# **Region 6 - San Jacinto Regional Flood Planning Group Technical Committee Meeting** March 31, 2022 10:00 a.m. Hybrid Meeting

## Item 1: Call to Order

### Item 2: Welcome and Roll Call

# Item 3: Registered Public Comments on Agenda Items (limit of 3 minutes per person)

# Item 4: Approval of minutes a. February 03, 2022

#### San Jacinto Regional Flood Planning Group Technical Committee Meeting Minutes February 03, 2022 | 2:00 PM Trini Mendenhall Community Center – 1414 Wirt Rd. Houston, TX 77055 Hybrid Meeting

#### Roll Call:

Committee Member	Interest Category	Present / Alternate Present
Elisa Macia Donovan (Chair)	Agricultural	х
Neil Gaynor (Secretary)	Upper Watershed	x
Marcus Stuckett	Flood Districts	x
Stephen Costello (Vice Chair)	Municipalities	х
Bob Kosar	Coastal Communities	х

#### Quorum:

Quorum: Yes

Number of voting members or alternates representing voting members present: 5 Number required for quorum per current voting membership of 5:3

#### Other Meeting Attendees: \*\*

Voting: Brian Maxwell Non-Voting: Sally Bakko

Alfred Garcia (TXDOT ALT) Claudia Garcia (HCED) Cory Stull (FNI) Freese and Nichols Dena Green (FCD) Evan Adrian (Torres & Associates) Fatima Berrios Hayes McKibben Hollaway Communications James Bronikowski (TWDB) Jacob Torres (Torres & Associates) Kena Ware Maggie Puckett Mariah Najmuddin (Hollaway) Megan Ingram (TWDB) Moore, Andrew (Halff) Peggy Zahler Rachel Herr (Halff) Reem Zoun (TWDB) Stephanie Zertuche Susan Chadwick

\*\*Meeting attendee names were gathered from those who entered information for joining the Webex meeting.

All meeting materials are available for the public at: Flood Planning Group Meeting Schedule | Texas Water Development Board

#### AGENDA ITEM NO. 1: Call to Order

Ms. Donovan called the meeting to order at 2:06 pm.

#### AGENDA ITEM NO. 2: Welcome and Roll Call

Dr. Gaynor took roll call, and a quorum was established. Mr. Kosar was confirmed to be a member of the Technical Committee, per Ms. Berrios.

#### AGENDA ITEM NO. 3: Registered Public Comments on Agenda Items (limit of 3 minutes per person) Ms. Donovan opened the floor for registered public comments. Ms. Berrios stated that there were no registered public comments.

registered public comments.

#### AGENDA ITEM NO. 4: Approval of minutes – October 27, 2021

Ms. Donovan deferred to Dr. Gaynor for approval of the October 27, 2021 meeting minutes. Dr. Gaynor opened the floor for any changes, and none were made by the committee. Dr. Gaynor made motion to approve the minutes. Mr. Stuckett seconded the motion. Motion was passed for approval of the October 27, 2021 meeting minutes.

#### AGENDA ITEM NO. 5: Discussion and review of technical approaches pertinent to the development of Technical Memorandum deliverables due to the TWDB on March 7th

Mr. Stull with Freese and Nichols, Inc., the Technical Consultant, began the presentation by stating the purpose of the meeting which was to discuss future flood hazard, flood exposure, and what the process was for understanding flood risk. Mr. Stull outlined the three main takeaways and goals for the meeting and stated the goal was to reach consensus with the Technical Committee for recommendation to the planning group on the technical approach to be presented in the deliverables submitted to the Texas Water Development Board (TWDB) on the March 7th.

Mr. Moore with Halff and Associates, gave an overview of the presentation starting with the background of future flood risk, items in Task 2A and 2B of the Texas Water Development Board (TWDB) scope of work. Mr. Moore explained that there would be further discussion on the Future 100-year approach and the Future 500-year approach taking in consideration coastal and subsidence impacts.

Mr. Moore stated that the future flood risk analysis consisted of goals of flood hazard analysis, flood exposure analysis, and vulnerability analysis as identified by the Texas Water Development Board. Mr. Moore described this as a planning tool to identify who is in these future floodplains and to understand what projects might benefit them, and not a regulatory tool. Mr. Moore went on to review the four potential methods to identify future flood risk.

