

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

**REGION 10**

**Technical Committee Meeting  
January 27, 2022**

# Region 10 Lower Colorado-Lavaca RFPG Technical Committee Meeting

- 1. Call to Order**
- 2. Welcome**
- 3. Public comments – limit 3 minutes per person**

# Region 10 Lower Colorado-Lavaca RFPG Technical Committee Meeting

- 4. Discuss committee meeting process and update from the Planning Group Sponsor**
- 5. Nominations, discussion, and possible action to elect Committee Chair, Vice Chair, and Secretary**

# Region 10 Lower Colorado-Lavaca RFPG Technical Committee Meeting

## **6. Technical Consultant Presentation & Discussion**

- a. Requirements/guidelines related to Tasks 4B and 5 – Evaluate & Recommend Flood Management Evaluations (FMEs), Flood Management Strategies (FMSs), and Associated Flood Mitigation Projects (FMPs)
  - i. Guidance – key issues
    - 1. Achievable levels of flood risk reduction
    - 2. Emergency needs
    - 3. Cost-benefit
    - 4. Adverse impact
    - 5. Other considerations
  - ii. Standardized templates for presentation of results and recommendations
  - iii. Criteria for selection of FMEs to receive additional effort per Task 12



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

**RFPG 10 TECHNICAL COMMITTEE | JANUARY 27, 2022**



# AGENDA

**Key Definitions and Requirements**

**Screening and Evaluation Process**

**Results of Initial Screening (Task 4B)**

**Next Steps – Additional Screening**

**Technical Committee Guidance re: Key Issues and Questions**

**Templates to Summarize and Present Findings and Recommendations**

**Future Technical Committee Meetings: March–July**

# KEY DEFINITIONS AND REQUIREMENTS

## Flood Management Evaluations

*“Areas that the RFPG considers a priority for flood risk evaluation but that do not yet have the required detailed hydrologic and hydraulic modeling or associated project evaluations available to evaluate specific FMSs or FMPs for recommendation in the RFP.”*

*“The region’s flood prone areas where the greatest flood risk knowledge gaps exist and where the RFPG should consider identifying potentially feasible flood risk studies as FMEs.”*

## Flood Management Projects

*“A Flood Mitigation Project (FMP) is a proposed project, either structural or non-structural, that has non-zero capital costs or other non-recurring cost and when implemented will reduce flood risk, mitigate flood hazards to life or property.”*

## Flood Management Strategies

*“A proposed plan to reduce flood risk or mitigate flood hazards to life or property. “*

*“An FMS may or may not require associated FMPs to be implemented and one FMP may be associated with multiple FMSs.”*

*“Any proposed action that doesn’t qualify as an FME or FMP”*

*“RFPG has flexibility with Strategies” (not required to include in RFP)*

# KEY DEFINITIONS AND REQUIREMENTS

## Sponsor

A political subdivision or government agency that is willing and able to:

- Apply for and receive a TWDB FIF (or other) grant or loan, or funding from other governmental sources (e.g., FEMA, USACE, GLO)
- Provide any required local match or commit to loan debt service
- Commit some level of resources for such activities as project management, consultant contract management, technical reviews, meetings, etc.

**Sponsors may include local governmental entities (counties, cities), regional authorities, and/or other political subdivisions of the State of Texas.**



# TASK 4B – POTENTIAL FMEs, FMSs AND FMPs

## Initial Screening

290

### FLOOD MANAGEMENT STRATEGIES (FMSs)

- Infrastructure Project Planning
- Property/Easement Acquisition
- Elevation of Structures
- Education and Outreach
- Flood Warning and Measurement
- Regulatory and Guidance

294

INFEASIBLE

Do not meet minimum screening requirements

149

### FLOOD MANAGEMENT EVALUATIONS (FMEs)

Studies

Risk Reduction Analysis

Flood Preparedness Study

Modeling and Mapping / Risk Identification

Alternatives Analysis / Feasibility Assessment

Preliminary Engineering (30% design)

