FLOOD CONTROL & DRAINAGE

-Issues-

- The Houston region is flat, near the coast, and has clay soils, which create substantial yet manageable flood risks.
- Storms have inflicted billions in flood damages, including over \$230 billion between 2001 and 2017.
- Current infrastructure and flood control funding for flood control will not adequately address intense rainfall events.

-Goals-

- Invest \$2.0 billion per year regionally and \$500 million per year in the WHA service area from Federal, State, County and City sources.
- Create a regional master drainage plan to
 provide a level of service that will safely convey
 14 inches of rainfall runoff in a 24 hour period.
- Enhance the environment using green infrastructure corridors and natural channel design.

-Flood Control, Drainage, & Wetlands Committee-

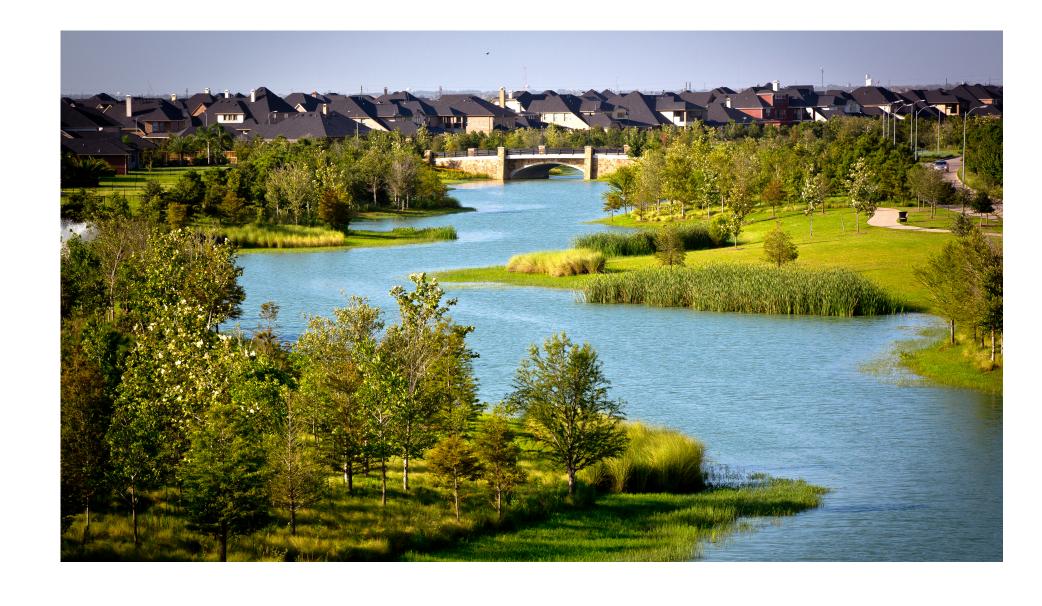
Lee Lennard, Committee Chair—BGE, Inc.
Tim Buscha, Vice Chair—IDS Engineering Group

Terry Barr—Halff Associates Alan Bauer—Newland Communities Bill Callegari—TNC Al Flores—Dannenbaum Engineering Tanya Foster—BGE, Inc. Rich Gallego—Costello, Inc. Mark Gehringer—Howard Hughes Corporation John Grounds — LJA Engineering & Surveying, Inc. Bob Jones — Jones Engineering Alex Kamkar—Toll Brothers David Keel—DAC Engineering Lance LaCour—Katy EDC John Moody—Parkside Capital Andrew Paderanga—R.G. Miller Engineers, Inc. Andy Palermo—EHRA Engineering Scott Saenger—Jones Carter Andres Salazar—Walter P Moore

Challenges

Qpportunities

- Local Funding Shortages.
- Local Funding Solutions.
- State and Federal Funding. HCFCD and other local jurisdictions currently leverage state and federal funding programs for drainage infrastructure.
- Inadequate Drainage Corridors. Prior to 1984,
 Harris County did not have detailed flood maps or regulations to adequately size corridors.
- Acquire Corridors. Proactively and strategically acquire land for drainage corridors and detention areas.
- Incomplete Planning. No comprehensive regional coordination for flood control exists.
- "Drainage Thoroughfare Plan." A regional drainage plan would guide quality growth and prevent loss of critical rights of way which protect pathways for floodwaters in the Greater West Houston area and across the county to Galveston Bay.



COSTS

Harris County requires \$35 billion to increase conveyance and detention.

Local Drainage inadequacies require an additional \$6 billion.

Houston Stronger Flood Prevention Plan estimates a total need for drainage infrastructure in the region of \$57.97 billion.

FUNDING

-Local-

- Rebuild Houston, a cash-only, pay-as-you-go model, will provide **\$20 billion** for street and drainage repairs and improvements.

Harris County Bond Election \$2.5 billion,
 \$900 million of which in addition to federal grants will go to complete Brays, White Oak, Hunting Bayous, Clear Creek, and other projects, \$736.5 million in buyouts, \$100.4 million for repairs, \$120 million in new projects, and \$500 million in reserve funds.

