Texas Water Development Board

P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

October 13, 2022

Mr. Travis Pruski
Senior Planner
Nueces River Authority
200 E Nopal St # 206
Uvalde, TX 78801

RE: Texas Water Development Board Comments on Region 13 Nueces RFPG's Draft Regional Flood Plan Contract No. 2101792498

Dear Mr. Pruski,

Texas Water Development Board (TWDB) staff has performed a review of the draft regional flood plan submitted by August 1, 2022, on behalf of the Region 13 Nueces Regional Flood Planning Group (RFPG). The attached comments will follow this format:

- **LEVEL 1**: Comments and questions that must be satisfactorily addressed to meet specific statute, rule, or contract requirements; and,
- **LEVEL 2**: Comments and suggestions for consideration that may improve the readability and/or overall understanding of the regional flood plan

Please note that while Level 2 comments are provided for the planning group's consideration, Level 1 comments must be addressed prior to the submission of final Regional Flood Plans by the January 10, 2023, deadline.

It is expected that the data contained in all written report sections, tables, excel spreadsheets, and the geodatabase will be consistent throughout. In cases where there are any discrepancies in data, the geodatabase dataset will supersede other data and the TWDB will utilize the geodatabase dataset when developing the state flood plan.

TWDB review of the draft regional flood plans is comprised of many spot checks of data across several deliverables and is not an all-encompassing data review. Please note that TWDB's review does not imply accuracy of the draft regional flood plan. Each RFPG is responsible for ensuring the completeness and accuracy of the plan and all associated data.

To facilitate efficient and timely completion, and Board approval, of your final regional flood plan, please provide your TWDB Regional Flood Planner with a draft of your response to these comments (e.g., informally via email) on the draft RFP as soon as possible. This will allow TWDB staff to provide preliminary feedback on proposed RFPG responses to assist you in meeting your RFPG's timeline for approval and submission to TWDB of the final plan by the deadline. This will also help to minimize the need for subsequent follow-up following final regional flood plan submission to TWDB.

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Title 31 TAC §361.50(c) requires the regional flood planning group to consider any written or oral Comment received from the public on the draft regional flood plan (RFP); and the EA's written comment on the draft RFP prior to adopting a final RFP. Section 361.50(d) requires the final adopted plan include summaries of all timely written and oral comments received, along with a response, for each, explaining any resulting revisions or why changes are not warranted. Copies of TWDB's Level 1 and 2 written comments and the RFPG's responses must be included in the final, adopted RFP. While the comments included in this letter represent TWDB's review to date, please anticipate the need to respond to additional comments or questions, as necessary, regarding data integrity related to the Board's State Flood Plan Database (that is built from the 15 regional databases), even after submission of the final plan to TWDB.

Standard to all RFPGs is the need to include certain content in the final RFPs that was not yet available at the time that drafts were prepared and submitted. In your final RFP, please be sure to incorporate in the final submitted plan, documentation, for example, that a public meeting to receive comments was held as required and that comments received on the draft RFP were considered in the development of the final plan [31 TAC §361.50(d)].

If you have any questions regarding these comments or would like to discuss your approach to addressing any of these comments, please do not hesitate to contact Tressa Olsen of our Flood Planning staff at (512) 475-1908 or via email at tressa.olsen@twdb.texas.gov. TWDB staff are available to assist you in any way possible to ensure successful completion of your final regional flood plan.

Lastly, on behalf of TWDB, I would like to thank you, the sponsor, the RFPG members and the technical consultants for accomplishing this major milestone of a herculean effort and advancing the flood risk reduction mission in our state.

Sincerely,

Reem J. Zoun, PE, CFM, ENV SP
Director
Flood Planning

Attachment: TWDB Comments

Cc: LJ Francis, RFPG Chair
Kristi Shaw, HDR Inc.
Bryan Martin, HDR Inc.
Matt Nelson, TWDB
James Bronikowski, TWDB
Tressa Olsen, TWDB

TWDB Comments on Region 13 Nueces Regional Flood Planning Group's Draft Regional Flood Plan (10/13/2022) and Responses

Level 1: Comments and questions must be satisfactorily addressed to meet statutory, agency rule, and/or contract requirements.

General Comments

1. Please ensure that all "Submittal requirements" identified in each of the Exhibit C Guidance document sections are submitted in the final flood plan.
   Response: *Reviewed list of submittal requirements in each of the Exhibit C Guidance document sections and confirmed items have been submitted in the final flood plan.*

SOW Task 1

2. Existing Infrastructure GIS Feature Class, *ExFldInfraPol*: Several required fields appear to contain invalid entries, including 'DEF_TYPE' and 'NATBUILT'. Please ensure all required fields are populated with valid entries per Exhibit D Table 5 [31 TAC §361.31].
   Response: *HDR revisited the geodatabase submitted in August and it appears that the fields were filled in properly with no "NULL" values used. Upon further discussion with TWDB, TWDB staff verified that both fields contain valid entries and no change is needed.*
3. Existing Infrastructure GIS Feature Classes, *ExFldInfraPt* and *ExFldInfraAll*: Please describe in the Regional Flood Plan how low water crossings were identified in the region per Exhibit D Table 7 [31 TAC §361.31].
   Response: *By definition, low-water crossings are defined where a creek crosses a road that is low enough to be subject to frequent flooding during storm events or during a 50 percent annual chance (2-year) storm event.*
   Low Water Crossings were identified in the region as follows:
   (1) 548 low-water crossings were identified from TWDB HUB low water crossing data dated May 2021.
   (2) 22 low-water crossings were identified from available TxDOT data to be subject to frequent flooding
   (3) 6 low water crossings were identified by the City of Beeville to be subject to frequent flooding.
   The above description has been added to Chapter 1.11.
4. Existing Projects GIS Feature Class, *ExFldProjs*: Several required fields appear to contain invalid entries, including 'COST', 'COMP_YR', and 'EXHAZ_ID'. Please confirm that all NULL values utilized for numeric fields represent either "not applicable" or "unknown". Please ensure all required fields are populated with valid entries per Exhibit D Table 8 [31 TAC §361.32].
   Response: *For the "COST" field, zero was used to indicate that a cost was unknown. This will be changed to "NULL" for fields where the numerical value is unknown. For the "COMP_YR" field, info on the expected date of completion was not available for these projects. These will be marked as "NULL". For the "EXHZA_ID" field, NULL values are for any project that overlapped too many floodplain polygons and exceeded the number of characters allowed by the schema (255 character limit).*
5. Existing Projects Table (Exhibit C Table 2): Please include the expected year of completion for all ongoing projects. [31 TAC §361.32(3)].

Response: *There are 93 ongoing projects identified in the region and for most the expected year of completion is unknown. We have reviewed our records and reached back out to project sponsors to further complete this information. As a result, we are now able to report the expected year of completion for 16 of the 93 ongoing projects and the geodatabase has been updated accordingly.*

SOW Task 2A

6. Existing Condition Flood Risk Analysis: Please include an in-text summary of total land areas (square miles) of each flood risk by flood risk type, county, region, and frequency in Chapter 2 of the regional flood plan, per Submittal requirement #2 of Exhibit C Section 2.2.A.1 [31 TAC §361.33].
   Response: *HDR added an in-text summary of total land area at flood risk with a summary of square miles of 1% annual chance flood inundation provided by county and flood type (riverine, coastal, urban). See Chapter 2.1.1.6.*
7. Existing Condition Flood Exposure (Exhibit C Table 3): Please ensure that the value for 'Population' is the max of day or night.
   a. Please ensure that values for Day and Night Populations are consistent with the *ExFldExpAll* GIS Feature Class.
   b. Please ensure that the feature counts for both Residential Structures and total Structures are consistent with the *ExFldExpAll* GIS feature class [31 TAC §361.33].

   Response: *The value in the table has been revised to summarize the day and night population at the county level and then uses the maximum.*
8. Existing Condition Flood Exposure GIS Feature Class, *ExFldExpAll*: Please describe how low water crossings were identified in the region per Exhibit D Table 14 [31 TAC §361.33(c-e)].
   ***Response*:** *A description of how low-water crossings were defined and identified was added to Chapter 1.11. A reference was added in Chapter 2.1 to direct the reader to Chapter 1.11 for more information on how LWCs were identified).*
9. Model Coverage: There appear to be inconsistencies between related text, GIS Feature Class (*ModelCoverage*), and map deliverable (Map 22). For example, the in-text map shows stream coverage while *ModelCoverage* shows six detailed model boundaries, and Map 22 in the Appendix shows BLE and detailed model boundaries along county boundaries. Please ensure consistency between all related deliverables.
   Response: *Per discussions with TWDB, model coverage should at a minimum include: (1) models associated with FMPs (at this time R13 does not have any FMPs and thus there are no models associated with FMPs); (2) models generated or modified by the RFPG for use in the plan (at this time there were no models modified for use in the plan). TWDB did state that any model information beyond the two categories above would be appreciated but are not required. HDR believes it would be of value to show where 'detailed' and 'approximate' models are available. HDR has updated the report text, GIS Feature Class, and modeling map deliverables.*

SOW Task 2B

10. Future Condition Flood Risk Analysis: Please include an in-text summary of total land areas (square miles) of each flood risk by flood risk type, county, region, and frequency in Chapter 2 of the regional flood plan, per Submittal requirement #2 of Exhibit C Section 2.2.B.1 [31 TAC §361.34].
    Response: *HDR added an in-text summary of total land area at flood risk with a summary of square miles of 1% annual chance flood inundation provided by county and flood type (riverine, coastal, urban). See Chapter 2.2.1.11.*
11. Future Condition Flood Hazard Map (Exhibit C Map 8): Please include coastal and local types of flooding as applicable or create an additional set of maps to display this required information [31 TAC §361.34(b)(5), Exhibit C Section 2.2.B.1].
    Response: *An additional set of maps as part of the Map 4 sets (existing) and Map 8 sets (future) have been created to display the types of flooding, which are considered riverine, coastal, and pluvial. Note, the original Fathom data had 'pluvial' and 'fluvial' floodplain polygons. The majority of pluvial flood type came from the Fathom datum.*
12. Existing vs. Future Hazards Map (Exhibit C Map 10): Please update the map to depict floodplain extent increases versus broad buffer polygons [31 TAC §361.34].
    Response: *Maps were created for each subregion to depict existing vs. future flood hazard boundaries, for both 1% and 0.2% annual chance storm events.*
13. Future Condition Flood Exposure text: The number of structures at risk under existing conditions is ~60,000 (page 2-22) while the number of structures at risk under future conditions is 73,000, a difference of ~13,000 however the text on page 2-33 lists a difference of 4,000 structures. Please review and revise, as necessary. It is expected that the numbers in the draft plan report and all related, tables, excel spreadsheet, and the geodatabase will be consistent. In cases where there are discrepancies between report text, tables, and the geodatabase dataset, the TWDB will utilize the geodatabase dataset for the state flood plan [31 TAC §361.34].
    Response: *The reported numbers have been reviewed and revised so that text, tables, and the geodatabase are consistent.*

SOW Task 3A

14. Existing Floodplain Management Practices GIS Feature Class, *ExFpMp*: There appear to be invalid entries populated for required fields. For example, "I do not know" was populated for the required field, 'LEV_ENFC'. Please ensure only valid entries are used per Exhibit D Table 20 [31 TAC §361.35, Exhibit D Section 3.7].
    Response: *The valid entries for 'LEV_ENFC' are "High, Moderate, Low, None, or Unknown." The plan feature class designated floodplain management practices as "Low Activity, Moderate Activity, and I Do Not Know". The feature class fields have been updated to reflect valid designations. "Unknown" was be used for blank fields.*

SOW Task 3B

15. Goals GIS Feature Class, *Goals*: It appears that the required field 'RESIDUAL' contains only NULL values. Please ensure all required fields are populated with valid entries per Exhibit D Table 21 [31 TAC §361.36].
    Response: *The 'RESIDUAL' field in the feature class was updated to "Unknown" rather than NULL.*

SOW Task 4B

16. Flood Management Evaluations GIS Feature Class, *FME*: Several required fields contain NULL values. For example, 'REDSTRUCT100' and 'REMSTRUC100'. Please confirm that all NULL values are utilized for numeric fields represents either 'not applicable' or 'unknown'. Please ensure all required fields are populated with valid entries per Exhibit D Table 23 [31 TAC §361. 38].
    Response: *Required fields have been reviewed and filled in with valid entries.*
17. Flood Mitigation Projects GIS Feature Class, *FMP*: Several required fields contain NULL values. For example, 'REDSTRUCT100' and 'REMSTRUC100'. Please confirm that all NULL values are utilized for numeric fields represents either 'not applicable' or 'unknown'. Please ensure all required fields are populated with valid entries per Exhibit D Table 24 [31 TAC §361. 38(c-e)].
    Response: *The fields listed are N/A or unknown at this time. All other fields have been filled in per guidance. Per TWDB input on 11/10/2022, No change is needed to the data. For the fields REDSTRUCT100 and REMSTRC100, Null is acceptable when used for "not applicable" or "unknown".*
18. Flood Management Strategies GIS Feature Class, *FMS*: Several required fields contain NULL values. For example, 'REDSTRUCT100', 'REMPOP', and 'NRNC_COST'. Please confirm that all NULL values are utilized for numeric fields represent either 'not applicable' or 'unknown'. Please ensure all required fields are populated with valid entries per Exhibit D Table 25 [31 TAC §361. 38(d)].
    Response: *The fields listed are N/A or unknown at this time. All other fields have been filled in per guidance. For "NRNC_COST" there was no "Estimated nonrecurring, noncapital cost in dollars" at this time and zero was used. Per TWDB input on 11/10/2022, Zero is appropriate for NRNC_COST when there is no non-recurring, non-capital cost. No change is needed to the data.*

    An additional comment was provided by TWDB on 11/10/2022- The entry in 'SPONSOR' for FMS_ID 13000052 should be an Entity_ID instead of text "Texas Parks and Wildlife Department". HDR added a Texas Parks and Wildlife Entity to the "Entities" layer with ID 00003593. It is a merge of all the TPWD parks within the region.

SOW Task 5

19. Flood Management Evaluation (FME) Recommendations (Exhibit C Table 10): All recommended FMEs shall have a "Quantitative reporting of the estimated study cost" in the table and the geodatabase. For example, FME ID 131000177 appears to be missing this value in the Exhibit C table [31 TAC §361.38 (i)(6)(E)].
    Response: *Noted. A cost has been provided for FME ID 131000177.*

SOW Task 6B

20. Contributions and Impacts to Water Supply: In Table 6-5, please include the estimated quantified annual volume of water associated with the "Nueces River Diversion to CCR" FMS [31 TAC §361.41].
    Response: *This strategy has not been evaluated in the Regional Water Plan or State Water Plan and does not have an annual volume of water associated with it at this time. Based on*

additional guidance from the TWDB on 12/2/22, in order for the Nueces River Diversion to CCR project to be included in the Plan, it must include an estimated annual water supply volume. Therefore, this strategy has been removed from the recommended FMS list for the Final Plan. Should additional information be made available by other studies by May 2023 to quantify the water supply volume provided by this strategy, this proposed FMS will be considered by the Nueces Regional Flood Planning Group for inclusion in the Revised Plan (due to TWDB in July 2023).

