Discussion Regarding Committees



- Region 1 Canadian-Upper Red None Region 2 Lower Red-Sulphur-Cypress None
- Region 3 Trinity Their sub-subconsultant records show a PR/Comm firm along with the following committees: Technology, Nominating, Planning Goals
- Region 4 Sabine None
- Region 6 San Jacinto Their sub-subconsultant records show a PR/Comm firm along with the following committees: Technology and Public Engagement
- Region 7 Upper Brazos None
- Region 8 Lower Brazos RFQ Committee
- Region 9 Upper Colorado None
- Region 10 Lower Colorado-Lavaca Their sub-subconsultant records show a PR/Comm firm along with the following committee: Technology
- Region 11 Guadalupe None
- Region 12 San Antonio Outreach Committee
- Region 13 Nueces Their sub-subconsultant records show a PR/Comm firm.
- Region 14 Upper Rio Grande Their sub-subconsultant records show a PR/Comm firm and list their committees as: Subcommittee 2, 3, & 4 (all appear to be planning/task related)
- Region 15 Lower Rio Grande Their sub-subconsultant records show a PR/Comm firm and the following committee: Technology



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Agenda

- · Stakeholder Feedback on Potential Flood **Project Ranking Methods**
- Task 12 Update
 - City of Tyler Master Drainage Plan
 - City of Jasper Master Drainage Plan
 - Jefferson County Drainage District 6 FMXs



Scoring Criteria

- · Email from TWDB on March 2nd soliciting input on FMX Ranking Criteria
 - http://www.twdb.texas.gov/flood /planning/sfp/index.asp
 - Deadline for response is April 14th
- Webinar on March 22nd at • 9:00 am with TWDB regarding the ranking process

Texas Water Development Board

Home Board Financial Assistance Water Planning Groundwater Surface Water Flood

State Flood Planning

In 2019, the Texas Legislature passed Senate Bill 8 directing the creation of the firstever state flood plan for Texas. St The 15 Regional Flood Planning Groups (RFPG), designated by the TWDB in 2020, will submit their amended regional flood plans to TWDB by July 10, 2023. The TWDB will combine the approved regional flood plans into a single state flood plan to be delivered to the Legislature by September 1. 2024

Soliciting Stakeholder Feedback on Proposed Methods for Ranking Recommended Flood Mitia



ent Board (TWDB) is soliciting public feedback on proposed methods for ranking recommended Flood Management Evaluations (FME), lood Mitigation Projects (FMP), Flood Management Strategies (FMS) in the 2024 State lood Plan. The intent of the TWDB ranking methods for the state flood plan is to rovide a consistent approach to be used across all Texas regions to systematically address, in general, the flood hazard with most population, properties and critical risk first in the state during a 1% annual chance flood. The

Scoring Criteria

- FMPs
- 70% data from geodatabase
- 30% reported project details
- FMEs
- 100% data from geodatabase
- FMSs
- 100% data from geodatabase
- Percentages allocated to many categories
- Scores normalized based on highest value recorded in each category for all FMEs

Texas Water Development Board

Home Board Financial Assistance Water Planning Groundwater Surface Water Flood

State Flood Planning

In 2019, the Texas Legislature passed Senate Bill 8 directing the creation of the fristever state flood plan for Texas. Statute requires that all recommended flood mitigation projects be ranked in the state flood plan. The 15 Regional Flood Flanning Groups (RFPG), designated by the TWDB in 2020, will submit their amended regional flood plans to TWDB by July 10, 2023. The TWDB will combine the approved regional flood plans to a single state flood plan to be delivered to the Legislature by September 1, 2024.

Soliciting Stakeholder Feedback on Proposed Methods for Ranking Recommended Flood Mitigation Projects

Submission Deadline: April 1, 2023

24 Texas Water Development Board (TWDB) is soliciting public feedback on (2) processed methods for unking recommended Flood Management Evaluations (FME), and Mitigation Project (FMP). Flood Management Strategies (FMS) in the 2024 State Flood Plan. The infanct of the TWDB ranking methods for the state flood plan is to provide a consistent approach to be used across all Texas regions to systematically address, in general, the flood hazard with most population, properties and critical







- Scoring criteria normalized on a range of 0-100 based on highest raw value represented for each criteria
 - Highest raw value for "Estimated population removed from 100yr Floodplain" is 346,773.
 - FMP with raw value of 346,773 receive a normalized score of 100
 - All other FMPs receive normalized score proportional to their raw value between 0 and 346,773
- Once normalized, scores multiplied by the weighting value and summed for final sequential ranking.
- · Three sets of prioritization by flood solution type
 - Flood Management Evaluation (FME)
 - Flood Mitigation Projects (FMP)
 - Flood Management Strategies (FMS)



