

Texas Floodplain Management Association

P O Box 1237
Cedar Park, TX 78630

August 30, 2019

Mr. Jeff Walker
Executive Administrator
Texas Water Development Board
1700 Congress Avenue
Austin, TX 78701
Via Email: rulescomments@twdb.texas.gov

**RE: Implementation of Flood Legislation from the 86th Legislative Session
Comments from the Texas Floodplain Management Association**

Dear Mr. Walker:

The Texas Floodplain Management Association (TFMA) is pleased to provide our comments regarding implementation of flood legislation from the 86th Legislative session. During the recent legislative session, TFMA members were active following the legislative process regarding the various flood related bills including Senate Bill 7 – State Funding, Senate Bill 8 – State and Regional Flood Planning and House Joint Resolution 4. As solicited by your office, a request was made for comments regarding the new state and regional flood planning process and the new flood financing program.

TFMA, having a membership of over 2,600, is an organization of professionals involved in floodplain management, flood hazard mitigation, the National Flood Insurance Program, flood preparedness, warning and disaster recovery. We are a respected voice in floodplain management practice and policy in Texas. Our members are flood hazard specialists from local, state and federal governments, the mortgage, insurance and research communities, and the associated fields of flood zone determination, engineering, hydraulic forecasting, emergency response, water resources, geographic information systems, and other areas relevant to flood disasters. TFMA has a floodplain management certification program that is nationally accredited through the Association of State Floodplain Managers and provides training and testing for those seeking their national certification as Certified Floodplain Managers.

When we were made aware of TWDB's solicitation for comments, we reached out to our membership regarding the request for comments and encouraged them to attend one of the TWDB workshops conducted statewide. In addition, we created a focus group (committee) specifically to review SB7 and SB8 documentation and develop comments. Our focus group, consisted of 31 members located throughout the state who work for both public and private entities. The attached documents outlines comments identified by TFMA regarding the SB7 and

SB8. In addition we also prepared a document (Attachment 1) that summarizes the differences between regional water planning and regional flood planning.

TFMA appreciates the opportunity to submit our comments as the TWDB develops these very important new flood financing and flood planning programs. We also request the TWDB include TFMA as part of the process in developing these programs. If you have any questions or need additional information, please contact me at either TFMA (tfma@tfma.org) or my place of employment (jespinoza@sanmarcostx.gov).

Sincerely,



John Espinoza, PE, CFM
President
Texas Floodplain Management Association



SB 7: State Flood Funding Issues for Consideration

Issue 1 (SB 7): Form of Financial Assistance

Texas Floodplain Management Association (TFMA) understands there is a very limited amount of public funds in comparison to the financial burden required to mitigate all flooding in Texas. Our membership has concerns that a substantial source of financial assistance is only available following a disaster declaration. TFMA supports a plan to provide communities the necessary financial assistance to proactively reduce flood risk. Although our membership would generally prefer grants over loans, we acknowledge that a system of “free money” does not make financial sense and is not sustainable for the future; thus, we recommend state funding should include a combination of incentivized grants and loans. We suggest consideration of up to 25% of the program funding be secured for grants or loan forgiveness.

An incentivized grant/loan program should encourage accountability by providing a means for the recipient to actively participate in the project. TFMA suggests the state consider community-based incentives for award of funding to include:

1. Participant in the National Flood Insurance Program (NFIP)
2. Adoption of minimum and/or higher standards
3. Secured funding match (local, regional partners, public private partnerships, etc.)
4. Acquired right-of-way and easement
5. Commitment to future operation and maintenance

In addition, TFMA suggests grant funding should be available to communities based on a sliding-scale basis to favor communities with higher priority flood problems. In addition, a specified amount of funding should be made available for communities with limited ability to generate funding (i.e., smaller populations, rural areas, lower income areas, etc.). In economic and political contexts, it is said that “a rising tide lifts all boats”; grants should be prioritized to buy “boats” for smaller, low-income communities. We also recommend a threshold consideration for projects that qualify for grants versus those that qualify for loans or share cost (loan and grant combination) with higher ranking projects and qualifying entities allowing for lower (or zero) interest rate loans.