SOW Task 9

21. Flood Infrastructure Financing Analysis: Please include a discussion about whether an acceptable minimum percent survey completion was achieved [31 TAC §361.44, Exhibit C Section 2.9].
    Response: *The information included in the project financing discussion was collected during an initial survey sent out to city/county representatives and additional requests during phone interviews/roadshow discussions. Limited responses were received on the survey due most likely to changes in staff and capacity of city/county personnel who often fill multiple organizational roles for the rural communities in the region. HDR added in-line text to Chapter 9 including effectiveness of the survey methodology, percentage of survey completion, and acceptability of the response rate within the context described above.*

Level 2: Comments and suggestions for consideration that may improve the readability and overall understanding of the regional flood plan.

General Comments

22. To better align with our agency's preferred nomenclature, please consider using the name, "Cursory Floodplain Data" instead of "Fathom" or Cursory Fathom Data" throughout the regional flood plan.
    Response: *The report and associated maps have been updated to reflect TWDB's preferred nomenclature. No changes will be made to the GIS feature classes, specifically the ExFldHazard and FutFldHazard layers.*
23. Some in-text maps included throughout the regional flood plan appear blurry on the printed page. For example, Figures ES-1-3 and 1-4. Please consider steps to improve legibility when printed.
    Response: *In-text maps have been reviewed for legibility and the resolution improved where possible.*
24. When hyperlinks are included within the text, please consider including the full URL in a footnote or in-text parentheses so that those reading physical copies of the plan can easily access the source material. For example, funding sources listed throughout Chapter 9.
    Response: *The full URL information has been provided for hyperlinks.*
25. To aid in reader comprehension, please consider reviewing the text for tense agreement throughout.
    Response: *The document has been reviewed for tense agreement throughout and updated where necessary.*

Executive Summary:

26. Please consider including Chapter 2 summary data regarding existing and future flood risk.
Response: *A summary of the total land at risk of 1% annual chance flooding was added for both existing and future conditions to the executive summary.*

SOW Task 1

27. Existing Flood Projects GIS Feature Class, *ExFldProjs:* For the field 'EXHAZ_ID', please confirm that all "NULL" or "999999" values used represent either "not applicable" or "unknown".
Response: *The 47 ExFldProjs boundaries that have NULL's are too large and cross too many ExFldHazard polygons to list all of the ID's with the 255 character limit. Per TWDB input on 11/10/2022, it is appropriate to use NULL when there are too many to fit the field. No change needed.*
28. Watersheds GIS Feature Class, *Watersheds*: Please consider populating the applicable ID fields to associate the watershed feature class with identified FME/FMS/FMP.
Response: *Completed.*
29. Deficient Infrastructure Map (Exhibit C Map 3): Please consider including other deficient features, which may include levees, wetlands, etc.
Response: *HDR investigated other deficient features. In the data collection process, 8 levees were identified within Region 13. USACE did not flag any of the 8 levees as deficient. An additional location of deficient infrastructure (The Euclid Pump Station in Aransas Pass) was identified and added to the Deficient Infrastructure Map.*
30. Existing Projects Table (Exhibit C Table 2): Please note that Bee County has notified TWDB that they do not intend to proceed with Project 13000009 "Flood Early Warning System, Phase 1" using TWDB Flood Infrastructure Fund financing. Please consider updating, as necessary.
Response: *Removed as suggested. GIS tables and maps have been updated accordingly.*
31. Planning Area Description text: Please provide a description of how Low Water Crossings were identified within the text of Chapter 1.
Response: *A description of low water crossings and how they were identified has been added to Table 1.8.*

SOW Task 2A

32. Existing Condition Flood Hazard Map (Exhibit C Map 4): Please consider including a description or footnote of what "Other" Existing Flood Hazards include in the region.
Response**:** *'Other' has been replaced with 'Reported Flood Prone Area of Unknown Frequency'. These flood prone areas were identified during stakeholder outreach efforts and included in the plan when located outside 1% and 0.2% annual chance flood extents.*
33. Existing Condition Flood Exposure GIS Feature Classes, *ExFldExPol* and *ExFldExpAll*: Multiple cells have "0" entries for required fields 'POP_DAY', 'POP_NIGHT', and 'SVI', which may be acceptable for vacant or unknown buildings. Please consider reviewing data for accuracy.
Response**:** *HDR only considered associating population to building footprints. Ag Land (in ExFldExpPol) did not have an associated population. After confirming with TWDB, "SVI" had been calculated from the Census tracts data and has no NULL values. Some of the census tracts had an SVI of -999 which is also reflected in the Vulnerability layer. These -999 values were*

removed when averaging the SVI for the county tables. Per TWDB input on 11/10/2022, these approaches are reasonable, and no change is needed to the data.

SOW Task 2B

34. Future Condition Flood Hazard Map (Exhibit C Map 8):
    a. Please consider including a footnote with a description on "Other" Existing Flood Hazards.
    b. There appears to be a missing "%" sign next to "0.2" Annual Chance in the legend.

    ***Response*:**

    a. *Other' has been replaced with 'Reported Flood Prone Area of Unknown Frequency'. These flood prone areas were identified during stakeholder outreach efforts and included in the plan when located outside 1% and 0.2% annual chance flood extents.*

    b. Corrected.
35. Future Condition Flood Exposure GIS Feature Classes, *FutFldExpPol* and *FutFldExpAll*: Multiple cells have "0" entries for required fields 'POP_DAY', 'POP_NIGHT', and 'SVI', which may be acceptable for vacant or unknown buildings. Please consider reviewing data for accuracy.

    Response: *HDR only considered associating population to building footprints. Ag Land (in ExFldExpPol) did not have an associated population. After confirming with TWDB, "SVI" had been calculated from the Census tracts data and has no NULL values. Some of the census tracts had an SVI of -999 which is also reflected in the Vulnerability layer. These -999 values were removed when averaging the SVI for the county tables. Per TWDB input on 11/10/2022, these approaches are reasonable, and no change is needed to the data.*

SOW Task 4A

36. Greatest Gaps Map (Exhibit C Map 14). It appears that each of the three maps provided prioritized risk thus making it difficult to visually identify gaps. Please consider reviewing and revising as appropriate for legibility.

    Response: *The intent of the maps is to show where flood risks are high and where studies/projects, detailed mapping, and floodplain management is lacking. It is challenging to depict where the flood risk is great in relation to the gaps for these 3 areas. Thus, the report provides a summary table which lists areas of greatest flood risk in relation to vulnerability, exposure, and modeling/study/management gaps. High risk areas with multiple 'Y' values represent the greatest gap.*
37. Greatest Gaps Map (Exhibit C Map 14). Please provide a single map that only depicts the greatest gaps [31 TAC §361.37, Exhibit C Section 2.4.A].

    Response: *See response to Comment No.35 above. A summary table was used to convey the greatest gap areas.*
38. Streams GIS Feature Class, *Streams:* Please replace "Unnamed Stream" entries with "Tributary of XX" when the main channel name is known.

    Response: *There are 38,000 unnamed streams in the basin, which means the effort to perform this request would be very costly. Thus, no changes are proposed to address this comment.*

SOW Task 4B

39. Flood Management Evaluation (FME) text:

a. Please consider verifying that identified FMEs would not duplicate effort of FIF Category 1 studies and/or indicating how the FME will expand on and/or utilize the existing study. For example, FIF ID 40032 (Nueces County Regional Master Plan Study) and 40005 (City of Alice Master Drainage Study) appear to overlap with listed FMEs.
Response: *The following revisions were made:*
FIF 40005 Alice - Master Drainage Study - Removed FME 131000038 - City of Alice Drainage Master Plan.
FIF 40032 - Nueces County Regional Master Plan Study - No exact duplicate of any study was found in the FME list. However, this study is currently in progress and further coordination and updates to the FME list is anticipated as part of the 2024 plan revision to avoid duplication.

The following statement was added to Chapter 5, "All recommended FMEs were screened to ensure that they would not exactly duplicate the work of an ongoing FIF category 1 study. Although some recommended FMEs overlap with ongoing FIF category 1 studies, all recommended FMEs studies have different aims from the ongoing FIF category 1 studies. While some duplication of effort is inevitable between funded FMEs and the FIF category 1 studies, care should be taken to communicate with the sponsoring entity to minimize any duplication of work."

b. If possible, please provide more detailed descriptions of the identified FMEs in the region as was done for identified FMPs in Chapter 5.
Response: *There are 181 recommended FMEs in the draft report. This would make more detailed descriptions as was done for FMPs in Chapter 5 very cumbersome for this first flood plan and in many cases the FMEs are loosely formed at this point. Suggest improving the detail of FMEs as available in future flood planning cycles. Thus, no changes are proposed to address this comment.*

40. Flood Management Evaluation GIS Feature Class, *FME*:
    a. FME IDs 1310000017 and 131000001 appear to lie outside the region boundaries. For county-wide FMEs where most of the county falls outside of the RFPG boundary, please consider providing justification on how the FME would benefit the RFPG if implemented. Please consider coordinating with adjacent RPFGs to ensure efforts are not duplicated.
    Response: *FME IDs 1310000017 and 131000001 both contain area within the Region 13 boundary. HDR will coordinate with adjacent regions to ensure efforts are not duplicated. Region 13 FME ID 131000174 "Nueces Basin Early Flood Warning System" overlaps slightly with Region 12 FME ID 121000119. If they are both funded, coordination will be necessary between the two entities conducting the studies. Thus, no changes are proposed to address this comment.*
    b. Where applicable, please consider including FIF studies in the 'MODEL_DESC' field.
    Response: *FIF studies will be included in 'MODEL_DESC'.*
41. Flood Management Evaluation Map (Exhibit C Map 16): Please include FIF Category 1 studies in the map to indicate previously studied areas.
Response: *The boundary of FIF Category 1 studies were added to the FME Map.*

42. Flood Mitigation Projects (FMP) Map (Exhibit C Map 17): The map only appears to portray the extent of one identified FMP. Please consider including additional maps or map insets to clearly show the locations and extents of all identified FMPs in the region.
Response: *The map was updated to show the 4 FMPs that were identified.*

SOW Task 5

43. Flood Management Evaluation (FME) Recommendations (Exhibit C Table 15): Recommended FMEs should not have redundant of duplicative project costs. For example, the recommended FMEs with FME ID 131000170 -131000173 appears to have identical 'Estimated Study Cost'. Please confirm that these are accurate, and they are not redundant or duplicate cost estimate.
Response: *The estimated studies (FME ID 131000170 -131000173) are similar, and the provided cost serves as our best estimate.*
44. Flood Mitigation Project (FMP) Recommendations: There are not currently any recommended FMPs in the draft regional flood plan. When incorporated recommendations in the final and/or amended regional flood plan, please ensure compliance with guidance documents and rule requirements.
Response: *Recommended FMPs that are added for the amended regional flood plan will comply with guidance documents and rules to the best of our knowledge.*

SOW Task 9

45. Flood Infrastructure Financing Analysis text: Please consider providing clarification on what is included with "other means of collecting the required information" for the financing survey.
Response: *Additional in-line text was added to Chapter 9.2 that describes outreach to gather input on financing. See response to TWDB Comment No. 20 above.*

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October 26, 2022

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Region 13 Nueces Flood Planning Group
Travis Pruski - Nueces River Authority
539 South Highway 83
Uvalde, TX 78801

Re: 2023 Nueces Regional Flood Plan

Dear LJ Francis,

In 2019 Senate Bills 7 and 8 established a regional and state flood planning process for Texas, aimed at better managing flood risk to reduce loss of life and property. As part of the process, Texas Parks and Wildlife Department (TPWD) was identified as a non-voting member of the regional flood planning groups (Texas Water Code Sec. 16.062). The mission of TPWD is to manage and conserve the natural and cultural resources of Texas and its ability to provide opportunities of hunting, fishing, and outdoor recreation for the use and enjoyment of present and future generations. TPWD values this opportunity to contribute to the flood planning process with the goal of enhancing flood risk management and achieving beneficial flood mitigation outcomes. Toward this effort TPWD members serve a dual role of supporting the voting membership in development of the plans and representing the natural resource interests of the state.

TPWD applauds the Nueces Regional Flood Planning Group for their efforts in completing the inaugural regional flood plan (RFP) especially considering the abbreviated timeline. Through the exceptional efforts of the RFPG, this plan will be a meaningful tool for reducing flood impacts to society, especially in those disastrous events that cause loss of life and injury. Because this represents the initial region-wide plan, it has the potential to be precedent setting for subsequent iterations. As such, it is important this plan recognizes the role nature and nature-based solutions can play in flood risk management and promotes opportunities to protect, enhance and restore the flood mitigation benefits provided by natural landforms.

TPWD is supportive of the planning process outlined by the Texas Water Development Board (TWDB) because it aims to achieve an integrative flood risk management (FRM) approach that prioritizes risk reduction through implementation of floodplain management, land use regulations, policy, and a balanced use of grey and natural and nature-based (NNBS) flood mitigation measures that are formed by an inclusive participation within all levels of society. TPWD believes this integrative approach, when implemented holistically, will achieve the maximum benefits for society and natural ecosystems while minimizing environmental impacts. Recent published works on FRM and NNBS (Bridges et al 2021, Glick et al 2020, World Wildlife Fund 2016, Sayers et al 2013) support TWDB integrative flood management approach and provide extensive resources for flood planners.

In the interest of achieving the state's flood risk management goals while protecting the state's fish and wildlife resources, TPWD reviewed regional flood plans based on the TWDB guidance principals as described in 31 Texas Administrative Code Chapters 361 and

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362. Special focus was provided on the following subset of guidance principals due to its relevance to fish and wildlife management.

- Does the draft flood plan use the best available science, data, models, and flood risk mapping?
- Does the draft flood plan consider the potential upstream and downstream effects, including environmental, of potential flood management strategies (and associated projects) of neighboring areas?
- Does the draft flood plan include strategies and projects that provide for a balance of structural and non-structural flood mitigation measures, including projects that use nature-based features that lead to long-term mitigation of flood risk?
- Does the draft flood plan consider natural systems and beneficial functions of floodplains, including flood peak attenuation and ecosystem services?
- Does the draft flood plan encourage flood mitigation design approaches that work with, rather than against, natural patterns and conditions of floodplains?
- Does the draft flood plan seek to not cause long-term impairment to the designated water quality as shown in the state water quality management plan as a result of a recommended flood management strategy or project?
- Does the draft flood plan consider benefits of flood management strategies to water quality, fish and wildlife, ecosystem function, and recreation, as appropriate?
- Does the draft flood plan minimize adverse environmental impacts and conform with adopted environmental flow standards?
- Does the draft flood plan consider multi-use opportunities such as green space, parks, water quality, or recreation, portions of which could be funded, constructed, and or maintained by additional, third-party project participants?

Additionally, TPWD emphasizes that the following FRM concepts identified in the forementioned literature be incorporated into the RFP.

- Flood is a natural process that has many benefits to human and natural systems.
- Promoting some flooding as desirable and making room for water promotes native species, maintains vital ecosystem services, and reduces the chance of flooding elsewhere.
- Natural landscapes and watersheds provide flood mitigation functions that should be promoted, protected, enhanced, and restored.
- Prioritize risk reduction over flood control by focusing first on reducing loss of life and injury.
- Utilize limited resources fairly.
- Address flood risk using a portfolio approach to first implement non-structural (policy, land management, emergency management) followed by structural (grey and natural and nature-based) strategies.
- Criteria for assessing projects strategies should include a comprehensive suite of measures spanning economical, operational, societal, and environmental

- advantages and disadvantages. Assessments focusing on economics alone (number of buildings, acres) should be avoided.