106

### FLOOD MITIGATION PROJECTS (FMPs)

Structural Infrastructure

Non-Structural

27

Advanced Analysis / Design / Construction (30 - 100% design)

79

Project Implementation

- Property/Easement Acquisition
- Elevation of Structures
- Floodproofing
- Flood Readiness and Resilience
- Flood Warning, Gauges
- Regulatory Requirements

# NEXT STEPS – ADDITIONAL SCREENING

## Objectives

- Refine preliminary analyses/lists of potentially feasible FMEs, FMSs, and FMPs, as well as those determined to be infeasible
- Complete Task 4B and transition to Task 5
- Recommend FMEs to be “performed” per Task 12

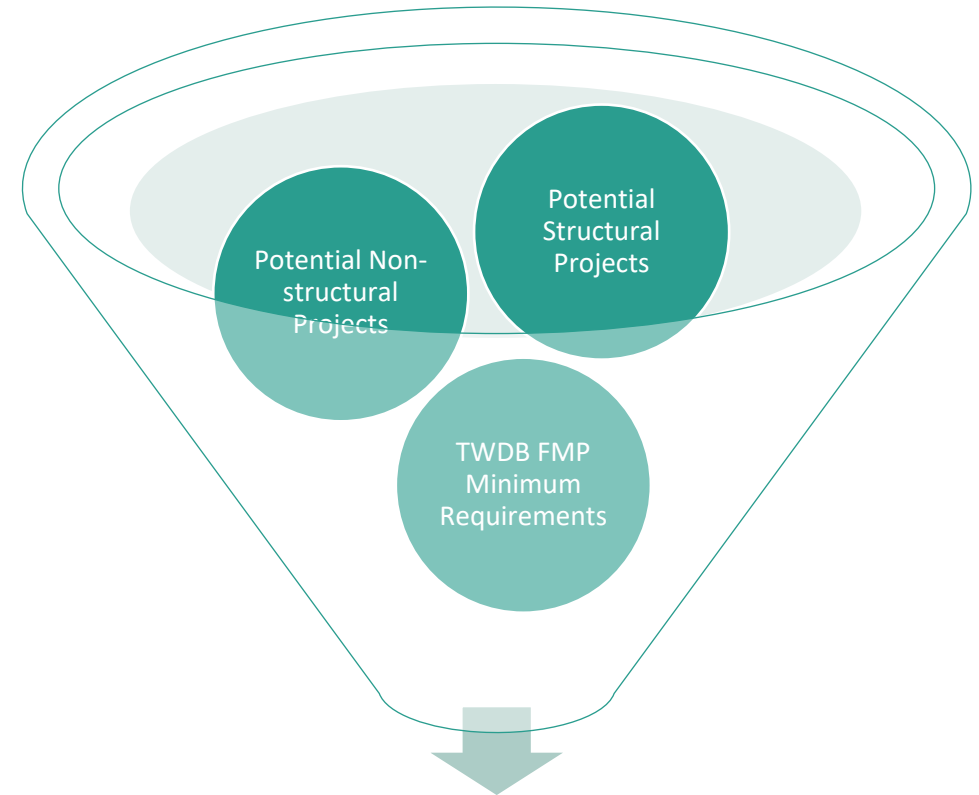
## Approach – Contact Potential Sponsors to Verify:

- Entity’s willingness to sponsor potential FMPs/FMSs/FMPs
- Entity’s willingness and ability to commit financial and/or in-kind resources
- Potential means of funding implementation (information required for Task 9 – Flood Infrastructure Finance)
- Accuracy of information included in preliminary lists
- Whether FMEs/FMSs/FMPs identified as potentially feasible are viable, have already been implemented, are not a priority, or otherwise should be set-aside
- Whether there are additional FMEs/FMSs/FMPs to consider