Issue 2 (SB 7): Prioritization System

TFMA membership has been an advocate of “Turn Around Don’t Drown” because the majority of “loss of life” incidents, as well as swift water rescues, are often associated with low water crossings. If minimizing loss of life is central to the goal, then road crossing projects should be a priority. Low water crossing improvements could include replacement or, more easily implemented, non-structural solutions such as flood warning systems, flashers, barricades, emergency preparedness plans, etc., TFMA membership recommends a prioritization of funding for low water crossing improvements based on risk / vulnerability determined from historical records, computed frequency of flooding and average daily traffic counts.

Developing an all-encompassing prioritization system that addresses riverine, coastal and local flood will be a challenge because Texas is not a one size fits all state. Additionally, flood mitigation for the various types of flooding and various project types are not uniform. It will be a challenge to develop a consistent methodology such that all computations are similar and defensible. TFMA is especially concerned about prioritizing projects using typical benefit-to-cost computations that utilize value of structures and property to determine benefits. Given that most flood prone properties are often located in older neighborhoods developed prior to modern development regulations, our membership prefers a methodology that rates projects based on the number of structures and properties protected rather the actual value of these structures. If prioritization must be based on County Appraisal District, which values can favor higher-income areas, we suggest a normalized home value to emphasize value of life and to establish a level playing field.

Since flood risk is a spectrum rather than a “line on a map”, the program should use language clearly communicating program metrics, uncertainties, and residual risks. TFMA suggests implementation of a project prioritization process that is transparent to all applicants. Our membership has been frustrated with some funding programs that seem very subjective, obscure, and difficult to maneuver through the application process.

The prioritization process should heavily weigh flood depth and floodplain areal reduction within public rights-of-way, parks, and neighborhoods. Scoring should emphasize populations removed from flooded areas, current or projected average daily traffic (ADT) counts for roadways (or road classifications as an indicator), living units and/or estimated number of occupants for residential and non-residential buildings, etc. We support other factors as well such as emergency response access/benefits, alternative routes available, critical facilities at risk, etc.

TFMA recommends the State develop a prioritization based on a point system factors including:

- Public Safety – including consideration of roadway mobility, emergency access, repetitive loss structures, history of flooding, total structures (many are not insured) benefitted, critical facilities, repetitive loss structures, etc. ***Projects that have an immediate benefit to reducing risk to life, health and safety would rank highest.***
- Return-On-Investment – including factors associated with project cost, benefit/cost relationship, project life cycle cost (operation and maintenance), natural and beneficial floodplain functions (water quality, riparian corridor preservation, eco system enhancements), quality of life (social, cultural) benefits, project sustainability/resilience, etc.
- Repair and Rehabilitation of Existing Infrastructure – based on the determination of risk reduction and the intended effectiveness of the existing system.
- Synergies with Other Projects/Planning – including water supply, transportation, parks and recreation, etc.
- Project Implementation Timing – including alignment with other funding opportunities, project partners, permitting requirements, shovel ready (design and permitting), land and easement acquisition, etc.
- Regional Benefits – including multi-jurisdictional impact and consideration of future/ultimate urbanization.

TFMA realizes that there is not enough funding to solve all flooding problems and the timing to implement projects is often substantial; thus, we strongly recommend initial funding be allocated to implement an extensive public awareness campaign. This effort should include:

- Communicating the risk of flooding and impact to lives and property.
- Encouraging the benefits of implementing higher standards to ensure future actions do not result in additional risk.
- Mapping and identifying flood risk in unmapped areas where people are at risk
- Identifying historically flood prone areas (including properties and structures) and aging at-risk infrastructure (dams, levees, bridges, etc.).
- Communicating the time needed to implement projects.

Issue 3 (SB 7): What Projects Get Prioritized

Unlike water supply projects, flood mitigation does not result in a revenue stream for the repayment of loans; thus, TFMA membership are somewhat skeptical of a serviceable loan program. Although the Clean Water program allows for funding of stormwater projects, many of our members believe the effort required to comply with the federal requirements does not justify the savings for the low interest loan; thus TFMA recommends all loan alternatives considered should minimize the “red tape.” In addition, loan opportunities should provide entities the benefit of a low or zero interest loan to serve as the entity’s match for a secured grant. This would allow individual organizations to secure matching funds via a loan without losing out on other federal grant/funding opportunities. TFMA suggests the state also consider prioritizing zero interest loans to low-to-moderate income communities.