Nueces Regional Flood Plan Comments

Texas Conservation Action Plan (TCAP) is a guiding document for conservation in the state of Texas, with the goals of realizing conservation benefits, preventing species listings, and preserving our natural heritage for future generations. Species of Greatest Conservation Need (SGCN) include numerous aquatic species such as fish, freshwater mussels, and salamanders. The TCAP handbook (Texas Parks and Wildlife Department, 2012) includes six types of priority habitats, three of which are aquatic: water resources; riparian and floodplains; and caves and karst. Issues affecting these environments include environmental flows, impoundments and dam operations, and water quality issues (including stormwater runoff).

The Draft Nueces Regional Flood Plan (NRFP) encompasses the entirety of the Nueces River basin and borders the San Antonio River basin (Region 12) to the north and the Lower Rio Grande basin (Region 15) to the south. The planning area spans 24,094 square miles and is diverse in nature. This planning area includes 31 counties, 57 municipalities, and 50 other government entities. The basin is largely rural in nature, with a population of 1,140,000 in 2020. The city of Corpus Christi is the major population center within the basin, with a population of 325,000 in 2020. Other nearby population centers include Laredo and San Antonio. The NRFP calculated and mapped flood risk analysis for both 1% and 0.2% annual chance storm events for current and future conditions. A model of the current conditions for risks for flooding was created by compiling local knowledge, low-water crossing information obtained from the Texas Natural Resources Information System, United States Geological Survey (USGS) gage information, Nueces River Authority data, National Flood Hazard Layer (NFHL) data, FEMA Base Level Engineering data, and National Oceanic and Atmospheric Administration (NOAA) Atlas-14 rainfall data. While a number of areas within the Region lacked current detailed flood hazard information and were approximated using Base Level Engineering (BLE) and First American Flood Data Services (FAFDS), TPWD appreciates and supports the use of the best available science and most relevant data.

Some of the goals of the Draft NRFP included improving flood warning and readiness, increasing the number of flood studies, increasing the prevention of flooding, and supporting flood infrastructure projects with respect to water supplies and the State Water Plan. Taken together, these actions provide for forward-looking floodplain management, land use, and economic practices in the Region. While these practices play a key role in preventing the creation of additional flood risk in the future, TPWD encourages the inclusion of ecological and societal benefits of flooding in any future iterations of the Plan, and strongly encourages any nature-based solutions as one of the goals of the NRFP.

The NRFP identified a total of four (4) Flood Management Projects (FMPs), of which none were deemed potentially feasible. Of these four projects, one project was determined to be an ongoing project with current dedicated funding, so was removed from

consideration. The three remaining projects continued through the screening process, although due to the high level of detail required for consideration as an FMP, none of the three potentially feasible projects were determined to have enough detail available for evaluation and recommendation as an FMP. Each was moved to the FME level.

The Plan also evaluated 164 potentially feasible Flood Management Evaluations (FMEs), and 35 recommended Flood Management Strategies (FMSs). While most of the recommended FMPs are infrastructure based, TPWD appreciates that the Draft NRFP acknowledges the gap in flood risk and mitigation in relation to nature-based infrastructure in the region. TPWD understands that the goal of the RFP is to mitigate floods to reduce risk to life and property but would like to encourage the use of nature-based solutions where possible. Importantly, the Draft NRFP states that none of the projects are anticipated to negatively impact regional water supplies, water availability, or projects currently within the State Water Plan.

TPWD would like to encourage all the FMXs (an FMP, FME, or FMS, taken together) to consider stream crossing designs that allow for sediment transport and passage of aquatic organisms and do not impound water. This is especially important in the Upper Nueces Basin, where large movements of gravel and rubble are notable even in the lowest of flooding events. These designs should include bridges that span the creek where possible or culverted crossings designed with the culvert(s) in the active channel area lower than those in the floodplain benches so that the flow in the channel is not overly spread out. The central/low-flow culvert(s) should be large enough to handle a 1.5-year flow without backing up water. The bottoms of these lower culverts should be set at least a foot below grade (i.e., recessed) to allow natural substrate to cover the culvert bottom and to allow for aquatic organism passage. These lower, recessed culverts should be installed in the thalweg or deepest part of the channel and be aligned with the low flow channel (Clarkin et al., 2006).

The proposed Flood Management Evaluations, Plans, and Strategies include numerous infrastructure projects that may affect the aquatic habitats that are prioritized in the TCAP. For example, the removal of low-water crossings can benefit rare species such as mussels and fish if the crossing is replaced with a bridge or culvert that does not form a barrier to species movement. Conversely, building dams and channelizing streams can adversely affect aquatic habitats and species.

The Draft NRFP includes numerous channel improvement projects which may include widening, deepening, and straightening streams. Channelization and over-widening of streams slows flow, which increases deposition of sediment, decreases fish habitat, increases water temperatures, and can result in channel erosion. Streams in good condition naturally reach bankfull and begin spilling onto the floodplain during a 1.5 to 2-year flood event. Widening and deepening a stream channel to force it to contain the 100-year flow negatively impacts the adjacent water table and riparian area and has geomorphic effects upstream and downstream of the modification. If channelization is necessary, constructing a two-stage channel with a low-flow channel and a floodplain allows for the continued transport of sediment, habitat for aquatic wildlife, and can reduce maintenance (Rosgen 1996). TPWD encourages the RFPG to protect existing streams, riparian areas, and floodplains.

Thank you for your consideration of these comments. TPWD looks forward to continuing to work with the planning group to develop flood plans that protect life and property but are also beneficial to the environment. Please contact me at (512) 389 – 8214 or at Marty.Kelly@TPWD.Texas.gov or Jim Tolan at (361) 431– 6003 ext. 814, or at James.Tolan@TPWD.Texas.gov if you have any questions or comments.

Sincerely,

Marty Kelly
Water Resources Program Coordinator

MK:jt

References

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Texas Parks & Wildlife Department (TPWD)					
Project Title:			Nueces Regional Flood Plan		
Project Development Engineer (PDE):			HDR		
Project Manager:			Bryan Martin		
Deliverable Milestone:			Final Plan 01/10/2022		
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
1	See letter dated Oct 26, 2022 Page 1	Marty Kelly and James Tolan, TPWD	Plan should recognize the role nature and nature-based solutions can play in flood risk management and promotes opportunities to protect, enhance and restore the flood mitigation benefits provided by natural landforms.	E. Acknowledge comment, no change made. Nature-based solutions are recognized in the plan for their role in flood risk reduction. The plan includes nature-based solution goals and FMXs.	Complete
2	See letter dated Oct 26, 2022 Page 2	Marty Kelly and James Tolan, TPWD	Guidance Principal Comment Does the draft flood plan use the best available science, data, models, and flood risk mapping?	E. Acknowledge comment, no change made. Yes, the intent of the plan was to use the best available practices and information available at the time of the plan. Being the first plan, acquiring and managing all the available data for the basin was challenging and will be improved upon with each subsequent flood plan. Best available models were identified and utilized, and best available flood mapping data, science, and project population data was used to define 100- and 500-year storm event inundation extents for the entire basin.	Complete

Texas Parks & Wildlife Department (TPWD)					
Project Title:		Nueces Regional Flood Plan			
Project Development Engineer (PDE):		HDR			
Project Manager:		Bryan Martin			
Deliverable Milestone:		Final Plan 01/10/2022			
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
3	See letter dated Oct 26, 2022 Page 2	Marty Kelly and James Tolan, TPWD	Guidance Principal Comment Does the draft flood plan consider the potential upstream and downstream effects, including environmental, of potential flood management strategies (and associated projects) of neighboring areas?	E. Acknowledge comment, no change made. Verification of no adverse impacts to downstream or upstream properties is a requirement of projects to be included in the flood plan. TWDB provides a definition of no adverse impact in its technical guidance for the flood plan and states 'No negative impact means that a project will not increase flood risk of surrounding properties'. TWDB definition is based solely on hydrology and hydraulic calculations and does not include environmental impacts. The impacts of specific projects on the environment are often difficult to quantify at a planning level. Typically environmental impacts are evaluated if certain permitting regulations are triggered such as when fill occurs in jurisdiction waters of the U.S. and a Section 404 Individual Permit is required. The plan does consider the overall impacts of the plan on the environment in Chapter 6 where it states no long-term impairment to designated water quality in the State Water Quality Management Plan is anticipated as a result of the recommended FMXs.	Complete
4	See letter dated Oct 26, 2022 Page 2	Marty Kelly and James Tolan, TPWD	Guidance Principal Comment Does the draft flood plan include strategies and projects that provide for a balance of structural and non-structural flood mitigation measures, including projects that use nature-based features that lead to long-term mitigation of flood risks?	E. Acknowledge comment, no change made. Yes, a Nature-Based Solution goal is included in the plan and 2 FMEs (i.e. studies) were developed and defined to help achieve these goals in the basin.	Complete

Texas Parks & Wildlife Department (TPWD)					
Project Title:			Nueces Regional Flood Plan		
Project Development Engineer (PDE):			HDR		
Project Manager:			Bryan Martin		
Deliverable Milestone:			Final Plan 01/10/2022		
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
5	See letter dated Oct 26, 2022 Page 2	Marty Kelly and James Tolan, TPWD	Guidance Principal Comment Does the draft flood plan consider natural systems and beneficial functions of floodplains, including flood peak attenuation and ecosystem services?	A - Comment incorporated The following text was added to Chapter 3.1.3: Floodplain mitigation studies in the Nueces Basin are encouraged to consider natural systems and beneficial functions of floodplains, including flood peak attenuation and ecosystem services when identifying projects to reduce flood risk. Flood mitigation design approaches that work together with natural floodplain patterns is advised.	Complete
6	See letter dated Oct 26, 2022 Page 2	Marty Kelly and James Tolan, TPWD	Guidance Principal Comment Does the draft plan encourage flood mitigation design approaches that work with, rather than against, natural patterns and conditions of floodplains?	A. Comment incorporated Yes, the floodplain includes Nature Based Solution goals and two regional Natural Based Solution FMEs to help achieve these goals. See comment response No. 5 above and additional text added to Chapter 3.1.3.	Complete
7	See letter dated Oct 26, 2022 Page 2	Marty Kelly and James Tolan, TPWD	Guidance Principal Comment Does the draft flood plan seek to not cause long-term impairment to the designated water quality as shown in the state water quality management plan as a result of a recommended flood management strategy or project?	E. Acknowledge comment, no change made. Yes, an evaluation and statement to the overall affect of the flood plan on the State Water Quality Management Plan is a part of the Chapter 6 discussion.	Complete

Texas Parks & Wildlife Department (TPWD)					
Project Title:		Nueces Regional Flood Plan			
Project Development Engineer (PDE):		HDR			
Project Manager:		Bryan Martin			
Deliverable Milestone:		Final Plan 01/10/2022			
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
8	See letter dated Oct 26, 2022 Page 2	Marty Kelly and James Tolan, TPWD	Guidance Principal Comment Does the draft flood plan consider benefits of flood management strategies to water quality, fish and wildlife, ecosystem function, and recreation, as appropriate?	E. Acknowledge comment, no change made. Yes, the flood plan describes benefits of FMS and FMPs on environment, water quality, navigation, and recreation in Chapter 6.1.5 and 6.1.6.	Complete
9	See letter dated Oct 26, 2022 Page 2	Marty Kelly and James Tolan, TPWD	Guidance Principal Comment Does the draft flood plan minimize adverse environmental impacts and conform with adopted environmental flow standards?	E. Acknowledge comment, no change made. Yes, the flood plan considers the following when identifying potential FMXs: 'assess potential for including nature-based solutions and applicability' and 'unlikely to negatively affect a neighboring areas'. Yes, the flood plan conforms with adopted environmental flow standards.	Complete
10	See letter dated Oct 26, 2022 Page 2	Marty Kelly and James Tolan, TPWD	Guidance Principal Comment Does the draft flood plan consider multi-use opportunities such as green space, parks, water quality, or recreation, portions of which could be funded, constructed, and or maintained by additional, third-party project participants?	E. Acknowledge comment, no change made. Yes, plan is open to these potential opportunities.	Complete

Texas Parks & Wildlife Department (TPWD)					
Project Title:			Nueces Regional Flood Plan		
Project Development Engineer (PDE):			HDR		
Project Manager:			Bryan Martin		
Deliverable Milestone:			Final Plan 01/10/2022		
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
11	See letter dated Oct 26, 2022 Page 2	Marty Kelly and James Tolan, TPWD	TPWD emphasizes the following Flood Risk Management (FRM) concepts be incorporated into the Regional Flood Plan - Flood is a natural process that has many benefits to human and natural systems - Promoting some flooding as desirable and making room for water promotes native species, maintains vital ecosystem services, and reduces the chance of flooding elsewhere - Natural landscapes and watersheds provide flood mitigation functions that should be promoted, protected, enhanced, and restored. - Prioritize risk reduction over flood control by focusing first on reducing loss of life and injury. - Utilize limited resources fairly. - Address flood risk using a portfolio approach to first implement non-structural (policy, land management, emergency management) followed by structural (grey and natural and nature-based) strategies. - Criteria for assessing projects strategies should include a comprehensive suite of measures spanning economical, operational, societal, and environmental advantages and disadvantages. Assessments focusing on economics alone (number of buildings, acres) should be avoided.	A- Comment incorporated. Added to Chapter 6.1.6.	Complete

Texas Parks & Wildlife Department (TPWD)					
Project Title:			Nueces Regional Flood Plan		
Project Development Engineer (PDE):			HDR		
Project Manager:			Bryan Martin		
Deliverable Milestone:			Final Plan 01/10/2022		
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
12	See letter dated Oct 26, 2022 Page 3	Marty Kelly and James Tolan, TPWD	TPWD encourages the inclusion of ecological and societal benefits of flooding in any future iterations of the Plan, and strongly encourages any nature-based solutions as one of the goals of the NRFP	E. Acknowledge comment, no change made. Noted. Ecological and societal benefits can be further considered for inclusion in future iterations of the plan. The flood plan includes a nature-based solution goal.	Complete
13	See letter dated Oct 26, 2022 Page 3	Marty Kelly and James Tolan, TPWD	TPWD understands that the goal of the RFP is to mitigate floods to reduce risk to life and property but would like to encourage the use of nature-based solutions where possible.	E. Acknowledge comment, no change made. The flood plan includes a nature-based solution goal and includes several region-wide nature-based studies to help achieve this goal.	Complete

Texas Parks & Wildlife Department (TPWD)					
Project Title:		Nueces Regional Flood Plan			
Project Development Engineer (PDE):		HDR			
Project Manager:		Bryan Martin			
Deliverable Milestone:		Final Plan 01/10/2022			
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
14	See letter dated Oct 26, 2022 Page 4	Marty Kelly and James Tolan, TPWD	TPWD would like to encourage all the FMXs (an FMP, FME, or FMS, taken together) to consider stream crossing designs that allow for sediment transport and passage of aquatic organisms and do not impound water. This is especially important in the Upper Nueces Basin, where large movements of gravel and rubble are notable even in the lowest of flooding events. These designs should include bridges that span the creek where possible or culverted crossings designed with the culvert(s) in the active channel area lower than those in the floodplain benches so that the flow in the channel is not overly spread out. The central/low-flow culvert(s) should be large enough to handle 1.5-year flow without backing up water. The bottoms of these lower culverts should be set at least a foot below grade (i.e., recessed) to allow natural substrate to cover the culvert bottom and to allow for aquatic organism passage. These lower, recessed culverts should be installed in the thalweg or deepest part of the channel and aligned with the flow channel (Clarkin et at., 2006)	A- Comment incorporated. This criteria is particularly important to improve the overall function of creek crossings in the upper basin. Goal No. 6 includes identifying operations and maintenance best practices to maintain drainage structures including remove gravel and sediment deposition to mitigate future flooding impacts. Additional evaluations of FMXs to be included in the Revised Plan (associated with Task 12) will consider sediment transport in the design, particularly in the upper basin, where applicable. Added the following text to Chapter 6.1.6 (grey text is from the draft plan): Several recommended FMSs are specifically identified to reduce erosion and sedimentation impacts. Flood projects should consider stream crossing designs that allow for sediment transport and passage of aquatic organisms and do not impound water.	Complete