Mr. Stull continued to expand on the existing flood quilt and stated that all source data is based on pre-Atlas 14. Mr. Stull stated the Technical Consultant was to use Atlas 14 data and incorporate additional data as it became available. Mr. Moore stated the March 07<sup>th</sup> deliverable would consist of GIS data and maps. Mr. Costello asked to define base level engineering. Mr. Stull replied that baseline engineering was the product produced at a watershed-wide scale which was more recent using newer technologies such as the State's Solli 2D.

Mr. Moore explained that the following slides in the presentation were addressing future flood risk, based off a previous meeting and comments. Mr. Moore further explained of several factors that could change a floodplain. Mr. Moore focused on riverine and coastal flooding. Dr. Gaynor wanted Mr. Stull to comment

on subsidence on the current studies. Dr. Gaynor mentioned that the Subsidence District was conducting a study on Spring Creek looking at impacts of subsidence due to ground water pumping and requested the Technical Consultant to comment on that. Mr. Stull stated that there would be further discussion in the presentation regarding subsidence considerations.

Mr. Moore focused development and population growth stating it could potentially affect future flood risks. Ms. Donovan asked for clarification if changes in land cover would affect stormwater runoff since regulations are in place to reduce these impacts. Ms. Donovan continued to ask the Technical Consultants to look at development and growth, not just topography. Ms. Donovan asked if that was considered in these models. Both Mr. Stull and Mr. Moore replied emphasizing that previous studies and efforts would be used to form assumptions of future flood risks and were not currently producing models. Mr. Stull echoed Dr. Gaynor's mention of the study on Spring Creek being a good data point to include once the study was completed. Ms. Donovan stated a second point regarding land cover changes and how they could impact upstream and downstream. Discussion ensued.

Mr. Torres gave an overview of considerations of sea level rise. Mr. Torres continued listing estimated and historical considerations and gave a recommendation on an intermediate approach from United States Army Corps of Engineers, siting it would be middle ground in factoring sea level rise. Mr. Torres used NOAA's projection on sea level rise. Mr. Kosar asked if the coastal zone the same as the General Land Office's coastal zone. Mr. Torres replied that it was close but not identical. Mr. Torres continued stating they would coordinate with other agencies for additional data sets to establish a methodology for identifying sea level rise and subsidence impacts.

Mr. Moore stated the future flood risk identification approach would divide the region into three different sections. Using existing studies such as San Jacinto River Master Drainage Plan, Harris County Flood Control District FEMA modeling, and San Jacinto River Regional Flood Planning, Mr. Moore stated the first recommendation was having the Future 100-year as the current 500-year. Ms. Donovan asked to clarify that Atlas 14 was current revised conditions, not future. Mr. Moore agreed with Ms. Donovan and went on to explain that the plan used Atlas 14 and additional development conditions in the area. Mr. Moore pointed out that analysis showed there would be a good proxy for that. Mr. Stull stated that generally, consensus echoed in Texas Water Development Board guidance was to err on the conservative side. Mr. Costello wanted clarification on if Atlas 14 100-year was the same as the 500-year, that it wouldn't significantly change the delineations. Mr. Moore stated they were showing Existing 100-year (pre-Atlas 14) to Future 100-year, which included Atlas 14. Mr. Moore stated that with that the floodplains were similar. Discussion ensued regarding Atlas 14 and future flood analysis and recommendations for the 100-year:



Figure 1Taken from the Technical Committee meeting materials from February 03, 2022

Mr. Moore continued to the 500-year approach, and went through considerations such as increased rainfall, varying floodplain, limited mapping, and limited available future modeling. Mr. Moore stated they were taking the exiting 500-year + a buffer for the Future 500-year for each zone, respectfully. Mr. Moore went on to discuss how it made sense to come up with a tiered zone approach regarding zone designation, as described in the presentation. Zones: Zone 1 -Coastal, Zone 2 – Southern, Zone 3 – Northern and all within San Jacinto Counties. Mr. Kosar wanted to hear more on zone determinations. Mr. Moore explained that rainfall averages and topography were how the zones were designated. Dr. Gaynor noted that Cypress Creek was not included as a point and wanted to see numbers on Cypress Creek. Mr. Moore stated that Cypress Creek was complicated because it had an overflow region upstream. Mr. Moore continued by stating that Cypress Creek was not consistent with other data, so it was not brought into the averages used in the southern zone. Discussion ensued. The recommendations for each zone were outlined as follows:



