

Update from Consultant Team


Neches Regional Flood Planning Group

May 24, 2023

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Agenda

- Task 13 Update
 - Discussion of FMXs to be included in the Amended Regional Flood Plan
- Vote to Recommend Flood Management Evaluations (FMEs), Flood Management Strategies (FMSs) and Flood Mitigation Projects (FMPs) to be included in the Amended Regional Flood Plan due to the TWDB on July 14, 2023



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Additional FMEs

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Final Plan Recommended FMEs

FME Type	Description	Count	Cost
Flood Mapping Updates	Updates to floodplain mapping to include new hydrologic and hydraulic modeling for defining flood hazard areas.	22	\$34,679,047
Master Drainage Plan	An assessment of a watershed or community to estimate flood risk and recommend flood management and flood mitigation projects.	37	\$29,421,728
Project Planning	Evaluate identified potential flood mitigation projects to define costs, quantify flood reduction benefits, demonstrate no adverse impacts, and evaluate design alternatives. Evaluation may require the creation or updating of hydrologic and hydraulic models.	91	\$24,318,879
Feasibility	Develop flood mitigation project alternatives for a discrete high flood risk area, estimate construction costs for alternatives, and determine flood reduction benefit for alternatives. Evaluation may require creation of H&H modeling.	7	\$1,026,171
TOTAL		157	\$89,445,825

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Changes to FMEs

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- 8 Additional FMEs identified
 - Project planning/project design development
 - Detention Basins
 - Channel Diversions
 - Channel Improvements
- 2 FMEs to be removed
 - Upper Johns Gulley
 - Shreveport Additional Pumping Equipment
- 4 FMEs to be elevated
 - Tevis Diversion
 - Blanchette Diversion
 - South Park Diversion
 - Delaware Diversion

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Additional FMEs

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FME	Description	Sponsor	Projected Cost
Mayhaw Bayou Regional Detention Basin	Evaluate a regional detention facility north and west of IH10 in the upper portion of the Mayhaw Bayou watershed.	Jefferson County Drainage District 6	\$75,000
North Taylor Regional Detention Basin	Evaluate a regional detention facility north of FM365 and west of South China Road in the upper portion of the North Fork of Taylors Bayou watershed.	Jefferson County Drainage District 6	\$75,000
South Taylor Regional Detention Basin	Evaluate a regional detention facility west of Heizig Road in the watersheds of both the North and South Forks of Taylors Bayou.	Jefferson County Drainage District 6	\$75,000
Green Pond Flow Diversion	Evaluate a diversion of storm runoff into the Green Pond detention facility and flow regulation structure across Channel 505-B east of the Green Pond facility.	Jefferson County Drainage District 6	\$75,000
Calder Diversions Connections	Evaluate sub-surface diversion primarily located along Calder Avenue that discharges into the Neches River.	Jefferson County Drainage District 6	\$75,000
Delaware Detention	Evaluate a project for detention associated with diversions from the Hillebrandt watershed.	Jefferson County Drainage District 6	\$75,000
Diversion to Needmore	Evaluate a diversion channel from downstream of Lower Mayhaw Bayou to Needmore	Jefferson County Drainage District 6	\$75,000
Channel 100A Concrete Repair*	Evaluate repairs and improvements to Channel 100-A located within the City of Beaumont.	Jefferson County Drainage District 6	\$75,000

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Recommendation of FMEs

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- Determine if there are any actions on the list of identified FMEs that the RFPG should not support
- Encourage the RFPG to favor inclusion of FMXs understand that there is **no obligation to take action and no financial commitment associated with FMX sponsorship**

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Amended Plan Recommended FMEs

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FME Type	Description	Final Count	Amend Count	Final Cost	Amend Cost
Flood Mapping Updates	Updates to floodplain mapping to include new hydrologic and hydraulic modeling for defining flood hazard areas.	22	22	\$34,679,047	\$34,679,047
Master Drainage Plan	An assessment of a watershed or community to estimate flood risk and recommend flood management and flood mitigation projects.	37	37	\$29,421,728	\$29,421,728
Project Planning	Evaluate identified potential flood mitigation projects to define costs, quantify flood reduction benefits, demonstrate no adverse impacts, and evaluate design alternatives. Evaluation may require the creation or updating of hydrologic and hydraulic models.	91	93	\$24,318,879	\$23,918,879
Feasibility	Develop flood mitigation project alternatives for a discrete high flood risk area, estimate construction costs for alternatives, and determine flood reduction benefit for alternatives. Evaluation may require creation of H&H modeling.	7	7	\$1,026,171	\$1,026,171
TOTAL		157	159	\$89,445,825	\$89,045,825

