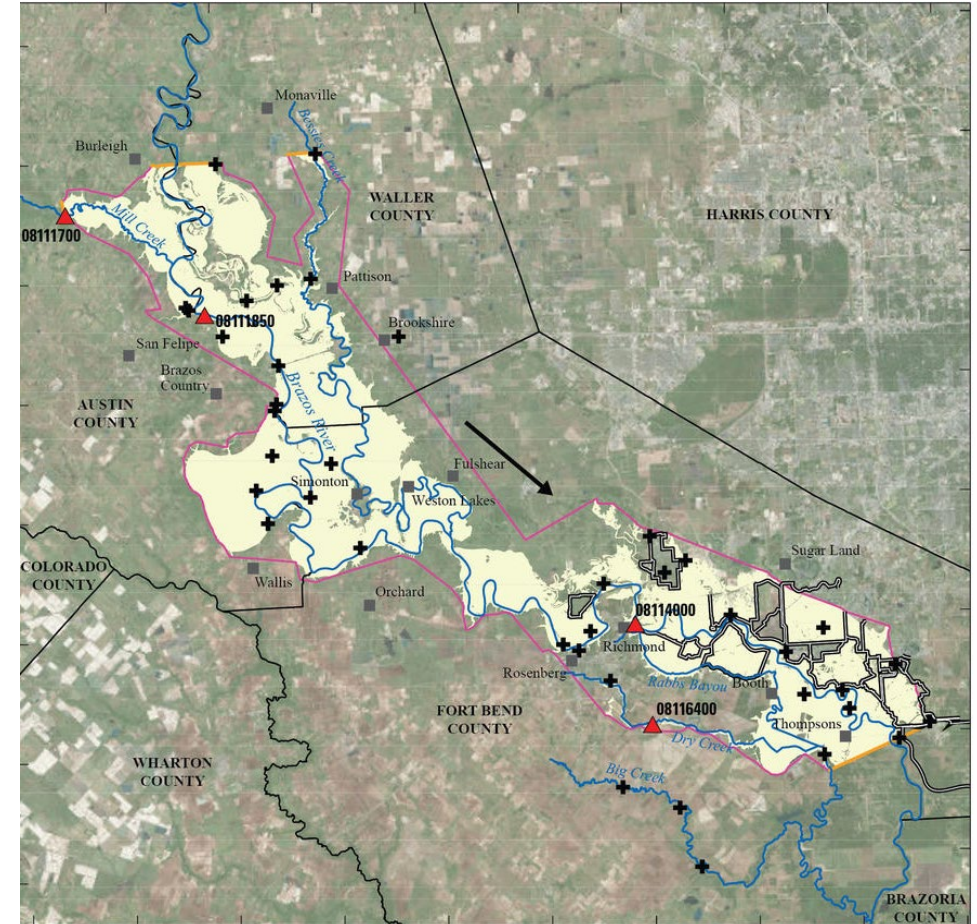


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- Identify specific and achievable flood mitigation and floodplain management goals
 - Short (10 year) & Long-Term (30 year)
- State the levels of residual flood risk after goals are fully met.

Task 4A – Flood Mitigation Needs Analysis

- Identify locations within the region that have the greatest flood mitigation and flood risk study needs.
- Based on the analyses and goals developed by the RFPG under Tasks 2A through 3B

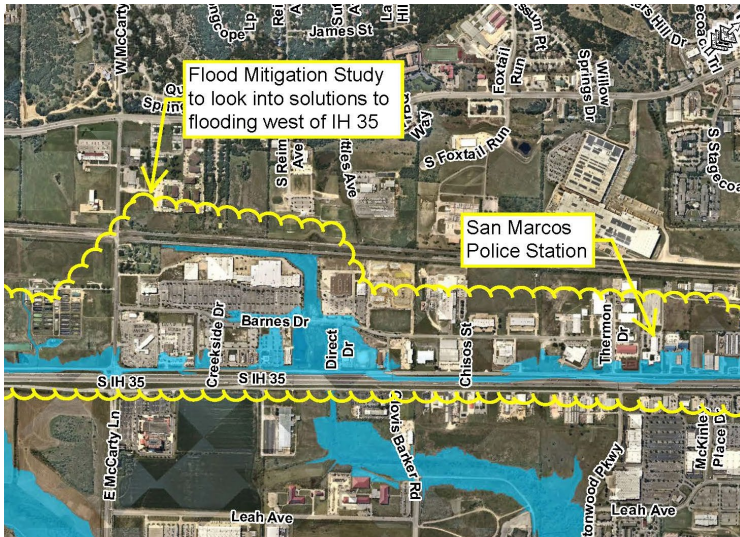


Map of inundated areas (yellow areas) on the lower Brazos River after Hurricane Harvey
Image: USGS

Key Terms for Tasks 4 & 5: FME, FMP, FMS

Flood Management Evaluation (FME)

- A proposed flood study of a specific, flood-prone area that is needed in order to assess flood risk and/or determine whether there are potentially feasible FMSs or FMPs.