Figure 2Taken from the Technical Committee meeting materials from February 03, 2022

Mr. Torres explained regarding coastal flood hazard analysis and the buffers. Mr. Torres continued the presentation and provided an overview on how sea level rise impacts would be incorporated into the recommendations. The proposed recommendations are below for the coastal zone:

Buffer Recommendation – Coastal Zone 🗜					
	Scenario	Recommended Buffer in Coastal Zone			
	Future 1% AEP with SLR (Coastal Zone)	Existing 0.2% AEP Floodplain + SLR Buffer			
	Future 0.2% AEP with SLR (Coastal Zone)	Existing 0.2% AEP Floodplain + 850 feet + SLR Buffer			
	Recommended SLR Buffer	For every 1 feet in SLR, Buffer increases by 25 feet [SLR of 0.85 feet yields a buffer of 20 feet]			

Figure 3Taken from the Technical Committee meeting materials from February 03, 2022

Mr. Torres continued to explain regarding coastal flood hazard analysis and subsidence considerations. Mr. Torres discussed the regional buffers recommendation and discussion ensued regarding the Technical Committee's comments on the subject. Mr. Torres described the recommended buffers for subsidence:

Buffer Recommendation – Regional					
	Scenario	Recommended Buffer for Subsidence			
	Future 1% AEP with Subsidence (Northern Zone)	Existing 0.2% AEP Floodplain + Subsidence Buffer			
	Future 0.2% AEP with Subsidence (Northern Zone)	Existing 0.2% AEP Floodplain + 500 feet + Subsidence Buffer			
	Future 1% AEP with Subsidence (Southern Zone)	Existing 0.2% AEP Floodplain + Subsidence Buffer			
	Future 0.2% AEP with Subsidence (Southern Zone)	Existing 0.2% AEP Floodplain + 850 feet + Subsidence Buffer			
	Future 1% AEP with Subsidence (Coastal Zone)	Existing 0.2% AEP Floodplain + Subsidence Buffer			
	Future 0.2% AEP with Subsidence (Coastal Zone)	Existing 0.2% AEP Floodplain + 850 feet + Subsidence Buffer			
	Recommended Subsidence Buffer	For every 1 feet in Subsidence, Buffer increases by 25 feet [Buffer will vary by Subsidence Zone]			

Figure 4Taken from the Technical Committee meeting materials from February 03, 2022

After clarifying Ms. Donovan's question on the recommendation, Mr. Torres went into detail on the rate for the buffer. Discussion by the Technical Committee and the Technical Consultant was had regarding slope rate calculations and variations in topography impacting calculations.

Mr. Moore explained other regions' approach and pointed out that flood exposure analysis from the scope of work was to identify who might be harmed within the region, utilizing GIS intersect to determine infrastructure in the floodplain. Mr. Moore continued to the recommendation on flood exposure and existing structures where discussion was had regarding defining the critical infrastructure list. Ms. Puckett mentioned Ms. Bakko asked the Technical Consultants to consider alignment with other groups and plans and with the same definitions. Ms. Bakko stated it was important that the flood plan for this region incorporate the same critical structures included in the congress-funded Coastal Texas study because when Congress looked at authorizing and funding a historic storm surge protection system to have inconsistencies in what we identify would be detrimental. Mr. Maxwell echoed Ms. Bakko's previous statement, explaining that all groups must be consistent with all the plans. There was agreement within the discussion and Ms. Puckett moved on to ask the group to identify and define flood map gaps. Ms. Puckett stated where they were missing data in the region there was three things to consider: purpose of data set, considerations, and thresholds. Ms. Puckett stated that the recommendations were to focus where there was FEMA mapping, base level engineering, and land cover change. The Technical Consultant recommended that they exclude hazard mapping that cannot be improved. Mr. Stull identified that the committee was to move toward region-wide Atlas 14-based coverage. Mr. Stull left the floor open for discussion and asked for recommendation from the Technical Committee of the methodologies. Mr. Stull concluded that mostly GIS data including geo-spatial data represented future flood risk. Ms. Donovan thanked the consultants for the information. Mr. Maxwell expressed that he was looking forward to participating on Technical Committee.

