I-45 NHHIP Segment 2
Detention Pond Details

For additional information about the Project, visit us online at: www.txdot.gov/nhhip

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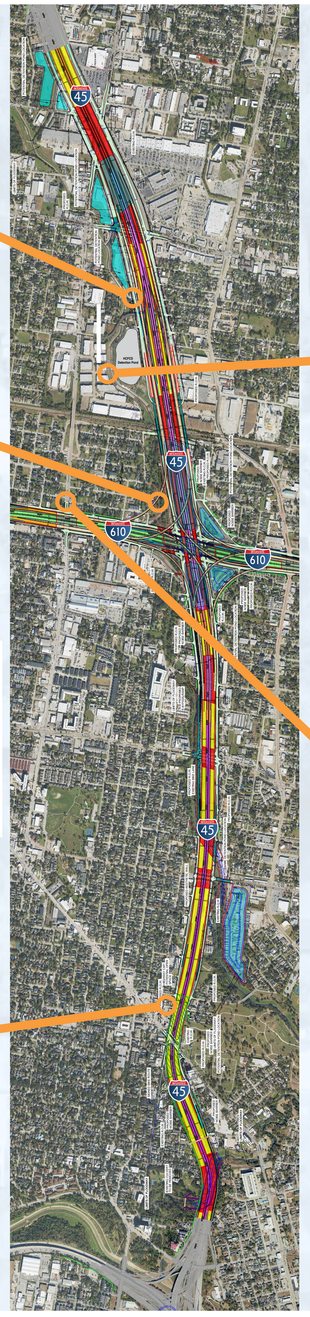
DETENTION POND LOCATIONS AND CAPACITIES

I-45 between I-610 North Loop and north of Airline Drive:
6 detention ponds
Holding Capacity: 63.5 million gallons

I-45/I-610 Interchange:
5 detention ponds
Holding Capacity: 72.9 million gallons

I-45 between I-10 and I-610 North Loop:
1 detention pond
Holding Capacity: 52.5 million gallons



Total Increased Capacity: 189.04 Million Gallons

- Enough to fill 286 Olympic-sized swimming pools
- Enough to cover 580 acres of land in one foot of water
- Weighs nearly 1.6 billion pounds

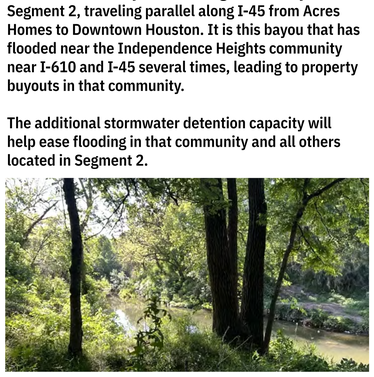
Where Do The Detention Ponds Drain To?

All of the Segment 2 detention ponds ultimately drain into the Harris County Flood Control District's (HCFCD) Little White Oak Bayou.

LITTLE WHITE OAK BAYOU

Little White Oak Bayou runs along the entirety of Segment 2, traveling parallel along I-45 from Acres Homes to Downtown Houston. It is this bayou that has flooded near the Independence Heights community near I-610 and I-45 several times, leading to property buyouts in that community.

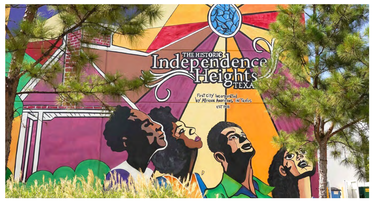
The additional stormwater detention capacity will help ease flooding in that community and all others located in Segment 2.



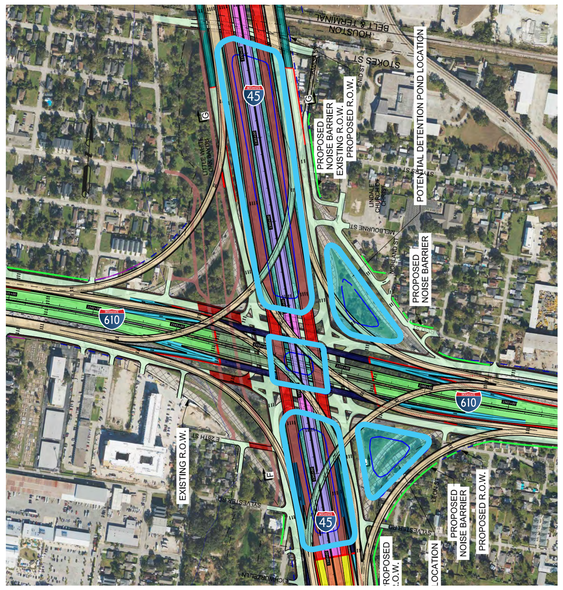
INDEPENDENCE HEIGHTS – FLOOD MITIGATION

The Independence Heights community, located near the I-610/I-45 interchange, has flooded several times due to Little White Oak Bayou overflowing its banks.

One of the issues is the culverts do not provide enough capacity to remove water from the community.



WHY ARE THERE SO MANY DETENTION PONDS AT THE I-610/I-45 INTERCHANGE?



There are five detention ponds proposed to be built at this interchange. The main reasons why this works well are:

- **Stormwater Control:** During storms large amounts of water fall from interchange mainlanes and ramps. The ponds hold this water and slowly release it.
- **Unused Space:** The large areas underneath interchanges provide the space for detention ponds on land which would otherwise go unused.
- **Saved Costs:** Purchasing commercial or residential land for a detention pond can be expensive. Using the interchange land saves taxpayer money and gets maximum value out of public land.

CULVERT VS BRIDGE



CULVERT

A culvert channels water safely under roads, railways, or paths.

It moves stormwater away from surfaces, and stops water from building up and spilling over roads.

Culverts are a lower-cost option and easier to build and install compared to constructing a bridge.



BRIDGE

The I-45 Project proposes to replace the culverts with bridges.

While bridges are often thought of as structures to carry roadways over water, they would provide less restriction to stormwater flow during heavy rain events compared to the existing culverts.

It is possible this effort will remove most of the Independence Heights community out of the current flood plain.

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