# TASK 4B – POTENTIAL FMEs, FMSs AND FMPs

## Minimum Screening Requirements

- Contributing drainage area > 1 square mile, *except*:
  - Critical facilities or transportation routes
  - Other reasons determined by RFPG (level of risk, size, etc.)
- Based on H&H modeling that meets TWDB guidelines
  - NOAA Atlas 14 rainfall data
- Meets No Negative Impact requirement
- Mitigates 1% annual chance event (100-year) flood
  - Can be lower level of risk reduction with justification
- Meets emergency need
- Flood risk reduction benefits are or can be quantified
- Estimated capital cost data available or can be developed



## FMPs for Task 5 Analysis

- Cost/Benefit Ratios
- Other Impacts/Benefits
- Residual Risk
- Implementation Issues

# TASK 4B – POTENTIAL STUDIES, PROJECTS & STRATEGIES

## Proposed Selection Process – Task 4B-5 General Steps

**STEP 1**

**INITIAL SCREENING OF *STUDIES, PROJECTS & STRATEGIES* RECEIVED**

Screen for minimum TWDB rules and guidance requirements

**STEP 2**

**SCREENING OF *PROJECTS***

Screen per TWDB flowchart and guidance

**STEP 3**

**SCREENING OF *STUDIES***

Screen for minimum TWDB guidance requirements

**STEP 4**

**SCREENING OF *STRATEGIES***

Screen for minimum TWDB guidance requirements

**STEP 5**

**DETAILED EVALUATIONS OF  
*SELECTED STUDIES, PROJECTS & STRATEGIES***

**STEP 6**

**FINAL RECOMMENDATIONS OF *STUDIES, PROJECTS & STRATEGIES***

# TASK 4B – POTENTIAL STUDIES, PROJECTS & STRATEGIES

## STEP 1

### INITIAL SCREENING OF *STUDIES, PROJECTS & STRATEGIES* RECEIVED

Screen for minimum TWDB rules and guidance requirements

- 1.1 Flood mitigation or floodplain management goal
- 1.2 Meets an emergency need
- 1.3 Flood problem with drainage area of 1 square mile or greater\*
- 1.4 Reduces flood risk for 100-year (1% annual chance) flood

\*except in instances of flooding of critical facilities or transportation routes or for other reasons, including levels of risk or project size, determined by the RFPG

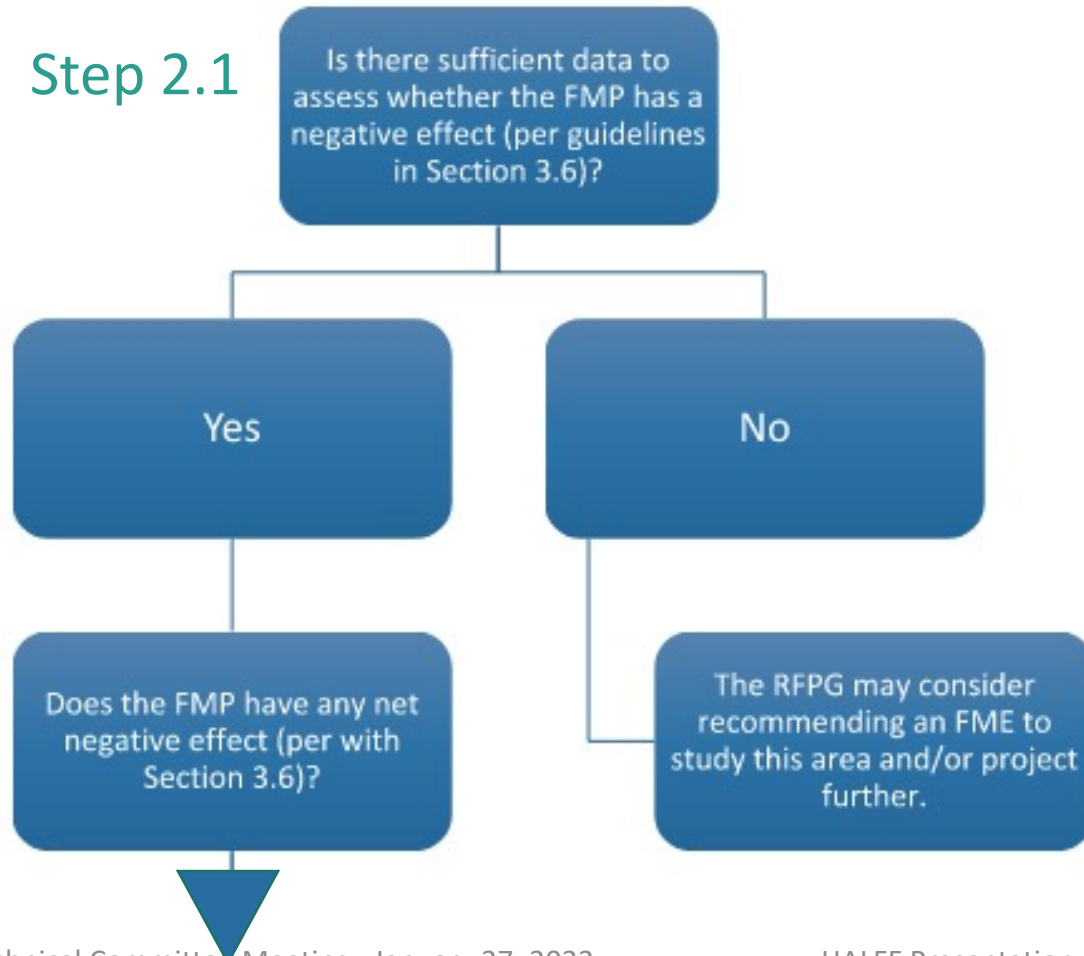
# TASK 4B – POTENTIAL STUDIES, PROJECTS & STRATEGIES

