

Meeting Summary
H-GAC REGIONAL FLOOD MANAGEMENT COUNCIL
January 19, 2011

MEMBERS PRESENT are shown in bold, *Members Absent* are shown in italics:

Randy Acreman (phone)	<i>Cathy Dominguez</i>	<i>Mark Jordan</i>	Craig Meyers
Louis Bergman (phone)	<i>Mike Fitzgerald</i>	<i>Spencer Karr</i>	Frank Rodriguez (phone)
John Blount	<i>Scott Hall</i>	Lisa Krobot	Yancy Scott
Jing Chen (phone)	Kelly Hamby	Shashi Kumar	Mark Vogler *
<i>David Collins</i>	Andrew Isbell	Sidney Lewis	
Daya Dayananda	Phil Jones (phone)	Narciso Lira (phone)	
George Dixon	Dan Johnson	Monica Martin	

***Mark Volger was represented by alternate Juling Bao**

***Craig Meyers was represented by alternate Anne Tran**

VACANCIES:

City of Galveston; one "At-large"

After the meeting, representatives from the City of Sealy and the City of Dickinson showed interest in filling the at-large board vacancy.

H-GAC STAFF PRESENT:

Kelly Porter, Erin Livingston

OTHERS PRESENT:

Raymond Anderson (HCPID); John Brown (City of West University); Kevin Byal (City of Dickinson); Lee Cabello (City of Bellaire); Chris Doherty (Brown & Gay Engineers); Jennifer Dupas (Harris County); John Grounds (TFMA); Daniel Hahn (HCPID), Attaul Hannan (Harris County Flood Control District); Bill Hopkins (Memorial Super Neighborhood); Scott Hughes (HCPID); Jamila Johnson (City of Houston); Sean Landis (City of Seabrook); Larry Mayberry (City of Sealy); David Overstreet (Klutz Associates); Andy Palermo (ERHA, Inc.); Nawa R. Panthi (A&S Engineers); Jerry Preston (EHRA, Inc.); Adam Rodriguez (R.G. Miller Engineers); Colleen Russell (City of Port Arthur); Jack Smart (Super Neighborhood 16); Josh Stuckey (HCPID); Shawn Sturhum (HCPID); Stephen Reiter (Halff Engineers); Jim Roberts (Lippke, Cartwright, & Roberts); Zachary Touns (Michael Baker Corp); Tim Tietjens (City of Laporte); Scott Tuma (City of League City); Mae Wright (City of Seabrook)

WELCOME & INTRODUCTIONS

Shashi Kumar welcomed everyone and initiated self introductions.

APPROVAL OF OCTOBER MEETING REPORT

A quorum of 19 was present and approved the report from the previous meeting.

REPORT BY H-GAC STAFF

Membership

There is still a vacancy for the City of Galveston and an at-large seat for a city of under 50,000. Staff is working with the City of Houston to get a representative on the board.

RFMC Logo

Kelly Porter was introduced as the new H-GAC staff liaison for the Regional Flood Management Council. Erin Livingston presented a new logo to the board, however upon request she will create another option that will include an image of the H-GAC region.

2-D Hydraulic Modeling and it Advantages

Christopher L. Doherty, P.E., CFM, Brown & Gay Engineers

Mr. Doherty gave a presentation on 2-D Modeling. 2-D modeling is different from 1-D modeling because 1-D assumes water flows parallel to stream paths. 2-D allows for modeling divergent flow paths and design with overland flow. He then gave an example from the Grand Parkway project, which used 2-D analysis to evaluate the overflow conditions in relation to the Grand Parkway and provided the basis for pass-through recommendations to mitigate potential adverse impacts.