TFMA also recommends consideration of some level of distribution of funding opportunities to address needs throughout the state. Given the greatest risk of flooding impacting the most lives is generally within population centers of large urban communities, TFMA suggests the state consider allocating a percentage of funds to specifically address rural communities as well as local flooding and coastal issues. TFMA suggests project prioritization (based the above Issue 2 suggested point system factors) should be conducted using a matrix approach where project funds are distributed based on:

- impact of the project (regional and local)
- location (urban and rural)
- type of flooding (local, coastal, riverine, and structural failure)

It has been suggested that past flood related deaths within a project area could be used as a prioritization factor; however, TFMA suggest program success metrics should not be directly tied to flood deaths. Since human behavior is difficult to predict, it will be impossible to prevent all flood related deaths (i.e., evacuation refusals, driving around flood barriers, etc.).

Issue 4 (SB 7): Property Buyouts

TFMA believes minimizing the number of people whose homes are in the flood-prone areas is a key tenant of floodplain management. We strongly support the use of state funding for buy-outs and elevation projects as a high-priority non-structural solution considered by the state. TFMA recommends a state funded property buy-out program that should:

- be subject to residents willing to sell.
- focus on frequency and depth of flooding rather than the cost of the structure per a typical FEMA BCA.
- be used as an interim solution to expedite federal property buy-outs, assuming federal reimbursement is achievable.
- be used to supplement federal programs to assist with re-purposing the land to a natural condition / open space.

Issue 5 (SB 7): Memorandum of Understanding with All Other Political Subdivisions in the Watershed

TFMA believes MOU's should be implemented based on a defined watershed or area of potential impact. The MOU should be unique to ensure each project and ensure each participant:

- understands the purpose and benefits of the project.
- recognizes project will not have an adverse impact within the designated watershed.
- recognizes the entity responsible for permitting, land acquisition and legal needs.
- understands the responsibilities for future operation and maintenance.

Issue 6 (SB 7): Flood Control Planning

TFMA believes SB 7 and SB 8 can be complimentary rather than conflicting. We understand SB 7 could be implemented through an expanded version of the TWDB's Flood Protection Planning Grant (FPPG) and should not duplicate the efforts of the SB 8 regional flood planning process. Given the past success of the FPPG for planning purposes, the expanded authorization allows for permitting and design of flood mitigation projects which will ultimately be identified and prioritized by the regional planning groups established by SB 8. In addition, SB 8 regional planning process should be able to tap the FPPG to develop the necessary planning information to justify a project for inclusion in the regional plan.

TFMA recommends the state re-establish the project ranking for the FPPG to address planning and permitting/design of mitigation projects.

Issue 7 (SB 7): What Have We Not Thought About?

TFMA believes the Texas flood plan should focus on good floodplain management and first and foremost on identifying flood risk, updating mapping, moving people out of the floodplain, and keeping structures above the floodplain. The implementation of flood mitigation projects is most often reactionary following a major flood. TFMA would ultimately prefer Texas consider a proactive approach to help minimize future flooding as our population expands. Encouraging communities to establish minimum standards is essential to minimize future flood risk as our population grows. Harris County conducted a post Harvey analysis of homes built in 2009 and later in accordance with current subdivision development drainage criteria and determined of the 75,000 homes constructed, only 467 (0.6%) flooded during Harvey and zero homes were substantially damaged.

Another example of good regional floodplain management is the Corridor Development Certificate (CDC) process in North Texas. The CDC program has been in place since 1988 to ensure the preservation of the Trinity River's valley storage; thus, the natural detention has been conserved as development has occurred along the river corridor. TFMA urges the state to incentivize regional programs like the CDC to help preserve our floodplain corridors.

SB8: State and Regional Flood Planning Issues for Consideration

Issue 1 (SB 8): Planning Group Membership

Texas is a diverse State in terms of industry, population, geology, etc. and recognize that each of the planning groups will need a diverse membership to reflect their stakeholders. As such, we recommend the TWDB not expand the mandated membership list except as noted below.