#### AGENDA ITEM NO. 6: Possible recommendation to allow the Technical Consultant to proceed with the development of Technical Memorandum deliverables due to the TWDB on March 7th

Ms. Donovan opened the floor to the Technical Committee members for closing thoughts. The Technical Consultants had no further input. Ms. Donavon asked for a motion to recommend the Technical Consultant's path forward. Dr. Gaynor seconded the motion. Mr. Stuckett and Mr. Costello both agreed. The motion was passed to allow the Technical Consultants to proceed with the development of the Technical Memorandum deliverables due to the Texas Water Development Board.

#### AGENDA ITEM NO. 7: Next Key Milestones and Important Dates

Ms. Donovan opened the floor for updates. Mr. Stull stated the next key milestone is March 07<sup>th</sup>. The Technical Committee will be reconvened soon on policy, per Mr. Stull. Ms. Donavan asked if the committee would have a draft of the memo prior to presenting to SJRFPG. Mr. Stull stated that the draft materials will be distributed prior to Feb 24<sup>th</sup>.

#### AGENDA ITEM NO. 8: Consider Agenda Items for the next Technical Committee Meeting

Ms. Donovan asked for items and stated the next Technical Committee meeting to be upcoming. Mr. Stull was to coordinate with Harris County on items related to policy and technical items to be included. Mr. Stull was to work with Harris County to craft what specific items in agenda would look like.

#### AGENDA ITEM NO. 9: Public Comments - limit 3 minutes per person

Ms. Donovan opened for public comments. Ms. Berrios stated that no additional requests were made for public comments.

#### AGENDA ITEM NO. 10: Adjourn

Ms. Donovan moved to adjourn the meeting at 4:27 p.m.

Neil Gaynor, Secretary

Elisa Donovan, Chair

### Item 5:

Discussion on Technical Approach for conducting the Needs Analysis (Task 4A) for potential recommendation to the San Jacinto RFPG



#### Technical Consultant Update



March 31, 2022

### Agenda



- Task 4A: Flood Mitigation Needs Analysis
  - Understand Task requirements and needs for the RFP
  - Provide feedback regarding scoring criteria used
  - Gain consensus on approach for identifying needs
- Task 3A: Minimum Standards
  - Recommendation vs Adoption
  - Overview of higher standards
  - Identify approach and refine categories of criteria for recommendation to the RFPG



## Task 4A: Flood Mitigation Needs Analysis

Task Goals:

Conduct a two-piece, big picture analysis to guide subsequent efforts by identifying:

- 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)
- Greatest known flood risk and flood mitigation needs in the region and resulting need of potential strategies and projects (FMSs and FMPs) to reduce those risks



## Task 4A: Flood Mitigation Needs Analysis

TWDB Technical Guidance for Task 4A

- the areas in the FPR that the RFPG identified as the most prone to flooding that threatens life and property;
- 2. the relative locations, extent, and performance of current floodplain management and land use policies and infrastructure located within the FPR, particularly within the locations described in paragraph (1) of this subsection;
- 3. areas identified by the RFPG as prone to flooding that don't have adequate inundation maps;
- areas identified by the RFPG as prone to flooding that don't have hydrologic and hydraulic models;
- 5. areas with an emergency need;
- 6. existing modeling analyses and flood risk mitigation plans within the FPR;
- flood mitigation projects already identified and evaluated by other flood mitigation plans and studies;
- 8. documentation of historic flooding events;
- 9. flood mitigation projects already being implemented; and
- 10. any other factors that the RFPG deems relevant to identifying the geographic locations where potential FMEs and potentially feasible FMSs and FMPs shall be identified and evaluated.