He then went on to discuss the various inputs necessary to include in modeling such as:

- Logical Zone Boundaries: overall study area, channel flow zone, overland flow zone, and physical / material changes (roughness)
- Elevation Data Input : GIS and SMS pre-processing, LiDAR data, HEC-RAS cross section data

He stated that the backbone of the 2-D model is the elevation data input. The models take 45 -60 minutes to run. The most important results of this model are the speed and direction of the water. After the inputs are selected, step 2 is to ascertain the impact of a flood event; and step 3 is to determine the proposed conditions and develop steps to mitigate impacts. He then showed an example from the Brazos River in Sugar Land demonstrating how the model differentiates various flows, which can inform how the built environment is designed near the river. He went over the limitations of the 2-D model such as:

- Many 2-D models do not meet the minimum modeling standards for the National Flood Insurance Program. None are approved for floodway encroachment modeling.
- 2-D model results are limited by the accuracy of the assumptions, input data, and the computing power of the hardware and software
- Modeling complexity and precision are not a substitute for sound engineering judgment

Note: For further details about this topic and other recent presentations go to <http://www.h-gac.com/community/water/rfmc/default.aspx>

Q: What happens to water that falls directly on a bridge?

A: That is contingent on the roadway design. Short bridges typically have cut outs in the barrier for water to fall.

Q: How does the pass through of a roadway determine the size of the swells?

A: They were designed to convey the 10 year storm but hold the 100 year volume.

Q: How far along are they on the Grand Parkway project?

A: Portions of the project are built on the westside and near Baytown, however much of it is still proposed under negotiation between HCTRA and TXDOT.

Q: Were you able to model the proposed conditions with the 2-D model?

A: Yes, we created mesh points and grid points that were opened by calibrating the roughness with culvert analysis.

Q: Are you projecting your results towards creating retention requirements so that water won't flow where people live but channeled into reservoirs?

A: Every developer must be able to retain their water for the 10-year and 100-year event. Harris County requires detention for all development except for discharges into the Gulf of Mexico; however regulations vary by each jurisdiction. The westside reservoirs were built with future development in mind and will be able to accommodate future demand.

Q: What are the costs of the models; and are the unapproved models used only for research?

A: There are both learning and acquisition costs with these models. The public program is relatively inexpensive, even when SMS costs are factored in, but typically \$1,000 or less for the software. However, private sector models can cost as much as \$40,000.

A2: FEMA has a list of preapproved models, but that does not mean that a community cannot request to use a different model for a local study. Many of the unapproved software programs are in the process of becoming approved.

Q: Since these models have been in use, have any of the scenarios been validated by a real flood situation?

A: On the Cypress to Addicks overflow we did not, but we knew that the 1998 example was close to 100-year event.

Q: Is this modeling not commonly used by FEMA due to the costs?

A: Yes, the costs of these models are only practical for certain communities.

ROUNDTABLE DISCUSSION BY MEMBERS

- Shashi asked for future presentation topics.
 - Use of the FIS (possibly through TFMA)
 - TFMA Modules
 - FEMA benchmark maintenance
 - NFIP Reform
 - Cumulative Substantial Damage and Repetitive Loss
- An issue with the Best Practices manual is that it is not a regulatory document and only includes best practices. However, any jurisdiction can pick a practice that is contrary to another which can create inconsistencies in use.
- Another issue is that FEMA maps political subdivision by political subdivision which lends itself to major inconsistencies. FEMA is beginning to do mapping watershed by watershed.
- Suggestion: The group should work on a Best Practices for Benchmarking project.
- There may be an issue with the RFMC doing another project considering the varying context and resources of the jurisdictions within region.

The next FAST meeting will be **Tuesday**, February 1 at 1:30 PM here at H-GAC; however, they are typically on the first Thursday.

Heidi Carlin has requested that the group send her good before and after photos of elevation projects. They are updating FEMA publication 213 about substantially damaged buildings. Please send these photos to heidi_carlin@urscorp.com.

NEXT MEETING

The next meeting will be on Wednesday, April 20, 2011, 1:30 PM to 3:30 PM.

ADJOURN

The meeting was adjourned at approximately 3:20 PM.