



**LOWER COLORADO – LAVACA**  
**REGIONAL FLOOD PLAN**  
**A TEXAS INITIATIVE**

**RFPG 10 TECHNICAL COMMITTEE | JUNE 30, 2022**



# AGENDA

## Task 5: Recommendation of FMEs, FMSs and FMPs

- Discussion and possible action regarding recommended Flood Management Evaluations and Strategies and Flood Mitigation Projects

## Task 12: Perform FMEs, identify, evaluate, and recommend additional FMPs

- Discuss TWDB requirements
- Criteria and considerations for selection of FMEs

## Next Steps



# Task 5

Recommendation of Studies (FME), Strategies (FMS)  
and Associated Projects (FMP)

# POTENTIAL FMS

## Watershed Modeling and Floodplain Mapping

Sponsor: Lower Colorado- Lavaca RFPG

Strategy Type: Update of watershed models and floodplain maps used for flood hazard identification, exposure analysis, and NFIP flood insurance

*(see full-size PDF in meeting packet)*

### Flood Management Strategy (FMS)

Lower Colorado-Lavaca  
**REGIONAL FLOOD  
PLANNING GROUP**

REGION 10

Title: Watershed Modeling and Floodplain Mapping ID#: 102000005  
Sponsor (name of entity): Lower Colorado- Lavaca RFPG Commitment:  Yes  No  
Technical committee recommend:  Yes  No RFPG recommend:  Yes  No

Strategy Type: Update of watershed models and floodplain maps used for flood hazard identification, exposure analysis, NFIP flood insurance

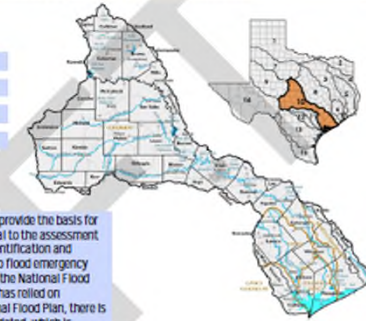
#### Problem Area

Regional: Lower Colorado-Lavaca Regional Flood Planning Area (Region 10)

Sub-regional:

Counties:

City:



#### Need for Strategy

Watershed modeling and the resulting geospatial products (i.e., flood risk products, floodplain maps) provide the basis for much of local, regional, and state flood planning. Accurate, up-to-date models and maps are essential to the assessment of current and future flood risk (Chapter 2); to effective floodplain management (Chapter 3); to the identification and evaluation of flood risk reduction alternative and the selection of a preferred option (Chapter 5); and to flood emergency preparedness and response (Chapter 7). And of course, accurate floodplain maps are a centerpiece of the National Flood Insurance Program. As it is, much of the analyses conducted for this regional flood planning process has relied on incomplete, "coarse", and/or outdated data and maps. As discussed in various chapters of this Regional Flood Plan, there is an ongoing need, actually an imperative, that watershed models and map products be periodically updated, which is typically both a relatively costly and time-consuming process, typically spanning several years and costing hundreds of thousands of dollars per watershed. There are several reasons why model and map updates should be a high priority: 1) many if not most available maps are based on less precise data than is currently available, and were developed using modeling tools that are dated; 2) watershed conditions change over time due to a variety of reasons (e.g., upstream development, changes in stream channel geometry, etc.); and 3) significantly, a very large portion of Region 10 falls within areas affected by the new higher rainfall rates for "design storms" reported in the updated Atlas 14 publication.

#### Description of Strategy

This recommended regional Flood Management Strategy is intended to elevate the need for an immediate region-wide effort and funding for updates to watershed models and associated geospatial products and tools that are essential to understand flood risk and exposure; to effective floodplain management; to identify and evaluate of flood risk reduction solutions; and to flood emergency preparedness and response. The strategy is focused on significantly increasing available state funding assistance, with appropriate levels of non-federal cost-sharing, to expedite updates to watershed models and geospatial products and tools. Funding should of course also be provided for development of models and maps in areas lacking such and where local conditions dictate a need for such (e.g., areas experiencing or expected to experience rapid urbanization). State funding through the State Flood Infrastructure Fund (FIF) has been made available for modeling and mapping and that should continue as high priority. Similarly, FEMA, through its Cooperating Technical Partners (CTP) Program, should also increase funding for direct technical assistance to local entities, particularly current NFIP participating entities, with the update of watershed models and map products necessary for effective implementation of the the National Flood Insurance Program.