Identify areas with the worst existing risk of flooding in the 100-year

Identify flood risk mitigation solutions that may result in the greater overall

· Primarily focus on projects with greater potential to mitigate the risk to life and

How state flood plan project ranking may be considered in funding prioritization and

TWDB Proposed Ranking

Serve as method for allocating state funding

allocation processes remains to be determined

State flood plan ranking will be at least one consideration

Intended to

floodplain

property

Not intended to

reduction in flood risk

•

•

TWDB FMP Proposed Ranking



- Structural and nonstructural project that reduces flood risk
 Non-zero capital costs or other non-recurring costs
- Ranking spilt into two major categories
 - Report Data
 - 70% of total weight for FMPs
 - Only one category computed by TWDB
 - "Percent of structures removed from 100yr"
 - Aimed at giving additional weight to projects with bigger impact to smaller communities
 - Project Details
 - 30% of total weight for FMPs
- FMP ranking primarily focuses on flood risk reduction in the 100yr
- Reported data grouped into three major themes
 - · Life, Safety, and property
 - Mobility
 - Agriculture

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۲	WDB	Pr	op	00	sec				anki	ing	9	5
Criteria Nam			Criteria Type	Criteria Grouping	FME Ranking Weight	FME Grouping Weight	Max Raw Value Score for Normalization	Weighted Scored Based on Normalized Reported Factors	Ranking Based on Normalized Reported Factors	Region with Highest Ma Raw Value	h x FME Name	FME Description
Estimated no	mber of structures at 100yr flood	l risk	Flood Risk		15.0%		186,744	76.980	1	3 - Trinity	Predicted Maximum Probable Inusdation Map	Use NWS gage height forecasts from the River Forecast Center to generate a potential floodplain along the main stem of the Trinity River.
Residential s	ructures at 100-year flood risk		Flood Risk	flood Risk		1	141,182	76.980	1	3 - Trinity	Predicted Maximum Probable Inundation Map	Use NWS gage height forecasts from the River Forecast Center to generate a potential floodplain along the main stem of the Trinity River.
Estimated Po	Population at 100-year flood risk		Flood Risk and Structures		15.0%	N BON	976,798	59.344	2	6 - San Jacint	to Regional Implementation of Large Diameter Deep Tunnel Systems for Storm Water Management	Further study of regional implementation of Large Diameter Deep Tunnel Systems for Storm Water Management.
Critical facilit	ies at 100-year flood risk (#)		Flood Risk		20.0%		2,332	52.344	2	6 - San Jacint	to Regional Implementation of Large Diameter Deep Tunnel Systems for Storm Water Management	Further study of regional implementation of Large Diameter Deep Tunnel Systems for Storm Water Management.
Number of Is	low water crossings at flood risk (4)		Flood Risk		20.0%	1	1,737	76.980	1	3 - Trisity	Predicted Maximum Probable Inundation Map	Use NWS gage height forecasts from the River Forecast Center to generate a potential floodplain along the main stem of the Trinity River.
Estimated in	mber of road closures (#)		Flood Risk	Mobility	5.0%	155	9,511	9,544	32	12 -San Antor	nio Natural capital inventory	Development of a dataset identifying lands under conservation easement. Project includes courthouse and deed records research to identify lands that are protected or have future development restrictions.
Estimated le	igth of roads at 100-year flood ris	k (Miles)	es) Flood Risk		10.0%		7,605.6	76.980	1	3 - Trinity	Predicted Maximum Probable Inundation Map	Use NWS gage height forecasts from the River Forecast Center to generate a potential floodplain along the main stem of the Trinity River.
Estimated fa	m & ranch land at 100-year flood	l risk (acres)	Flood Risk	Agriculture	5.0N	55	2,425,093.5	21.217	12	1 - Canadian Upper Red	 Region-Wide Dam Safety 	Coordinate region-wide investigation into current dam afety status; selected based on stakeholder feedback
,				_		_	Тор	5 Ranke	d FMEs			
	Rank	То	tal Score		Region			FME Name			FME Description	
	1		76.98		3 - Trinity		Predicted M	ximum Probable	Inundation Map	Use N floodp	WS gage height forecasts from the River Forecas Iain along the main stem of the Trinity River.	t Center to generate a potential
	2		59.34		6 - San Jacinto	Reş	tional Impleme Systems	ntation of Large D for Storm Water M	llameter Deep Tur Aanagement	nnel Furthe Storm	er study of regional Implementation of Large Dia Water Management.	meter Deep Tunnel Systems for
	2		59.34		6 - San Jacinto	Pro	larris County W perties for Con	lide - Investigation version to Stormw	n of City of Housto rater Detention Ba	on Furthe sins of Hou	er study for design and construction of stormwa uston properties could reduce the risk of floodin	ter detention basins on various City g in the area.
	4		32.63	10	- Lowr Colorad Lavaca	lo- Id	entify and Asse Solutio	rss Flood Risk and ns for Low SVI Co	Potential Mitigati mmunities	on Proact consid solutic	ively seek out these communities to more fully ler potential solutions, and lay out a path to imp ons.	assess and document their flood risk, lement feasible and appropriate
	5		28.55		13 - Nueces		Nueces B	isin early flood wa	arning system	Develo to dev	op Flood Preparedness Toolsets Using Stream ga elop a basin wide early flood warning system.	iging and Flood Inundation Mapping
	53/2336		6.01		5 - Neches		Jefferson Cou	nty Update Flood	Hazard Mapping	Compl area, v	lete a detailed study within the county extent to which can be used for regulatory purposes.	delineate an updated flood hazard