-State-

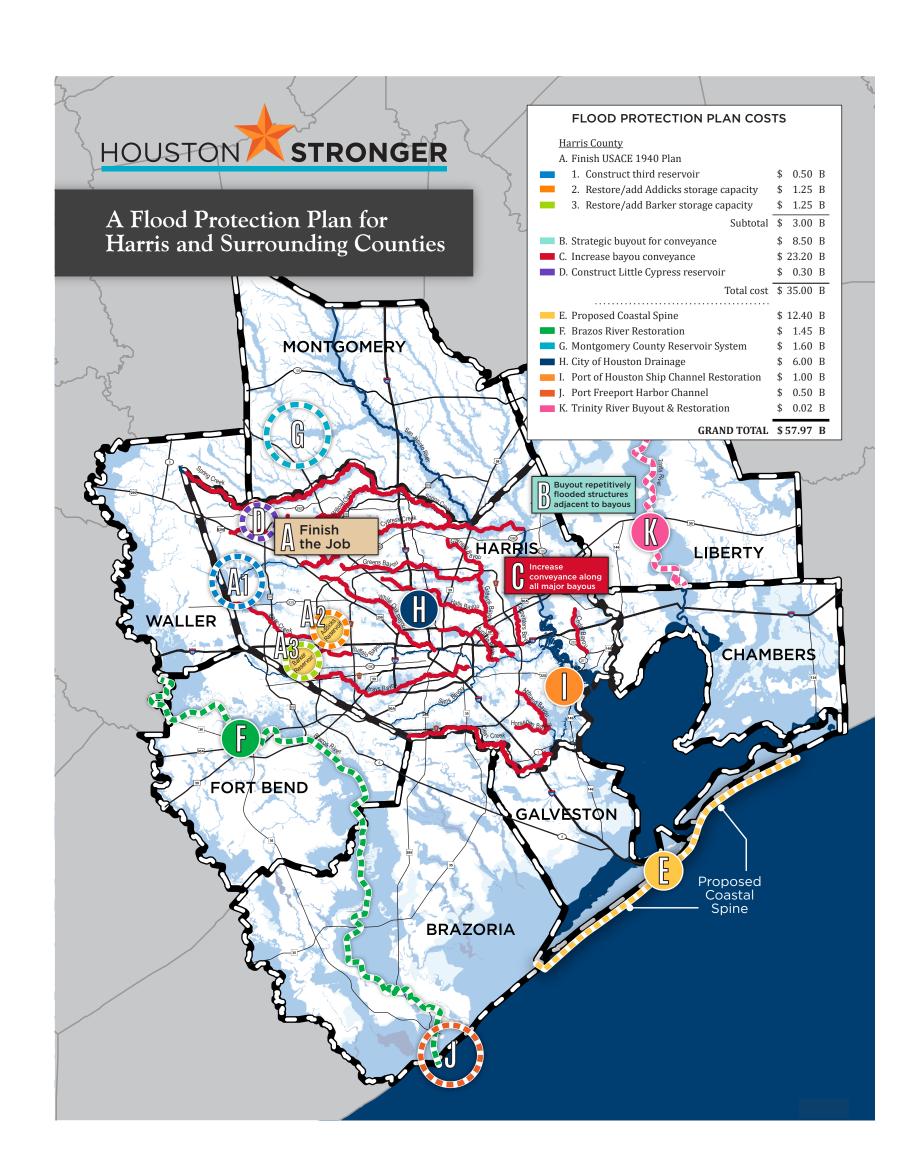
Expand funding programs run by the **Texas**Water Development Board.

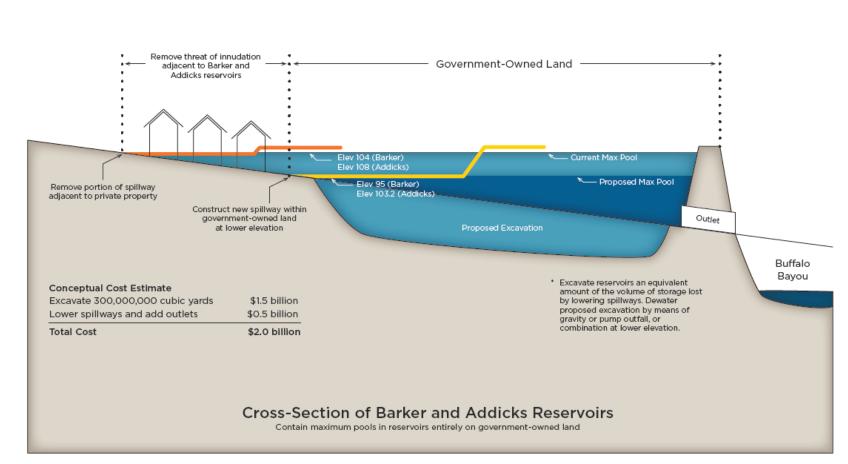
Provide **\$1 billion** in initial funding and longterm dedicated fund assistance for resiliency projects.

-Federal-

- Bipartisan Budget Act of 2018 allocated **\$89.4 billion** across the country.

 Additional funds to be allocated through the Water Resources Development Act, State Revolving Fund, and other federal sources.







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