Texas Parks & Wildlife Department (TPWD)					
Project Title:			Nueces Regional Flood Plan		
Project Development Engineer (PDE):			HDR		
Project Manager:			Bryan Martin		
Deliverable Milestone:			Final Plan 01/10/2022		
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
15	See letter dated Oct 26, 2022 Page 4	Marty Kelly and James Tolan, TPWD	TPWD encourages the RFPG to protect existing streams, riparian areas, and floodplains. States channelizing streams can adversely affect aquatic habitats and species. And suggests, if channelization is necessary, constructing a two-stage channel with a low-flow channel and a floodplain allows for the continued transport of sediment, habitat for aquatic wildlife, and can reduce maintenance (Rosgen 1996). States the removal of low-water crossings can benefit rare species such as mussels and fish if the crossing is replaced with a bridge or culvert that does not form a barrier to species movement.	A- Comment incorporated. Text was added in Chapter 3.1.3- Flood management agencies should carefully consider protecting existing streams, riparian areas, and floodplains when considering channelization projects. If channelization is necessary, a two-stage channel with a low-flow channel and a floodplain allows for the continued transport of sediment, habitat for aquatic wildlife, and can reduce maintenance (Rosgen 1996).	Complete

Gettig, Ben

From: tpruski <tpruski@nueces-ra.org>
Sent: Wednesday, October 26, 2022 9:36 AM
To: Shaw, Kristi; Tressa Olsen; Martin, Bryan
Subject: FW: Comment on Nueces Regional Flood Plan

Please see the comments for the Nueces Regional Flood plan from Amanda Torres

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From: Amanda Torres <AmandaT@cctexas.com>
Sent: Wednesday, October 26, 2022 9:08 AM
To: tpruski <tpruski@nueces-ra.org>
Subject: Comment on Nueces Regional Flood Plan

Hi Travis,

This is Amanda Torres with the City of Corpus Christi. I had a comment regarding the listing of Flood Preparedness Measures for the City of Rockport on p. 7-11.

They do have or do the following:

- Protect buildings against flood damage at initial construction
- Master plan of all flood-related projects
- Consider higher standards list
- Local Floodplain ordinance with higher standards (they have a 1.5-foot freeboard requirement): https://z2codes.franklinlegal.net/franklin/Z2Browser2.html?showset=rockportset&collection=rockport&doccode=z2Code_z20001357

On P. 7-16, Rockport :

- Closes flooded roads
- Assess road and property damage
- List and schedule repairs and replacements
- Fire or police department responds
- Pump out flooded areas

I used to be their floodplain admin, so I wanted to make sure that was right! 😊 Thanks!

Amanda Torres, MPA, CFM
Senior City Planner

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Phone: (361) 826-3246 | Fax: (361) 826-3609
AmandaT@cctexas.com | www.cctexas.com/planning

Corpus Christi R13 Draft Plan Comments and Responses
1/3/2023

Corpus Christi				
Project Title:			Nueces Regional Flood Plan	
Project Development Engineer (PDE):			HDR	
Project Manager:			Bryan Martin	
Deliverable Milestone:			Final Plan 01/10/2022	
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made				
Comment #	Comment Location	Reviewer	Comment	Final Disposition
1	7-11	Amanda Torres	Update the flood preparedness measures for the City of Rockport on page 7-11. Flood Preparedness measures include: - - Protect buildings against flood damage at initial construction - Master plan of all flood-related projects - Consider higher standards list - Local Floodplain ordinance with higher standards (they have a 1.5-foot freeboard requirement): https://z2codes.franklinlegal.net/franklin/Z2Browser2.html?showset=rockportset&collection=rockport&doccode=z2Code_z20001357	A - Comment Incorporated Table has been updated
2	7-16	Amanda Torres	Update flood response and recovery measures on page 7-16. - Closes flooded roads - Assess road and property damage - List and schedule repairs and replacements - Fire or police department responds - Pump out flooded areas	A - Comment Incorporated Table has been updated

Duval County R13 Draft Plan Comments

Potential Flood Mitigation Projects List for Duval County

Project Name	Description	County(ies)	City	HUC12s	Watershed Name	Project Type	Project Area (sq-miles)	Flood Risk Type	Coordinates (x,y)*
Las Animas Conveyance Infrastructure	Channel improvements to system near Las Animas Creek to improve conveyance: - Upsize culverts on Palacios St and S Benavides St - Improve conveyance capacity under bridges on HWY 359 and HWY 339 - Procurement of easements and rights-of-ways	Duval County	Benavides	121102040102	Upper Santa Gertrudis Creek	FMP-Structural: Infrastructure	4	Urban / Riverine	-98.41511, 27.59229
Benavides Main City Network	Improvements to the Drainage System in Central Benavides: - Increase capacity to inlets and pipes on Depot St, E Railroad Ave, Clark St, E Mesquite St, & Peters St. - Upsize pipes downstream of the inlet on Highway 339 - Expand network to Santa Rosa de Lima Street - Improvements to concrete channel on Peters Street. - Improvements to outfall structures - Procurement of outfall easements	Duval County	Benavides	121102040103	Upper Santa Gertrudis Creek	FMP-Structural: Infrastructure	3.8	Urban	-98.40567, 27.5979
Upsize Burch St Crossing	Improvements to Earthen Channel System: - Increase culvert capacity on Burch St and other undersized crossings - Channel improvements along the main earthen channel	Duval County	Freer	121101051001	Upper Ygnacio Creek	FMP-Structural: Infrastructure	5.6	Urban	-98.60829, 27.87407
Northern San Diego Street Conveyance Improvement	Improvements to street overland drainage system: - Curb and gutter replacement - Improve conveyance by road paving and regrading of prioritized streets	Duval County / Jim Wells County	San Diego	121102040310	San Diego Creek	Storm Drainage Improvements	26	Urban	-98.2376, 27.76437
Northern San Diego Drainage Improvement Project	Drainage improvements to subsurface drainage systems - Installation of new underground drainage infrastructure along Luby street - Expansion and improvements to Dix Street System	Duval County / Jim Wells County	San Diego	121102040310	San Diego Creek	Storm Drainage Improvements	26	Urban	-98.23702, 27.76748
Improvements to Drainage Connectivity along Railroad	Improvement to underground drainage system to increase capacity and improve conveyance on railroad under-crossings and on sections of Highway 44 to improve stormwater drainage from north to south	Duval County / Jim Wells County	San Diego	121102040310	San Diego Creek	Storm Drainage Improvements	26	Urban	-98.23689, 27.76398
Southern San Diego Drainage Improvement Project	New underground stormwater collection system along Collins Street, including interconnections between existing and new infrastructure.	Duval County / Jim Wells County	San Diego	121102040310	San Diego Creek	Storm Drainage Improvements	26	Urban	-98.2372, 27.76291
Improvements to San Diego Levee Outfall System	Improvements to outfall structures and appurtenances along San Diego Levee System	Duval County / Jim Wells County	San Diego	121102040310	San Diego Creek	Storm Drainage Improvements	26	Urban / Riverine	-98.23877, 27.75701
Realitos Drainage Improvements	Improvements to surface and subsurface infrastructure of Realitos Drainage System	Duval County	Realitos	121102050305	Middle Macho Creek	Storm Drainage Improvements	4.7	Urban / Riverine	-98.5289, 27.44378
Concepcion Drainage Improvements	Improvements to drainage infrastructure in Concepcion	Duval County	Concepcion	121102050307, 121102050204	Lower Macho Creek, Cuerva Tank-Los Olmos Creek	Storm Drainage Improvements	4.1	Riverine	-98.35543, 27.39472

* Approximate location of the project's center, using coordinate system NAD83 UTM Zone14N in decimal degrees (DD)

Duval R13 Draft Plan Comments and Response
1/3/2023

Duval County				
Project Title:			Nueces Regional Flood Plan	
Project Development Engineer (PDE):			HDR	
Project Manager:			Bryan Martin	
Deliverable Milestone:			Final Plan 01/10/2022	
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made				
Comment #	Comment Location	Reviewer	Comment	Final Disposition
1	Sept 26, 2022 Regional Planning Group Meeting and Public Hearing	Duval County represented by Stacy Barna and Jenny Bywater of CDM	The Duval County Masterplan was completed in April 2022 and includes recommended FMX (Chapter 4) and costs for projects (Chapter 8). FMX list should match this information. The FMX count is: 4 for Freer, 9 for San Diego, and 2 for Benavides.	A - Comment Incorporated We revised the FMX list for Duval County to include the projects provided in the April 2022 Master Plan

Greater Edwards Aquifer Alliance

Member Organizations

Alamo, Austin, and Lone Star chapters of the Sierra Club
Bexar Audubon Society
Austin, Bexar and Travis Green Parties
Bexar Grotto
Boerne Together
Bulverde Neighborhood Alliance
Bulverde Neighbors for Clean Water
Cibolo Center for Conservation
Citizens for the Protection of Cibolo Creek
Comal County Conservation Alliance
Environment Texas
First Universalist Unitarian Church of SA
Friends of Canyon Lake
Friends of Dry Comal Creek
Friends of Government Canyon
Fuerza Unida
Green Society of UTSA
Guadalupe River Road Alliance
Guardians of Lick Creek
Headwaters at Incarnate Word
Helotes Heritage Association
Hill Country Alliance
Kendall County Well Owners Association
Kinney County Ground Zero
Leon Springs Business Association
Native Plant Society of Texas – SA
Northwest Interstate Coalition of Neighborhoods
Pedernales River Alliance – Gillespie Co.
Preserve Castroville
Preserve Lake Dunlop Association
Preserve Our Hill Country Environment
RiverAid San Antonio
San Antonio Audubon Society
San Antonio Conservation Society
San Geronimo Valley Alliance
San Marcos Greenbelt Alliance
San Marcos River Foundation
Save Barton Creek Association
Save Our Springs Alliance
Scenic Loop/Boerne Stage Alliance
Securing a Future Environment
SEED Coalition
Signal Hill Area Alliance
Sisters of the Divine Providence
Solar San Antonio
Texas Cave Management Association
Trinity Edwards Spring Protection Assoc.
Water Aid – Texas State University
Wildlife Rescue & Rehabilitation
Wimberley Valley Watershed Association

PO Box 15618
San Antonio, Texas 78212
(210) 320-6294

October 5, 2022

Chairman LJ Francis and Stakeholders
Regional Flood Planning Group 13

Re: Recommendations to the TWDB Promoting the Protection of Natural Flood Mitigation Features and Use of Nature Based Flood Mitigation Solutions

Dear Chairman Francis and Appointed Stakeholders of RFPG 13,

These comments are submitted on behalf of the fifty-five member groups of the Greater Edwards Aquifer Alliance and the undersigned.

Background

State legislation enabling the Regional Flood Plan process provided guidelines and deliverables to be accomplished by each flood planning group with a goal of regional plans becoming the basis of a state flood plan and also to create and identify projects to be considered for future funding. Within this enabling legislation the Texas Water Development Board (TWDB) was directed to identify and evaluate natural flood mitigation features and include Nature Based Solutions (NBS) within proposed flood mitigation projects.

While the TWDB has been very responsive to the questions and concerns expressed by the various Regional Flood Planning Groups (RFPG), the process highlighted several areas of concern regarding the evaluation of natural flood mitigation features for their level of function and incorporating NBS into flood control projects. This process highlighted the lack of data needed to evaluate natural flood mitigation features and, therefore, the need for methods beyond a Hydrologic Engineering Center's - River Analysis System (HEC-RAS) model. In addition, Technical Consultant outreach to communities demonstrated the need to increase knowledge on when and how to incorporate Nature Based Solutions into flood control projects.

Nature-based solutions will need to be weaved into every facet of this program and incorporated into future policies in order to empower community collaboration that leverages the state's vast network of natural ecosystems to build resilient communities.

Recommendations

Broad and specific recommendations have been collected across the state from RFPG committee members and collaborators, including:

1. Increase use and funding for Nature Based Solutions that appropriately weights projects that offer
    i. social and environmental benefits,
    ii. reduced environmental impact,

iii. cost avoidance for infrastructure replacement, for example https://mediaspace.du.edu/media/David+Skuodas+-+Seeing+the+Forest+and+the+Trees/1_g90zp1xz
iv. future flood prevention while also creating resiliency to recover after a natural disaster.

b. Increased number of trainings and workshops on the use and cost benefit analysis of Nature Based Solutions.
c. Improve the modeling software to include soil absorption, geologic porosity, plant interception, and other variables that slow flows or convey surface water below ground; as well as water quality improvements and ground water recharge that can be realized with NBS.
d. Work with FEMA to expand the concept of "adverse impact" to include loss of functioning floodplains and the resiliency that they provide.
e. Promote collaboration within major watersheds towards a regional approach to floodplain management using NBS

2. Recognize the role that land development codes and location of infrastructure have on flood impacts:
   a. Emphasize the need for counties to be enabled by the state to exert authority to influence development that negatively impacts natural features that mitigate flooding and to levy stormwater/drainage utility fees to retrofit and maintain flood infrastructure.
   b. Promote and fund the use of NBS throughout watersheds with the understanding that most natural flood mitigation features, including our floodplains, are in some state of degradation and can be improved with appropriate land use regulation
   c. Encourage legislators to provide counties or Groundwater Conservation Districts with authority to protect natural Aquifer Storage and Recovery features, like karst recharge and fracture zones, and sink holes that help mitigate flood intensity while transferring potential flood water into aquifers.
   d. Ensure that TXDOT builds to 100 year standards as utilizing the best available and most current flood maps and that such infrastructure does not increase downstream flooding nor damage riparian streamsides.
3. Specific project recommendations:
   a. Fund a Texas Watershed Initiative similar to Louisiana's[1] with a robust program on use and adoption of NBS
   b. Provide training and technical resources to flood districts/floodplain managers to advance understanding and adoption of NBS and best management practices for maintaining floodplains and other natural flood mitigation features to fully realize potential benefits
   c. Use all available federal and state programs to prioritize the preservation and restoration of natural flood mitigation features throughout watersheds
   d. Develop a compendium of Nature-Based Resources for all Communities across Texas.
   e. Recommend policy changes that enable Counties or Groundwater Conservation Districts to protect Natural Aquifer Storage and Recovery features
   f. Review submitted FMPs, FMEs and FMSs submitted for this first 5-year cycle to determine the feasibility to include or increase NBS aspects

[1] https://watershed.la.gov/nature-based-solutions

Conclusions

If preventative flood mitigation strategies are not prioritized for funding, then flood events will be more frequent and cause greater harm. If natural infrastructure that mitigates flooding is harmed, undoing the damage to many of these features may be cost-prohibitive or otherwise impossible. Retrofitting with flood control projects is also short sighted, given pathways for prevention. Conversely, strategically protecting natural infrastructure and placing Nature Based Solution throughout a watershed can significantly reduce flood risks within major riverine systems.

Thank you for the opportunity to submit these comments.

