

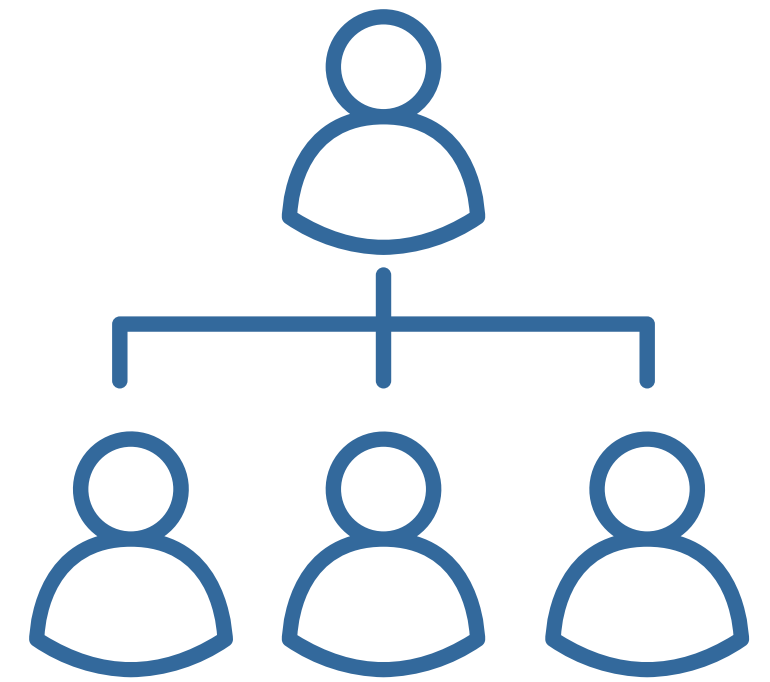


# HARRIS COUNTY PRECINCT 3

Office of Commissioner Tom S. Ramsey, P.E.



# ENGINEERING Dept



Randy Schilhab

Director of Engineering

---

ERIC HEPPEN

SENIOR PROJECT MANAGER

- PARKS, DRAINAGE, & RRD

BRENNAN COOK

SENIOR PROJECT MANAGER

- CIP & RRD

BRANNAN HICKS

SENIOR TRAFFIC ENGINEER

- TRAFFIC & INTERSECTION IMPROVEMENTS

TINA LIU

TRAFFIC ENGINEER

- TRAFFIC & INTERSECTION IMPROVEMENTS

RRD – RECOVERY AND RESILIENCY PROJECTS

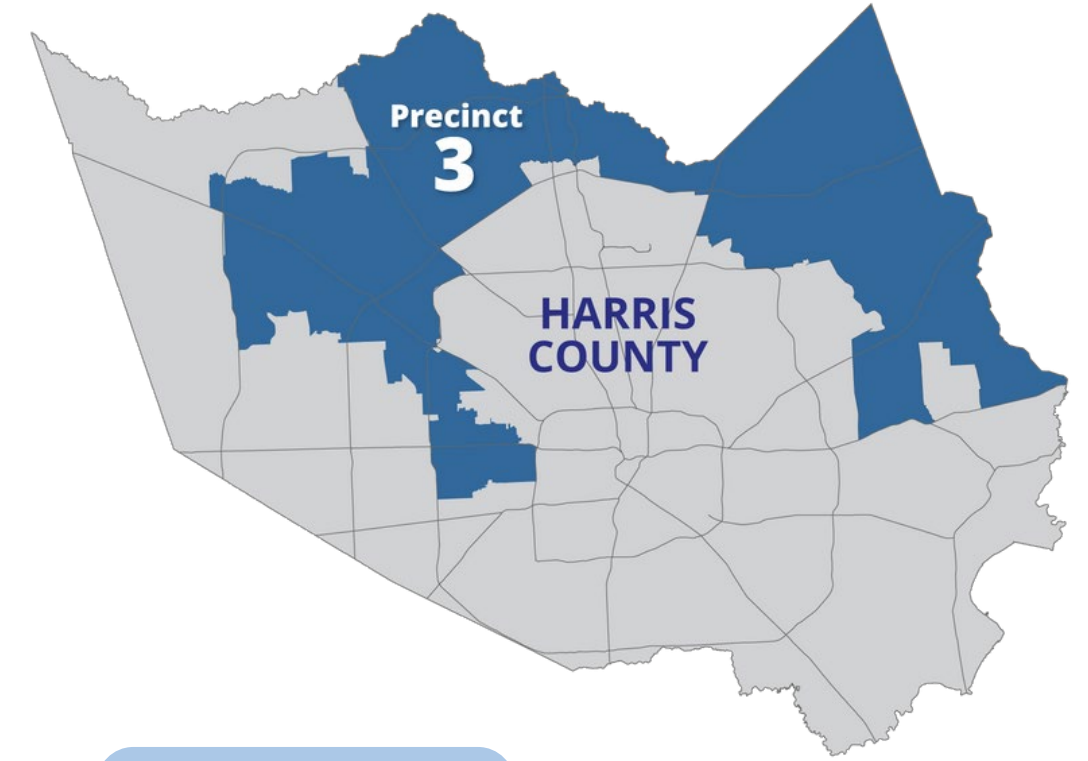
CIP – CAPITAL IMPROVEMENT PROJECT



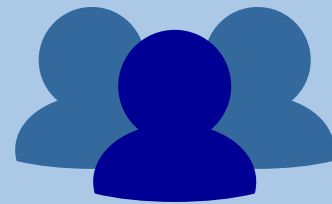
**TOM S. RAMSEY, P.E.**

HARRIS COUNTY PRECINCT 3 COMMISSIONER

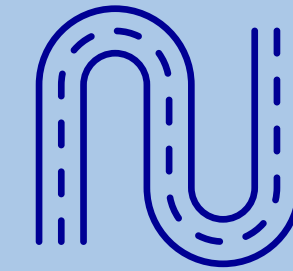
# PRECINCT 3 AT A GLANCE



**555**  
SQUARE MILES



**1.2 mil.**  
RESIDENTS



**6,750**  
ROAD LANE  
MILES



**69** PARKS



**10** COMMUNITY  
& NATURE  
CENTERS

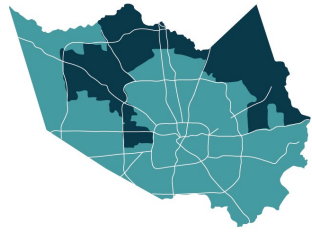


**19 miles**  
BRIDGES



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# PRECINCT 3 SERVICES

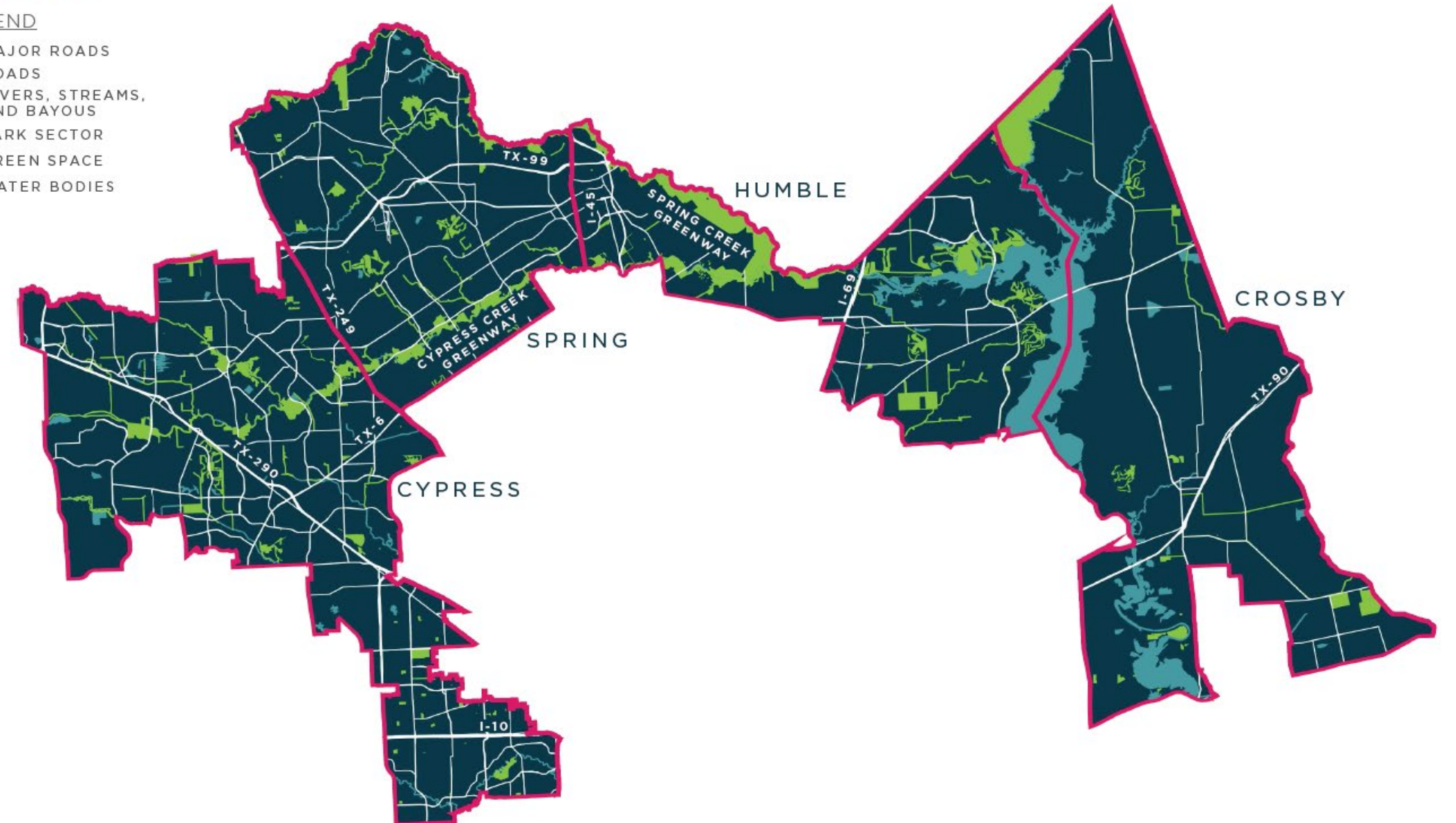
## MAINTENANCE OPERATIONS

- CONCRETE AND ASPHALT ROADWAY REPAIR & MAINTENANCE
  - PATCHING
  - CRACK SEALING
  - SHOULDER UP
  - CURB REPAIR
  - SWEEPING
- DRAINAGE REPAIRS
  - DITCH REGRADING
  - CULVERT
  - STORM SEWER & SINKHOLES
- GENERAL
  - MOWING
  - BARRICADES
  - DEBRIS ASSISTANCE

## SERVICE AREA OVERVIEW

### LEGEND

- MAJOR ROADS
- ROADS
- RIVERS, STREAMS, AND BAYOUS
- PARK SECTOR
- GREEN SPACE
- WATER BODIES



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# CAPITAL IMPROVEMENT PROGRAM OVERVIEW