Cottonwood Creek Flood Study, San Marcos, TX.

Image: City of San Marcos

Flood Management Strategy (FMS)

- A proposed plan to reduce flood risk or mitigate flood hazards to life or property (may or may not require associated FMPs to be implemented).



Exploration Green project, Clear Lake City, TX

Image: Texas Water Resources Institute

Flood Mitigation Project (FMP)

- A proposed project (structural and non-structural) that when implemented will reduce flood risk, mitigate flood hazards to life or property.

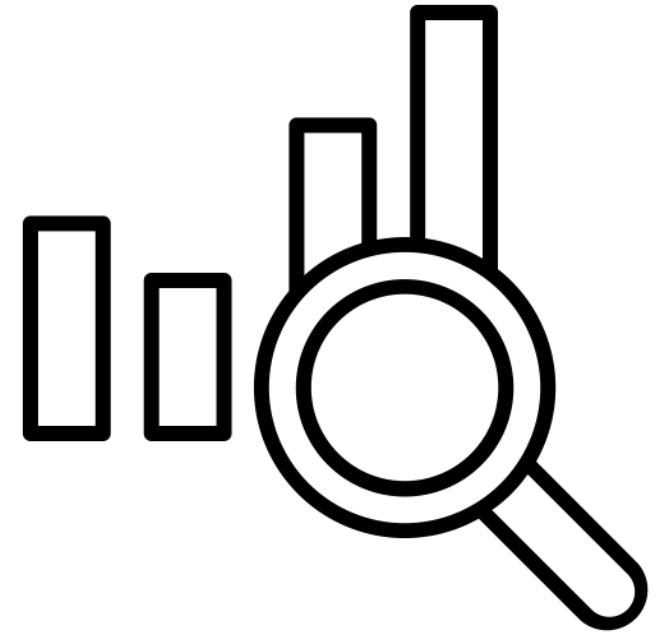


El Paso storm water project, El Paso, TX

Image: El Paso Water

Task 4B – Identification and Evaluation of Potential FMEs & Potentially Feasible FMSs and FMPs

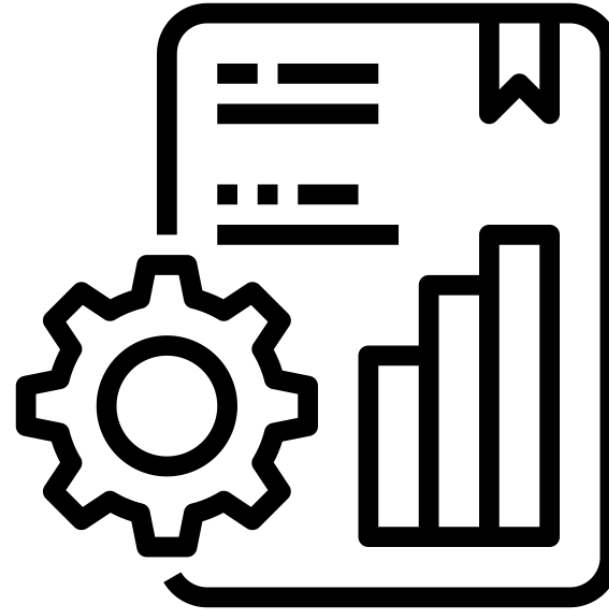
- Identify potential FMEs and potentially feasible FMSs and FMPs based on process developed with public input
- Evaluate potential FMEs and potentially feasible FMSs and FMPs based on a variety of factors described in rules and guidance.
- The FMPs should be permittable, constructible, and implementable.



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Task 4C – Prepare and Submit Technical Memorandum

- Include all deliverables from Tasks 1 to 4B detailed in the Scope of Work
- TWDB Guidance Document will provide more information.
- Tentative Due Date: January 2022



Created by Komkrit Noenpoempisut
from Noun Project

Task 5 – Recommendation of FMEs, FMSs & FMPs

- Recommend FMEs that are most likely to identify potentially feasible FMSs and FMPs based on evaluations under Task 4B
- Recommend FMSs and FMPs to reduce the impacts of flood based on evaluations under Task 4B
- Recommendations should be based on comparison of alternatives



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Regional & State Flood Planning Long-Range Planning Process



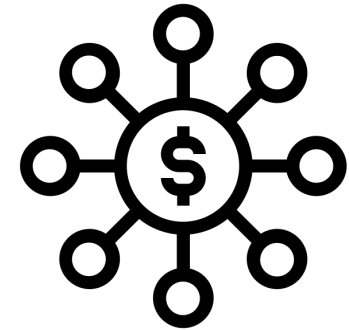
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Regional Flood Plans will identify flood risk and recommend FMEs, FMSs, and FMPs within regions.