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Additional FMPs

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Final Plan Recommended FMPs 5

FMP Type	Description	Count	Cost
Channel	Channel extensions and upgrades to increase capacity of water conveyance.	2	\$43,820,866
Comprehensive	Improve existing levees, build new pump stations, construct/reconstruct floodwalls to higher elevations.	2	\$982,900,000
Detention	New detention pond construction	1	\$85,000,000
TOTAL		5	\$1,111,720,866

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Changes to FMPs 5

- 16 Additional FMPs identified
 - Detention Basins
 - Channel Diversions
 - Channel Improvements
- 1 FMP to be removed
 - Channel 100A Concrete Repair

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Task 13 Update – New FMPs 5

	FMP Name	Project Type	Sponsor(s)	Cost
1	Black Fork Creek Improvement Project (formerly City of Tyler Improvements)*	Comprehensive	City of Tyler	\$22,234,300
2	Sandy Creek Improvement Project (formerly City of Jasper Improvements)*	Comprehensive	City of Jasper	\$224,924,330
3	Pevitot Gully Improvement System	Comprehensive	Jefferson County Drainage District 6	\$319,970,815
4	Willow Marsh Bayou Phenlan Blvd Detention	Comprehensive	Jefferson County Drainage District 6	\$203,869,200
5	Willow Marsh Main Improvement System	Comprehensive	Jefferson County Drainage District 6	\$1,136,334,277
6	Willow Marsh Downstream Improvement System	Comprehensive	Jefferson County Drainage District 6	\$118,142,723
7	Tyrrell Park Improvements	Channel	Jefferson County Drainage District 6	\$25,095,036
8	Rosedale Improvement System	Comprehensive	Jefferson County Drainage District 6	\$308,620,428
9	Nome Conveyance Improvements	Comprehensive	Jefferson County Drainage District 6	\$163,293,623
10	Sour Lake Channel Improvements	Channel	Jefferson County Drainage District 6	\$63,303,926
11	Tevis Diversion*	Channel	Jefferson County Drainage District 6	\$97,327,200
12	South Park Diversion*	Channel	Jefferson County Drainage District 6	\$99,908,750

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Task 13 Update – New FMPs

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No.	FMP Name	Project Type	Sponsor(s)	Cost
13	Blanchette Diversion*	Channel	Jefferson County Drainage District 6	\$99,173,000
14	Delaware (Lucas) Diversion	Channel	Jefferson County Drainage District 6	\$130,286,230
15	Tyrrell Park Detention	Detention	Jefferson County Drainage District 6	\$187,974,220
16	Virginia Street Detention	Detention	Jefferson County Drainage District 6	\$9,751,456

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Black Fork Creek Improvement Project

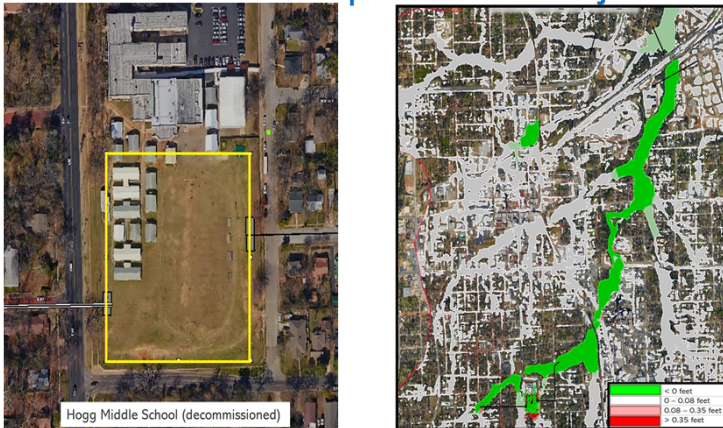
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- Sponsor
 - City of Tyler
- FMP Components
 - Install detention ponds and various improvements to existing channels
 - Azalea District
- Total Cost: **\$22,234,300**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note: Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Black Fork Creek Improvement Project

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Sandy Creek Improvement Project

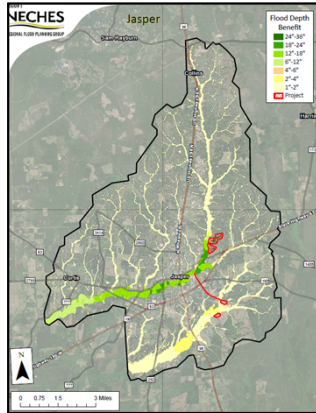
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- Sponsor
 - City of Jasper
- FMP Components
 - Install a total of two detention ponds to reduce flooding impact in the City of Jasper
 - Two basins located near the confluence of Sandy Creek and Little Sandy Creek
- Total Cost: **\$224,924,330**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note: Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Sandy Creek Improvement Project