Respectfully,

Annalisa Peace
Executive Director
Greater Edwards Aquifer Alliance

Luke Metzger
Executive Director
Environment Texas

Greater Edwards Aquifer Alliance (GEAA)					
Project Title:		Nueces Regional Flood Plan			
Project Development Engineer (PDE):		HDR			
Project Manager:		Bryan Martin			
Deliverable Milestone:		Final Plan 01/10/2022			
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
1	See Oct 5, 2022 Letter Page 1	Annalisa Peace	1a. Increase use and funding for Nature Based Solutions that appropriately weights projects that offer i. social and environmental benefits, ii. reduced environmental impact, iii. cost avoidance for infrastructure replacement, for example https://mediaspace.du.edu/media/David+Skuodas+-+Seeing+the+Forest+and+the+Trees/1_g90zp1xz iv. future flood prevention while also creating resiliency to recover after a natural disaster.	E. Acknowledge comment, no change made. The Nueces Flood Plan acknowledges the benefits of and encourages the use and funding of Nature Based Solutions (NBS). The plan includes a goal to increase nature-based practices through land conservation and restoration programs and includes NBS based FMEs.	Complete
2	See Oct 5, 2022 Letter Page 2	Annalisa Peace	1b. Increased number of trainings and workshops on the use and cost benefit analysis of Nature Based Solutions.	E. Acknowledge comment, no change made. Goal No. 10 includes training. RFPG prefered to leave training process open, rather than prescriptively focuses on structural or NBS.	Complete
3	See Oct 5, 2022 Letter Page 2	Annalisa Peace	1c. Improve the modeling software to include soil absorption, geologic porosity, plant interception, and other variables that slow flows or convey surface water below ground; as well as water quality improvements and ground water recharge that can be realized with NBS.	A- Comment incorporated. Added text to Chapter 3.1.3: As basic flood delineation models becomes available, building more sophisticated hydrologic and hydraulic models that include soil absorption, geologic porosity, plant interception, and other variables that slow flows or convey surface water below ground can help to provide a deeper understanding of water quality improvements and ground water recharge potential to assess benefits of nature-based solutions.	Complete

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4	See Oct 5, 2022 Letter Page 2	Annalisa Peace	1d. Work with FEMA to expand the concept of "adverse impact" to include loss of functioning floodplains and the resiliency that they provide.	E - Acknowledge comment, no change made. This is the first flood plan and most of the basin does not enforce 'no adverse impact' regulations that are solely based on hydrology and hydraulic calculations. Suggest this concept be reconsidered in future flood plans.	Complete
5	See Oct 5, 2022 Letter Page 2	Annalisa Peace	1e. Promote collaboration within major watersheds towards a regional approach to floodplain management using NBS	E. Acknowledge comment, no change made. The plan recommends the following NBS FMEs that promote collaboration within the basin: - Nueces Basin Assessment of Flood Mitigation and Performance of Nature-based Solutions (NBS) - Basin-wide analysis on the flood mitigation value of select nature-based solutions (NBS) at a variety of scales and land use types, looking for consistent, accurate, and broadly applicable methods to quantify flood mitigation benefits of NBS. - Scaling Up Nature Based Solutions (NBS) in the region to support community resilience and enhance flood and hazard mitigation planning - Multi-jurisdictional feasibility analyses will be performed in targeted areas to identify a prioritized portfolio of NBS flood mitigation projects and strategies that consider both risk reduction and ecological benefits.	Complete

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Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
6	See Oct 5, 2022 Letter Page 2	Annalisa Peace	Recognize the role that land development codes and location of infrastructure have on flood impacts: 2a. Emphasize the need for counties to be enabled by the state to exert authority to influence development that negatively impacts natural features that mitigate flooding and to levy stormwater/drainage utility fees to retrofit and maintain flood infrastructure.	A- Comment incorporated. Revised text in Chapter 8.2 to read: III.The NRFPG (Region 13) urges the legislature to provide implementation guidance to empower county governments to have greater regulatory control over land development activities, including land use plans, adoption of waterway set-backs to protect natural features that mitigate flooding, and/or levying stormwater drainage impact fees to maintain flood infrastructure if desired. Additionally, to provide funding support to local floodplain administrators to develop accurate inundation mapping, which is current absent in over 70% of the 31-county area in Region 13.	Complete
7	See Oct 5, 2022 Letter Page 2	Annalisa Peace	2b. Promote and fund the use of NBS throughout watersheds with the understanding that most natural flood mitigation features, including our floodplains, are in some state of degradation and can be improved with appropriate land use regulation.	A- Comment incorporated. Added text to Chapter 3.1.3- Most natural flood mitigation features, including floodplains, are in need of maintenance and can be improved with land use management.	Complete

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8	See Oct 5, 2022 Letter Page 2	Annalisa Peace	2c. Encourage legislators to provide counties or Groundwater Conservation Districts with authority to protect natural Aquifer Storage and Recovery features, like karst recharge and fracture zones, and sink holes that help mitigate flood intensity while transferring potential flood water into aquifers.	A- Comment Incorporated. Revised text in Chapter 8.3 to read: IV. The NRFPG (Region 13) urges the legislature to support legislation to empower counties or Groundwater Conservation Districts with authority to protect natural Aquifer Storage and Recovery features, like karst recharge and fracture zones, and sink holes that help mitigate flood intensity while transferring potential flood water into aquifers.	Complete
9	See Oct 5, 2022 Letter Page 2	Annalisa Peace	2d. Ensure that TXDOT builds to 100 year standards as utilizing the best available and most current flood maps and that such infrastructure does not increase downstream flooding nor damage riparian streamsides.	A- Comment incorporated. Added text in Chapter 8.3: IX. The Texas Legislature is urged to support forward-thinking measures for our transportation system by requiring TxDOT to build to 100-year standards using the best available and most current flood maps and that such infrastructure will does not increase downstream flooding nor damage riparian streamsides.	Complete

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10	See Oct 5, 2022 Letter Page 2	Annalisa Peace	3. Specific project recommendations: 3a. Fund a Texas Watershed Initiative similar to Louisiana's with a robust program on use and adoption of NBS	E. Acknowledge comment, no change made. In 2016 historic flooding exposed deficiencies in Louisiana's approach to floodplain management. The governor issued an executive order to create Louisiana's Watershed Initiative (LWI) to reform the state's approach to flood mitigation. LWI received a $1.2B federal grant to support statewide planning, watershed modeling, and data collection and projects that reduce flood risk. The R13 flood plan includes legislative recommendations to fund projects, maintenance, and NBS.	Complete
11	See Oct 5, 2022 Letter Page 2	Annalisa Peace	3b. Provide training and technical resources to flood districts/floodplain managers to advance understanding and adoption of NBS and best management practices for maintaining floodplains and other natural flood mitigation features to fully realize potential benefits	A- Comment incorporated. Goal #10 in Table 3-3 was revised to add technical capacity/support: Identify funding, resources, and technical training for floodplain districts, managers, administrators or designees to enhance technical capacity for identifying floodplain projects, community outreach, and permitting support to verify new projects meet floodplain development requirements.	Complete

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12	See Oct 5, 2022 Letter Page 2	Annalisa Peace	3c. Use all available federal and state programs to prioritize the preservation and restoration of natural flood mitigation features throughout watersheds	E. Acknowledge comment, no change made. The legislative recommendations encourages support of funding programs for NBS and land restoration programs in Chapter 8.3: XII. The Texas Legislature is urged to make funds available to support nature-based practices through land conservation, restoration programs, and participation in landowner incentive programs to encourage voluntary land stewardship practices to manage floodwaters by slowing runoff and dissipating flood energy to include riparian, wetland, forest, upland, and other habitat protection programs. Promote land coverage studies to effectively identify riparian corridors to protect for floodplain mitigation and erosion reduction. Additional low interest programs to support voluntary city and county buy-back of lands for county parks and flood mitigation should also be included.	Complete
13	See Oct 5, 2022 Letter Page 2	Annalisa Peace	3d. Develop a compendium of Nature-Based Resources for all Communities across Texas.	A- Comment incorporated. Added text in Chapter 8.1: VIII. The TWDB is encouraged to develop a compendium of resources identifying nature-based solutions for communities to use for flood mitigation purposes.	Complete

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Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
14	See Oct 5, 2022 Letter Page 2	Annalisa Peace	3e. Recommend policy changes that enable Counties or Groundwater Conservation Districts to protect Natural Aquifer Storage and Recovery features	A- Comment incorporated. Revised text in Chapter 8.3 to read: IV. The NRFPG (Region 13) urges the legislature to support legislation to empower counties or Groundwater Conservation Districts with authority to protect natural Aquifer Storage and Recovery features, like karst recharge and fracture zones, and sink holes that help mitigate flood intensity while transferring potential flood water into aquifers.	Complete
15	See Oct 5, 2022 Letter Page 2	Annalisa Peace	3f. Review submitted FMPs, FMEs and FMSs submitted for this first 5-year cycle to determine the feasibility to include or increase NBS aspects	E. Acknowledge comment, no change made. Agree that this effort may be fruitful in R13 promoting implementation of NBS features. This should be considered in the next planning cycle.	Complete

education
conservation
cooperation

hill country alliance

October 7, 2022

Chairman LJ Francis and Stakeholders
Region 13 Regional Flood Planning

Re: Region 13 Regional Flood Plan

Dear Chairman Francis and Appointed Stakeholders of RFPG 13:

Thank you for your dedicated work and leadership addressing the flood planning needs of Nueces River basin.

I am writing to submit comments regarding Region 13's Draft Regional Flood Plan on behalf of the Hill Country Alliance (HCA). HCA is a regional nonprofit working to preserve land, waters, and night skies across 17 counties of the Hill Country. Our water program is focused on advancing water resource resilience in Hill Country communities and protecting natural infrastructure like aquifers and floodplains. In this capacity, we work with local officials and invested community members across the region and regularly engage our readership of over 7000 Texans living, working, and recreating in the Texas Hill Country.

Nature-based strategies for flood mitigation tend to be highly effective and less costly than construction-based solutions, while providing additional benefits to local communities and natural systems. For instance, smart floodplain protection policies are not only cost-effective and impactful strategies for flood mitigation, but they also tend to provide the additional benefits of improving aquifer recharge and expanding healthy recreational opportunities for nearby communities and visitors. As such, we strongly recommend the implementation of nature-based solutions to flood mitigation whenever possible.

Our partners at the Greater Edwards Aquifer Alliance have written comprehensive recommendations for how we might advance nature-based solutions and protect natural infrastructure through the flood planning process. Their recommendations fully capture our own views on Region 13's Draft Regional Flood Plan, and we endorse them completely. Those recommendations are attached.

We thank you for your consideration. If you have any questions about our position or our comments, or if we can be a resource to your work in any way, please don't hesitate to reach out.

Sincerely,

Marisa Bruno
Water Program Manager
Hill Country Alliance

Cliff Kaplan
Program Director
Hill Country Alliance

Hill Country Alliance				
Project Title:			Nueces Regional Flood Plan	
Project Development Engineer (PDE):			HDR	
Project Manager:			Bryan Martin	
Deliverable Milestone:			Final Plan 01/10/2022	
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made				
Comment #	Comment Location	Reviewer	Comment	Final Disposition
1	See Letter dated Oct 7, 2022	Marisa Bruno, Water Program Manager and Cliff Kaplan, Program Director, of Hill Country Alliance	Nature-based strategies for flood mitigation tend to be highly effective and less costly than construction-based solutions, while providing additional benefits to local communities and natural systems. For instance, smart floodplain protection policies are not only cost-effective and impactful strategies for flood mitigation, but they also tend to provide the additional benefits of improving aquifer recharge and expanding healthy recreational opportunities for nearby communities and visitors. As such, we strongly recommend the implementation of nature-based solutions to flood mitigation whenever possible. Our partners at the Greater Edwards Aquifer Alliance have written comprehensive recommendations for how we might advance nature-based solutions and protect natural infrastructure through the flood planning process. Their recommendations fully capture our own views on Region 13's Draft Regional Flood Plan, and we endorse them completely.	E. Acknowledge comment, no change made. See responses to Greater Edwards Aquifer Alliance comments.

Meeting Notes

Region 13. Nueces Flood Planning Group Meeting Public Hearing

September 26th, 2022

11:00 am

McMullen County EOC, 306 Live Oak Street, Tilden, Texas

Attendees:

Voting

LJ Francis, Chair	Municipalities	City of Corpus Christi
Larry Dovalina, Vice-Chair	Water Utilities	City of Cotulla
Shanna Owens, Secretary	Counties	San Patricio County DEMS
Julie Lewey	River Authorities	Nueces River Authority
Debra Barrett	Agricultural	Barrett Ag
JR Ramirez	Water Utilities	Wintergarden GCD
Robert Williams	Public	Mayor of Jourdanton

Non-Voting

Patrick McGinn – San Patricio County
Reem Zoun – TWDB
Manuel Razo – TWDB
Tressa Olsen - TWDB
Shannan Smith – Mayor Lake City (online)
Judy Lucio – TDEM (online)
Rene Saenz – City of Hondo (online)
Lisa McCracken Mairs – USACE (online)
Kendria Ray – TSSWCB (online)
Jim Tolan – TPWD (online)
Kim Chanslor – CDM Smith (online)
Jenny Bywater – CDM Smith
Jessica Watts – CDM Smith
David Wright – City of Cotulla

Agenda:

1. Call to Order
2. Prayer

3. Presentation: Overview of Nueces Regional Flood Plan by HDR Team
4. Public Input: The NFPG is soliciting public input regarding the Draft Region 13 Nueces Regional Flood Plan (as required per Texas Water Code §16.062(f) and 31 Texas Administrative Code §361.21(h)(3) (A, F)). Public General Comments – limit 3 minutes per person

Draft Plan Chapter Section	Person Submitting Comment	Stakeholder Comments/Questions	NRA/HDR/Other Responses
	Shanna Owens, Region 13 member	My question is about recommending 12" above base flood elevation as the freeboard vs a higher level in the plan. Do we need to say we're recommending 12" now, but changes may be coming later? FEMA will be recommending 2' in 2025. Do we want to recommend 18" for BRIC and special flood hazard areas? Also, San Patricio County is not listed as having higher standards in the Floodplain Management Practices section, but it is on the map. We need to update that.	HDR - This was a discussion item from floodplain goals meeting. The intention was to enable communities without anything in place to put something in place. I agree with what you're saying. Being able to add context would be helpful. We'll double check the text on page 2.
	Larry Dovalina, Region 13 member	A lot of growth is expected in the next 10 years in the southern end of the basin, which is where we had little or no participation. Congestion in Laredo will increase with more traffic on I-35. Growth will increase more when more lanes are added to I-35. Investors want to know where the flood maps are. There will be issues of flooding once investors start investing. TxDOT only plans for a 10 year flood event. When more lanes added, it will get worse.	
Ch 2 – Existing and	Lj Francis, Region 13 member	I didn't get a clear definition of resilience. We used the social vulnerability index for resilience.	TDEM - SVI was used for the

Draft Plan Chapter Section	Person Submitting Comment	Stakeholder Comments/Questions	NRA/HDR/Other Responses
Future Condition Flood Risk Analysis			vulnerability assessment in this first round. We'll look at the definition and expand it in the next round.
	Lj Francis, Region 13 member	I feel that social vulnerability and resilience are different.	TWDB – there was no guidance on how to define resilience. Historically SVI has been used, including in the flood quilt.
	Lj Francis, Region 13 member	My issue is that the SVI inserts a lot of squishiness. It's very subjective and there are more quantitative approaches that would be more appropriate. Vulnerability and resilience are 2 different things. In the Future Condition Analysis, it's not clear what built-in resilience exists. We did a good job on vulnerability but it appears interchangeable with resilience. I would like us to look at that for the next time. Look at published data, mathematical models that describe risk resilience, in addition to the SVI. We should have a more concrete method. It has to be more quantitative. We would still have to define what is satisfactory or unsatisfactory.	HDR - has TWDB identified tools for measuring resilience other than SVI? TWDB - at this time, we can look at what exists. We kept it open for regions if they want to go above and beyond. But we don't require it. We can look at what other regions are doing and get back to you. We are engaging in research to look at that. SVI looks at the ability to bounce back from all

Draft Plan Chapter Section	Person Submitting Comment	Stakeholder Comments/Questions	NRA/HDR/Other Responses
			disasters, not just flood. We're working with a Texas university to look at vulnerability that is flood specific. That will be available for the next cycle.
	Lj Francis, Region 13 member	Both quantitative and qualitative?	TWDB – yes.
	Lj Francis, Region 13 member	In flood planning, I had problem with using minority status as an indication of preparedness. I don't think that is a true indication. There are better methods.	

