

## **Action Items to Reduce Flooding WITHIN Westbury**

Submitted by Becky Edmondson, President, Westbury Civic Club

Approved by WCC Board on July 18, 2018

Westbury is in desperate need of REAL solutions to on-going, repetitive flooding along the Willow Waterhole Bayou (WWB). The channel is inadequate and cannot even handle a 10 rain year event, per data published by the Harris County Flood Control District (HCFCD) for Flood Gauge 445 (located on WWB near Landsdowne Road). Hundreds of homes have flooded in 2013, twice in 2015 (Memorial Day and Halloween), in 2016 and in 2017. Additionally, the bayou came within inches of overflowing its banks on July 4, 2018. There is not enough capacity in the WWB as it flows through Westbury. This is NOT a new problem; 200 homes flooded in 1975 and 1976 after development in the Fondren area caused much more water to flow into our neighborhood. Adjustments over the years by HCFCD helped for a while, but the drainage system no longer functions as originally designed. Westbury homes are flooding on a regular basis. Something has changed over the years in the area of the convergence of the D112-00-00, D140-05-00, D140-05-01, and D140-05-02 ditches/bayous and a small earthen dam installed by HCFCD to reduce flooding in Westbury.

### **ACTION ITEMS FOR HCFCD/County Bond to reduce the risk of flooding WITHIN Westbury**

1. D112-00-00, D140-05-00, D140-05-01, D140-05-02 and the “Westbury DAM area”:  
**This area does not function as designed. Westbury should not be the unintended detention basin for Fondren area water or water not intended to flow to D112.**
  - ➔ Regrade the Braewick ditches (D140-05-01 and D140-05-02) where they meet the Willow Waterhole Bayou (D140-05-00) on the western edge of Westbury.
  - ➔ Revise scope of the proposed Harris County “Fondren Diversion Channel Improvements” to include channel improvements up and including the Willow Waterhole Bayou (D112) and also the relocation of the existing dam.
  - ➔ Acquire detention between the D140-00-00 (Fondren Diversion channel) and the D140-05-01 and D140-05-02) Braewick ditches to offset channel improvements.
2. D112-00-00 (WWB): Provide new elevated bridges along the WWB at Landsdowne, Chimney Rock, and Hillcroft to reduce overflow. The water currently flows out of the D112 at the bridges even when the channel still has capacity.
3. D112-00-00(WWB): De-silt and re-grade the WWB from the existing dam to Chimney Rock.
4. The city of Houston plans to replace street drainage in Westbury. Reroute storm water from South of W. Airport (the “Westbury South” section of Westbury) to drain directly into the southern basin of the Willow Waterhole Detention Lakes along the W. Airport extension. There is ample capacity in that specific detention lake.
5. Offer HCFCD Buy-out of Properties in Westbury along 5600 blocks of Cartagena and Ludington, other repetitive flooding locations in Westbury such as Parkwest3, and to provide “Extreme Event Overflows” to the WWB when street drainage capacity is exceeded.

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**Project Brays does NOT help the residents along the WWB in Westbury that repetitively flood.** Why? Because of cost analysis basis, it was determined that it isn't financially viable to protect Westbury homes and residents. We need REAL solutions to mitigate the flooding WITHIN Westbury.

**History:** Westbury is the 2nd largest neighborhood in Houston with 5,000 homes. The neighborhood was developed in the late 1950s and early 1960s. The Willow Waterhole Bayou (WWB) cuts through the neighborhood flowing from West to East and is an original tributary of Brays Bayou. The WWB appears on many historic maps, along with Keegans and Brays Bayous.

The early 1970s brought much development and change to the West of Westbury in the Fondren area. Much of the WWB flow was altered and changed to accommodate for development without much care to what happened downstream. The floods in 1975 and 1976 were greatly attributed to the flow from the West that inundated Westbury. The water was much more abundant and flowed very fast. Approximately 200 homes flooded those years.

The Westbury flood action committee was formed in the late 1970s in response to the floods. This group worked closely with HCFCD, specifically with Director Jim Green and Ronnie Mullinex. The July 1982 *Westbury Crier* stated " Thru the work of the Civic Club and the Harris County Flood Control District, we were also able to get over \$7,150,000 in projects approved for Westbury in the February 23,1982 bond election. The following projects were approved.