- Major basins that are split should include requirements to liaise with upstream or downstream planning groups. TFMA supports the idea of TWDB adding non-voting memberships to serve as a liaison.
- Provide the planning groups the flexibility to add members (voting or non-voting) that best represent that planning group. TWDB should provide suggestions for the types/categories such as academia, land trusts, etc.
- Many of our members have expressed the need to include TxDOT, NWS, USGS, USACE, and FEMA in the planning process. TFMA recognizes the value these agencies provide and limitations to what these organizations can do and how they will participate. TFMA suggests the Board encourage participation of other State and Federal agency and provide clarification regarding the roles of these agencies in the planning process.

Issue 2 (SB 8): Planning Standards and Parameters

TFMA believes the Texas flood plan should focus on good floodplain management, whereas first and foremost on identifying flood risk, updating mapping, moving people out of the floodplain, and keeping people out of the floodplain. We are also aware that a significant portion of flood deaths and flood claims are from outside mapped, riverine flood areas. In addition, most residents do not distinguish flooding based on the source – flooding is flooding.

For these reasons TFMA recommends:

- The initial planning efforts should include the best available information – this may be local or regional master plans, FEMA models and mapping, USACE Studies, etc.
- The initial planning effort should focus on riverine flooding but, because future funding will be limited to projects in the plan, planning groups should be provided the flexibility to add projects below any threshold established.
- A uniform flood risk analysis and flood risk reduction analysis should be developed to define the problem and to prioritize projects. TWDB should develop a tool that is easy to use and that provides a method to compare potential flood risk reduction across regions and projects submitted for funding.
- Rather than a fixed planning horizon, flood planning should be based on best estimates of future watershed build out (future land use conditions) which should be updated each planning cycle.

Issue 3 (SB 8): Planning Area Boundaries

- Some jurisdictions will be split into multiple planning groups and TFMA membership is

considered about the resource requirements. Because split entities/jurisdictions are in the upper reaches of watersheds mandatory membership should not automatically be required in each of the planning groups. A good example is Kerr County which may be split into 3 planning groups based on the preliminary maps. Virtually all the County is in one planning group with only slivers in the other two. The TWDB could consider the potential impact on the planning group to determine if membership in multiple groups should be mandatory or not. Alternately TWDB should provide an opt in or opt out for these communities during the planning cycles.

- Some of the large river basins made need to be subdivided further than shown based on large populations centers. TWDB should consider subdividing the Brazos, Trinity, and Colorado Rivers into Upper, Middle, and Lower Basins.
- Having the coastal zone included in the State Flood Plan makes sense for coordination of riverine flooding; however, some of the largest damages and greatest threat to public safety is from hurricanes and tropical storms. TFMA recommends TWDB consider a coastal overlay region to provide consistent project development and prioritization across the Texas coast. Establishing a coastal zone aligns with the State's Coastal Resiliency Master Plan and will promote consistent analysis that can factor in storm surge, subsidence, sea level rise, etc.

Issue 4 (SB 8): Benefit-Cost Analysis

TFMA is concerned about prioritizing projects using typical benefit-to-cost computations that utilize value of structures and property to determine benefits. Given that most flood prone properties are often located in older neighborhoods developed prior to modern development regulations, our membership prefers a methodology that rates projects based on the number of structures and properties protected rather the actual value of these structures.

- If prioritization includes a BCA, it should not be a pass-fail requirement (greater than 1.0) for funding and should be one of several weighed factors.
- If property values are used, TFMA suggests use of normalized, regional home values to emphasize value of life and to level playing field.

Please see TFMA's response to SB7: Issue 2 for more information on our recommendations for prioritization of projects.

Issue 5 (SB 8): Neighboring Area Impacts

TFMA supports no adverse impact regardless of future mitigation projects unless:

- If a project has an adverse impact, implementation shall require a letter of agreement or affidavit from all effected property owners.
- A CLOMR shall be submitted to the effected communities and FEMA. As noted in our other responses, TFMA encourages all members be required to participate in the NFIP.