Adjourned.

Nueces Flood Planning Group Public Hearing on Sept 26, 2022					
Project Title:			Nueces Regional Flood Plan		
Project Development Engineer:			HDR		
Project Manager:			Bryan Martin		
Deliverable Milestone:			Final Plan 01/10/2022		
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
1	Ch 2 - Existing ...	LJ Francis	"I didn't get a clear definition of resilience. We used the social vulnerability index for resilience"	E. Acknowledge comment, no change made. The U.S. Centers for Disease Control and Prevention calculates a Social Vulnerability Index (SVI) using 15 U.S. census variables to help local officials identify communities that may need support before, during, or after disasters. The higher the SVI value the higher the vulnerability and the lower the SVI the higher the resilience. The SVI is intended as the proxy for resilience for this first planning cycle. We'll look at the definition and expand it in the next round.	Complete
2	Future Condition Flood Risk Analysis	LJ Francis	I feel that social vulnerability and resilience are different	E. Acknowledge comment, no change made. Agree vulnerability and resilience are different. Vulnerability considers a community's susceptibilities to harm while resilience considers the capacity of a community to recovery after a disaster. As stated above the SVI is intended as the proxy for resilience for this first planning cycle.	Complete

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3	Future Condition Flood Risk Analysis	LJ Francis	"My issue is that the SVI inserts a lot of squishiness. It's very subjective and there are more quantitative approaches that would be more appropriate. Vulnerability and resilience are 2 different things. In the Future Condition Analysis, it's not clear what built-in resilience exists. We did a good job on vulnerability but it appears interchangeable with resilience. I would like us to look at that for the next time. Look at published data, mathematical models that describe risk resilience, in addition to the SVI. We should have a more concrete method. It has to be more quantitative. We would still have to define what is satisfactory or unsatisfactory"	E. Acknowledge comment, no change made. Acknowledge that the SVI may not be the best measure for resilience. The measure for resilience and what qualifies as satisfactory or unsatisfactory for this metric will be further investigated and considered during the next planning cycle. We have received the following publications for future consideration: 'Reliability, Resiliency, and Vulnerability Criteria for Water Resource System Performance Evaluation' Tsuyoshi Hashimoto, 1982 'Performance evaluation of a water resource system under varying climatic conditions: Reliability, Resilience, Vulnerability and beyond' Tirusew Asefa, 2013	Complete
4	Future Condition Flood Risk Analysis	LJ Francis	"In flood planning, I had problem with using minority status as an indication of preparedness. I don't think that is a true indication. There are better methods"	E. Acknowledge comment, no change made. Assumption that this comment is in regards to the use of SVI, which considers racial and ethnic minority status. The measures for vulnerability and resilience can be further investigated and considered for the next flood plan.	Complete

Nueces Flood Planning Group Public Hearing on Sept 26, 2022					
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Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
5	Chapter 3 Recommended Strategy for Floodplain Management and Floodplain Management Practices	Shanna Owens	"My question is about recommending 12” above base flood elevation as the freeboard vs a higher level in the plan. Do we need to say we’re recommending 12” now, but changes may be coming later? FEMA will be recommending 2’ in 2025. Do we want to recommend 18” for BRIC and special flood hazard areas? Also, San Patricio County is not listed as having higher standards in the Floodplain Management Practices section, but it is on the map. We need to update that"	A- Comment incorporated. (1) Additional text was placed in Chapter 3.1.3 that strongly encourages adoption of 2' above BFE consistent with upcoming FEMA guidance (grey text is from the draft plan): Finished floor of structures should be a minimum of 1 foot above base flood elevations (BFE) 100 year or based on local ordinances, whichever is higher. The NRFPG strongly encourages cities and counties in the Nueces Basin to actively consider a minimum 2 feet above base flood elevations, consistent with upcoming 2025 FEMA ordinances. Such higher standards build more resilience and reduces future flood risk for homeowners. (2) San Patricio County is included in the Higher Standards list in Chapter 3.1.1.4. Added text in that section, stating San Patricio Counties freeboard standard of 2.0 ft above the existing BFE.	Complete

Nueces Flood Planning Group Public Hearing on Sept 26, 2022					
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6	General	Larry Dovalina	"A lot of growth is expected in the next 10 years in the southern end of the basin, which is where we had little or no participation. Congestion in Laredo will increase with more traffic on I-35. Growth will increase more when more lanes are added to I-35. Investors want to know where the flood maps are. There will be issues of flooding once investors start investing. TxDOT only plans for a 10 year flood event. When more lanes added, it will get worse"	A. Comment incorporated. TWDB is currently developing updated base level engineering (BLE) mapping for the entire Nueces Basin, which is scheduled for release in 2023 as described in Chapter 3.1.3. Related to TxDOT planning, a new legislative recommendation was added to Chapter 8.3: IX. The Texas Legislature is urged to support forward-thinking measures for our transportation system by requiring TxDOT to build to 100-year standards using the best available and most current flood maps and that such infrastructure does not increase downstream flooding nor damage riparian streamsides.	Complete

Comments on Region 13 Regional Flood Planning Group

Background

State legislation enabling the Regional Flood Plan process provided guidelines and deliverables to be accomplished by each flood planning group, with regional plans becoming the basis of a state flood plan. These plans are developed through the creation and identification of projects to be considered for future funding. Enabling legislation also directed the Texas Water Development Board (TWDB) to identify and evaluate natural flood mitigation features and include Nature Based Solutions (NBS) among proposed flood mitigation projects.

Region 13, along with all the other Regional Flood Planning Groups (RFPGs) have had to work under a tight timeline during the initial planning round – and we appreciate the work the Region has put into making a holistic flood plan. In particular, the National Wildlife Federation's Texas Coast and Water Program and Sierra Club, Lone Star Chapter are encouraged by the following recommendations and goals included in Region 6's draft Regional Flood Plan:

- *Administrative Recommendations:*
    - The NRFPG should play a role in facilitating public information/public education activities in the Nueces Basin and providing support to local public agencies to promote a wider understanding of state and regional flood issues and the importance of flood preparedness and long-range regional flood planning and mitigation;
    - The TWDB should provide a funding mechanism for smaller communities to receive dedicated funding for studies / planning efforts to identify flood management strategies (FMSs), flood management evaluations (FMEs), and flood mitigation plans (FMPs), including both traditional, engineered flood mitigation projects and nature-based solutions. Most smaller communities do not have the resources to hire an engineer to complete these studies.
    - The TWDB should use the project list in the adopted RFP and state flood plan (SFP) to help connect local communities to grant programs administered by federal or other state agencies; and
    - The TWDB is encouraged to consider use of hybrid approaches that blend structural engineered projects and nature-based solutions for flood mitigation: a) Incentivize voluntary buy out programs, turning previously flooded properties/neighborhoods into stormwater parks as an alternative to large scale construction projects; and b) Provide training to state

agencies, local governments, engineers, planners in the use of natural floodplain preservation/conservation.

- *Regulatory Recommendations:*
    - *The Texas Legislature is urged to support adoption of 2015 or 2018 versions of International Building Code and International Residential Code as State Building Standards;*
    - *The Texas Legislature is urged to develop a program through the TWDB to provide support services to rural and socioeconomic disadvantaged communities to develop and maintain flood management activities; and*
    - *The NRFPG (Region 13) urges the legislature to support legislation to empower county governments to have greater regulatory control over land development activities.*

- *Legislative Recommendations*:
    - The Texas Legislature should continue to provide funding to state agencies for flood planning initiatives, including providing technical support and assistance to county and city floodplain administrators or designees to support development of building standards, permitting support to verify new projects meet floodplain development requirements, and training; and
    - The Texas Legislature is urged to make funds available to support nature based practices through land conservation, restoration programs, and participation in landowner incentive programs to encourage voluntary land stewardship practices to manage floodwaters by slowing runoff and dissipating flood energy to include riparian, wetland, forest, upland, and other habitat protection programs. Promote land coverage studies to effectively identify riparian corridors to protect for floodplain mitigation and erosion reduction. Additional low interest programs to support voluntary city and county buy-back of lands for county parks and flood mitigation should also be included.

- *Adopted Flood Protection Goals*:
    - Reduce the number of structures within NFHL-Detailed Study Area and Existing Floodplain with 1% annual chance flood risk;
    - Prepare minimum flood management standards, including identifying operations and maintenance best practices to maintain drainage structures including remove gravel and sediment deposition to mitigate future flooding impacts;

- Increase nature-based practices through land conservation and restoration programs and participation in landowner incentive programs to encourage voluntary land stewardship practices to manage floodwaters, slow runoff and dissipate flood energy to include riparian, wetland, forest, upland, and other habitat protection programs; and
- Develop public information campaigns to increase community knowledge of rules and regulations, flood-prone areas, and importance of protecting floodplains from encroachment.

The process and initial regional planning round has highlighted several areas of concern regarding the evaluation of natural flood mitigation features for their level of function and the incorporation of nature based solutions into flood control strategies.

Equity and nature-based solutions will need to be woven into every facet of this program and incorporated into future policies and strategies in order to empower community collaboration and leverage the state's vast network of natural ecosystems in building resilient communities. The following **comments and recommendations specific to Region 13** seek to better ensure an equitable flood plan, and one that centers natural infrastructure and nature-based projects. We recognize that the region will not be able to address some comments provided in the current planning cycle, however it is our hope that during subsequent rounds these comments will be taken into consideration.

I. Apply alternative methodologies to assess future conditions analysis for inland riverine areas

According to *Information included in rules and scope of work* subsection (pg. 29), RFPGs shall perform a future condition flood hazard analysis to determine the location of both 1% annual chance and 0.2% annual chance flood events. In Method 1, the TWDB provided a methodology that looked at future population increases to determine future conditions. The TWDB, however, noted that "an increase in flood water surface elevations based solely on population increase will lead to underestimation of flood risks. The increase in population will vary within a floodplain which means a general regionwide relationship, as indicated in the document, cannot be established within an RFPG. To refine these methods, we suggest including high resolution data based on remote sensing and satellite altimetry to improve water surface elevations and more accurate flood extent."

Region 13 utilized Method 1 to analyze future conditions throughout the region. Population growth and a corresponding horizontal floodplain buffer was applied to the existing 1 percent and 0.2 percent annual chance floodplains. This inland approach was established due to the lack of available detailed floodplain data and hydrologic/hydraulic

models. Notably, when applying this methodology, it was estimated that "no floodplain increase [were] attributed to population growth…outside the city areas."[1] We are therefore concerned that this methodology will greatly underestimate future flood conditions. We suggest comparing this methodology to other methodologies provided by the TWDB to better estimate future flood conditions in inland areas.

II. *Apply higher-end sea level rise projections to assess future conditions analysis for Coastal Zones*

Currently, the future conditions for Region 13 are based on a low scenario of 1.2 ft sea level rise. This is an extremely conservative estimate, and most projections show confidence in an intermediate to intermediate high increase in sea levels. We recommend using the intermediate to intermediate high projections for planning.

III. *Expand the types of structures included when assessing vulnerability of Critical Facilities and weigh these structures higher during the Flood Mitigation Needs assessment*

Region 13 included schools, hospitcals, police stations, and fire stations as critical facilities when determining vulnerability to flood hazards. Unlike many other regions, Region 13 did not include chemical plants, refineries, chemical storage facilities, oil and gas infrastructure, and Superfund sites as critical facilities. We believe that these other facilities need to be included in order to have a proper understanding of the Region 13's flood risk. Additionally, during the Flood Mitigation Needs Assessment in Chapter 4, Region 13 should weigh these additional facilities higher than hospitals, schools, fire stations, and police stations, as they can pose additional risks to the health and safety of communities when flooded.

IV. *We support Region 13's Minimum Floodplain Management Regulations*

Region 13 required two minimum floodplain management regulations:compliance with Texas Water Code Section 16.3145 and FEMA's National Flood Insurance Program (NFIP) participation. As these regulations are widespread across the region, and create a strong foundation for the region, we support the inclusion of these as minimum floodplain management regulations.

V. *Include a Goal to increase enforcement of Floodplain Ordinances*

[1] Region 13, Draft Regional Flood Plan, at 2-26 to 2-27.

The level of enforcement of floodplain management practices varied across Region 13, with the highest enforcement located near high growth urban areas of Corpus Christi, San Antonio, and Laredo. However, for the vast majority of counties and municipalities, the Region was not able to determine level of enforcement. We believe that Region 13 should include a goal for the region to increase knowledge of enforcement across the region, and to increase levels of enforcement, region-wide.

VI. Include impact to natural infrastructure in No Negative Impacts analysis

Natural features and nature-based infrastructure provide significant flood mitigation benefits to neighboring communities. The analysis of "No Negative Impacts" should include impacts to natural infrastructure.

VII. We support The Nature Conservancy's recommended flood studies to address goals

The Nature Conservancy proposed two flood studies to address nature based practices goals: Nueces Basin Assessment of Flood Mitigation and Performance of Nature-based Solutions (NBS) and Scaling Up Nature Based Solutions (NBS) in the Nueces Flood Planning Region to support community resilience and enhance flood and hazard mitigation planning. Nature-based solutions can provide effective and resilient flood mitigation infrastructure to communities, and we are in support of the inclusion of these flood studies into the Regional Flood Plan for Region 13.

VIII. Include annual appropriations to FIF as a legislative recommendation

We recommend that Region 13 include a legislative recommendation that the state should allocate funding for recurring biennial appropriations to the Flood Infrastructure Fund. Annual appropriations to FIF will ensure that the state can continue to invest in FMPs included in the regional flood plans. 7 out of 14 regions analyzed have included this as a recommendation in their draft plans.

We appreciate the work the Region is doing to help better plan for and protect our communities from flooding. Further, we appreciate the opportunity to submit these comments.