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## PLANNING AND BUDGETING

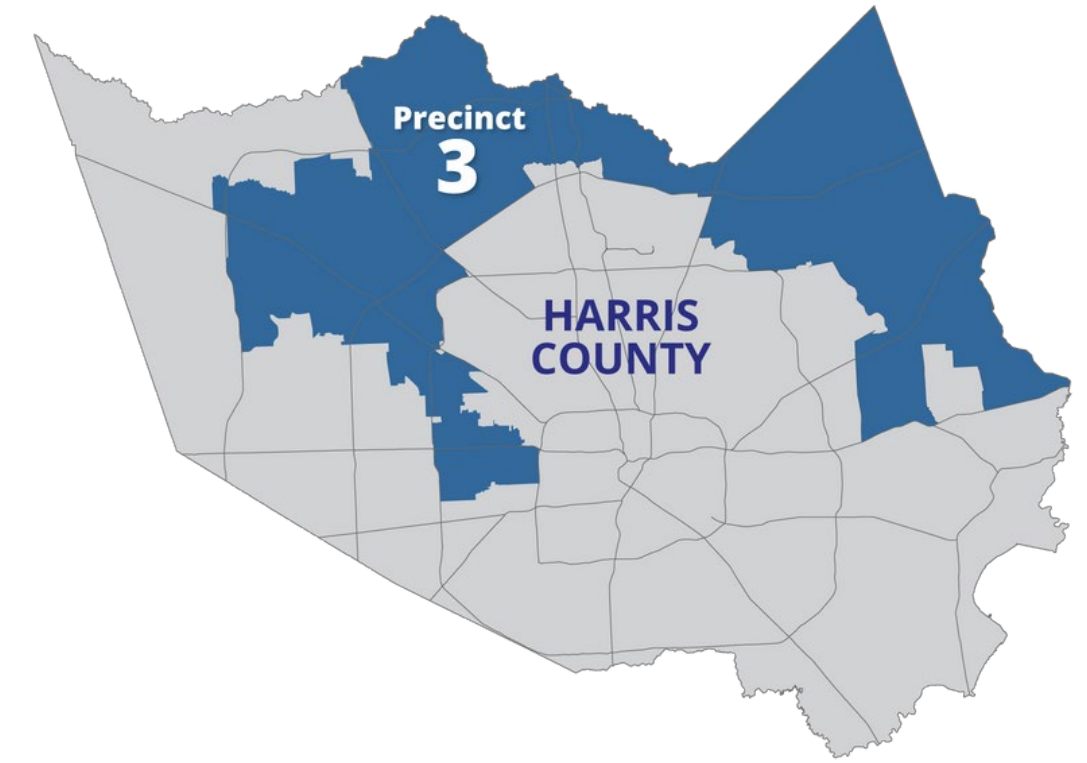
- 3-YEAR ROLLING PLAN
- \$60 MILLION – \$90 MILLION BUDGETED PER FISCAL YEAR

## SCOPING AND MANAGING

- INITIATING \$8 MILLION IN NEW STUDIES/ DESIGNS IN FY23
- PORTFOLIO OF 170 PROJECTS VALUED AT \$700 MILLION IN CONSTRUCTION

## DELIVERY

- 27 PROJECTS IN FY23 WITH AN ESTIMATED CONSTRUCTION COST OF \$84 MILLION



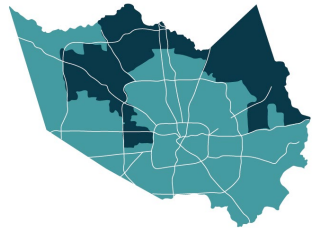
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# Area Projects

- **Holderrieth Road from SH 249 to West of Hufsmith Kohrville Road**
  - Under Construction- widen road from a 2-lane asphalt road a to 4 lane concrete boulevard.
- **Telge Road 4, from North of Louetta to South of Grant**
  - Bid Q1 2024 - widen road from a 2-lane asphalt road a to 4 lane concrete boulevard.
- **Treaschwig Road, from Aldine Westfield to Cypress Creek**
  - Start Const Q1 24- widen road from a 2-lane asphalt road a to 4 lane concrete boulevard.
- **George Bush Community Center**
  - Recently opened
  - Includes the community hall, 3 meeting / exercise rooms, and 8 classrooms
- **Spring Creek Greenway**
  - Connect Burroughs Park to Gosling Road
- **Intersection improvements and traffic signal rebuilds**
  - Spring Cypress at Ella Blvd
  - Cypresswood Drive at Schroeder
  - Mason Road at Cypresswood Drive





# DRAINAGE, DETENTION AND MORE

## LOCALIZED DRAINAGE

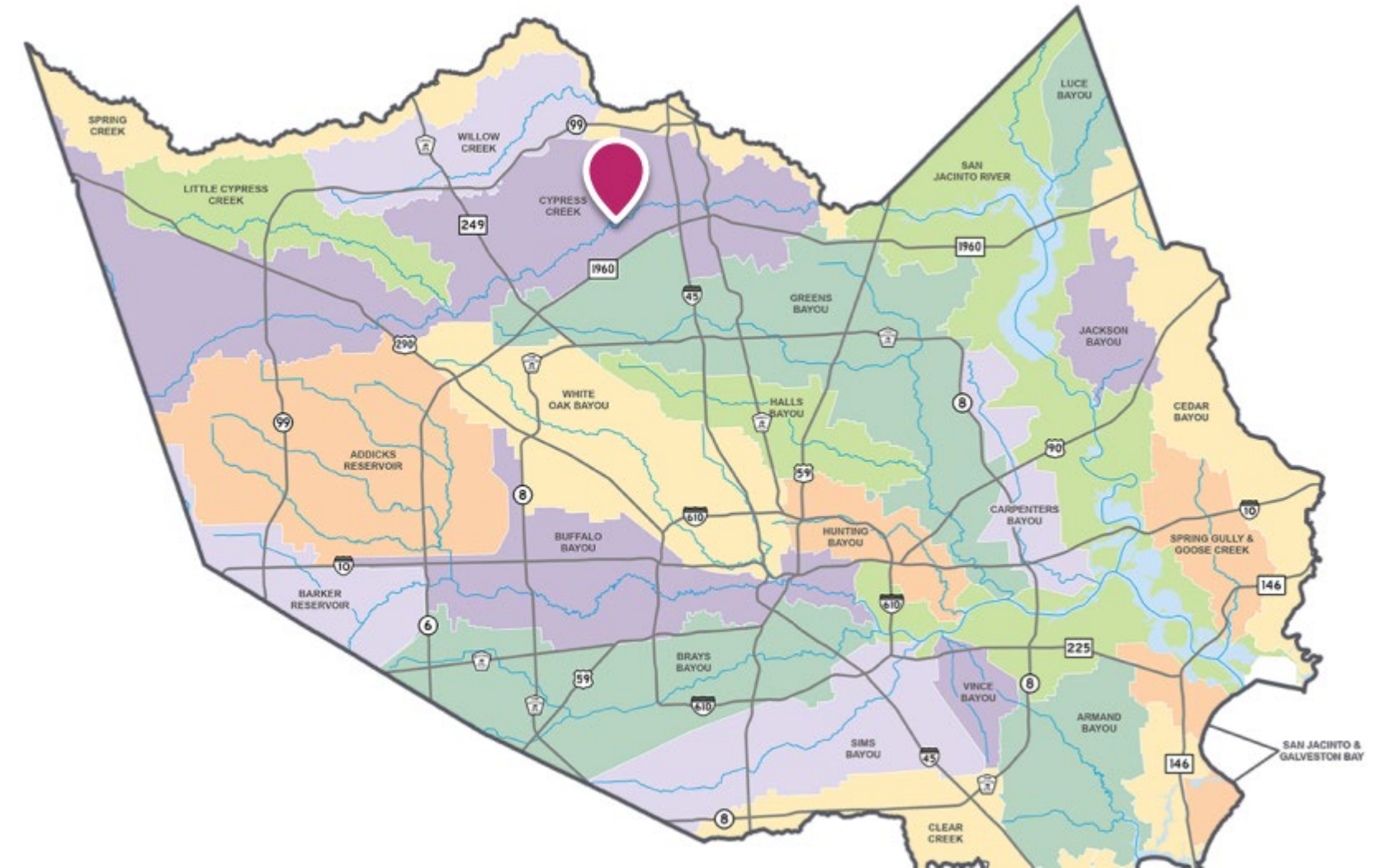
- ROADSIDE DITCHES, STORM SEWER, AMENITY PONDS

## REGIONAL DRAINAGE

- NATURAL CHANNELS, MANMADE CHANNELS,  
REGIONAL DETENTION PONDS

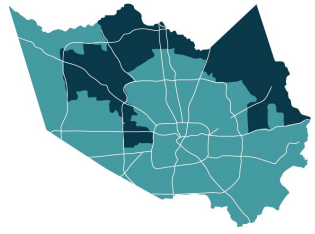
## FORWARD PLANNING

- ATLAS 14 / MAAPNEXT
- INNOVATIVE POND ADAPTATIONS
- FRONTIER PROGRAMS
- PARTNERSHIPS, GRANTS, AND BOND OPPORTUNITIES



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## NATURAL CHANNELS & RULES AND REGS

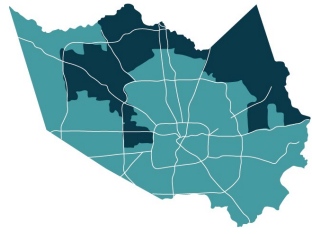
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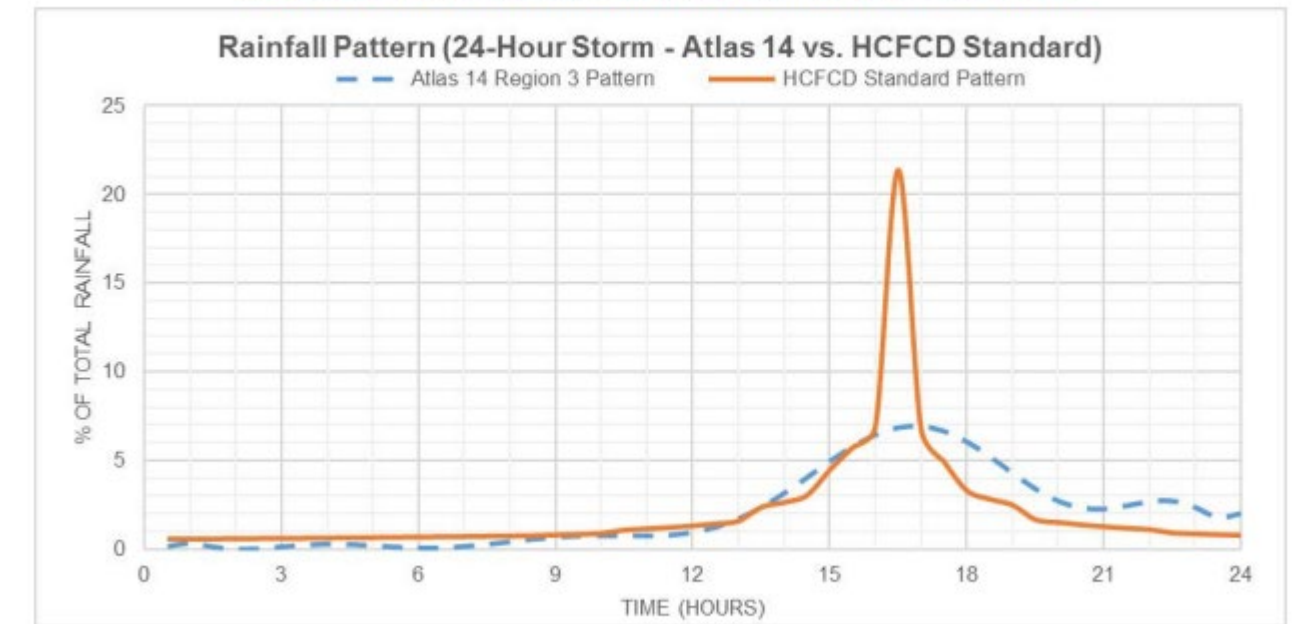


# ATLAS 14 / MAAP NEXT

The screenshot shows the MAAPnext website interface. At the top left is the MAAPnext logo. To its right is a navigation menu with the following items: "About MAAPnext", "Improving Our Data", "MAAPnext Resources", "Understand Your Risk", "Data Library", and "Get In Touch". Below the navigation is a search icon. The main banner features an aerial view of a flooded residential area. Overlaid on the banner is the text: "Floods are powerful, but knowledge is too." and a large blue button that says "LET'S MAP A PATH FORWARD".