This strategy is intended to advance multiple goals adopted by the Region 10 RFPG. Some but not all are listed below. It is also a complement to a policy recommendation included in Chapter 8:

8.1.6 increase State funding and technical assistance for the development and maintenance of accurate watershed models and FEMA Flood Insurance Rate Maps (FIRMs) and floodplain maps...

#### Related Goals

3.1 Increase the number of cities and counties that have updated watershed models and floodplain maps to reflect current data (e.g., Atlas 14 revised rainfall data). 3.2 Increase the number of cities and counties that have evaluated priority flood risk areas and flood risk reduction measures (e.g., alternatives analysis and preliminary engineering). 3.3 Increase the number of counties with digital flood insurance rate maps (DFIRMs) that reflect current conditions. 4.1 Increase the number of cities and counties participating in the National Flood Insurance Program (NFIP). 4.2 Increase the number of cities and counties that have adopted higher standards over and above NFIP minimums.

#### Estimated Strategy Cost

Cost: TBD Potential funding source(s): FEMA Cooperating Technical Partners (CTP) Program, TWDB FIF, local funds

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# Task 12

Perform Identified Flood Management Evaluations

Identify, Evaluate, and Recommend Additional Flood  
Mitigation Projects

# TASK 12 – PERFORM FMEs FOR ADDITIONAL FMPs

## TWDB Requirements

### Objective:

- “Perform” identified FMEs to recommended additional FMPs
  - Evaluate flood risks in areas with limited data
  - Evaluate flood risk reduction solutions
  - Preliminary engineering

### Requirements:

- RFPG must approve list of FMEs to be performed and any additional FMPs to be evaluated and recommended
- Must adhere to Task 4B/5 requirements
- Revise and re-submit relevant data deliverables and RFP chapters
- Results/recommendations to be included in the Amended Regional Flood Plan (due 7/14/23)

# TASK 12 – PERFORM FMEs FOR ADDITIONAL FMPs

## Criteria and Considerations for FME Selection

- FME categorized as “Preliminary Engineering”
- H&H models available if needed (e.g., analysis of potential adverse impact)
- Structures/populations at risk
- High risk/exposure low-water-crossings (e.g., depth of inundation, traffic count)
- Critical facilities at risk
- Level-of-effort (cost) to perform FME relative to available budget
- Sponsor concurrence

# TASK 12 – PERFORM FMEs FOR ADDITIONAL FMPs

## Criteria and Considerations for FME Selection

### Potential Scope of Work for Selected FMEs:

- Site visits
- Update hydrologic and hydraulic modeling (e.g., Atlas 14 rainfall)
- Update preliminary design of improvements
- Analyze flood risk reduction benefits
- Verify no adverse impacts
- Develop cost estimates
- Complete cost-benefit analysis
- Evaluate potential constraints (environmental, utility conflicts, right-of-way needs, and constructability)
- Prepare documentation of RFPG action and for inclusion in Amended Regional Flood Plan



# NEXT STEPS

- **Today** - Discussion and input from Technical Committee
- **July 7 RFPG meeting** - Present and discuss preliminary recommendations from Technical Consultants
- **July 11** - Technical Committee review and action on recommended FMEs for additional evaluation/development
- **July 18** - RFPG review and action on recommended FMEs for additional evaluation/development
  
- Technical Consultants develop scope of work and budgets for each FME selected for additional evaluation/development
- Initiate work
- Report progress at future RFPG and Technical Committee meetings
- RFPG consideration/approval of recommendations
- Incorporate results and recommendations into the Amended Regional Flood Plan



# Wrap Up