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Pevitot Gully Improvement System FMP

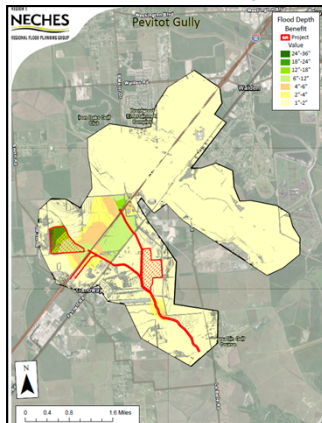
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install offline detention basins and conduct channelization improvements along Pevitot Gully
 - New Offline Detention Basins
 - Channel Improvements
 - Improve channel by both deepening and widening segments for upgraded capacity.
- Total Cost: **\$319,970,815**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note:
 - Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Pevitot Gully Improvement System FMP

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Willow Marsh Bayou Phenlan Blvd Detention FMP

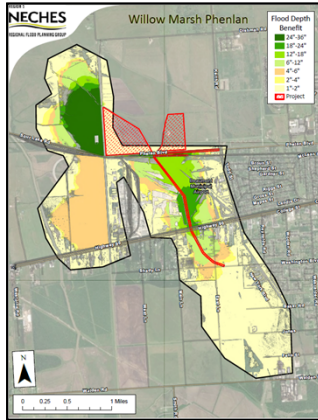
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install in-line detention basins and conduct channelization improvements along Willow Marsh from Phenlan Blvd to Highway 90
 - New In-line Detention Basins
 - Channel Improvements
 - Improve channel by both deepening and widening segments for upgraded capacity.
- Total Cost: **\$203,869,200**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note:
 - Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Willow Marsh Bayou Phenlan Blvd Detention FMP

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Willow Marsh Main Improvement System

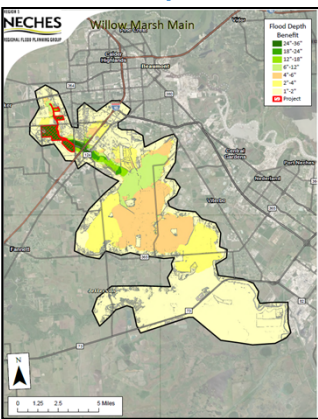
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install offline detention basins and conduct channelization improvements along Willow Marsh from Highway 90 to South Major Dr.
 - New Offline Detention Basins
 - Channel Improvements
 - Improve channel by both deepening and widening segments for upgraded capacity.
- Total Cost: **\$1,136,334,277**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note: Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Willow Marsh Main Improvement System

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Willow Marsh Downstream Improvement System

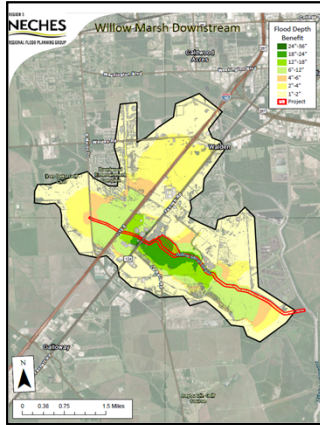
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install offline detention basins and conduct channelization improvements along Willow Marsh from Highway 90 to South Major Dr.
 - New Offline Detention Basins
 - Channel Improvements
 - Improve channel by both deepening and widening segments for upgraded capacity.
- Total Cost: **\$118,142,723**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note: Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Willow Marsh Downstream Improvement System

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Tyrrell Park Improvements

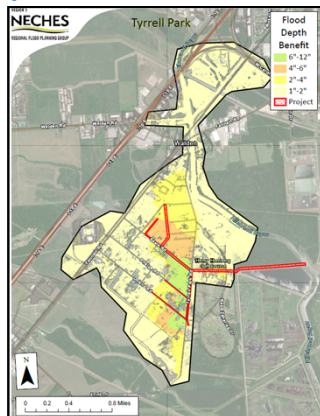
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install new channel alignment across Tyrrell Park to an existing channel that outfalls into Hillebrandt Bayou
 - New Roadside Ditches (to help project achieve full benefit)
 - New Channel Alignment
- Total Cost: **\$25,095,036**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note: Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Tyrrell Park Improvements