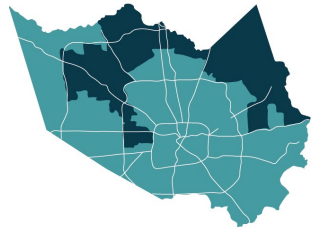
- LARGE CHANGES TO REGIONAL ESTIMATED RAINFALL TOTALS
- REMAPPING OF THE FLOODPLAINS (100 YEAR / 500 YEAR)
- CHANGES TO INSURANCE
- LOMAR / CLOMAR

Figure 3: Comparison of Incremental (30-minute) Rainfall Patterns



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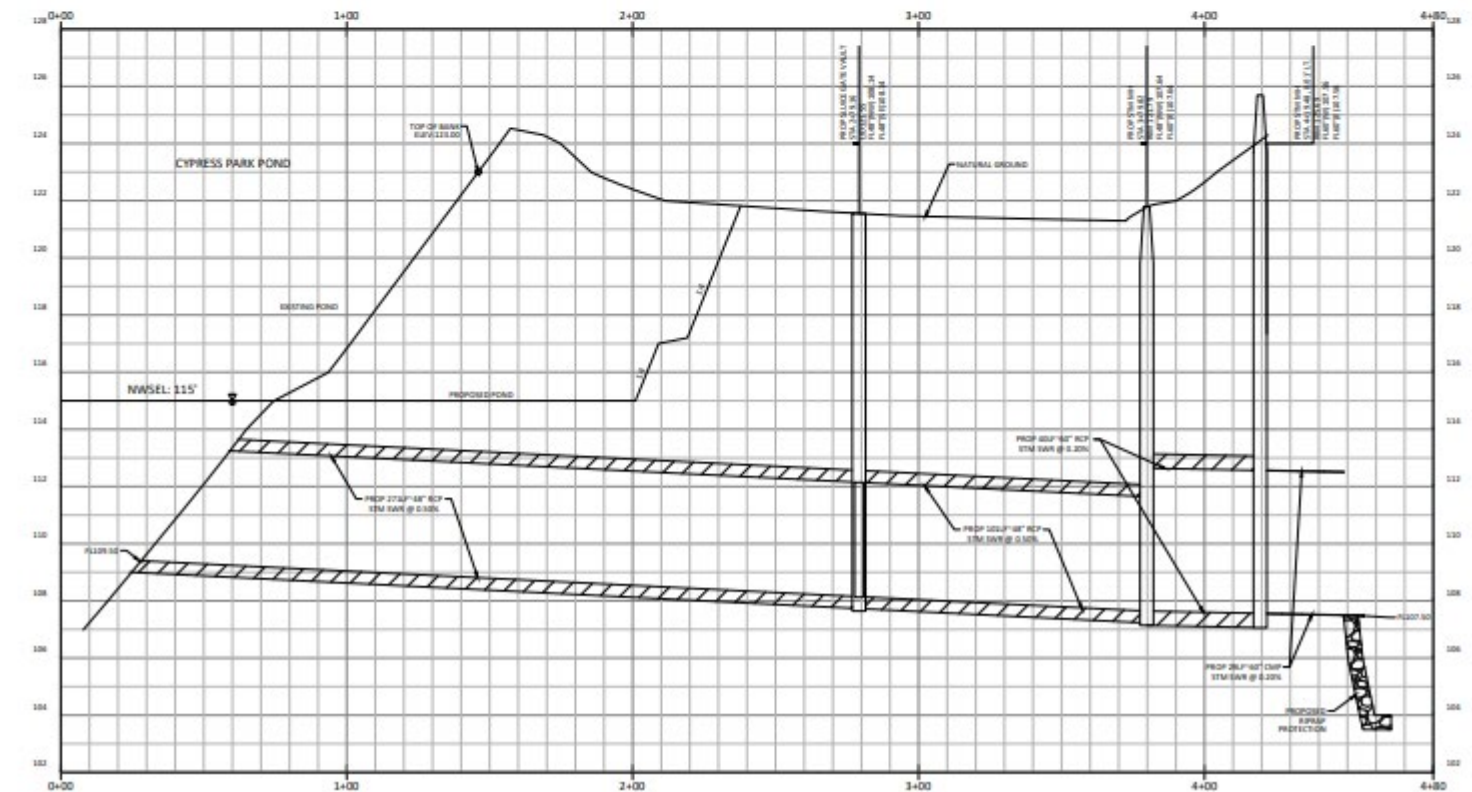
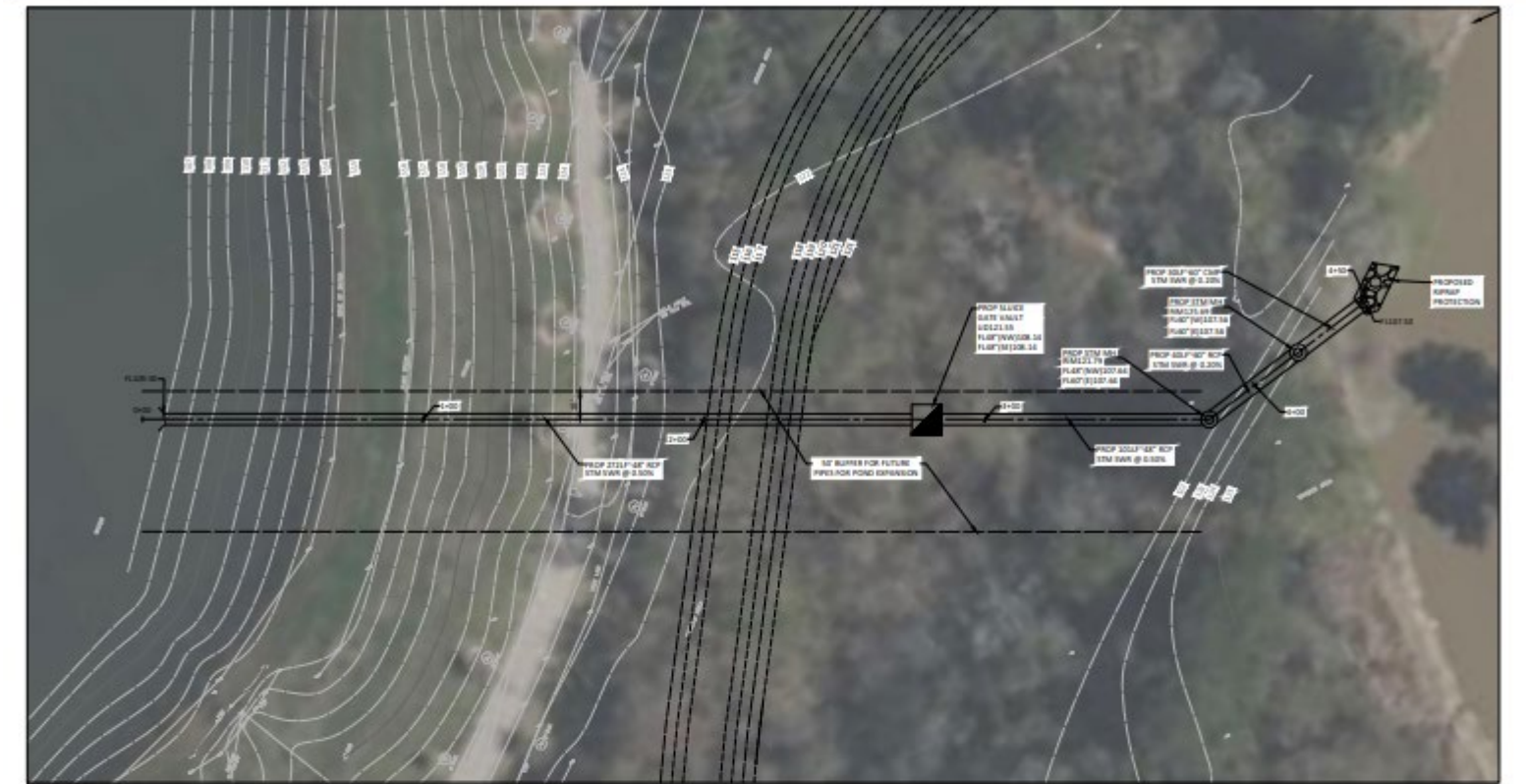


# INNOVATIVE POND ADAPTATIONS



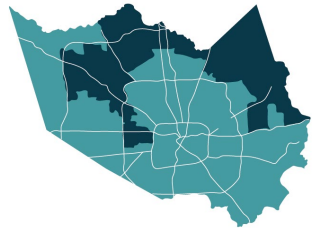
## CYPRESSPARK (CYPRESSCREEK WATERSHED)

- PILOT PROJECT - WILL ADD ADDITIONAL 100 AC-FT OF STORAGE
- EXISTING AMENITY / DETENTION POND
- PROJECT STATUS – RECENTLY BID
- COST ESTIMATE - \$2.5 MILLION



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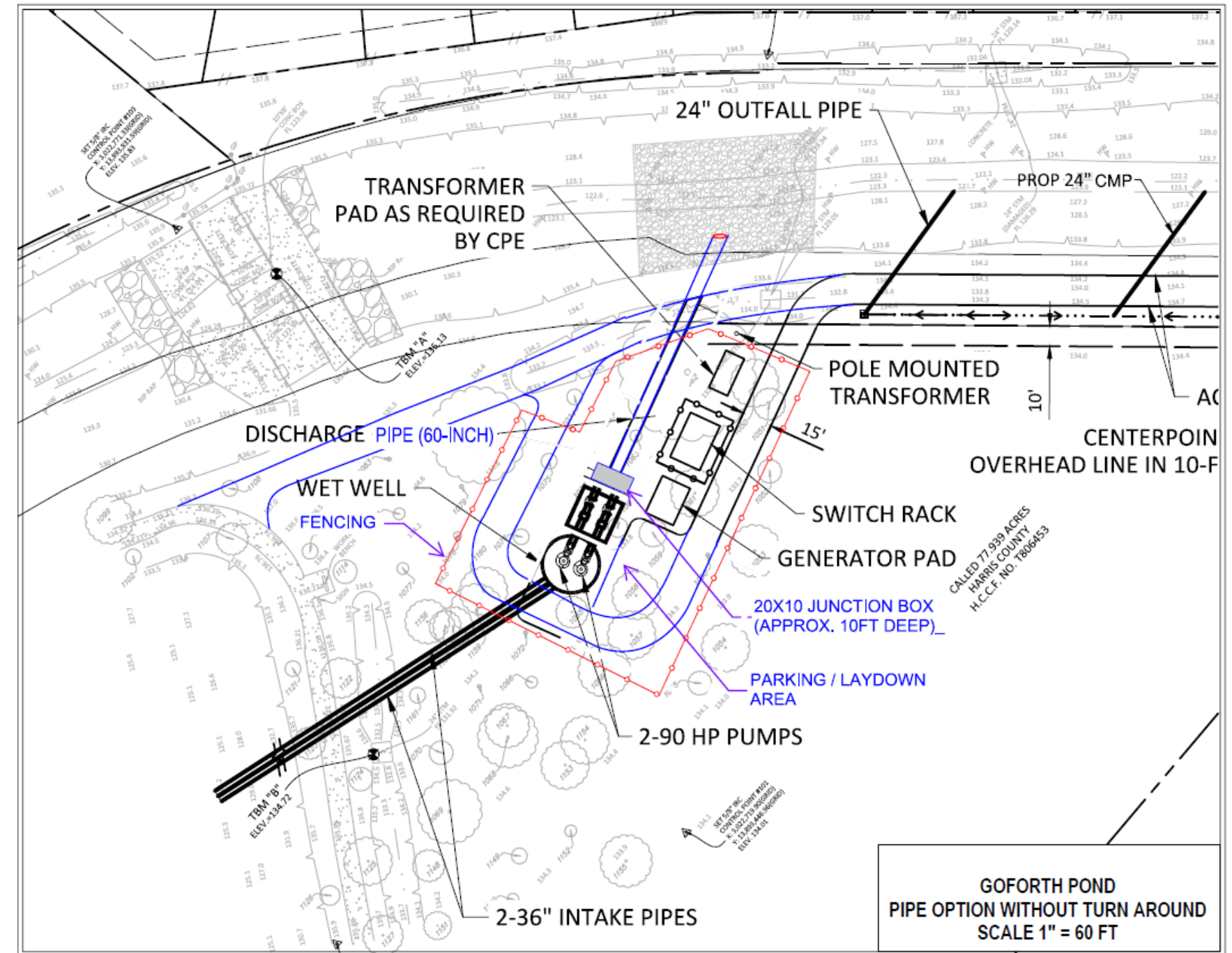