Sincerely,

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National Wildlife Federation					
Project Title:			Nueces Regional Flood Plan		
Project Development Engineer:			HDR		
Project Manager:			Bryan Martin		
Deliverable Milestone:			Final Plan 01/10/2022		
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
1	Chapter 2.3 - Future Condition Flood Hazard Analysis		"Apply alternative methodologies to assess future conditions analysis for inland riverine areas" According to Information included in rules and scope of work subsection (pg. 29), RFPGs shall perform a future condition flood hazard analysis to determine the location of both 1% annual chance and 0.2% annual chance flood events. In Method 1, the TWDB provided a methodology that looked at future population increases to determine future conditions. The TWDB, however, noted that "an increase in flood water surface elevations based solely on population increase will lead to underestimation of flood risks. The increase in population will vary within a floodplain which means a general regionwide relationship, as indicated in the document, cannot be established within an RFPG. To refine these methods, we suggest including high resolution data based on remote sensing and satellite altimetry to improve water surface elevations and more accurate flood extent." Region 13 utilized Method 1 to analyze future conditions throughout the region. Population growth and a corresponding horizontal floodplain buffer was applied to the existing 1 percent and 0.2 percent annual chance floodplains. This inland approach was established due to the lack of available detailed floodplain data and hydrologic/hydraulic models. Notably, when applying this methodology, it was estimated that "no floodplain increase [were] attributed to population growth…outside the city areas."1 We are therefore concerned that this methodology will greatly underestimate future flood conditions. We suggest comparing this methodology to other methodologies provided by the TWDB to better estimate future flood conditions in inland areas.	E. Acknowledge comment, no change made. We understand the concern that the use of only population data and corresponding floodplain buffers to represent future flood conditions may underestimate future flood conditions. This approach was used in consideration of the compressed schedule, budget, and available data for this first flood plan. We agree further investigations and considerations of other data be considered for future flood plans.	Complete

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Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
2	Chapter 2.3 - Future Condition Flood Hazard Analysis		"Apply higher-end sea level rise projections to assess future conditions analysis for Coastal Zones" "Currently, the future conditions for Region 13 are based on a low scenario of 1.2 ft sea level rise. This is an extremely conservative estimate, and most projections show confidence in an intermediate to intermediate high increase in sea levels. We recommend using the intermediate to intermediate high projections for planning"	E. Acknowledge comment, no change made. At the March 28, 2022 planning group meeting a 1.2-foot sea level rise for the year 2050 was selected and approved, which is similar to the NOAA 2022 intermediate sea level rise of 1.1-foot. Thus, an 'intermediate' scenario was selected and not a 'low' scenario. Note, an 'intermediate high' scenario correlates to a 1.3-foot sea level rise by 2050.	Complete

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Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
3	Chapter 2.1.3.1 - Vulnerability of Critical Facilities		"Expand the types of structures included when assessing vulnerability of Critical Facilities and weigh these structure higher during the Flood Mitigation Needs assessment" Region 13 included schools, hospitals, police stations, and fire stations as critical facilities when determining vulnerability to flood hazards. Unlike many other regions, Region 13 did not include chemical plants, refineries, chemical storage facilities, oil and gas infrastructure, and Superfund sites as critical facilities. We believe that these other facilities need to be included in order to have a proper understanding of the Region 13's flood risk. Additionally, during the Flood Mitigation Needs Assessment in Chapter 4, Region 13 should weigh these additional facilities higher than hospitals, schools, fire stations, and police stations, as they can pose additional risks to the health and safety of communities when flooded.	E. Acknowledge comment, no change made. TWDB guidance on types of critical facilities included as critical facilities the following: medical servicer provider, police/fire/EMS, schools, public infrastructure (i.e. w/ww treatment plants). Implementation of this guidance resulted in the Region 13 critical infrastructure layer including the following: shelters, schools, power generation, hospitals, airports, DOD military facilities, natural gas pipelines, transmission lines, and fire station facilities. We did not include chemical plants, refineries, chemical storage facilities, and Superfund sites. Agree, that facilities could be considered critical infrastructure as they pose a risk to health and safety if flooded. Additional consideration should be given to include these facilities as critical during the next planning cycle and to factor them into the Flood Mitigation Needs assessment.	Complete

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Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
4			"We support Region 13's Minimum Floodplain Management Regulations" Region 13 required two minimum floodplain management regulations: compliance with Texas Water Code Section 16.3145 and FEMA's National Flood Insurance Program (NFIP) participation. As these regulations are widespread across the region, and create a strong foundation for the region, we support the inclusion of these as	E. Acknowledge comment, no change made. Noted.	Complete
5			"Include a Goal to increase enforcement of Floodplain Ordinances" The level of enforcement of floodplain management practices varied across Region 13, with the highest enforcement located near high growth urban areas of Corpus Christi, San Antonio, and Laredo. However, for the vast majority of counties and municipalities, the Region was not able to determine level of enforcement. We believe that Region 13 should include a goal for the region to increase knowledge of enforcement across the region, and to increase levels of enforcement, region-wide.	A. Comment incorporated. Although the NRFPG does not have enforcement authority, the plan provides recommendations to support local authorities in developing floodplain management practices and summarizes enforcement level across the region based on survey responses. The NRFPG recognizes that enforcement of standards is required for communities participating in the National Flood Insurance Program. An additional administrative recommendation has been added in Chapter 8: The TWDB is encouraged to prepare a brief report that summarizes enforcement levels of floodplain ordinances for all cities and counties (where applicable) and includes guidance on tools and resources that are available to help communities improve the enforcement of floodplain standards.	Complete

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Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
6			"Include impact to natural infrastructure in No Negative Impacts analysis" Natural features and nature-based infrastructure provide significant flood mitigation benefits to neighboring communities. The analysis of "No Negative Impacts" should include impacts to natural infrastructure.	D - Disagree. The use of hydrologic and hydraulic calculations/models is the primary method to evaluate negative impacts of a flood project to neighboring lands. The TWDB provides guidance on determining 'no negative impact' relative to hydrologic and hydraulic parameters in this first state flood plan. It is not clear how no negative impacts to natural infrastructure would be quantified. Suggest Region 13 continue to follow TWDB guidance on 'no negative impact'.	Complete
7			"We support The Nature Conservancy's recommended flood studies to address goals" The Nature Conservancy proposed two flood studies to address nature based practices goals: Nueces Basin Assessment of Flood Mitigation and Performance of Nature-based Solutions (NBS) and Scaling Up Nature Based Solutions (NBS) in the Nueces Flood Planning Region to support community resilience and enhance flood and hazard mitigation planning. Nature-based solutions can provide effective and resilient flood mitigation infrastructure to communities, and we are in support of the inclusion of these flood studies into the Regional Flood Plan for Region 13.	E. Acknowledge comment, no change made. Noted.	Complete

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Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
8			"Include annual appropriations to FIF as a legislative recommendation" We recommend that Region 13 include a legislative recommendation that the state should allocate funding for recurring biennial appropriations to the Flood Infrastructure Fund. Annual appropriations to FIF will ensure that the state can continue to invest in FMPs included in the regional flood plans. 7 out of 14 regions analyzed have included this as a recommendation in their draft plans.	A- Comment incorporated. Added text in Chapter 8.3: X.The Texas Legislature is urged to provide biennial appropriations to maintain the Flood Infrastructure Fund. Biennial appropriations to FIF will ensure that the state can continue to invest in FMPs included in the regional flood plans.	Complete

U.S. Corp of Engineers R13 Draft Plan Comments

RFPG Comments Regarding Legislative Recommendations, Regulatory and Administrative Recommendations and State Flood Planning Recommendations		
Name	**Flood Plan Recommendations**	**Comments**
Jerry Cotter	**Table 8.1 Legislative**	
	Non regulatory regional flood control or drainage districts should be established and funded for rapidly growing urban areas such as DFW, Houston, San Antonio, etc. Responsibility would be to provide consistency, technical resources, funding and reviews in support of FME's, FMS's. These organizations would also implement or support implementation of FMP's. These organizations would augment communities and counties that just don't have the resources and expertise to manage flooding.	Rapidly developing areas surrounding larger urban centers are at greater risk of having runoff patterns increasing because of development. These urban areas are comprised of many communities and unincorporated county areas. Many of the smaller communities are not funded or resourced to deal with the complexities of floodplain management and therefore there is a lack of or inconsistencies in floodplain management practices.
	Clarify the early 2000's state legislation that provide counties the authority to regulate floodplains to explicidly allow and encorage activiites associated with floodplain management such as development of land use plans, regulatory authorites, e.g. permitting.	Although state legislation was passed in the early 2000's which gave counties the ability to regulate floodplains, interpretation of these regulations varies widely from county to county. The legislate bill lacks implementation guidance in the form of administrative rules. If development is occuring in unincorporated areas, this development can dynamically impact flood risk.
Jerry Cotter	**Table 8.2 Regulatory**	
	Require the use of n-values and channel conditions which would likely result if the channel or project were not maintained. Exceptions would be golf courses or other areas where an organization exists which would maintain the channel in perpetuity. Disallow maintence by marginal organizations such as home owners associations to justify acceptance of lower n-values as this is an unrealistic expectation.	When channels are constructed, most often channel bed, banks and overbanks are cleared; however; with many miles of these channels, it is often difficult for communities to maintain those beds, banks and overbanks at their design conditions. Generally, there is a lack of channel maintenance to ensure flood conveyance areas, established as part of a development or improvement projects, to retain their design level n-values. This results in unexpected changes in channel conveyance and increased flooding. Channel maintenance is very expensive activity that can trigger environmenatl permitting requirements.
	No loss of valley storage to the 500-year level. Communities could allow redistribution of valley storage to allow interactions with natural areas but no loss of storage.	Land development in upstream areas increases runoff in downstream areas. This happens because of increased impervious cover and decreased tree cover, and therefore less ability to absorb rainfall. Additionally, development, in most communities, encroaches into riparian areas and decreases the amount of storage available to accommodate flood waters. Just the main thread of the Trinity River though DFW stors more flood waters during of flood than any three of the USACE reservoirs that provide flood protection for DFW. The many other stream provide even more storage than the main stem. There is limited capacity in rivers and streams to convey floodwaters. This means that all areas above any given conveyance point have to stor flood water until sufficient time has laps to pass the water away from the impacted area. The streams are where this water is stored and depleting these storage areas will impact DS areas.
	Establish future land use plans for unincorporated areas associated with rapidly growing urban areas.	"
	Use of ultimate development land use conditions in the development of future flows. Require use of future flows for regulation of floodplains and development of FMP's.	"
Jerry Cotter	**Table 8.3 State Flood Planning Recommendations**	
	None	
	Potential FMS	
	Encorage storm shifting to validate 100-yr estimates and to provide a broader understanding of communities actual flood risk Storms identified and cataloged as part of the GLO funded USACE led Texas Storm Study could be the primary source of storms to be shifted.	Notes: Great deal of uncertainty in 100-yr estimates. Use of observed storms that approximately match depth duration data from NOAA Atlas 14 or other precipitation frequency sources validates 100-yr estimates. Additionally wet, dry and average conditions as well as conditions at the time the storm occured can be presented. Additionally, communities have and can experience storms that exceed the 100-yr. While not regulatory, this information will provide additional hazard mitigation data so communities can address critical infrastructure impacts and be better prepared.
	Add detail to Watersshed Hydrology Assessments (WHA) for communities within basins with completed WHA's. The WHA for the Trinity has been completed.	The WHA's, funded by FEMA, are considered the best available flood flow frequency estimates, e.g. 100-yr. These estimates consider the latest precipitation frequencies, the variations in watershed response and determine critical flood drivers by employing a wide range of sensitivity analysis for each computation point.
	Update WHA's when future precipitation frequency estimates become available. Efforts to develop future precipitation frequency estimates for Texas are starting.	
	Establish regional efforts, for large urban centers to develop future land use data for all developing areas, not just encorporated areas, for use in developing future flood flow frequency estimates and future 100-yr (and other recurrence interval) hazard boundaries.	

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Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
1	Chapter 8 .1 Legislative Recommend .	Jerry Cotter	Comment Rapidly developing areas surrounding larger urban centers are at greater risk of having runoff patterns increasing because of development. These urban areas are comprised of many communities and unincorporated county areas. Many of the smaller communities are not funded or resourced to deal with the complexities of floodplain management and therefore there is a lack of or inconsistencies in floodplain management practices. Recommendation Non regulatory regional flood control or drainage districts should be established and funded for rapidly growing urban areas such as DFW, Houston, San Antonio, etc. Responsibility would be to provide consistency, technical resources, funding and reviews in support of FME's, FMS's. These organizations would also implement or support implementation of FMP's. These organizations would augment communities and counties that just don't have the resources and expertise to manage flooding.	A- Comment incorporated. Added text to Administrative Recommendations in Chapter 8.1: IV. The NRFPG encourages counties and cities to consider drainage districts as a mechanism to manage flooding.	Complete

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Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
2	Chapter 8 .1 Legislative Recommend .		Comment Although state legislation was passed in the early 2000's which gave counties the ability to regulate floodplains, interpretation of these regulations varies widely from county to county. The legislate bill lacks implementation guidance in the form of administrative rules. If development is occurring in unincorporated areas, this development can dynamically impact flood risk. Recommendation Clarify the early 2000's state legislation that provide counties the authority to regulate floodplains to explicitly allow and encourage activities associated with floodplain management such as development of land use plans, regulatory authorities, e.g. permitting.	A- Comment incorporated. Added text to Regulatory/Policy Recommendations in Chapter 8.2: III.The NRFPG (Region 13) urges the legislature to provide implementation guidance to empower county governments to have greater regulatory control over land development activities, including land use plans, adoption of waterway set-backs to protect natural features that mitigate flooding, and/or levying stormwater drainage impact fees to maintain flood infrastructure if desired. Additionally, to provide funding support to local floodplain administrators to develop accurate inundation mapping, which is current absent in over 70% of the 31-county area in Region 13.	Complete

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Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
3	Chapter 8.2 Regulatory		Comment When channels are constructed, most often channel bed, banks and overbanks are cleared; however; with many miles of these channels, it is often difficult for communities to maintain those beds, banks and overbanks at their design conditions. Generally, there is a lack of channel maintenance to ensure flood conveyance areas, established as part of a development or improvement projects, to retain their design level n-values. This results in unexpected changes in channel conveyance and increased flooding. Channel maintenance is very expensive activity that can trigger environmental permitting requirements. Recommendation Require the use of n-values and channel conditions which would likely result if the channel or project were not maintained. Exceptions would be golf courses or other areas where an organization exists which would maintain the channel in perpetuity. Disallow maintenance by marginal organizations such as home owners associations to justify acceptance of lower n-values as this is an unrealistic expectation.	A- Comment incorporated. Agree that channel maintenance often should not be relied upon for flood benefits unless well funded in perpetuity. Added text to Chapter 8.3 legislative recommendations (text from the draft plan shown in grey). V. The Texas Legislature should continue to provide funding to state agencies for flood planning initiatives, including providing technical support and assistance to county and city floodplain administrators or designees to support development of building standards, permitting support to verify new projects meet floodplain development requirements, and training. These initiatives should prioritize solutions that do not rely on channel maintenance programs to reduce flood risk.	Complete

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Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
4			Comment Land development in upstream areas increases runoff in downstream areas. This happens because of increased impervious cover and decreased tree cover, and therefore less ability to absorb rainfall. Additionally, development, in most communities, encroaches into riparian areas and decreases the amount of storage available to accommodate flood waters. Just the main thread of the Trinity River though DFW stores more flood waters during of flood than any three of the USACE reservoirs that provide flood protection for DFW. The many other streams provide even more storage than the main stem. There is limited capacity in rivers and streams to convey floodwaters. This means that all areas above any given conveyance point have to store flood water until sufficient time has laps to pass the water away from the impacted area. The streams are where this water is stored and depleting these storage areas will impact downstream areas. Recommendation No loss of valley storage to the 500-year level. Communities could allow redistribution of valley storage to allow interactions with natural areas but no loss of storage.	A- Comment incorporated. This is a good practice and will help protect against the loss of floodplain storage and protect downstream areas from flooding from upstream development. Added text to Chapter 3.1.2 - Land development in upstream areas is apt to increase runoff in downstream areas by encroaching on riparian areas that diminishes the capacity of streams to store flood waters during storm events. The NRFPG recommends that cities and counties consider ordinances for land developers to consider flood mitigation measures to reduce future flood risk.	Complete