Created by Creative Stall
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State Flood Plan will rank recommended FMEs, FMSs, and FMPs statewide.



Created by Alice Design
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Future state financial assistance may be allocated using a to-be-determined prioritization criteria.*

*Funding to implement projects can also come from local, federal, or other sources.

Task 6A – Impacts of Regional Flood Plan

- Summarize the relative reduction in flood risk that implementation of the plan would achieve.
- Describe impacts of recommended FMSs and FMPs on environment, agriculture, recreation, water quality, erosion, sedimentation, and navigation.
- State that FMPs will not negatively affect neighboring areas.



Crops in the lower Rio Grande Valley
Image: TWDB



Recreational boating.
Image: TWDB



Dolan Falls
Image: TWDB

Task 6B – Impacts on Water Supply

- Summarize how Regional Flood Plan will affect water supply.
- How would FMSs and FMPs contribute to water supply?
- How would FMSs and FMPs impact water supply, availability, or projects in the State Water Plan?



© Texas Water Development Board

Task 7 – Flood Response Information and Activities

- Summarize existing flood response preparations.
- Coordinate with entities in the region to gather information
- RFPGs do not perform analyses or other activities related to disaster response or recovery.



Texas State Guard Hurricane Harvey emergency response.

Image: Texas State Guard

Task 8 – Administrative, Regulatory, and Legislative Recommendations

- Develop policy recommendations to implement and achieve the RFPG's stated goals and plans.
- Consider potential new revenue-raising opportunities to fund flood activities in the region.



Image: TWDB

Task 9 – Flood Infrastructure Financing Analysis

- Survey and report on how sponsors propose to finance recommended FMEs and FMPs
- Include recommendations on the proposed role of the State in financing FMEs and FMPs



Dam on the Llano River under Hwy 16 in Llano, Texas.

Image: TWDB

Task 10 – Public Participation & Plan Adoption

Administrative activities not included in other tasks, including:

- Meeting preparations, notices, agendas, materials, minutes, presentations, and public comments
- Website creation and maintenance
- Intraregional and interregional coordination and communication to develop the regional flood plan.



TWDB flood outreach meeting in Bastrop, TX.

Image: TWDB



Image: Brent Hanson, U.S. Geological Survey. Public domain.

Questions? Comments?

Region 8 - Lower Brazos

Regional Flood Planning Group

6. Discussion and possible action on nomination and election of RFPG Vice Chair, Secretary and two (2) members-at-large to serve on the Executive Committee.

Region 8 - Lower Brazos

Regional Flood Planning Group

6.1. Nominations, discussion and possible action on election of Vice Chair

Region 8 - Lower Brazos

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Regional Flood Planning Group

6.3. Nominations, discussion and possible action on election of two (2) members-at-large to serve on the Executive Committee

Region 8 - Lower Brazos

Regional Flood Planning Group

7. Report by Lower Brazos RFPG Sponsor (Brazos River Authority)



Introduction of Brazos River Authority Regional Flood Planning Staff

Pamela Hannemann, Regional Planner

Riley Woods, Sr. Staff Counsel



Report on the Status of Regional Flood Planning Grant Application

- Applications due to TWDB January 21, 2021
- BRA Staff is working on compiling the grant application:
 - General Information,
 - Administrative Documentation,
 - Planning Information,
 - Written Assurances

Future Activities

- TWDB-BRA Contract Execution (March 31st deadline)
- Request for Qualifications – Technical Consultant Selection



Report on the Lower Brazos RFPG website www.lowerbrazosflood.org

- The content of the website is under the direction of the Lower Brazos RFPG Chairman
- The website is currently updated by BRA IT Staff
- Website is Hosted by BRA on their server



Report on accepting written public comment prior to and after meetings.

- Email pamela.hannemann@brazos.org or utilize the Contact Us form on www.lowerbrazosflood.org

Report on solicitation for persons or entities who request to be notified of RFPG activities.

- Email Group List “Interested Parties” maintained by the BRA Regional Planner

Region 8 - Lower Brazos

Regional Flood Planning Group

8. Report from Lower Brazos RFPG Chair

Region 8 - Lower Brazos

Regional Flood Planning Group

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- 10. Confirmation of next meeting date**
- 11. Adjourn**