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Rosedale Improvement System

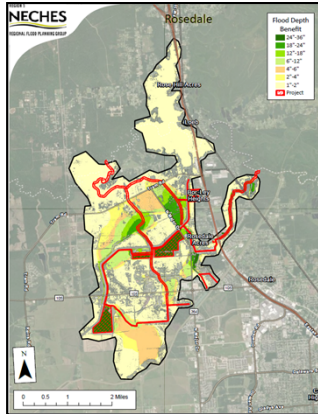
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install new channel alignment across Tyrrell Park to an existing channel that outfalls into Hillebrandt Bayou
 - New Roadside Ditches (to help project achieve full benefit)
 - New Channel Alignment
- Total Cost: **\$308,620,482**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note: Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Rosedale Improvement System

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Nome Conveyance Improvements

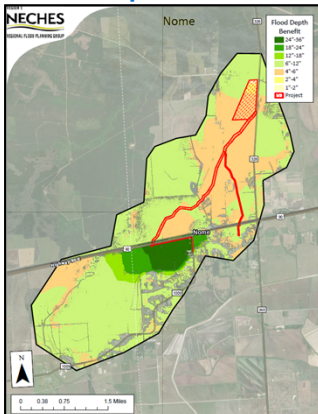
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install offline detention basin and channel improvements along Cotton Creek
 - New Offline Detention Basin
 - Channel Improvements
 - Improve channel by both deepening and widening segments for upgraded capacity.
- Total Cost: **\$163,293,623**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note:
 - Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Nome Conveyance Improvements

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Sour Lake Channel Improvements

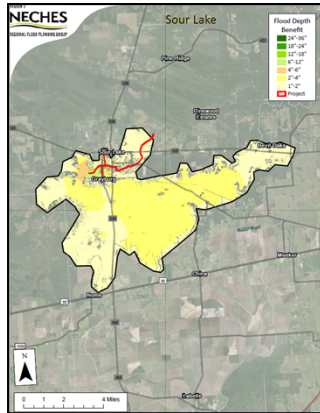
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install new diversion channel through Sour Lake
 - New Diversion Channel
 - Provides path for runoff to flow West to East
- Total Cost: **\$63,303,926**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note:
 - Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Sour Lake Channel Improvements

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Tevis Diversion

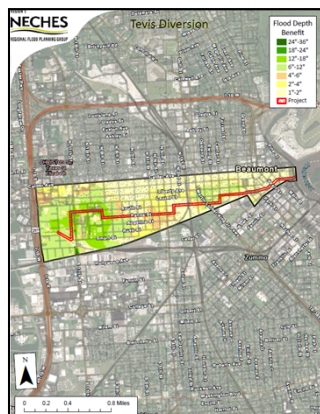
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install new storm sewer improvements to divert flow away from existing channels to be redirected to the Neches River
 - Storm Sewer Upgrades
 - Proposed dual 12'x10' RCBs designed to tie into existing storm sewer at key intersections
- Total Cost: **\$97,327,200**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note:
Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Tevis Diversion

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South Park Diversion

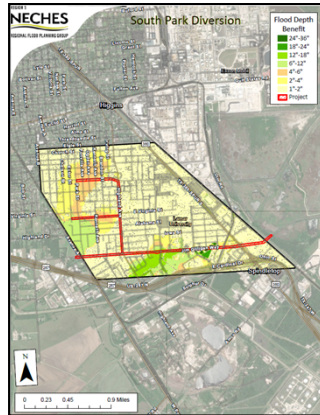
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install new storm sewer improvements to divert flow away from existing channels to be redirected to the Neches River
 - Storm Sewer Upgrades
 - Proposed RCBs ranging from 8'x8' to 10'x10' designed to redirect flow to a new outfall location that has a shorter path to the Neches River
- Total Cost: **\$99,908,750**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note:
Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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South Park Diversion

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Blanchette Diversion

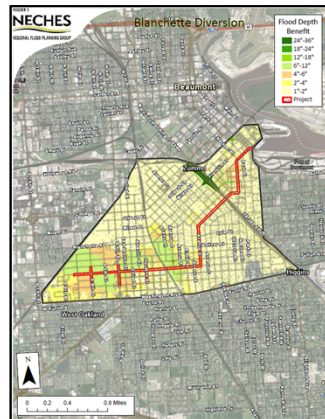
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install new storm sewer improvements to divert flow away from existing channels to be redirected to the Neches River
 - Storm Sewer Upgrades
 - Proposed RCBs ranging from 5'x5' to 12'x10' RCBs designed to tie in with existing storm sewers
- Total Cost: **\$99,173,000**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note: Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Blanchette Diversion