# INNOVATIVE POND ADAPTATIONS



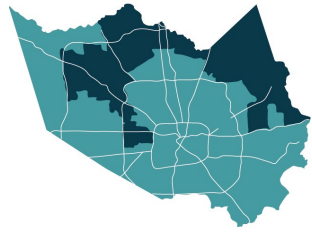
DEPUTY DARREN G OFORTH PARK (HORSEPEN CREEK / ADDICKS RES WATERSHED)

- PILOT PROJECT - WILL ADD ADDITIONAL 160 A C-FT OF STORAGE
- EXISTING AMENITY / DETENTION POND
- PROJECT STATUS – RECENTLY BID
- COST ESTIMATE - \$5 MILLION



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# PARTNERSHIPS, GRANTS, AND THE BOND

## Activity Since Harvey

### Active Bond Projects

181 of 181 Projects Initiated  
Of these, 19 are complete

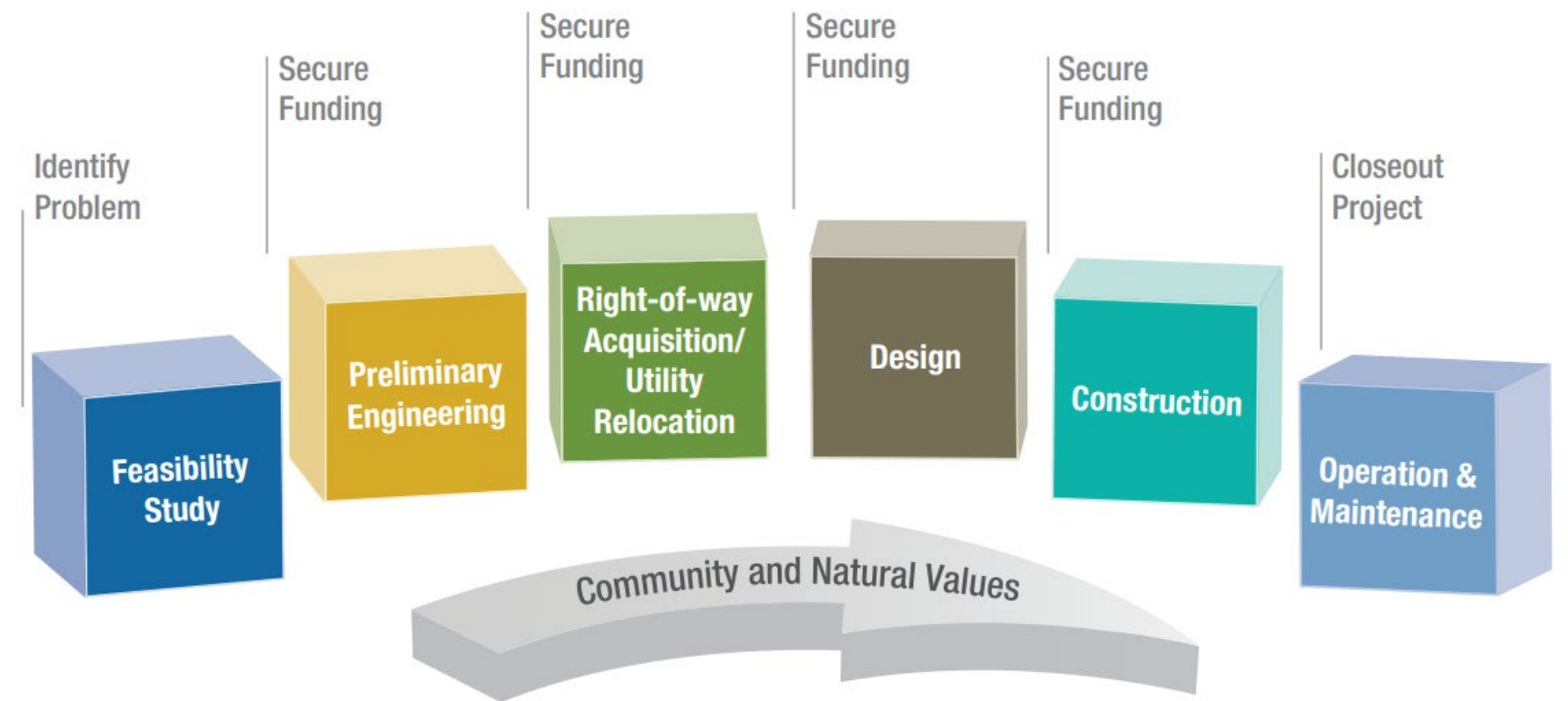
### Active Bond Funding

**Total Bond Amount**  
\$2.5 BILLION

**Bond Funds Authorized**  
\$578 MILLION

**Partnership Funding Received**  
\$1.35 BILLION

## Flood Damage Reduction Project Lifecycle



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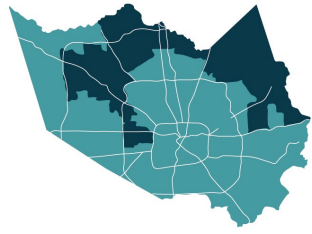
HARRIS COUNTY PRECINCT 3 COMMISSIONER

# CDBG-MIT List

Bond Charter ID	Old Project ID	New Project ID	Project Name	Watershed	LMI > 51%	Bond ID Level Prioritization Framework Score	Draft Service Area LMI	SoVI Score	R/ECAP Areas	Precinct	Estimated Project Cost	Estimated CDBG MIT Funded	Located in COH	Benefiting COH
C-23	P118-08-00-E001	P118-08-00-E002	Channel Conveyance Improvements and Stormwater Detention Basin on P118-08-00	P118 - Halls Bayou	Y	2nd Quartile	68%	5.00	N	1	\$ 26,686,000	\$ 24,202,000	100%	100%
C-08	C118-00-00-Y001	C118-00-00-E001	Channel Conveyance Improvements along Saltwater Ditch	C - Sims Bayou	Y	1st Quartile	77%	4.30	N	1	\$ 92,149,000	\$ 78,935,000	100%	100%
C-09	C147-00-00-TBD	C147-00-00-E002	Channel Conveyance Improvements along C147-00-00	C - Sims Bayou	Y	1st Quartile	53%	3.32	N	1	\$ 44,881,000	\$ 15,301,000	100%	100%
C-41	P118-00-00-E006	P118-00-00-E010	Stormwater Detention Basin on Halls Bayou near Hardy West	P118 - Halls Bayou	Y	2nd Quartile	75%	5.00	Y	2	\$ 60,368,000	\$ 57,226,000	3%	35%
C-41	P118-00-00-E007	P118-00-00-E008	Halls Bayou Channel Conveyance Improvements Downstream of Hopper	P118 - Halls Bayou	Y	2nd Quartile	68%	3.75	N	2	\$ 3,236,000	\$ 3,141,000	50%	33%
C-26	P118-23-00-E001	P118-23-00-E002	Channel Conveyance Improvements and Stormwater Detention Basin on P118-23-00	P118 - Halls Bayou	Y	2nd Quartile	66%	5.00	Y	2	\$ 51,561,000	\$ 48,276,000	35%	24%
C-41	P118-00-00-TBD	P118-00-00-E009	Hahl North Stormwater Detention Basin	P118 - Halls Bayou	Y	2nd Quartile	71%	4.11	Y	2	\$ 30,900,000	\$ 12,000,000	0%	20%
C-30	P118-27-00-E001	P118-27-00-E002	Channel Conveyance Improvements and Stormwater Detention Basin on P118-27-00	P118 - Halls Bayou	Y	1st Quartile	62%	4.00	Y	2	\$ 30,664,000	\$ 28,606,000	0%	16%
Z-storm	K100-00-00-X096	K100-00-00-X115	Kickerillo-Mischer Preserve Channel Rehabilitation	K - Cypress Creek	N	N/A	43%	3.00	N	3	\$ 19,060,000	\$ 11,545,000	0%	0%
F-111	G103-00-00-P004	G103-00-00-E003	Barrett Station Drainage Improvements	G -San Jacinto River	Y	2nd Quartile	65%	3.00	Y	3	\$ 14,489,000	\$ 14,067,000	0%	0%
Z-02	K500-23-00-E003	K500-23-00-E005	West TC Jester Stormwater Detention Basin	K - Cypress Creek	N	N/A	36%	2.78	N	3	\$ 15,420,000	\$ 14,971,000	0%	0%
CI-012	K500-00-00-XXXX	K500-31-00-E001	Stormwater Detention Basin for Cypress Creek Channel Rehabilitation, Main Stem, Batch 5	K - Cypress Creek	N	3rd Quartile	47%	2.52	N	3	\$ 37,551,000	\$ 35,875,000	0%	0%
F-14	G103-80-03.1-E001	G103-80-03.1-E002	Taylor Gully Channel Conveyance Improvements	G -San Jacinto River	N	2nd Quartile	21%	1.71	N	3	\$ 25,498,000	\$ 21,676,000	100%	65%
F-106	M500-10-00-E001	M500-10-00-E002	Boudreaux Stormwater Detention Basin - Phase 1	M - Willow Creek	N	2nd Quartile	35%	1.00	N	3	\$ 41,159,000	\$ 27,026,000	0%	0%
C-36	U101-00-00-E001	U101-00-00-E002	South Mayde Creek Channel Conveyance Improvements	U - Addicks Reservoir	N	1st Quartile	39%	2.00	N	4	\$ 16,195,000	\$ 14,752,000	100%	47%
C-48	U501-07-00-E001	U501-07-00-E002	Stormwater Detention Basin on South Mayde Creek near the Grand Parkway - Phase 1	U - Addicks Reservoir	N	2nd Quartile	30%	2.00	N	4	\$ 20,633,000	\$ 13,620,000	0%	42%
C-46	U501-06-00-E001	U501-06-00-E002	South Mayde Creek Stormwater Detention Basin	U - Addicks Reservoir	N	1st Quartile	39%	2.00	N	4	\$ 41,091,000	\$ 37,503,000	0%	30%
C-38	U520-01-00-TBD	U520-01-00-E005	Dinner Creek Stormwater Detention Basin - Phase 2	U - Addicks Reservoir	Y	3rd Quartile	52%	2.32	N	4	\$ 30,353,000	\$ 29,469,000	0%	3%
F-20	K100-00-00-RXXX	K100-00-00-Y001	Upper Cypress Creek Floodplain Preservation	K - Cypress Creek	Y	2nd Quartile	55%	2.00	N	4	\$ 16,480,000	\$ 16,000,000	0%	0%
<b>Total</b>											<b>\$ 618,374,000</b>	<b>\$ 504,191,000</b>		