Rank	Total Score	Region	FMP Name	FMP Description
1	60.22	6 - San Jacinto	Galveston Bay Surge Protection Coastal Storm Risk Management	Federal projects identified in the Texas Coastal Study (2021) including Bollver Gates, Galveston Se Wall Improvements, Ecosystem Restoration, Galveston Ring Barrier system, Clear Creek & Dickins Bayou Gates, and non-structural measures.
2	27.66	1 - Canadian-Upper Red	Landon, Duty and Sunset St Drainage Project	The proposed solution is be a combination of curb and gutter street improvements for Duty Lane, Landon Road, and Sunset Lane south of Duty Lane.
2	26.37	10 - Lower Colorado-Lavaca	Walnut Creek Wastewater Treatment Plant Flood Wall	Sheetpile floodwall installation to protect WWTP
4	25.65	10 - Lower Colorado-Lavaca	Sandy Creek/Pecan Park Areas Buyout	Acquisition of 11 residential properties located in the regulatory 1% ACE floodplain and floodway Sandy Creek, Pecan Park area
5	25.41	12 - San Antonio	Concepcion Creek Improvements Project	Ph1. 54-ac detention, property acquisition and 10,000ft of storm drain systems and road reconstruction. Ph2. 1.36mi of Concepcion Creek channel improvements. Ph3. 2,300ft of (3)10x8 MBC systems
71/205	15.03	5 - Neches	Channel 100-A Concrete Repair	Conduct repairs and install improvements to Channel 100-A located within the city of Beaumont.
Rank	Total Score	Region	FMS Name	FMS Description
1	48.63	6 - San Jacinto	Harris County Wide Voluntary Buyout Program	Targeted home buyouts to reduce flood damages in areas several feet deep in the floodplain whe structural projects to reduce flooding are not cost-effective and/or beneficial.
1	48.63	6 - San Jacinto	Harris County Hazard Mitigation Action AW-3	Utilizing the existing public outreach capability to develop, deploy, and disseminate targeted outreach projects promoting risk communication, mitigation and resilience to all the hazards of concern.
1	48.63	6 - San Jacinto	Harris County Hazard Mitigation Action AW-4	Strive to capture time-sensitive data such as high-water marks, extent and location of hazard, and loss information to support future updates to risk assessments as well as other plans and program that utilize hazard extent data.
1	48.63	6 - San Jacinto	Harris County Hazard Mitigation Action AW-5	Continue to develop, improve, and implement an enhanced mass public warning and alert system within the Harris County Joint Information Center to provide warning capability throughout Harri County to support the emergency management of all hazards.
1	48.63	6 - San Jacinto	Harris County Hazard Mitigation Action AW-6	Utilize viable and relevant information, data and tools (Hazus models) developed as part of the update to the risk assessment of this plan update to support training and exercise of the County's preparedness, response and recovery programs.
0.6 (0.00	6.02	C. Mashas	Usedia County Valuation Claud Durant	Victorian Canada and

TWDB FMS Proposed Ranking

formulated, i.e., regulatory enhancement

flood risk reduction

• All solutions that do not belong as FMEs or FMPs

· Long term flood risk reduction solution ideas that still need to be

• Ranking criteria focuses on both risk identification in the 100yr and

Initial Takeaways



- 31 TAC §362.4 (c)(5)
 - Develop a statewide ranks list of recommended FMEs, FMSs, and FMPs that have associated one-time capital cost
- State flood plan ranking will be at least one consideration in allocating state funding
- · Consider ranking project planning and watershed studies separately
- Need additional guidance on how overlapping FMXs scoring will be aggregated
- Reliance on ONLY the 100-year for project scoring
- Important to reduce 100-year flooding
- Suggest comparing percentile or scoring bracket ranking to current draft ranking