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Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
5			Comment Establish future land use plans for unincorporated areas associated with rapidly growing urban areas.	E. Acknowledge comment, no change made. Land use plans are a helpful tool in managing growth and associated flood issues created by that growth. This strategy will be further considered in future plan updates. For the first plan the focus is to highly encourage 2' of freeboard for finished floor elevations and to obtain accurate flood maps for high flood risk areas.	Complete
6			Comment Use of ultimate development land use conditions in the development of future flows. Require use of future flows for regulation of floodplains and development of FMP's.	E. Acknowledge comment, no change made. Use of ultimate development land use condition is one of the higher standards listed in the TFMA Guide for Higher Standards in Floodplain Management. One of the goals in the region is the adoption of higher standards by communities.	Complete

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7			Potential FMS Encorage storm shifting to validate 100-yr estimates and to provide a broader understanding of communities actual flood risk. Storms identified and cataloged as part of the GLO funded USACE led Texas Storm Study could be the primary source of storms to be shifted. Notes: Great deal of uncertainty in 100-yr estimates. Use of observed storms that approximately match depth duration data from NOAA Atlas 14 or other precipitation frequency sources validates 100-yr estimates. Additionally wet, dry and average conditions as well as conditions at the time the storm occured can be presented. Additionally, communities have and can experience storms that exceed the 100-yr. While not regulatory, this information will provide additional hazard mitigation data so communities can address critical infrastructure impacts and be better prepared.	E. Acknowledge comment, no change made. Our understanding of 'storm shifting' is the application of simulating the rainfall of an historic storm event to a new location to understand the flood risk if a similar storm were to occur again. Storm shifting would provide beneficial information and help communities be better prepared. This strategy should be considered in future flood plans once the basic flood mapping needs are met. At this time most of the region lacks detailed flood models.	Complete

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Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
8			Potential FMS Add detail to Watershed Hydrology Assessments (WHA) for communities within basins with completed WHA's. The WHA for the Trinity has been completed. The WHA's, funded by FEMA, are considered the best available flood flow frequency estimates, e.g. 100-yr. These estimates consider the latest precipitation frequencies, the variations in watershed response and determine critical flood drivers by employing a wide range of sensitivity analysis for each computation point.	E. Acknowledge comment, no change made. No WHA is known to be completed in the Nueces Basin.	Complete
9			Potential FMS Update WHA's when future precipitation frequency estimates become available. Efforts to develop future precipitation frequency estimates for Texas are starting.	E. Acknowledge comment, no change made. Noted.	Complete
10			Potential FMS Establish regional efforts, for large urban centers to develop future land use data for all developing areas, not just incorporated areas, for use in developing future flood flow frequency estimates and future 100-yr (and other recurrence interval) hazard boundaries.	E. Acknowledge comment, no change made. This strategy would be helpful in high growth areas within the basin to better plan for future development and to limited associated flood risks. This strategy should be considered in future flood plans.	Complete

Nueces Regional Flood Plan Draft Comments

Executive Summary

Numbered page 4 under Flood Hazard

Recheck how the % values are written, just pick a format and stick to it as it is confusing.

- Recommendation:
    - Special Flood Hazard Area is the 100-year or 1% annual chance of flooding, up to or beyond the BFE.
    - The 500 year is the 0.20% annual chance of flooding, up to or beyond the BFE.

Maps are a bit fuzzy, is there a way to sharpen them up?

Page 11 under Higher Floodplain Management Standards

San Patricio County has a 24" freeboard requirement for any development within the unincorporated areas of the County. This is a higher standard, but they are not listed in this section. In the map San Patricio County is highlighted to be at a higher standard, these two should match.

Question, maybe I was not available for the conversation, but why did we go with the 12" freeboard instead of a higher level?

- The standard for NFIP is at BFE, but they recommend the 12", should we not at least go to 18" to split the difference from minimum to high standard?
- There are structures in a 100 year floodplain that could not get assistance from FEMA unless they elevated the structure. If we recommend a higher standard then we build more resilience for the homeowner in the future.

Numbered page 12 under Greatest Flood Risk and Flood Mitigation Needs paragraph 1 line 3 where it has the percent again.

- I just recommend that we stick to one way of describing the 100 and 500-year floodplains.

Chapter 1

What happened to the table of contents?

Page 1-17, 5th bullet point down be the same throughout the plan with how we describe the 100 and 500-year floodplains.

San Patricio County					
Project Title:			Nueces Regional Flood Plan		
Project Development Engineer:			HDR		
Project Manager:			Bryan Martin		
Deliverable Milestone:			Final Plan 01/10/2022		
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
1	Executive Summary page 4		Recheck how the % values are written, just pick a format and stick to it as it is confusing. Recommendation: Special Flood Hazard Area is the 100-year or 1% annual chance of flooding, up to or beyond the BFE. The 500 year is the 0.20% annual chance of flooding, up to or beyond the BFE.	A - Comment incorporated Revised to use 1% and 0.2% annual chance consistently throughout the document when describing the probability of occurrence of the 'Flood Hazard'. Note this is how TWDB describes it in their guidance documents.	Complete
2	Executive Summary		Maps are a bit fuzzy, is there a way to sharpen them up?	A - Comment incorporated Higher resolution figures were used where possible.	Complete
3	Page 11 under Higher Floodplain Management Standards		San Patricio County has a 24” freeboard requirement for any development within the unincorporated areas of the County. This is a higher standard, but they are not listed in this section. In the map San Patricio County is highlighted to be at a higher standard, these two should match.	A - Comment incorporated Revised the text under this section to state San Patricio County has a 24" freeboard requirement.	Complete

San Patricio County					
Project Title:			Nueces Regional Flood Plan		
Project Development Engineer:			HDR		
Project Manager:			Bryan Martin		
Deliverable Milestone:			Final Plan 01/10/2022		
Final Disposition: A = Comment incorporated; D = Disagree; E = Acknowledge comment, no change made					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
4	3.1.1.4 Higher Floodplain Management Standards		Why did we go with the 12" freeboard instead of a higher level? The standard for NFIP is at BFE, but they recommend the 12", should we not at least go to 18" to split the difference from minimum to high standard? There are structures in a 100 year floodplain that could not get assistance from FEMA unless they elevated the structure. If we recommend a higher standard then we build more resilience for the homeowner in the future.	A - Comment incorporated. Additional text was placed in Chapter 3.1.3 that strongly encourages adoption of 2' above BFE consistent with upcoming FEMA guidance (grey text is from the draft plan): Finished floor of structures should be a minimum of 1 foot above base flood elevations (BFE) 100 year or based on local ordinances, whichever is higher. The NRFPG strongly encourages cities and counties in the Nueces Basin to actively consider a minimum 2 foot above base flood elevations, consistent with upcoming 2025 FEMA ordinances. Such higher standards build more resilience and reduces future flood risk for homeowners.	Complete
5	Numbered page 12 under Greatest Flood Risk and Flood Mitigation Needs paragraph 1 line 3 where it has the percent again.		I just recommend that we stick to one way of describing the 100 and 500-year floodplains.	A - Comment incorporated Revised to use 1% and 0.2% annual chance consistently.	Complete
6	Chapter 1		What happened to the table of contents?	E. Acknowledge comment, no change made. Table of contents are not provided for each chapter but rather at the beginning of the report	Complete
7	Page 1-17, 5th bullet point down		Be the same throughout the plan with how we describe the 100 and 500-year floodplains.	A - Comment incorporated Revised to use 1% and 0.2% annual chance consistently.	Complete

BARBARA CANALES
COUNTY JUDGE

Maggie Turner
Chief Executive to County Judge
maggie.turner@nuecesco.com
(361) 888-0264

Monica Perez
Executive Secretary
monica.perez1@nuecesco.com
(361) 888-0444

Louie M. Ray, Jr.
Emergency Management Coordinator
louie.ray@nuecesco.com
(361) 888-0513

October 25, 2022

Sent Via Email

Travis Pruski
Director of Planning
Nueces River Authority
539 South Highway 83
Uvalde, Texas 78801

RE: TWDB Region 13 Draft Regional Flood Plan – Nueces County Public Comment

Dear Travis:

On behalf of Nueces County, we request having thirty-one (31) additional Flood Management Evaluations (FMEs) identified by the TWDB Tri-County Drainage Master Plan Study included in the draft regional flood plan for the Nueces Basin. The attached list of 31 FMEs along with an exhibit of the study area was recently approved by Nueces County Commissioners Court on October 19, 2022, for submittal to the TWDB Region 13 – Regional Flood Planning Group (RFPG) for consideration. As discussed, our Program Manager, Susan Roth, will coordinate with you to provide the RFPG with the required technical information for projects developed in the next stage of the TWDB Tri-County Drainage Master Plan Study by no later than March 1, 2023, in order to have them classified as Flood Mitigation Projects (FMPs) in the TWDB Region 13 – Regional Flood Plan.

We appreciate your favorable consideration of our request. If you have any questions or need additional information, please do not hesitate to contact me at (361) 888-0264.

Sincerely,

Barbara Canales

Barbara Canales
County Judge

Cc: Susan Roth, P.E., Susan Roth Consulting, LLC
Kristi Shaw, P.E., HDR Engineering, Inc.

TWDB Nueces County Regional Drainage Master Plan Study

Additional FMXs to incorporate into TWDB Region 13 - Draft Flood Plan for Nueces Basin Official Response to Public Comment Period (October 26, 2022)

Additional FMXs	Label/Circle Number	Precinct Location
The Ranch & Cyndie Park Area	1	1
Westwood Estates Area	2	1
Indian Trails	3	1
Rancho Banquete Area	4	1
Banquete	5	1
Agua Dulce	6	1
La Paloma Ranch Area	7	2
North Robstown Area*	8	1
IH 69E Crossing*	9	1
Robstown Drains	10	3
Callicoatte Farm Area	11	1
FM 1694 & TX 44 North	12	3
FM 1694 & TX 44 South	13	3
County Road 61 & TX 44	14	3
Spring Gardens & Primavera Estates Area	15	3
Tierra Verde Area	16	3
Lost Creek & Nye & Peterson Farm Area	17	1
FM 892	18	2,3
Driscoll	19	1
Fiesta Ranch Area	20	1
FM 665 & CR 69 Area	21	2
Petronila Acres Area	22	2
Tierra Grande & Crossroads Estates Area	23	2
San Petronila Estates Area	24	2
Corpus Christi International Airport	25	3
Balchuck Lane & Digger Lane	26	4
Nottingham Acres Area	27	4
South Prairie Estates Area	28	4
US Naval Base	29	2
Petronila Creek Environmental Study	30	NA
Santa Maria Area	31	4

Project Area Name	Label Number	Precinct
The Ranch & Cyndie Park Area	1	1
Westwood Estates Area	2	1
Indian Trails	3	1
Rancho Banquete Area	4	1
Banquete	5	1
Agua Dulce	6	1
La Paloma Ranch Area	7	2
North Robstown Area	8	1
IH 69E Crossing	9	1
Robstown Drains	10	3
Callicoatte Farm Area	11	1
FM 1694 & TX 44 North	12	3
FM 1694 & TX 44 South	13	3
County Road 61 & TX 44	14	3
Spring Gardens & Primavera Estates Area	15	3
Tierra Verde Area	16	3
Lost Creek & Nye & Peterson Farm Area	17	1
FM 892	18	2,3
Driscoll	19	1
Fiesta Ranch Area	20	1
FM 665 & CR 69 Area	21	2
Petronila Acres Area	22	2
Tierra Grande & Crossroads Estates Area	23	2
San Petronila Estates Area	24	2
Corpus Christi International Airport	25	3
Balchuck Ln & Digger Ln	26	4
Nottingham Acres Area	27	4
South Prairie Estates Area	28	4
Cabaniss NOLF	29	2
Petronila Creek Environmental Study	30	NA
Santa Maria Area	31	4

STATE OF TEXAS
COUNTY OF NUECES

Nueces County Drainage Master Plan Study
Risk Area Identification

Legend

- Prelim. Identified Areas of Risk
- Upcoming Funded Projects

Nueces Co. Precincts

- Precinct 1
- Precinct 2
- Precinct 3
- Precinct 4
- Nueces Co. Drainage District 2

13-in in 24 hrs (100YR) DRAFT Depth

- 0.33 - 0.5ft
- 0.5 - 1ft
- 1 - 3ft
- 3+ ft

N

0 0.5 1 2 Miles

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Gmail

Susan Roth <susan@srothconsulting.com>

Agenda Item 3A4 from 10/19/22 Court

Monica Perez <monica.perez1@nuecesco.com> Wed, Oct 26, 2022 at 11:11 AM
To: "Susan @ Roth Consulting" <susan@srothconsulting.com>

Good morning Susan,

Maggie asked me to help you out in getting a copy of the approval of AI: 3A4. I've put, below, a copy of the item that is on the Minutes to be approved in Commissioners Court next week.

I hope this helps if not let me know exactly what you're looking for and I'll be happy to see about getting it for you.

3.A.4. The Court approved the official response of the public notice period for the Texas Water Development Board (TWDB) Region 13 Regional Flood Planning Group; approved the request to include thirty-one (31) additional Flood Management Evaluations/Flood Mitigation Projects identified by the Tri-County Drainage Master Plan Study into the draft regional flood plan for the Nueces Basin.

Motion by: County Judge Canales, Second by: Commissioner Gonzalez

Vote: 5 - 0 Approved

Motion by: County Judge Canales, Second by: Commissioner Chesney

Motion: Include all 31 projects identified.

Vote: 5 - 0 Approved

Attachments:

Rec. of Flood Risk Areas for Further Analysis

Overall Map for Drainage Study - Flood Risk Areas

Thanks,

Monica Perez

Executive Secretary to County Judge Barbara Canales

Nueces County Courthouse

901 Leopard Street, Ste. 303

Corpus Christi, Texas 78401

Ph:361.888.0444

Fax: 361.888.0445

Monica.Perez1@nuecesco.com

Nueces County					
Project Title:			Nueces Regional Flood Plan		
Project Development Engineer:			HDR		
Project Manager:			Bryan Martin		
Deliverable Milestone:			Final Plan 01/10/2022		
Final Disposition: A = Comment to be incorporated; D = Disagree; E = No change required					
Comment #	Comment Location	Reviewer	Comment	Final Disposition	Final Verification
1	Draft Plan		On behalf of Nueces County, we request having thirty-one (31) additional Flood Management Evaluations (FMEs) identified by the TWDB Tri-County Drainage Master Plan Study included in the draft regional flood plan for the Nueces Basin. The attached list of 31 FMEs along with an exhibit of the study area was recently approved by Nueces County Commissioners Court on October 19, 2022, for submittal to the TWDB Region 13 — Regional Flood Planning Group (RFPG) for consideration. As discussed, our Program Manager, Susan Roth, will coordinate with you to provide the RFPG with the required technical information for projects developed in the next stage of the TWDB Tri-County Drainage Master Plan Study by no later than March 1, 2023, in order to have them classified as Flood Mitigation Projects (FMPs) in the TWDB Region 13 — Regional Flood Plan.	E. Acknowledge comment, no change made. The additional FMEs and FMPs will be added to the plan as part of the plan amendment process in 2023, as additional information becomes available on projects that are in the process of being identified in the TWDB Tri-County Drainage Master Plan Study. HDR has participated in four calls with the Tri-County Drainage consultant team to date and continues to coordinate through ongoing Task 12 activities.	Complete