**TOM S. RAMSEY, P.E.**  
HARRIS COUNTY PRECINCT 3 COMMISSIONER



# IMPLEMENTATION

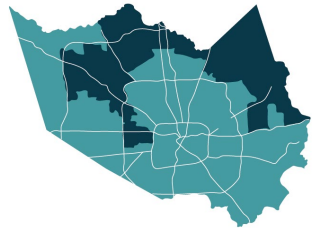
## CDBG-DR List

Bond Charter ID	Old Project ID	New Project ID	Project Name	Watershed	LMI > 51%	Bond ID Level Prioritization Framework Score	Draft Service Area LMI	SoVI Score	R/ECAP Areas	Precinct	Estimated Project Cost	Estimated CDBG DR Funded	Located in COH	Benefiting COH
E-09	E501-02-00-E002	E501-02-00-E002	Riggs Road Stormwater Detention Basin - Phase 2	E - White Oak Bayou	Y	1st Quartile	63%	3.59	Y	1	\$ 6,692,000	\$ 6,789,000	100.00%	100.00%
C-15	E500-25-00-E001	E500-25-00-E002	Arbor Oaks Stormwater Detention Basin	E-White Oak Bayou	Y	3rd Quartile	61%	3.15	Y	1	\$ 43,514,000	\$ 35,189,000	100%	84%
C-41	P518-11-00-E002	P518-11-00-E002	Isom Stormwater Detention Basin	P118 - Halls Bayou	Y	2nd Quartile	80%	3.00	Y	2	\$ 19,961,000	\$ 19,361,000	0%	1%
C-34	P500-06-00-E007	P500-06-00-E007	Lauder Stormwater Detention Basin - Compartment 2	P - Greens Bayou	Y	1st Quartile	78%	3.99	Y	2	\$ 19,523,000	\$ 19,248,000	0%	26%
C-06	B512-02-00-TBD	B512-02-00-E002	Brookglen Stormwater Detention Basin - Phase 2	B - Armand Bayou	Y	2nd Quartile	53%	3.00	N	2	\$ 9,224,000	\$ 8,693,000	0%	0%
F-107	R100-00-00-E004	R500-01-00-E001	Stormwater Detention Basin along Jackson Bayou	R - Jackson Bayou	Y	3rd Quartile	61%	3.00	N	3	\$ 11,195,000	\$ 10,743,000	0%	0%
CI-012	K100-00-00-X109	K100-00-00-X114	Cypress Creek Channel Rehabilitation, Main Stem, Batch 5	K - Cypress Creek	N	3rd Quartile	47%	2.52	N	3	\$ 19,128,000	\$ 18,878,000	0%	0%
F-28	L500-02-00-TBD	L500-02-00-E003	Kluge Stormwater Detention Basin - Phase 3	L - Little Cypress Creek	N	1st Quartile	14%	1.70	N	3	\$ 26,950,000	\$ 25,390,000	0%	0%
Z-02	K500-23-00-E003	K500-23-00-E004	East TC Jester Stormwater Detention Basin - Compartment 1B	K - Cypress Creek	N	N/A	36%	2.78	N	3	\$ 35,844,000	\$ 23,844,000	0%	0%
F-07	D518-03-00-E001	D518-03-00-E002	Keegans Bayou Stormwater Detention Basin near Old Richmond Road - Phase 1	D - Brays Bayou	Y	1st Quartile	59%	2.80	Y	4	\$ 14,474,000	\$ 12,293,000	100%	79%
C-38	U520-01-00-E003	U520-01-00-E004	Dinner Creek Stormwater Detention Basin - Phase 1	U - Addicks Reservoir	Y	3rd Quartile	52%	2.32	N	4	\$ 37,902,000	\$ 36,710,000	0%	3%
F-53	Z100-00-00-TBD	U100-00-00-X070	Addicks Reservoir Channel Rehabilitation & Restoration, Repair Package 3	U - Addicks Reservoir	N	3rd Quartile	42%	2.21	N	4	\$ 23,887,000	\$ 23,496,000	0%	0%
F-52	Z100-00-00-TBD	T100-00-00-X003	Barker Reservoir Channel Rehabilitation, Repair Package 2	T - Barker	N	3rd Quartile	21%	1.55	N	4	\$ 8,068,000	\$ 7,643,000	4%	24%
C-20	P100-00-00-E012	P100-00-00-E014	Greens Bayou Mid-Reach Channel Conveyance Improvements	P - Greens Bayou	Y	1st Quartile	68%	3.40	Y	1, 2	\$ 90,677,000	\$ 77,899,000	32%	14%
<b>Total</b>											\$ 360,347,000	\$ 319,387,000		

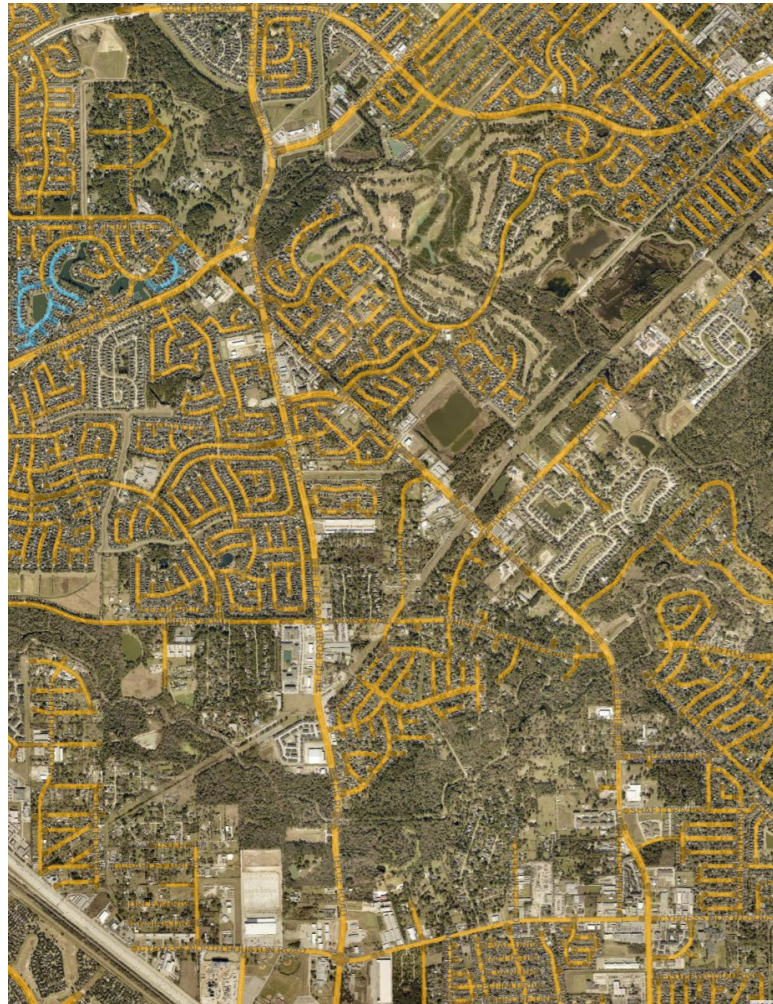


**TOM S. RAMSEY, P.E.**

HARRIS COUNTY PRECINCT 3 COMMISSIONER



# TELGE BASIN & LONGWOOD BASIN (CYPRESS)

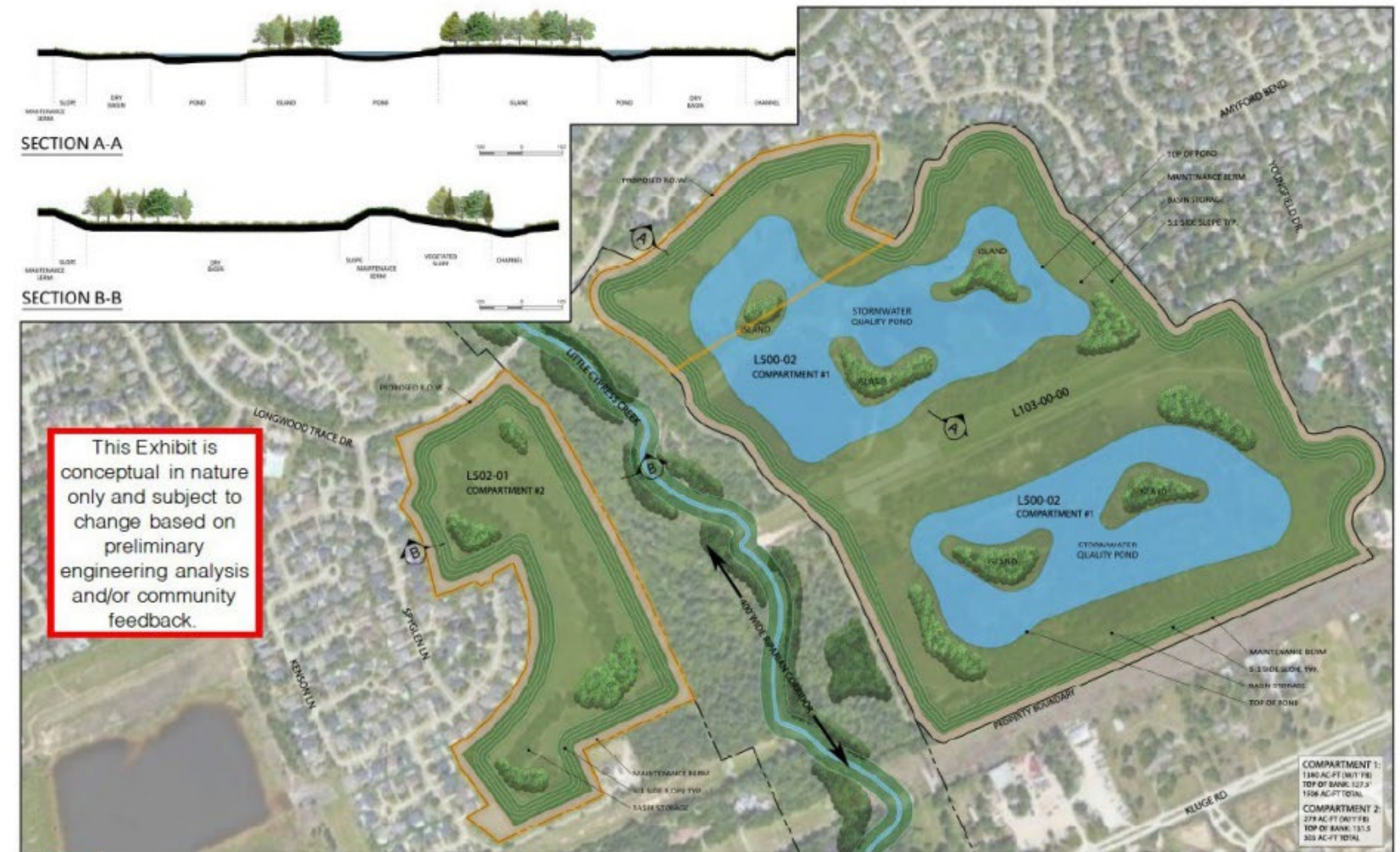
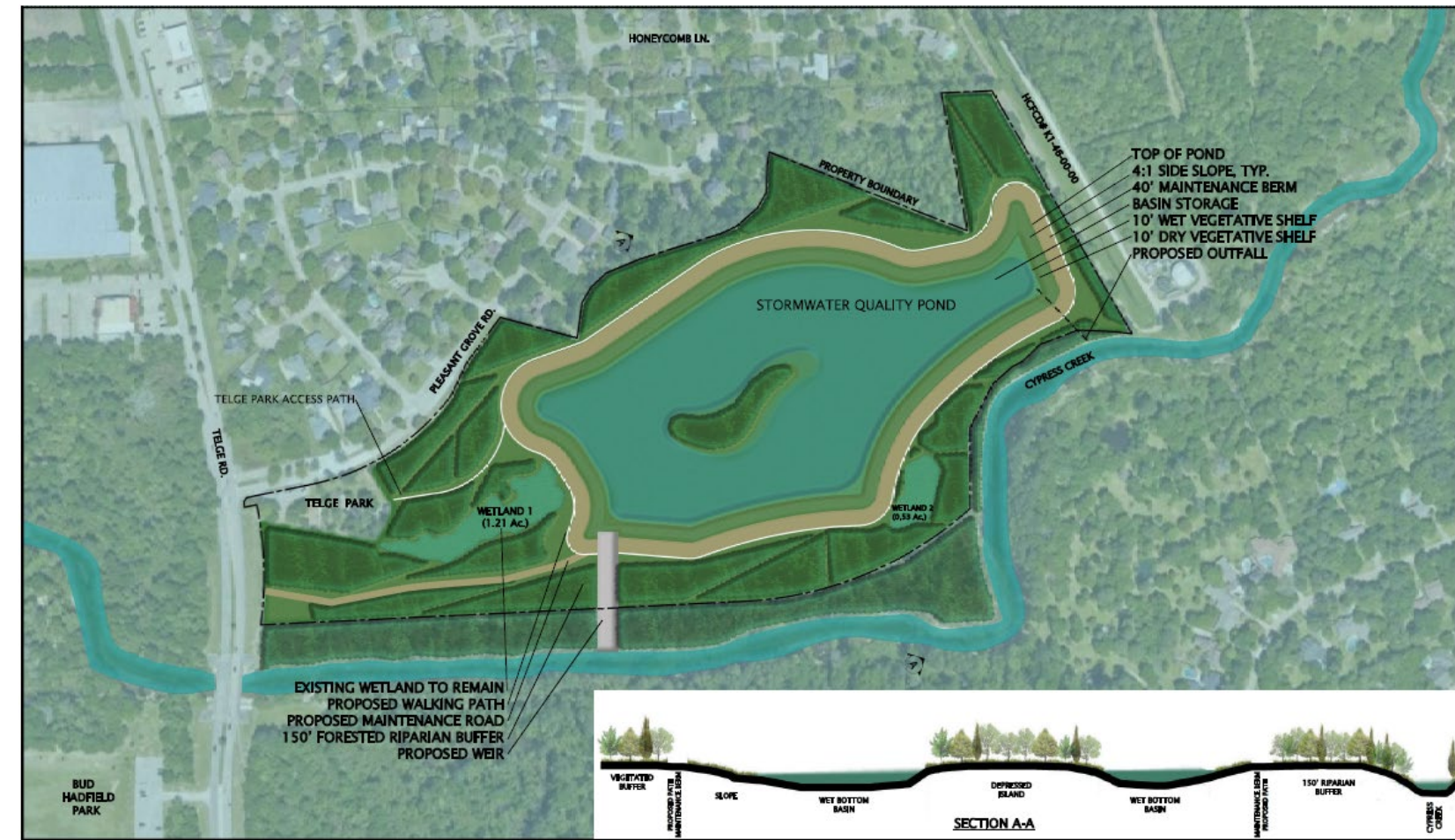