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City of Tyler FME Update - West Delek Detention



- Vacant property owned by refinery
- Adjacent floodplain and open space
- Approximately 30-Acre Detention
 Pond
 - 160 ac-ft of storage
 - Potential for recreational area and park space



City of Tyler FME Update - West Delek Detention

- Detention, roadway crossing, and channel improvements
- Six roadway crossing improvements analyzed
 - Proposed culvert data provided by City of Tyler
- Channel improvements to be incorporated after area identified with most potential benefit



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City of Tyler FME Update - West Delek Detention

- * Crossing 2 * Existing 10'x10' RCB \rightarrow Proposed (2)-10'x10' RCBs
 - Benefit 1400' of channel and approx. 13 upstream structures, but impacts approx. 6 downstream structures
 - Detention at Hillside Park with channel improvements may mitigate impacts. However, limited park space currently available in the area.

Crossing 3 and 4

- Existing 6'x5' RCB \rightarrow Replace with (3)-15'x9' RCBs
- * Existing 6'x5' RCB \rightarrow Replace with (3)-15'x9' RCBs
- Localized improvements that do not directly benefit any structures



City of Tyler FME Update - West Delek Detention

- Crossing 5 Improvements
 - Existing 10'x10' RCB → Proposed (3)-10'x10' RCBs
 - Reduction in flooding from Gentry Pkwy to N Carlyle Ave (1,000')
 - 2 inundated structures improved
 - Unlikely that benefits outweigh costs



City of Tyler FME Update - West Delek Detention



- Crossing 6 Improvements
 - Existing 11.5'x7' RCB \rightarrow Replace with (2)-10'x7' RCBs
 - Reduction in flooding from S Center Ave to N Beckham Ave (330')
 - 14 upstream inundated structures
 improved
 - Impacts to approx. 6 downstream structures
 - Channel improvements needed to reduce impacts to downstream structures





- Existing 11'x6' RCB \rightarrow Add (2)-12'x12' RCBs
- Improvements from railroad to E Locust St (3,200')
- +6' of WSEL reduction
- Approx. 16 inundated structures improved
- Channel improvements may benefit more structures



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City of Tyler FME Update – Hogg MS Detention

- Project concept championed by the City of Tyler
- Developed concept from 2019
 study
- 3.4-acre open space for underground detention

Approx. 65 ac-ft of storage

• Additional channel improvements for to benefit localized flooding





City of Tyler FME Update – Next Steps



- West Delek Detention .
 - Incorporate channel improvements with Crossings 10 and 8
- Focus on reducing downtown flooding •
- Hogg MS Detention

 - Incorporate channel improvements within Azalea District
 Compare two outfall pipe locations for greatest benefit and total costs
- Hillside Park Detention
 - Add detention at park with Crossings 1, 2, and 3
 - Incorporate channel improvements to mitigate Crossing 1 impacts
- Consult with City of Tyler staff for stakeholder input
- Compare Residential and Commercial structure impacts for the three concepts
- Select one FMP to develop

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City of Jasper FME Update

• FME ID: 051000052

and rank projects.

· Sponsor: City of Jasper

· Perform H&H modeling to

identify and define flood risk, develop conceptual alternatives

to reduce flood risk, develop

OPCC for conceptual alternatives,





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City of Jasper FME Update

- Secondary Detention Pond
 placed
 - 1,498.5 ac-ft of storage (secondary pond only)
 - Spillway crest set at 230' with a 36" culvert used for the outfall
 - Bottom of pond set at 221', top of berm set to 240'
 - 10-YR, 25-YR, 50-YR, and 100-YR storms all examined to determine detention pond dimensions



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City of Jasper FME Update - Next Steps

- · Evaluate additional regional detention ponds and diversions
- Consult with City of Jasper staff for stakeholder input
- Compare Residential and Commercial structure impacts for the two concepts
- Further project details

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Jefferson County Drainage District 6 FIF