## STEP 2

### SCREENING OF *PROJECTS*

Screen per TWDB flowchart and guidance

#### Step 2.1



#### “Sufficient data”

- Hydrology & hydraulics (H&H) modeling, mapping, and basis for mitigation project analysis generally meets Section 3.5 of TWDB technical guidelines
  - Reliable
  - Minimal uncertainty

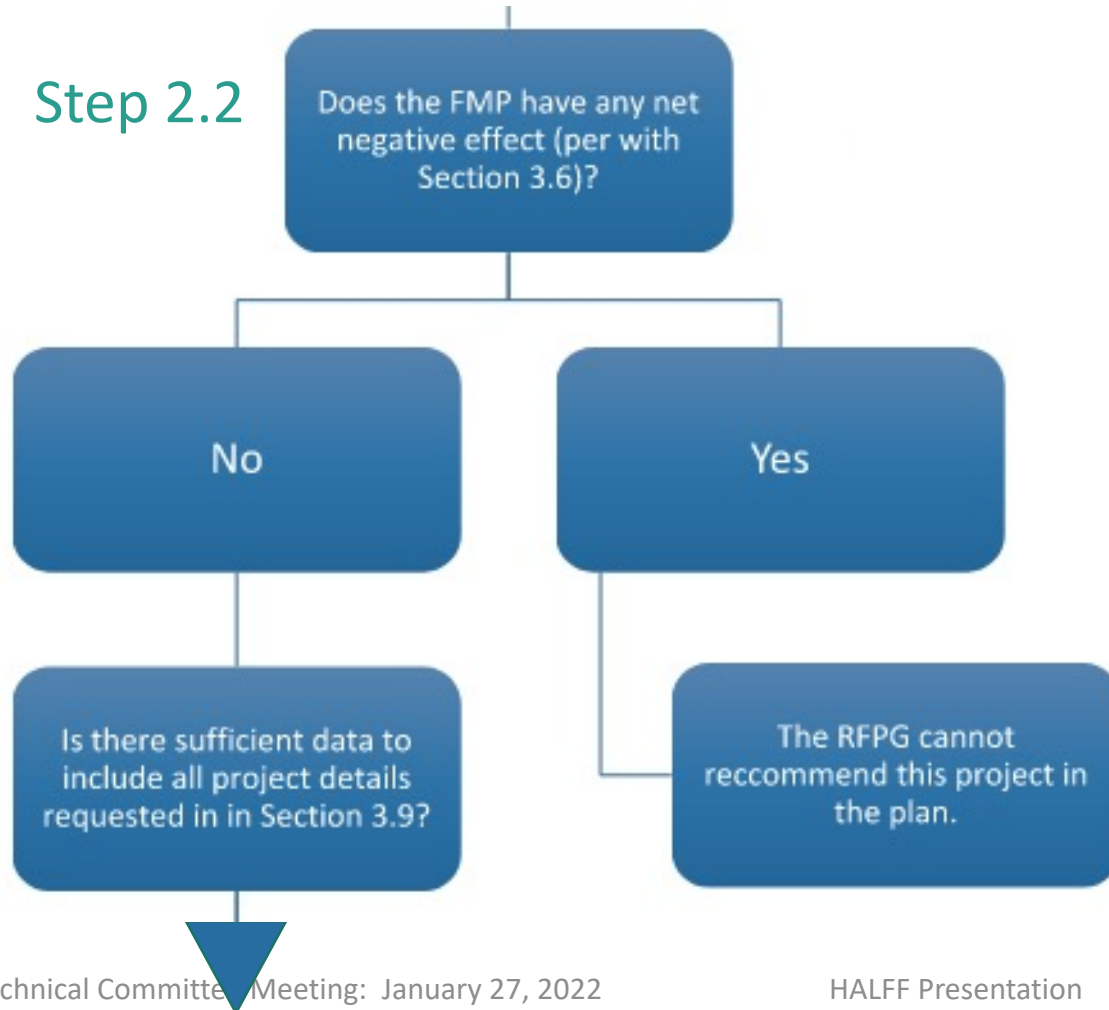
# TASK 4B – POTENTIAL STUDIES, PROJECTS & STRATEGIES

