The Bayou Beat

Reduce the Risk. Rediscover the Beauty.

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PROJECT BRAYS

Detention or Retention? *Which One Is It?*

Some terms and phrases used in the business of flood damage reduction seem to find their way into the public-at-large either interchanged with similar terms or referred to altogether incorrectly.

Detention and retention are two such terms.

Both detention basins and retention basins are used to accomplish flood damage reduction. Although the terms are sometimes used interchangeably, there are important differences between them.

A **detention basin** temporarily stores stormwater and then slowly drains when water levels in the receiving channel recede. In essence, water in a detention basin is temporarily detained until additional room becomes available in the receiving channel.

A **retention basin** also stores stormwater, but the storage of the stormwater is on a more permanent basis. In fact, water often remains in a retention basin indefinitely, with the exception of the volume lost to evaporation and the volume absorbed into the soils. An additional use for stormwater retention basins is recharging large underground water aquifers. Retention basins, for the sake of flood damage reduction, are not common in Harris County; they are popular in parts of the country that have soils more amenable to this type of flood damage reduction measure.

The short of it is this:
Detention is the temporary storage of excess stormwater.
Retention implies that stormwater is stored indefinitely.

Detention basins are engineered, constructed and utilized extensively in Harris County and within the Harris County Flood Control District drainage infrastructure. There are approximately 50 detention basins, including four that are a part of Project Brays, in operation by HCFCD throughout Harris County, as well as hundreds constructed by land developers.

Bridge Modifications Play Important Role in Project Brays

While channels are widened as part of the overall strategy to reduce the risk of flooding for residents in the Brays Bayou watershed, the bayou itself is not the only thing being altered. More than 30 bridges that span the channel also must be modified.

Fred Garcia, Harris County Flood Control District director of Communications, said there are two reasons bridges are modified. "The first is when a bayou is widened, and the bridge has to be lengthened to completely span from bank to bank.

"And the second is when a bridge is low, and it acts as an impediment to the flow of water. In this case, the bridge may be raised and possibly lengthened."

Whether a bridge is completely replaced or only slightly modified depends on the circumstances surrounding the bridge itself. The timeframe of construction can also vary depending on the situation.

"Bridge modifications can take anywhere from several months up to a few years," Garcia said.

And depending on the type and extent of the modifications, a bridge may be closed for the duration of construction.

"Often there are parallel bridges at the same location, each accommodating one-way traffic traveling in either direction," Garcia said. "Usually, one side is closed at a time, and the open bridge serves two-way traffic temporarily. When the newly constructed side is finished, it serves two-way traffic until the other bridge is complete. If there is only one bridge, it may be closed and traffic rerouted to other crossings."

Garcia said he would like to see the community take an active role in suggesting modifications for bridge designs. "I think the idea of coming up with themes for each bridge should be done where we can find community support and identify other funding partners. Things like special architectural treatments and decorative lighting are interesting and should be considered."

As long as construction continues along the banks of the many bayous in Harris County, there will be a need to replace or modify bridges over the newly modified channels.

Arthur Storey Park Stormwater Detention Basin Honored

Recently, the Arthur Storey Park Stormwater Detention Basin was honored by the Houston-Galveston Area Council with the "Honor Award for Regional Project." The basin was selected because it is a multi-use project that provides flood damage reduction, sports facilities, access to wetlands and trails.

The outstanding characteristics of the Arthur Storey Park Stormwater Detention Basin highlighted by the subcommittee are:

- A watershed project that integrates flood control, parks and natural areas
- Provides essential open space for a population-dense part of the county
- Exemplary inter-governmental partnership

NEIGHBORHOOD *News And Events*

Save the Date – Breakfast Scheduled in April

Project Brays will hold the next Community Work Group Breakfast in April 2007. The time and place have yet to be announced, but Community Work Group members will be sent an invitation as soon as it is confirmed. Held twice a year, breakfast meetings provide an opportunity for Community Work Group members to come together and learn the latest Project Brays updates, talk to the project team members and exchange ideas with other community leaders.