## Telge Basin

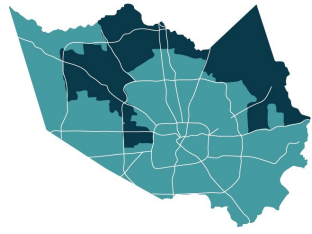
The Telge Basin will provide storage along Cypress Creek (up to 300 Ac-Ft) and have an estimated cost of \$16M. The estimated benefit is to reduce flooding for over 600 Structures.

## Longwood Basin

The longwood basin is currently begging the design process and will provide additional storage along Little Cypress Creek. The basin will reduce the flooding for up to 3,000 homes downstream. The cost for the northern phase is estimated to be around \$22M



This exhibit is conceptual in nature only and subject to change based on preliminary engineering analysis and/or community feedback.



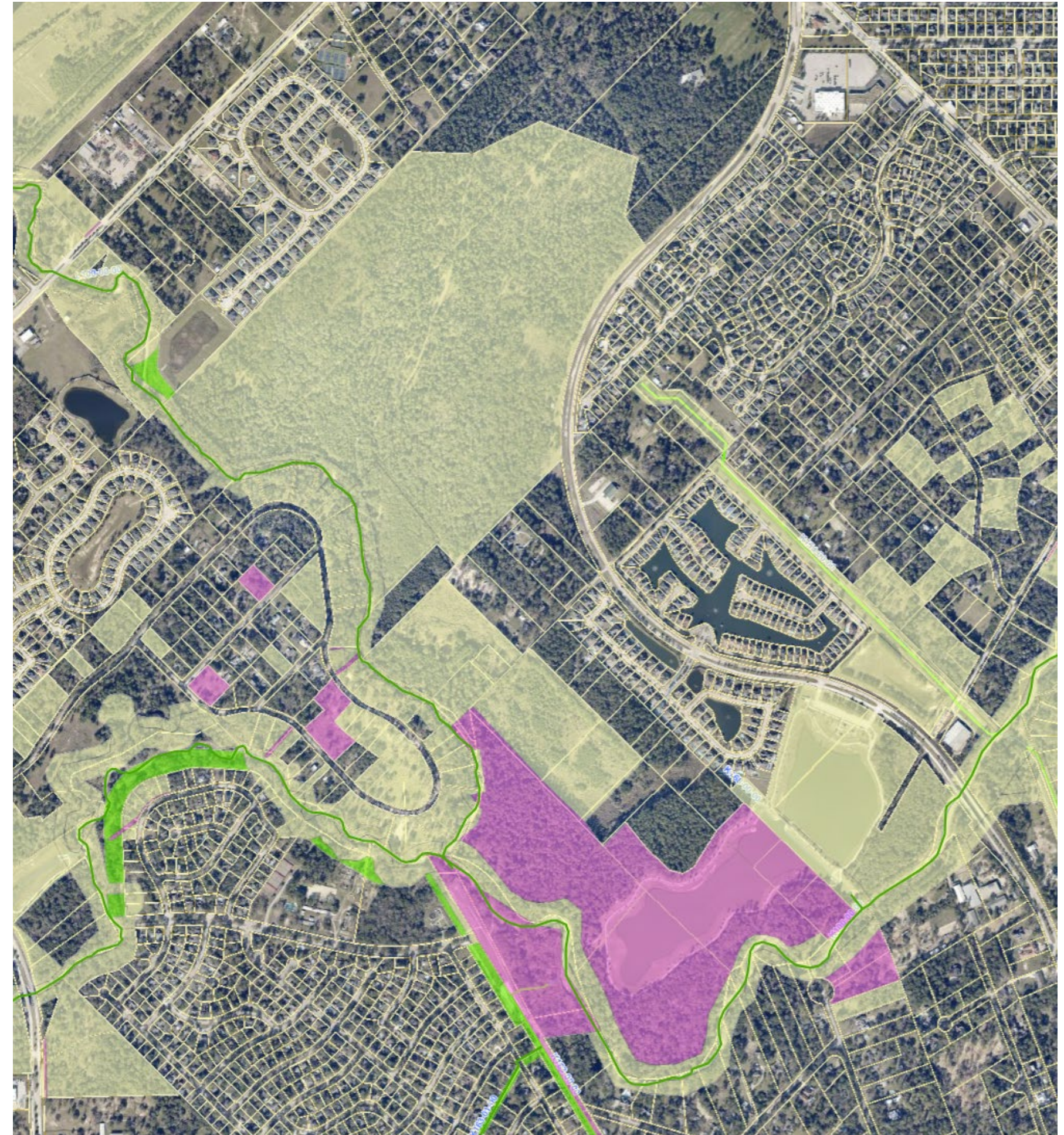
## CYPRESS PARK DETENTION BASIN



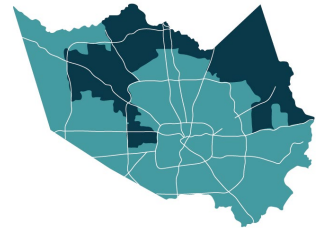
While final benefits will be calculated during the design stage, early estimates show the four basins will hold nearly 4,600 acre-feet of stormwater during heavy rain events, removing the area of inundation from structures and roadways in the area.

This basin is the cornerstone of the Cypress Creek Implementation program and provides nearly 1/3 of the planned volume.