## STEP 2

### SCREENING OF PROJECTS (CONTINUED)

Screen per TWDB flowchart and guidance

#### Step 2.2



#### “Negative effect”

- For the 100-year (1% annual chance) flood event, no rise in flood elevation or discharge should be permissible.
- Projects should not:
  - Increase inundation on homes or commercial buildings
  - Increase inundation beyond ROW or easements
  - Increase inundation beyond existing drainage infrastructure capacity

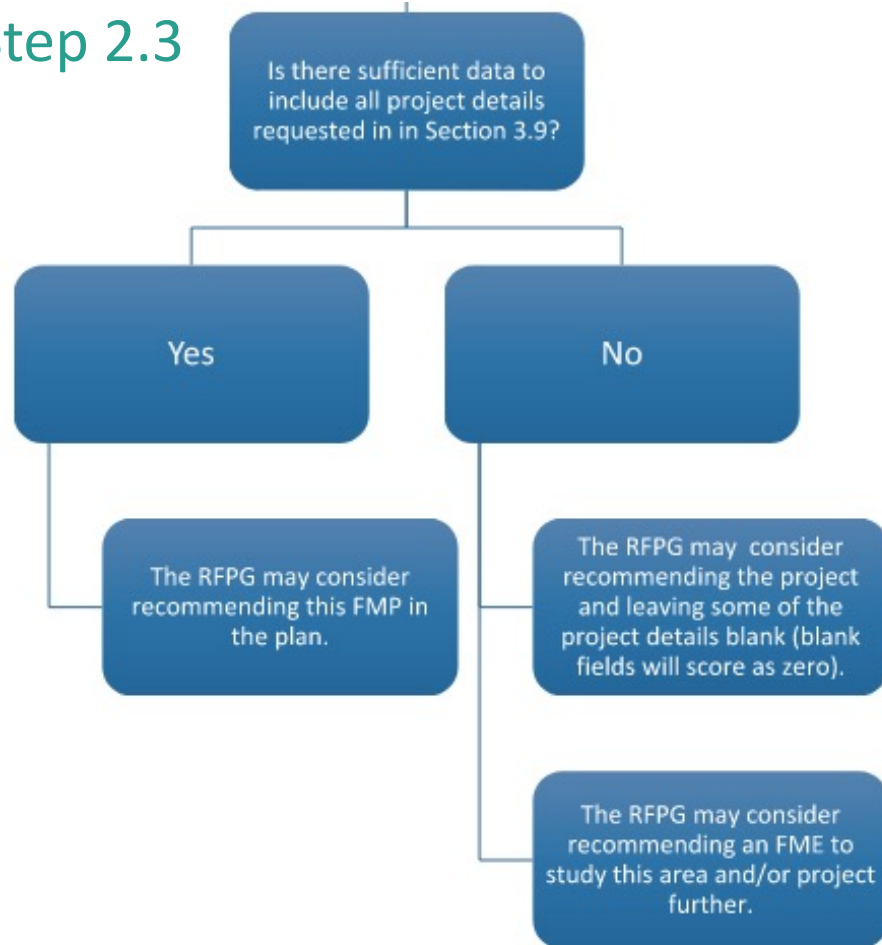
# TASK 4B – POTENTIAL STUDIES, PROJECTS & STRATEGIES