Issue 6 (SB 8): Flood Planning Guidance Principles

- A balance is needed among various types of flooding, riverine, coastal, local, structural failure, etc. Planning groups should be provided the flexibility to include projects based on risk rather than minimum watershed size.
- Priority should be based on reduced risk – TWDB should develop a Flood Risk Index that can be used to normalize risk across regions and project types and that can be a factor used in project prioritization.
- Flood planning should be based on the best estimate of future land uses and/or urbanization rather than a fixed planning cycle. The estimates of future land use changes should be updated during each planning cycle.
- Design storms / risk reduction should be based on appropriate level of service. For new projects TFMA recommends the minimum design storm be based on FEMA standards (1% base design with 0.2% for critical facilities) but incorporating future / ultimate buildout. For retrofit projects, the level of service is often determined by an acceptable reduction of risk balanced with the overall cost of the project.
- TFMA recommends the TWDB require communities with projects in the flood plan to develop emergency response plans (such as evacuation plans). We further recommend that Flood Planning Grants be made available for this activity.
- Funding should be incentivized to encourage accountability by providing a means for the recipient to actively participate in the project. TFMA suggests the State consider community-based incentives for award of funding to include:
 - Participant in the National Flood Insurance Program
 - Adoption of minimum and/or higher standards
 - Secured local funding match (local buy-in)
 - Regional partner funding commitments, when applicable
 - Available right-of-way and easement
 - Commitment to public education and outreach
 - Commitment to future operation and maintenance
- One of our members provided the attached overview (Attachment 1) highlighting the differences between water planning and flood planning – TFMA recommends the TWDB consider these differences while developing the Planning Process and Rules.

Issue 7 (SB 8): Preliminary Outline for Flood Planning Rules

- No comments

Attachment 1

Differences between Regional Water Planning and Regional Flood Planning

The plans address different types of risk.

- There is a different distribution and variation of risks across the state.
- There is a different set of stakeholders.

Different ways to determine jurisdiction

- Water supply jurisdiction is often more clearly defined by service areas and/or areas where infrastructure is located.
- Stormwater, floodplain management, and flooding concerns often overlap existing jurisdictions and/or municipalities.

Different abilities for stakeholders to fund studies and projects

- Water supply stakeholders typically have a revenue stream. Cost of service is directly proportional to usage, i.e. high users pay more.
- Beneficiaries of a flood control project typically do not pay more in stormwater fees. Stormwater fees can be based on % impervious coverage of property, making it where those contributing to a greater amount of runoff pay more.

Different timelines for events

- Water supply planning is typically for drought conditions that increase relatively slowly in intensity.
- Flood planning is typically for short-duration events that are unpredictable and can be different each time.

Different areas impacted

- Drought typically impacts larger areas. Entire service areas are impacted. A drought is everyone's problem.
- Flooding can be very localized and impact small or larger areas depending on rainfall events. It is rare for an entire city to be impacted by a flood.

Different Opportunities for Intermediate Actions during Events

- Droughts are long-term and may not be easy spot at the beginning but do follow a general trend that can be spotted when looking at a wide view.
- Floods are more short-term, and once in the event, there is usually little that can be done to lessen the impacts during the event.
- Because of the larger time scale, compensation can often be made for the unpredictable nature of the drought magnitude and duration by intermediate actions, i.e. watering restrictions, alternative sources.

Differences in predictability of events: Magnitude and duration are both highly unpredictable for both drought and flood.

- The long-term nature of a drought makes it more forgiving of errors in predicting the drought of record.
- There is typically time to recognize a drought's severity and put in place measures to conserve water or acquire additional supply.
- Water planning is based on historical droughts, which could be exceeded, but there is a long history that makes the science of water supply planning a little more predictable than flood planning.
- The statistical approach does not seem to be used as commonly in water supply planning. Water supply is planned for the worst case that we know of, but the statistics are not commonly run to see what percent chance the drought of record has to be exceeded.
- Floods are on a scale of hours and days instead of months and years. If predictions of flood magnitude are incorrect there is not enough time to move people, resources, or structures that were incorrectly identified as being safe.
- Flood/storm water planning takes a statistical approach, i.e. design to an event that has an X% Annual Exceedance Probability (AEP).
 - Only large reservoirs are designed for a worst-case scenario, i.e. the probable maximum flood (PMF).
 - Freeways are designed to the 2% AEP (50-yr), Minor Arterials are designed to 10% AEP (10-yr). Smaller roads are designed based on their criticality.
 - It would be cost prohibitive to design all storm water and flood control infrastructure for worst case; some risk is assumed.