Brays Bayou Marsh at Mason Park Recognized *Texas Council of Engineering Communities*

The Brays Bayou Freshwater Marsh located at Mason Park continues on its path of awards for excellence. Recently, Brown & Gay Engineers was awarded the gold medal from the 2007 Texas CEC Engineering Excellence Award Competition for environmental projects. Scoring was based on uniqueness, originality, technical value to the engineering profession, complexity and how successfully the project met the needs of the engineering firm's client.

The Engineering Excellence Award competition has been held by the Texas Council of Engineering Companies since its inception in 1975 to honor and recognize outstanding achievements within the engineering community.

The panel of judges from around the state selected 11 gold medal and 13 silver medal winning projects from a broad field.

Sierra Club

In November 2006, the Sierra Club featured the Brays Bayou Freshwater Marsh at Mason Park in a national publication, naming it a "Best New Development Project for 2006," among nine others in the country. In its clean water edition, the Building Better report highlights what the Sierra Club calls "America's best new development projects, based on the projects use of innovative and environmentally sensitive methods of stormwater management."

The 10 examples, which are from all over the country, demonstrate the efforts of communities, institutions, developers and others to protect water quality.

INVOLVEMENT IS A *Rafferty Family Tradition*

Hugh Rafferty

It all began when Jack Rafferty, first flood control engineer of the Harris County Flood Control District (HCFCD) 1937-1940, enlisted his son to be the "first early warning system" for flooding along Buffalo Bayou. Before water level gauges along bayous existed, there was Hugh Rafferty.

During large storms, Jack dropped his son off at the bayou to monitor water levels using marked stakes in the ground along the bayou. Hugh walked to a nearby country store at Westheimer and Fondren to call his father with updates.

These early experiences sparked Hugh's interest in engineering and flood control. Jack passed away at the age of 44 when Hugh was only a teenager, but he continued to look up to his father. Hugh said he was most impressed with the fact that his father did so much with his life in the short time he was alive. Jack was very involved in the community, his church and the Amateur Athletic Union and even started the Gulf Chapter. Hugh said his father taught him to be useful and to give back to the community.

Hugh began that mission as soon as he could. After serving in the Air Force during WWII and after graduating from Notre Dame University, he moved back to Houston in 1954 and worked as a health care executive. Hugh was involved in the community right from the start, joining civic clubs, coaching little league and becoming active in his church.

As a self-proclaimed practical man, Hugh said that his work with HCFCD began when he noticed a problem and secured an answer. Hugh first contacted HCFCD in the early 1970s when a street in his neighborhood began flooding during heavy rains. He walked all along the bayou and examined the outfall pipes built into the banks. Hugh noticed that one near the flooded area in his neighborhood was pointed upstream, and he knew instantly that it was the cause of the problem. Once HCFCD changed the direction of the piping, the flooding subsided considerably on his street.

For Hugh, his role in the community is as simple as noticing sediment at the foot of a bridge and requesting maintenance to get the water flowing smoothly again, or noticing a large amount of unused land that could function as a stormwater detention basin. The average citizen notices these things and may take little or no action, but someone like Hugh actually initiates improvement and sees it through.

Hugh has been instrumental in launching multiple projects that have dramatically reduced the risk of flooding in the Brays Bayou watershed. These include a railroad bridge replacement, Reliant Energy easement improvements, redirecting storm sewer outfalls into the Willow Waterhole Bayou, the Meyer Park Stormwater Detention Basin, the Willow Waterhole Stormwater Detention Basin, the detention basin at the United Orthodox Synagogue on Greenwillow Street and many more. He joined the Brays Bayou Association in 1988 and still remains very involved in improving the area.

He also participates regularly in Braes Interfaith Ministries and Catholic Charities, volunteering a few times a week, and between his seven children, 12 grandchildren and four great grandchildren, he stays pretty busy.

Flooding in Harris County affects many people. But because there are people like Hugh who give back to the community, HCFCD has added support to reduce the risk of flooding.

Contact Us

We welcome your feedback! If you have questions, please e-mail us at **info@projectbrays.org** or call the Project Brays Hotline at **713-316-4820**. For up-to-date information, you can also visit the Project Brays website at **www.projectbrays.org**.