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30 Day Engineering Models Notification

May 15, 2024

The Honorable Carbett "Trey" J. Duhon III
Judge, Waller County
836 Austin St, Rm 203
Hempstead, TX 77445

Dear Judge Duhon:

This letter is to notify you of the engineering data models being used in the Texas Water Development Board's (TWDB) upcoming flood risk project for the Brazos River in Waller County. Based on the *Hydrologic and Hydraulic Analysis of the Brazos River 2021* study, created for Fort Bend County, the TWDB will use the gathered data to create useful, credible flood risk data, and a fair public input process to help you make informed decisions to continue building a safer and stronger community.

These engineering data models will form the basis for the proposed Special Flood Hazard Areas (SFHAs) that will ultimately be presented on the Flood Insurance Rate Map for your community. A SFHA is an area that is subject to inundation by the 1-percent-annual-chance flood (also called the base flood). Over time, water flow and drainage patterns in your area may have changed dramatically due to surface erosion, land use, and natural forces. Given these factors, the likelihood of flooding in certain areas may have increased or decreased over time, changing the SFHA designation(s).

Upon receipt of this notification, your community will have 30 days to consult with the TWDB project staff (identified in the last paragraph of this letter) regarding the appropriateness of the models selected for the project. Your community will have additional opportunities to comment on and provide feedback about the models and other draft flood hazard information throughout the project. The TWDB plans to work closely with the counties to gain buy-in prior to project close-out. However, if there are uncertainties about the mapping data that have been collected and analyzed, a formal appeals process and period will be available to help resolve any remaining questions before the flood hazard information becomes effective.

Our Mission

Leading the state's efforts
in ensuring a secure
water future for Texas

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Bryan McMath, Interim Executive Administrator

The Honorable Judge Duhon

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The TWDB, as a mapping partner with the Federal Emergency Management Agency (FEMA), will develop draft flood hazard information for Waller County based on the engineering models developed by the TWDB, shown on the attached Engineering Models Summary Table, which lists the flooding sources to be studied, along with details regarding the selected models, and the rationale for their use. As a continuation of the region's commitment to floodplain management through the funding of the TWDB Flood Protection Studies, the TWDB intends to utilize the models developed by Fort Bend County and advance them toward FEMA products.

The TWDB and FEMA want to ensure that the most up-to-date and accurate technical data are used to develop your flood risk products. The TWDB and FEMA rely on your feedback, partnership, and knowledge during this important project to determine the extent of flood risk in your community and support your efforts to reduce those risks. We look forward to working with community officials and other stakeholders in Waller County to increase flood risk awareness and reduce risk to life and property. Your initial feedback will not affect your community's ability to provide feedback later, or to formally appeal the flood hazard information during a future appeal period.

Please provide your comments related to the types of models selected for this project by June 30, 2024. To provide your comments or get answers to any other questions about this project, please contact the TWDB Project Officer, Manuel Razo at manuel.razo@twdb.texas.gov or (512) 475-1850.

Respectfully,

Manuel Razo

Manuel J. Razo

Cooperating Technical Partners Coordinator

Enclosures: Engineering Models Summary Table
Project Area – Study Map

cc: Ross McCall, Floodplain Administrator
Larry Voice, FEMA Project Monitor, FEMA Region VI
Richie Hernandez, Texas NFIP Coordinator and CTP Coordinator
Kaitlynn Homburg, PE, CFM, Project Manager, HALFF Associates

Proposed Engineering Models Summary Table

Flooding Source Name	Current Study Method (BLE, Approximate, Detailed)	Proposed Study Method (BLE, Approximate, Detailed)	Total Mileage	Hydrologic Model Proposed	Hydraulic Model Proposed
Brazos River	Detailed with Floodway MIXED	Detailed with Floodway	180	Brazos River HEC-HMS 4.3	Brazos River HEC-RAS 6.5
Rational for Model Selected					
Hydrologic Analysis		The TWDB will update the available hydrologic models to include necessary detail within the tributaries using HEC-HMS version 4.3. The precipitation data will remain Atlas14, the 2018 National Oceanic and Atmospheric Administration (NOAA). The model parameters will be reviewed in comparison to the newly available LiDAR and recent aerial photography to conduct updates, as appropriate.			
Hydraulic Analysis		The TWDB will update the mainstem using HEC-RAS version 6.5. The models and stream crossings will be reviewed in comparison to the newly available LiDAR and conduct updates, as appropriate.			