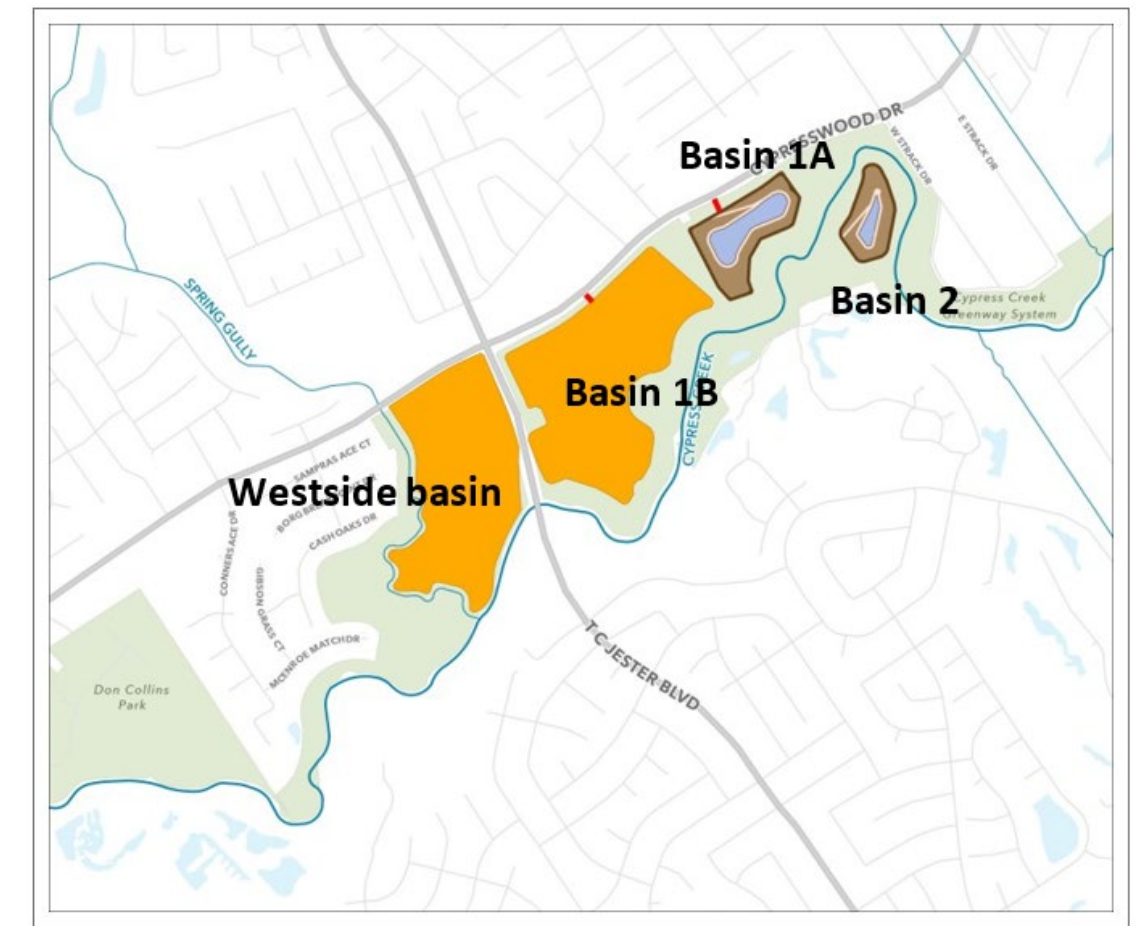
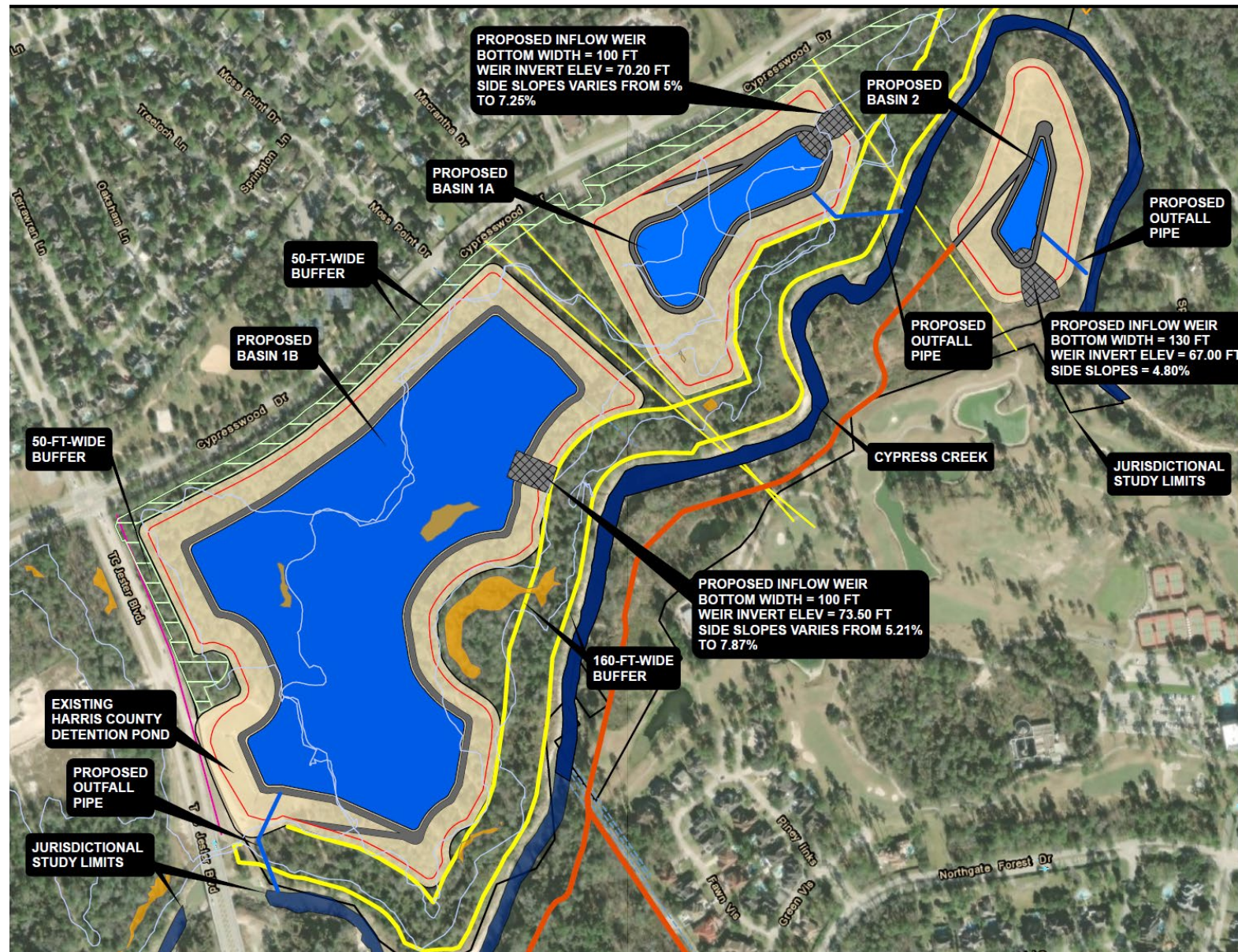
The estimated cost for this basin is nearly \$180 M







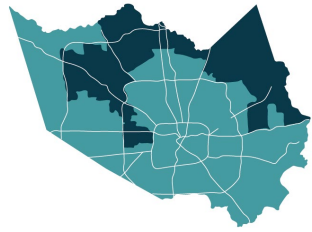
# TC JESTER BASIN (SPRING)



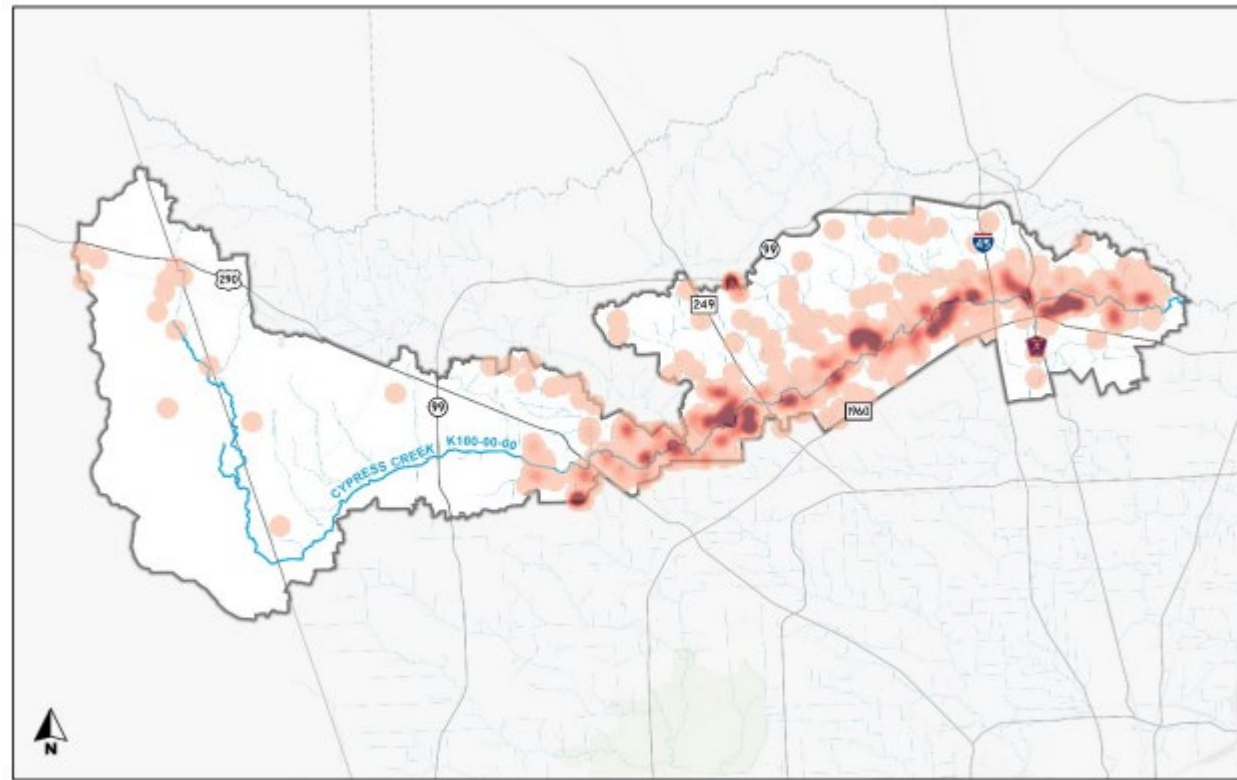
While final benefits will be calculated during the design stage, early estimates show the four basins will hold nearly 1,200 acre-feet of stormwater during heavy rain events, removing the area of inundation from structures and roadways in the area.

## Project Funding:

- Received \$9.95 million in federal community directed funding from Congressman Crenshaw
- Received \$12 million in direct state allocation from State Representative Harless
- Potential \$27.7 million in CDBG-MIT funds



# IMPLEMENTATION & FRONTIER PROGRAMS



Heatmap of Structural Flooding During Hurricane Harvey

## CYPRESSCREEK IMPLEMENTATION PROGRAM

- OLDER ORIGINAL STUDY BY MICHAEL BAKER (EARLY 2000)
- CURRENT IMPLEMENTATION PROGRAM
- CURRENT ESTIMATED NEEDS – OVER 26,000 A C-FT

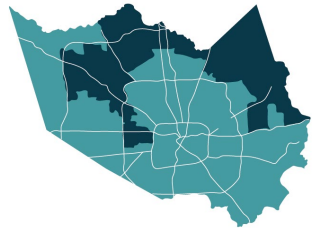
Basin Group	Proposed Basin Volume	Benefited Structures	Total Estimated Cost
<b>TIER 1</b>			
Cypresswood @ Jones SDB	1,060 acre-feet	737 structures	\$56.5 million
Cypress Hill, Cypress Spring, Ella and Westador SDBs	680 acre-feet	60 structures	\$41.6 million
T.C. Jester SDB	1,350 acre-feet	124 structures	\$51.6 million
Mercer SDB	1,480 acre-feet	453 structures	\$81.6 million
Cypress Park SDB Extension	4,620 acre-feet	868 structures	\$185.5 million
<b>TIER 2</b>			
Telge @ Pleasant Grove SDB	290 acre-feet	634 structures	\$15.9 million
Stuebner Airline SDB	1,410 acre-feet	44 structures	\$70.3 million
Cypress Trace SDB	350 acre-feet	49 structures	\$17 million
Senger SDBs	1,060 acre-feet	98 structures	\$55.2 million
Champions SDB*	500 acre-feet	49 structures	TBD
<b>TOTAL TIERS 1-2:</b>	<b>12,800 acre-feet</b>	<b>3,116 structures</b>	<b>\$597.1 million</b>

SINCE 1937 ( THE FOUNDING OF HCFCD) HCFCD HAS EXCAVATED APPROXIMATELY 65,000 A C-FT, CONSIDER THE SCALE OF THE NEEDS WITHIN HARRIS COUNTY . THIS IS JUST ONE WATERSHED