#### SAN JACINTO REGIONAL FLOOD PLANNING GROU REGION 6

### Approach

#### Deliverables

- Location map depicting basin knowledge (studies)
- Location map depicting flood risk (projects)

#### Quantify each area by FEMA HUC 12

- Granular for more detailed analysis
- Based on watershed rather than political boundary
- 108 HUC 12 boundaries in San Jacinto region
- Potentially divide up the larger coastal HUCs



Sample color map to be updated upon completion of Task 4A





Comparison of the HUC 12s to identify the locations of greatest needs

Score 1-5 based on the criteria

Score	Range	Occurrence
1	0 - 17	21
2	17 - 39	22
3	39 - 70	22
4	70 - 250	22
5	250+	21

Comparison of flooded agricultural areas

Low score = Low risk High Score = High Risk

### Approach

- Sample HUCs for demonstration purpose 120401030102 (HUC 1)
  - Rural, upper watershed
- 120401040302 (HUC 2)
  - Urban, middle watershed
- 120402030106 (HUC 3)
  - Urban, coastal influence

Scoring and statistics are subject to change based on approach recommendations and detailed review.



Sample color map to be updated upon completion of Task 4A





### 1A - Area most prone to flooding (existing) R E G I O N G

Tabulation of information related to existing flood risk

All statistics will be based on the Existing 0.2% (500-year) floodplain to correlate with anticipated Atlas 14 floodplain

- Area in the existing floodplain (square miles)
- Number of flooded structures (FS)
- Agricultural areas (square miles) (AA)
- Quantity of roadway miles (RM)
- Number of roadway crossings (RC)
- Number of critical facilities (CR)

Existing conditions will be weighted 70% for the Category 1 score



#### 1A – Area most prone to flooding (Existing) R E G I O N G







		Area	Structures	Ag. Areas	Roadways	Crossings	Critical	
Legend	HUC 1	9	380	0.02	11	15	0	
<ul> <li>Critical Facilities</li> <li>Crossings</li> </ul>	HUC 2	19	13,352	0.05	242	43	117	
Roadway	HUC 3	14	4,503	0.23	40	6	0	
Structures Agricultural Land		Area	Structures	Ag. Areas	Roadways	Crossings	Critical	Score
Structures Agricultural Land	HUC 1	Area 2	Structures 3	Ag. Areas 2	Roadways 2	Crossings 3	Critical 1	Score 2.5
Structures Agricultural Land	HUC 1 HUC 2	Area 2 5	Structures 3 5	Ag. Areas 2 3	Roadways 2 5	Crossings 3 5	Critical 1 4	Score 2.5 4.5



### 1B – Area most prone to flooding (Future)

Tabulation of information related to **future flood risk** 

All statistics will be based on the Future 0.2% (500-year) floodplain to correlate with anticipated Atlas 14 floodplain

- Area in the existing floodplain (square miles)
- Number of flooded structures (FS)
- Agricultural areas (square miles) (AA)
- Quantity of roadway miles (RM)
- Number of roadway crossings (RC)
- Number of critical facilities (CR)

Future conditions will be weighted 30% for the Category 1 score since data is more approximate than existing conditions



#### 1B – Area most prone to flooding (Future)







		Area	Structures	Ag. Areas	Roadways	Crossings	Critical	
Legend	HUC 1	14	1,227	0.03	25	40	0	
<ul> <li>Critical Facilities</li> <li>Crossings</li> </ul>	HUC 2	28	27,653	0.07	346	197	382	
Roadway	HUC 3	19	103,280	0.32	80	42	52	
Structures Agricultural Land		Area	Structures	Ag. Areas	Roadways	Crossings	Critical	Score
Structures Agricultural Land	HUC 1	Area 3	Structures 2	Ag. Areas 2	Roadways 2	Crossings 3	Critical 1	Score 2.2
Structures Agricultural Land	HUC 1 HUC 2	Area 3 5	Structures 2 5	Ag. Areas 2 3	Roadways 2 5	Crossings 3 5	Critical 1 5	Score 2.2 4.7

#### 2 – Floodplain Management, Land Use, Infrastructure

- NFIP Participation indicates floodplain standards for new development
- Drainage Criteria Manual (DCM) typically regulates detention requirements and local drainage infrastructures
- Higher floodplain standards (HFS) indicates additional guidance and requirements for new development such as higher finished floor elevations
- CRS Score indicates the level of higher standards which allows for a reduction in flood insurance for the community



CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS

INFRASTRUCTURE

L. LOETHEN, P.E., C

JULY 2009

DESIGN MANUA

) ENGINEERING





#### 2 – Floodplain Management, Land Use, Infrastructure







REGION 6

	NFIP	DCM	HFS	CRS	Score
HUC 1	1	1	1	5	2
HUC 2	1	1	1	1	1
HUC 3	1	1	1	1	1

#### 3 – Adequacy of Floodplain Maps 4 – Adequacy of Floodplain Models



Derived scoring based on type of available mapping and date of implementation

- No mapping (very few areas)
- Zone A (approximate limits and no elevations)
- Pre 2008 (pre-LiDAR data)
- BLE (updated topography but approximate methods)
- 2008 2018 (Previous LiDAR dataset)
- 2018 Newest Lidar and Atlas 14





# 3 – Adequacy of Floodplain Maps 4 – Adequacy of Floodplain Models







	0 2018 +	1 2008- 2018	2 BLE	3 Pre 2008	4 Zone A	5 No Map	Score
HUC 1		Х					1
HUC 2				Х			3
HUC 3				Х			3

### 5 – Emergency Need

Need as identified by the RFPG

- FEMA Repetitive Losses/Severe Repetitive Losses (RL/SRL)\*
- Critical Facilities within existing 0.2% (CF)
- Hurricane Evacuation Routes (miles) (HER)



Brazoria, Chambers, Galveston, Harris, and Matagorda Hurricane Evacuation Zip-Zones Coastal, A. B. C

REGION 6



Evacuation Corridors
 Evacuation Connection:
 Other Roads
 County Boundary

\*Outstanding data gap, will be analyzed/refined when data is provided



#### 5 – Emergency Need







Legend		RL/SRL	CF	HER		RL/SRL	CF	HER	Score
<ul> <li>Critical Facilities</li> <li>FEMA Repetitive</li> </ul>	HUC 1	0	0	2	HUC 1	0	1	1	0.7
- Loss Hurricane	HUC 2	79	117	11	HUC 2	3	4	4	3.7
Evacuation Routes	HUC 3	0	0	6	HUC 3	0	1	3	1.3



# 6 – Existing Modeling Analysis and Mitigation Plans

Master Drainage Plans provide additional information to floodplain mapping including:

- Infrastructure level of service
- Local drainage information
- Mitigation alternatives
- Implementation and policy plans
- HUC coverage within a master drainage plan
  - 1 = yes
  - 3 = partial
  - 5 = no





# 6 – Existing Modeling Analysis and Mitigation Plans





	Score
HUC 1	5
HUC 2	3
HUC 3	3





### 7 – Identified Flood Mitigation Projects

- Identified projects from plans/studies that are not implemented nor funded
- Focus of this analysis is Gaps and Needs
- Proposed projects do not capture the knowledge gaps nor the areas of greatest needs
- Recommend not including in the assessment

### 8 – Documentation of Historical Storms



- Number of FEMA claims within each HUC\*
- Total of property damage of these claims\*
- Number of fatalities\*\*



\*Outstanding data gap, will be analyzed/refined when data is provided

\*\*Data may be included if spatially available for the entire region



#### 8 – Documentation of Historical Storms







	Number of Claims	Claim Amount	Number of fatalities
HUC 1	5	\$4,000	0
HUC 2	20	\$205,000	0
HUC 3	7	\$314,000	0

	Number of Claims	Claim Amount	Number of fatalities	Score
HUC 1	2	1	1	1.3
HUC 2	5	4	1	3.3
HUC 3	3	4	1	2.7



#### 9 – Implemented Flood Mitigation Projects

Number of construction projects ongoing that would reduce flood risk for the HUC

Reverse ranking as constructed projects will reduce flood risk





#### 9 – Implemented Flood Mitigation Projects







	Number of Projects	Score
HUC 1	13	3
HUC 2	56	1
HUC 3	20	2

### 10 – Other Factors



- Social Vulnerability Index (SVI) indicates how quickly an area may be able to recover to flooding events
- Low SVI may be able to respond more successfully than High SVI areas
- Score is applied to the entire HUC, not just the floodplain as flooding can occur outside of the identified flood hazard areas