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Tyrrell Park Detention

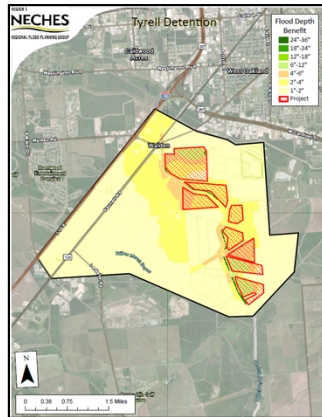
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install eight new detention basins to increase capacity to existing storm sewer and provide storage during extreme rainfall events
 - All basins located in Hillebrandt Bayou in the southern area of the city of Beaumont
- Total Cost: **\$187,974,220** (representing all 8 detention ponds)
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note: Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Tyrrell Park Detention

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Virginia Street Detention

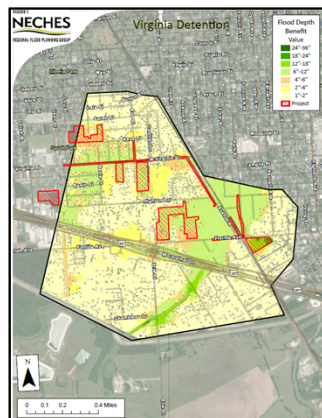
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install two new detention basins to increase capacity to existing storm sewer and provide storage during extreme rainfall events
 - First detention basin located SE of the intersection of Lavaca Street and Usan Street
 - Second detention basin located NW of the intersection of Avenue A and Florida Avenue
- Total Cost: **\$9,751,456**
 - BCR = **1.591**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note: Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Virginia Street Detention

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Delaware (Lucas) Diversion

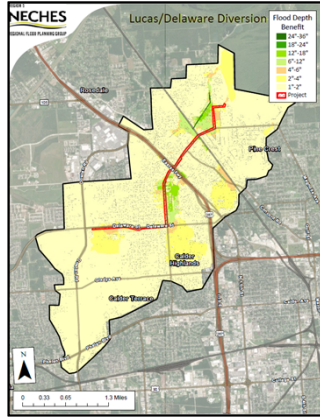
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- Sponsor
 - Jefferson County Drainage District 6
- FMP Components
 - Install new storm sewer improvements to divert flow away from existing channels to be redirected to the Neches River
 - Storm Sewer Upgrades
 - Proposed 12'x10' RCBs designed to provide relief to the existing storm sewer system
- Total Cost: **\$130,286,230**
- No negative impact from the FMP
 - Project does not violate state water code or result in impacts to others
 - Important Note: Local sponsors will be ultimately responsible for proving the final project design has no negative flood impacts.

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Delaware (Lucas) Diversion

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Recommendation of FMPs

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- Determine if there are any actions on the list of identified FMPs that the RFPG should not support
- Encourage the RFPG to favor inclusion of FMXs understand that there is **no obligation to take action and no financial commitment associated with FMX sponsorship**

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Amended Plan Recommended FMPs

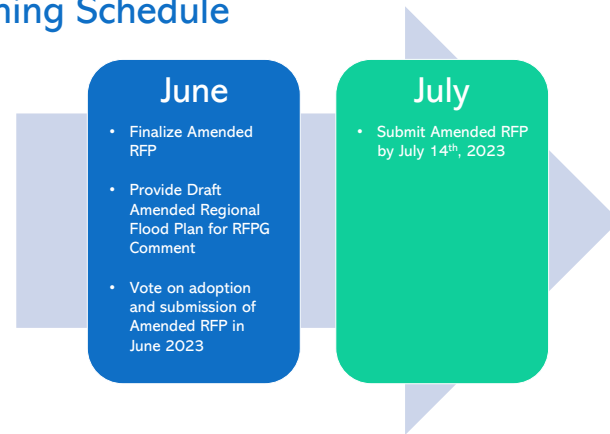
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FMP Type	Description	Final Count	Amend Count	Final Cost	Amend Cost
Channel	Channel extensions and upgrades to increase capacity of water conveyance.	2	6	\$43,820,866	\$456,040,216
Comprehensive	Improve existing levees, build new pump stations, construct/reconstruct floodwalls to higher elevations.	2	11	\$982,900,000	\$3,328,420,802
Detention	New detention pond construction	1	3	\$85,000,000	\$497,898,550
TOTAL		5	20	\$1,111,720,866	\$4,282,359,568

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Planning Schedule

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