**TOM S. RAMSEY, P.E.**

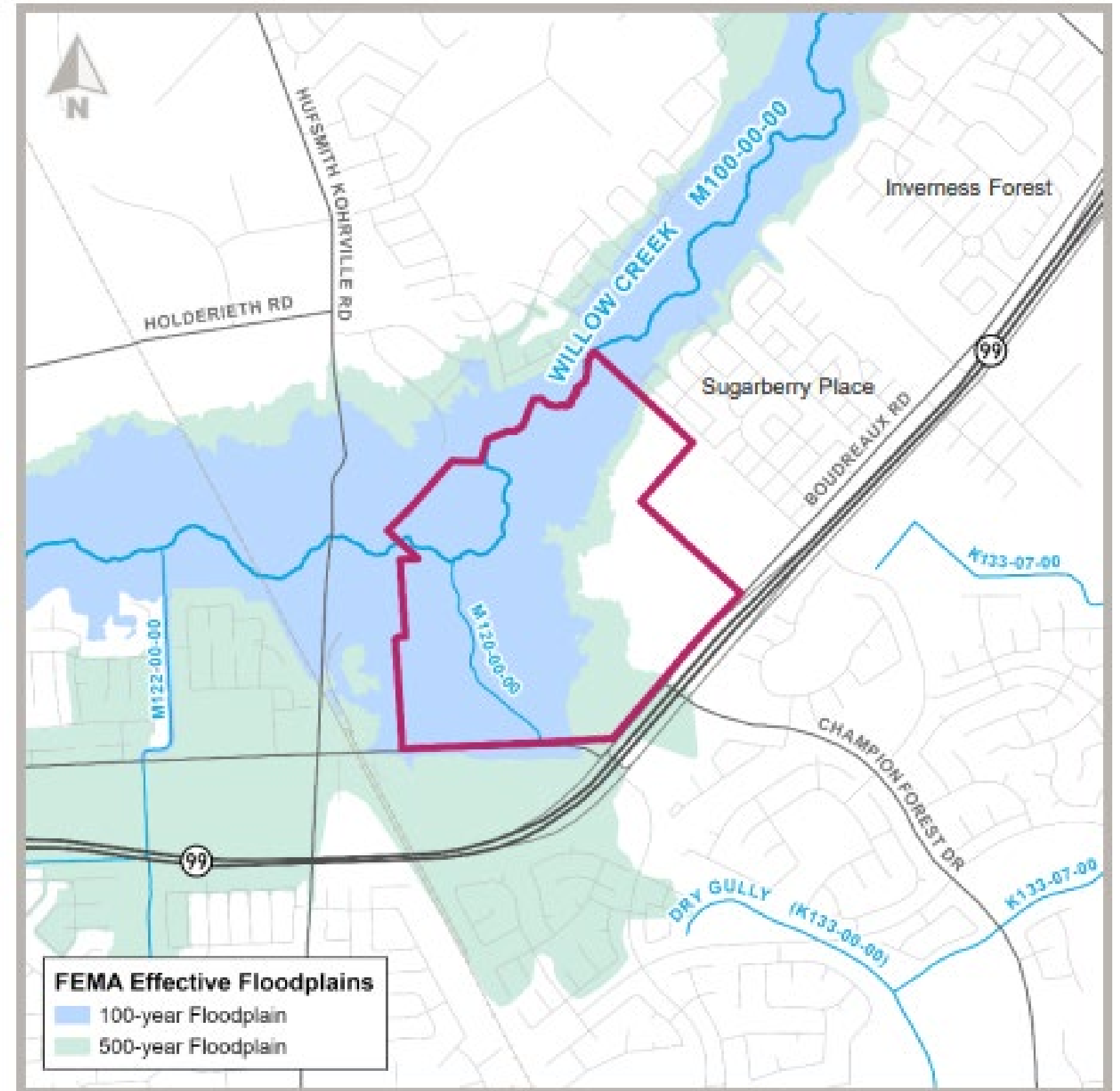
HARRIS COUNTY PRECINCT 3 COMMISSIONER

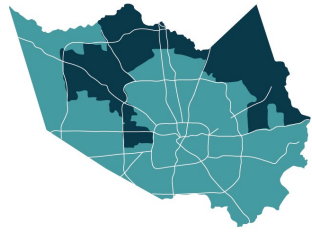


## BOUDREAUX BASIN (TOMBALL)

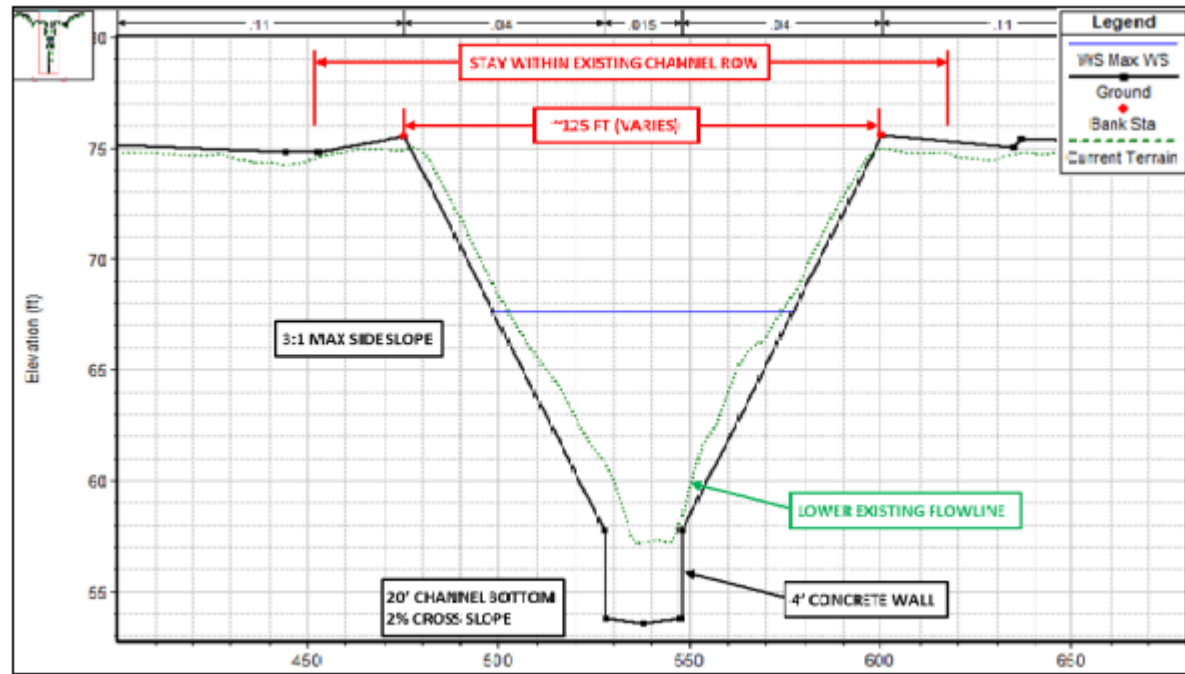
While final benefits will be calculated during the design stage, early estimates show the basin will completely remove over 100 residential structures and 162 acres of area within the 100 year floodplain.

This will have a significant affect on Willow Creek. The estimated cost is around \$80M and will provide approximately 1750 Ac-Ft



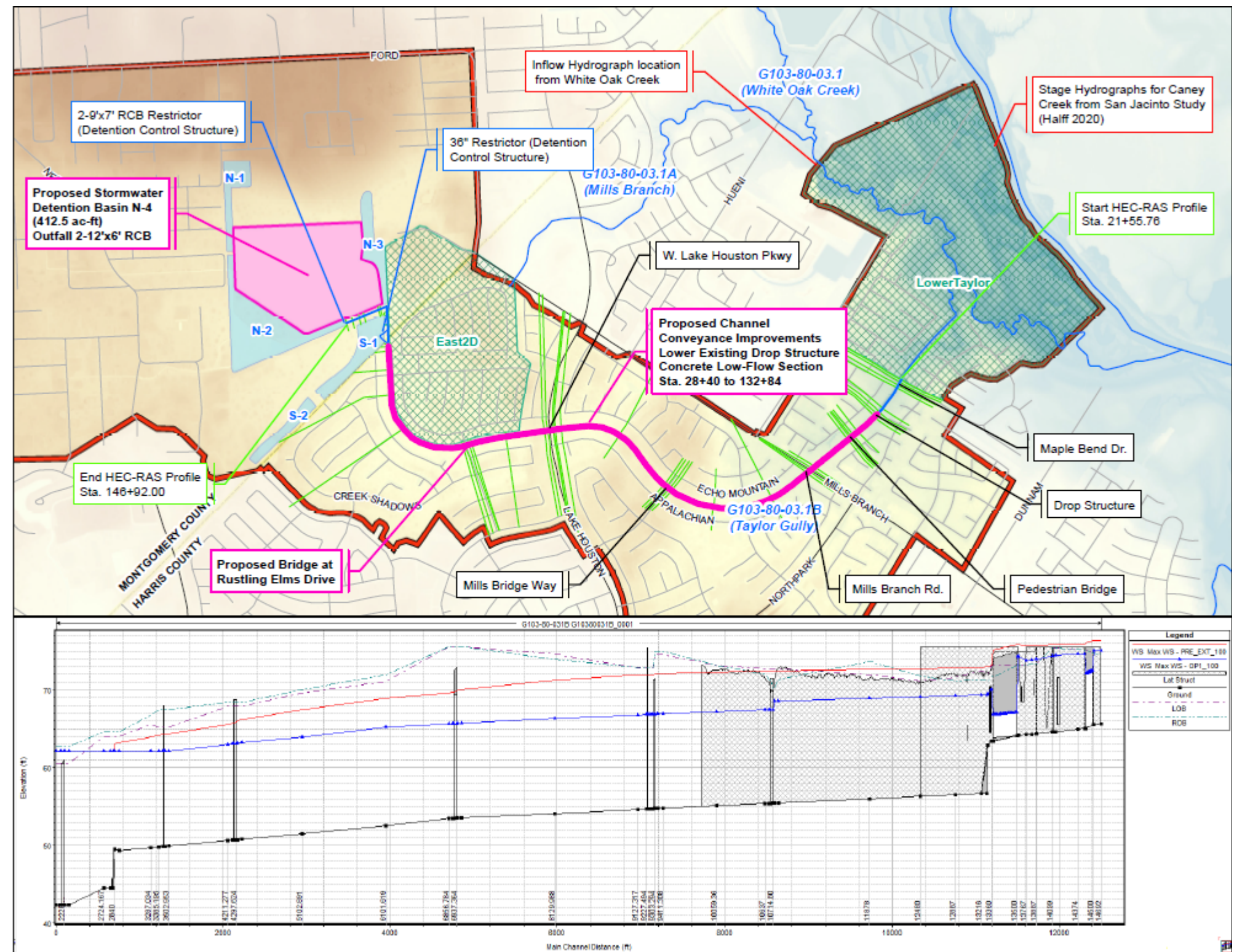


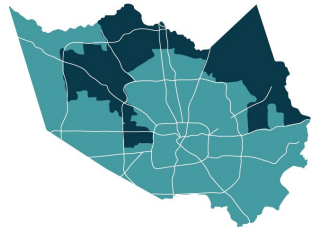
# TAYLOR GULLY (KINGWOOD)



While the final benefits will be calculated during the design stage, early estimates show the channel improvements will remove flooding for over 270 structures and 115 acres of inundated areas. The project is estimated to cost approximately \$30M.

The project is included within the CDBG – MIT funds.





# IMPLEMENTATION

3	Barwood	\$9,204,043	\$37,500,000	\$2,007,705	\$9,683,240	\$11,211,748	\$47,183,240
3	Tower Oaks Meadows	\$11,032,844		\$4,802,877		\$15,835,721	
3	Dowdell Woods	\$5,636,185		\$924,420		\$6,560,605	
3	Cypress Creek Estates	\$11,626,928		\$1,948,238		\$13,575,166	

## CDBG-MIT Recommended Projects

Precinct Location	Project Name	CDBG Budget	Total CDBG By Precinct	Local Budget	Total Local Funding (Leverage)	Project Total	Total Project cost by Pet
1	North Forest	\$16,954,674	\$37,500,000	\$4,698,497	\$11,030,682	\$21,653,171	\$48,530,682
1	Ralston Acres	\$20,545,326		\$6,332,185		\$26,877,511	
2	Pine Trails Ph1	\$15,116,949	\$37,500,000	\$2,523,466	\$5,046,932	\$17,640,415	\$42,546,932
2	Pine Trails Ph2	\$22,383,051		\$2,523,466		\$24,906,517	
3	Barwood	\$9,204,043	\$37,500,000	\$2,007,705	\$9,683,240	\$11,211,748	\$47,183,240
3	Tower Oaks Meadows	\$11,032,844		\$4,802,877		\$15,835,721	
3	Dowdell Woods	\$5,636,185		\$924,420		\$6,560,605	
3	Cypress Creek Estates	\$11,626,928		\$1,948,238		\$13,575,166	
4	Anderson Park Drainage Improvements & Upgrades	\$5,791,332	\$37,500,000	\$4,204,393	\$4,204,393	\$9,995,725	\$41,704,393
4	Chimney Rock Reconstruction-US59 to Westheimer	\$23,458,668		\$23,458,668			
4	Evacuation Route Improvements	\$8,250,000		\$8,250,000			
	<b>Total</b>		<b>\$150,000,000</b>		<b>\$29,965,247</b>		<b>\$179,965,247</b>



**TOM S. RAMSEY, P.E.**

HARRIS COUNTY PRECINCT 3 COMMISSIONER



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