No.	Watershed	Project Name	Description	Improvement Type
1	Hillebrandt Bayou	Pevitot Gully Improvement System	The project proposes an improvement system consisting of offline detention basins and channelization along Pevitot Gully.	Widening
2	Hillebrandt Bayou	Willow Marsh Bayou Phenlan Blvd Detention	The project proposes an improvement system consisting of in-line detention basins and channelization along Willow Marsh from Phenlan Blvd to Highway 90.	Widening
3	Hillebrandt Bayou	Willow Marsh Main Improvement System	The project proposes an improvement system consisting of off-line detention basins and channelization along Willow Marsh from Highway 90 to South Major Dr.	Widening
4	Hillebrandt Bayou	Willow Marsh Downstream Improvement System	The project proposes an improvement system consisting of off-line detention basins and channelization along Willow Marsh from South Major Dr to Hillebrandt Bayou.	Widening
5	Hillebrandt Bayou	Tyrell Park Improvements	The project proposes a new channel alignment across Tyrell Park to an existing channel that outfalls into Hillebrandt Bayou; to gain the full benefits the project should be accompanied by improvements of roadside ditches in adjacent neighborhoods.	Widening/Deepening
6	Hillebrandt Bayou	Calder Diversions Connections	The project proposes sub-surface diversion primarily located along Calder Avenue that discharges into the Neckes River. Short segments of additional diversion would be installed along the following readways to help collect and convey stormwater. Elizabeth S, II-H 10 frontage reads, N 11th S, 7th SL Approximately S.2 miles of 2 to 3 - 12 x8' storm sever would reduce flow draining to Hilbeandt Bayou and reduce flood depths in certain neighborhoods along 7th and 11th streets and along the IH-10 forntage reads.	Diversion

Jefferson County Drainage District 6 FIF

No.	Watershed	Project Name	Description	Improvement Type
7	Pine Island Bayou	Rosedale Improvement System	The project proposes widening and deepening of existing channels upstream of the LNVA canal, a diversion channel to the Neches River, and detention basins, near the Rosedale Acres community. This project should include the installation of backflow preventers on existing siphors along the water canal.	Diversion/Widening/Deepening
8	Pine Island Bayou	Nome Conveyance Improvements	The project proposes an improvement system consisting of channelization along Cotton Creek and an off-line detention basin to mitigate impacts.	Widening
9	Pine Island Bayou	Sour Lake Channel Improvement	The project proposes a new diversion channel through Sour Lake, providing a path for runoff from the West to the East. Also provides a path for local runoff.	Diversion/Deepening/Widening
10	Taylor Bayou	Green Pond Flow Diversion	The project proposes a diversion of storm runoff into the Green Pond detention facility and flow regulation structure across: Channel 803-8 east of the Green Pond facility. Coupled with the diversion are construction of a new internal collector channel within the Green Pond basin which will more efficiently equalize water surface elevations within the basin. That channel will be extended northward to divert flow from DDG Channel 602 southward and into the Green Pond detention facility.	Diversion/Detention

No.	Watershed	Project Name	Description	Improvement Type
11	Taylor Bayou	Mayhaw Bayou Regional Detention Basin	The project proposes a regional detention facility north and west of H10 in the upper portion of the Mayhaw Bayou watershed. A detention facility is proposed, with multiple openings in the at locations where existing channels cross H10. The project mitigates impacts related to downstream channel improvements and increases the effectiveness of those improvements.	Detention
12	Taylor Bayou	North Taylors Regional Detention Facility	The project proposes a regional detention facility north of PM365 and west of South China Road in the upper portion of the North Fork of Taylors Bayou watershed. A detention facility is proposed, with multiple openings in the at locations where existing channels cross FM365 and South China Road. The project mitigates impacts related to downstream channel improvements and increases the effectiveness of those improvements.	Detention
13	Taylor Bayou	South Taylors Bayou Regional Detention	The project proposes a regional detention facility west of Heizig Road in the waterheads of both the North and South Forks of Taylors Bayou. A detention facility is proposed, with multiple openings at locations where existing channels cross Heizig Road. The project mitigates impacts related to downstream channel improvements and increases the effectiveness of those improvements.	Detention



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JCDD6 – Calder Diversions Connections



 Add connecting lines along 7th St., 11th St., and the IH-10 frontage

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- Shows some reduction along the route:
 - 7th St. (0.5' 1.0')
 - 11th St. (0.5' 1.0')
 - IH-10 Frontage (< 0.5')
- 7th St. trunk may already be in; need to confirm
- Potential updates during detailed modeling phase
 - Update alignment
 - Direct hydrograph application

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JCDD6 – Green Pond Flow Diversion





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- Green Pond Auxiliary Ditch Within Facility
- Gates on All Culverts
 Through Levee
- Construction of New Levee to the East
- Cross-Drainage at Existing Levee w/ Backflow Preventer
- Cross-Drainage at Existing Channel
- Fannett Detention (Grant)

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