#### 10 – Other Factors (SVI)









	1 0-0.41	2 0.41-0.46	3 0.47-0.53	4 0.54- 0.61	5 0.61+
HUC 1					Х
HUC 2			Х		
HUC 3		Х			

#### Flood Mitigation Needs Analysis



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)

Greatest **known flood risk** and flood mitigation needs in the region and resulting need of potential strategies and projects (FMSs and FMPs) to reduce those risks

ltem	Knowledge Gap	Flood Risk Need
1		Х
2		Х
3 & 4	Х	
5		Х
6	Х	
8		Х
9	Х	Х
10		Х

#### **Total Score**

#### Combination of all categories

#### Knowledge Gap

	3 & 4	6	9	Score
HUC 1	1	5	3	9
HUC 2	3	3	1	7
HUC 3	3	3	2	8





#### Flood Risk Need

	1a (70%)	1b (30%)	2	5	8	9	10	Score
HUC 1	2.5	2.17	2	0.67	1.33	3	5	14.4
HUC 2	4.5	4.67	1	3.67	3.33	1	3	16.6
HUC	3.17	3.83	1	1.33	2.67	2	2	12.4





#### **Next Steps**

- Implement RFPG Technical Committee comments
- Continue updating data for all HUCs within region
- Presentation of approach to RFPG (4/14)
- Chapter incorporation to regional flood plan



Sample color map to be updated upon completion of Task 4A

## Item 6: **Discussion on Minimum Standards to** recommend or adopt in the regional flood plan (Task 3A) for potential recommendation to the San Jacinto RFPG

# Task 3A: Floodplain Management Practices

#### Guidance:

- Evaluation of floodplain management practices
  - NFIP participation
  - Collect and inventory codes and criteria
  - Higher Standards
  - Level of enforcement
  - Level of floodplain management practices
  - Develop ExFpMP Table and associated map

# Task 3A: Floodplain Management Practices

#### Guidance:

- Evaluation of floodplain management practices
- Recommendations on floodplain management practices
  - <u>*Recommend*</u> floodplain management standards for consideration by regulatory entities
  - <u>Adopt</u> minimum standards required to be adopted by local entities prior to the RFPG including any FMEs, FMSs, or FMPs
  - Consider how RFPG goals tie-in to identified standards

#### **Regional Criteria Overview**





### **Regional Criteria Overview**



NFIP Minimum Standards:

- Elevate FFE to the BFE (effective 100-year)
- Prohibit encroachment in regulatory floodway unless H&H analysis shows no increase in flood levels during base flood event

Higher Standards:

- Require FFE above 500-year
- Use of minimum detention rates
- Freeboard requirements
- Considerations for Atlas14
   Rainfall
- Compensatory Storage in 100year and 500-year floodplains
- Developed H&H Criteria
- Developed Criteria for Nature-Based Solutions









### **Purpose & Considerations**



#### Purpose:

- Proactive planning & policy mitigates cost of future damage
- Consistent approaches watershed-wide; opportunity for regional coordination

#### Considerations:

- Goals adopted by the San
   Jacinto RFPG
- Limitations on funding eligibility in the future (recommend vs. adopt)
- Differences from upper watershed to coastal areas
- First Cycle of flood planning with opportunity for future amendment



indicates those entities that have implemented *some* higher standards beyond NFIP minimums

#### Brainstorm



Examples previously discussed:

- Participation in the NFIP
- Defining Region-wide No Adverse Impact Policy
- Establish FFE Minimums
- Encourage Use of Best-Available Rainfall Data (Atlas 14)
- Compensatory Storage Requirements (100-year, 500-year)
- Development of detailed H&H Analysis Criteria/Requirements
- Formation of Voluntary Buyout Programs; Incentivizing the Preservation of Agricultural or Natural Land

#### Next steps



- Incorporate Technical Committee Feedback
- Develop slate of recommendations based on Technical Committee feedback to present to RFPG at 4/14 meeting
- Refine language and draft minimum standards based on RFPG feedback
- Vote to recommend or adopt minimum standards at May RFPG meeting
- Incorporation of Documentation in Chapter 3

### Item 7: Next Key Milestones and Important Dates

### Item 8: Consider Agenda Items for the next Technical Committee Meeting

# Item 9: Public Comments – limit 3 minutes per person

# **Item 10:** Adjourn