1. Concrete the Willow Waterhole from South Post Oak to Hillcroft – \$3,500,000
2. Regrade the Willow Waterhole from Hillcroft to Bob White - \$450,000
3. Cover Hillcroft ditch from Airport to Bellfort - \$1,000,000
4. Regrade and repair shell ditch from Chimney Rock to Renwick - \$900,000
5. Cover or concrete line the Burdine ditch from West Bellfort to Willowbend - \$1,300,000
6. Construction of dam on Willow Waterhole at Braewick. "

Most of these projects were completed, however, the biggest ticket item, #1, concreting the WWB, was not completed. It is unknown as to why this project did not get completed. BUT THE NEED TO REDUCE FLOODING NEVER WENT AWAY.

The September 1983 Brays flood didn't affect Westbury as badly as previous floods, as only a dozen structures flooded. Meyerland and other neighborhoods off Brays Bayou flooded extensively and the Brays Bayou Association was formed in 1984 to address local flooding on Brays.

For 30+ years Westbury didn't have major floods. Not in 1998 with TS Frances, not in 2001 with TS Allison. That all changed on April 27 2013. Approximately 150-200 homes flooded in Westbury on the East side of Hillcroft along the WWB. For the previous several years, residents

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had been reporting that streets and bayous seemed to fill much faster. Since the late 1990's, Westbury residents have been reporting many issues with the Braewick ditches and the dam on the Willow Waterhole Bayou. HCFCD assumes that the water from the Braewick ditches stays in the ditch and flows to the D140-05-00. In a typical Houston rain, the dam is easily overtopped by the flow, and water enters the D112 from the D140. Water from these 2 Braewick ditches also escapes down Warm Springs, W. Belfort, Lattimer, and Ludington and flows very fast down the streets and enters inlets which in turn take it to the D112. This whole area of the dam does NOT function.

The WWB (D112) is outdated and not up to current standards. According to HCFCD, the WWB cannot even hold a 10 year event. The bayou is easily overtopped at Hillcroft and Landsdowne after 5-6 inches of rain. Many factors play into this.

Project Brays does NOT help the residents along the WWB in Westbury that repetitively flood. Why? Because of the cost analysis basis it was determined that it isn't financially viable to protect Westbury homes and residents. We need REAL solutions to mitigate the flooding IN Westbury. Some of the engineering designs studied for Project Brays (which were not chosen) would have helped Westbury and given our homes 100 yr storm protection. Those portions of the project were not chosen.

If HCFCD is unwilling or unable to reduce the flood risk in the 100 year flood plain in Westbury, then they should offer a buy-out to Westbury residents. The answer cannot be to do nothing. Something has to happen, preferably proper mitigation. Now that HCFCD has installed a 5x5 ft control structure that restricts the flow of the WWB, we should be able to mitigate along our bayou and increase the size. No additional water would be going to Brays during a 100 year storm, as the water would be held in the Willow Waterhole Detention Basin.

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**Data Facts from the HCFCD Gages**

The Willow Waterhole Bayou (D112-00-00) goes from the dam in Westbury to Brays Bayou. The portion at Willowbend is 34.39 at stream level and top of bank is 51.10. At Landsdowne on the same bayou, stream level is 43.70 and the top of the bank is 54.20.

**At Willowbend**

- 10% - 10 Yr Flood – 47.20 (Bank is 51.70)
- 2% - 50 Yr Flood – 49.80 (Bank is 51.70)
- 1% - 100 Yr Flood – 50.70 (Bank is 51.70)
- .2% - 500 Yr Flood – 52.90 (Bank is 51.70) – it is now finally over the bank

**At Landsdowne**

- 10% - 10 Yr Flood – 55.50 (Bank is 54.20) OVER TOP by 1.3 Ft
- 2% - 50 Yr Flood – 56.9 (Bank is 54.20) Over top by 2.5ft
- 1% - 100 Yr Flood – 57.5 (Bank is 54.20) Over top by 3.3 Ft
- .2% - 500 Yr Flood - 58.70 (Bank is 54.20) Over top by 4.5 ft

Date	Flood Name	WWB Height at Landsdowne	WWB Height at Willowbend
4/27/13		55.10	48.10
5/26/15	Memorial Day	56.70	51.70
10/31/15	Halloween	N/A?	48.56
4/18/16	Tax Day	55.80	50.70
1/18/17	MLK Day	53.60	48.80
8/27/17	Harvey	58.30	53.60
7/4/18	4 <sup>th</sup> of July	53.59	44.35