## STEP 2

### SCREENING OF PROJECTS (CONTINUED)

Screen per TWDB flowchart and guidance

#### Step 2.3



#### Section 3.9 “Project Details”

- Flood severity level metrics
- Flood risk/damage reduction metrics
- Estimated capital and O&M cost
- Benefit/Cost ratios
- Environmental benefits/impacts
- Implementation constraints
- Water supply benefits
- Others...



# TASK 4B – POTENTIAL STUDIES, PROJECTS & STRATEGIES

## STEP 3

### SCREENING OF *STUDIES*

Screen for minimum TWDB guidance requirements

#### Three General Categories of *Studies*:

- Projects (FMPs) that didn't make the cut in Step 2
- Planned flood studies or flood risk reduction alternatives analyses provided by communities
- Flood study or flood risk reduction alternatives analysis needs identified in Task 4A

3.1 If detailed H&H and mitigation alternatives analysis → *Project or Strategy*

3.2 Sensible

3.3 Reasonable planning-level cost estimate

3.4 Identified sponsor(s)

3.5 Structures, population and critical facilities at risk

3.6 Roadways at risk

3.7 Area of farm and ranch land at risk

# TASK 4B – POTENTIAL STUDIES, PROJECTS & STRATEGIES

## STEP 4

### SCREENING OF STRATEGIES

Screen for minimum TWDB guidance requirements

**“A proposed plan to reduce flood risk or mitigate flood hazards to life or property”**

- Any proposed action that doesn't qualify as an FME or FMP
- RFPG has flexibility with Strategies
- Flood study or flood risk reduction alternatives analysis needs identified in Task 4A

#### Step 1 – Initial Screening

*1.1 Flood mitigation or floodplain management **goal***

*1.2 Meets an emergency need*

*1.3 Flood problem with drainage area of 1 square mile or greater\**

*1.4 Reduces flood risk for 100-year (1% annual chance) flood*

**4.1** Planning-level cost estimate

**4.2** Identified sponsor(s)

**4.3** Estimated flood risk and flood risk reduction

# TASK 4B – POTENTIAL STUDIES, PROJECTS & STRATEGIES

## STEP 5

### DETAILED EVALUATIONS OF SELECTED *STUDIES, PROJECTS & STRATEGIES*

- 5.1 Project benefit/cost ratios > 1.0
- 5.2 Have identified a *willing* sponsor(s)
- 5.3 No known insurmountable implementation constraints or hurdles (e.g., ROW, utility conflicts, permitting, etc.)
- 5.4 Evaluate RFPG specific requirements to incorporate a project or strategy into the RFP?
  - Example: Must include X% of “other” benefits?
    - Environmental/water quality
    - Water Supply
    - Erosion/sedimentation
    - Recreational
  - Example: X% of project includes nature-based solutions?

# TASK 4B – POTENTIAL STUDIES, PROJECTS & STRATEGIES

## STEP 6

### FINAL RECOMMENDATIONS OF *STUDIES, PROJECTS & STRATEGIES*

Incorporate into the draft and final Regional Flood Plan

6.1 Public comment of Recommended FMEs, FMSs and FMPs

6.2 Initial/Final adoption

#### Technical Memorandum

- Potentially feasible
- Potentially not feasible

#### Draft Regional Flood Plan

- Recommended FMEs, FMSs and FMPs

# KEY ISSUES & QUESTIONS

## Screening of *FMSs* per Screening Step 2-3

- *“strategy must quantify the estimated flood risk being addressed and potential level of flood risk reduction”*
- Most FMSs come from Hazard Mitigation Plan – often broad and vague
- Difficult, if not impossible, to quantify flood risk/risk reduction for most FMSs (e.g., public education, flood preparedness, regulatory measures)
- Do relate to an approved Goal?
- Cull from FMS list?
- RFPG not required to recommend strategies
- RFPG could consider making general thematic recommendations

# KEY ISSUES & QUESTIONS

## Screening of *FMEs* per Screening Step 2-2

- *“study must identify structures, population, and critical facilities at risk within the flood problem area being studied”*
- Some FMEs come from Hazard Mitigation Plan – Communitywide
- Difficult, if not impossible, to identify specific flood risk targeted (e.g., non-specific area-wide buyouts, flood proofing, flood warning, education & outreach, regulatory measures)
- Do relate to an approved Goal
- Cull from FME list?

# KEY ISSUES & QUESTIONS

## Level of Flood Risk Reduction for Structural FMPs

- *FMPs required to mitigate flood risk for 100-year event (1% annual chance)*
- Some potential FMPs (low-water crossings) have been set aside as infeasible because of Level of Service
- RFPG has discretion to recommend projects with less risk reduction where mitigating for 100-year events is not feasible
- Question...is there a minimum level of flood risk reduction below which FMPs will not be considered for inclusion in the RFP? (e.g., 2-year event)
- Perhaps different minimums for different types of flood risk? (e.g., residential structures, road crossings)
- Benefit/Cost ratios will also drive decisions

# KEY ISSUES & QUESTIONS

## Cost/Benefit

- Ratio  $\geq 1.0$  required
- None currently with reliable Benefit/Cost analysis
- RFPG can recommend Benefit/Cost ratio  $\leq 1.0$  with justification
- What might justify a Benefit/Cost ratio  $\leq 1.0$ ? (e.g., critical facilities at risk)

## Knowledge Gaps

- Any area with an “apparent” flood risk? (e.g., building footprints in a “potential” 100-year floodplain)
- Areas with known/documented flood risk based on history and/or prior evaluation?

## Selection of FMEs to be Performed per Task 12

- RFPGs must approve the list of FMEs to be “performed” and additional FMPs to be identified, evaluated, and recommended
- Limitations – ability to develop to satisfy FMP requirements, cost, schedule
- Criteria/considerations



# DRAFT DECISION-SUPPORT TEMPLATES

## Purpose

- Provide standardized templates to summarize and present findings and FME/FMS/FMP recommendations
- To be completed for each potential FMEs/FMSs/FMPs after additional screening (Task 4B)
- Aid in communications with potential sponsors, other stakeholders, and the public
- Assist Technical Committee and RFPG with review and adoption of recommendations

# FUTURE TECHNICAL COMMITTEE MEETINGS

## March

- Recommend one meeting mid-March
- Review/discuss draft final lists of FMEs, FMSs, FMPs
- Consider recommendation re: FMEs to be performed per new Task 12
- Begin review of draft findings and recommendations (if available)

## April – June

- Recommend advance scheduling of two meetings per month
- Focus will be on review of draft findings and recommendations (presented in templates)

## July

- Recommend advance scheduling of one meeting to follow July 7, 2022, RFPG meeting and prior to RFPG meeting late July to adopt draft Initial Regional Flood Plan



# Wrap Up

# Region 10 Lower Colorado-Lavaca RFPG Technical Committee Meeting

**7. Public comments– limit 3 minutes per person**

**8. Discuss future committee meetings**

**9. Adjourn**