Fort Bend County
Levee Improvement District No. 2

Fall 2018 Update to the Public on Actions Taken Post Hurricane Harvey

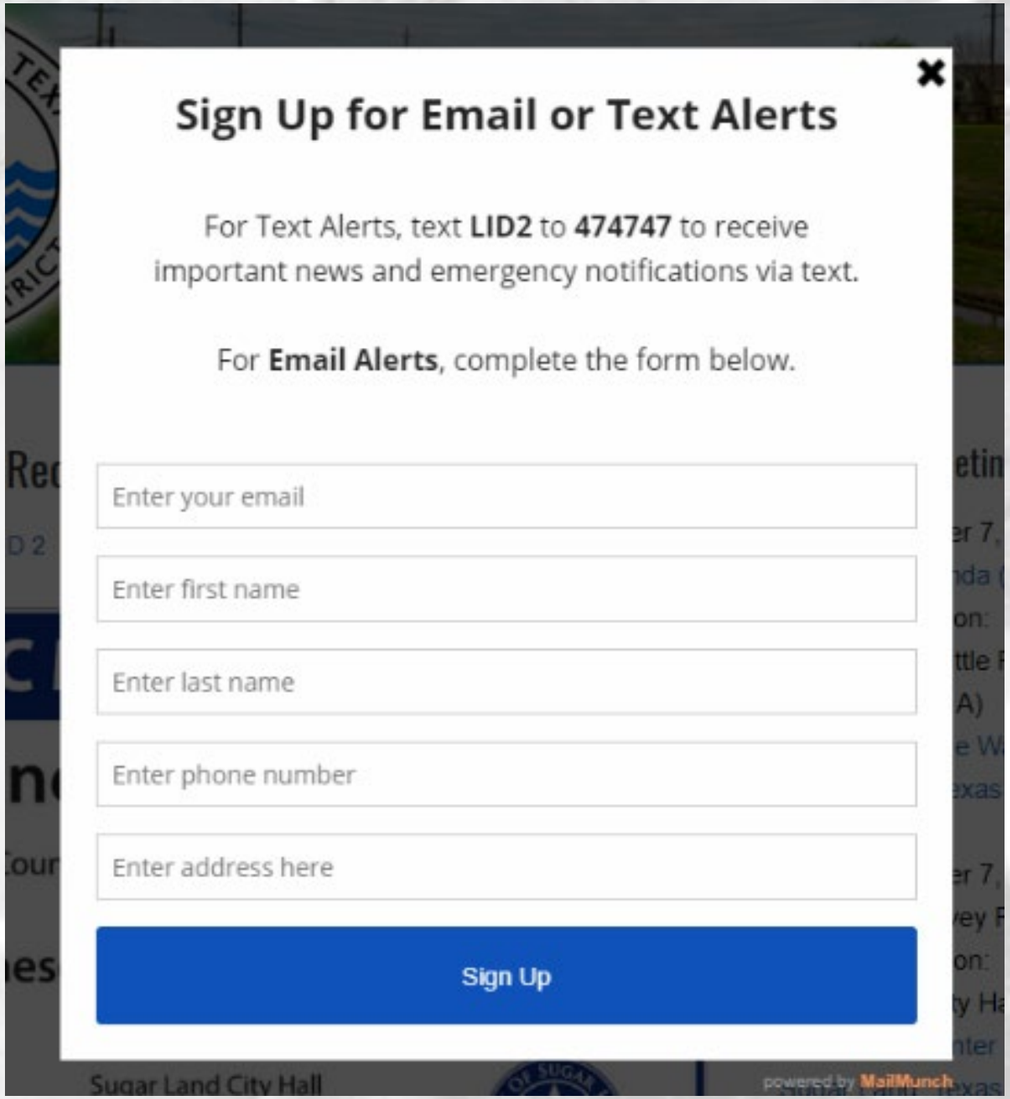
Update Topics / Agenda

- Introduction
- Recap of Events
- Status of Projects / Studies
- Budget / Cost Estimates
- Use of Bond Funds / Tax Impacts
- Conclusion / Questions

Sign Up for Alerts

Go To: FBCLID2.com/alerts

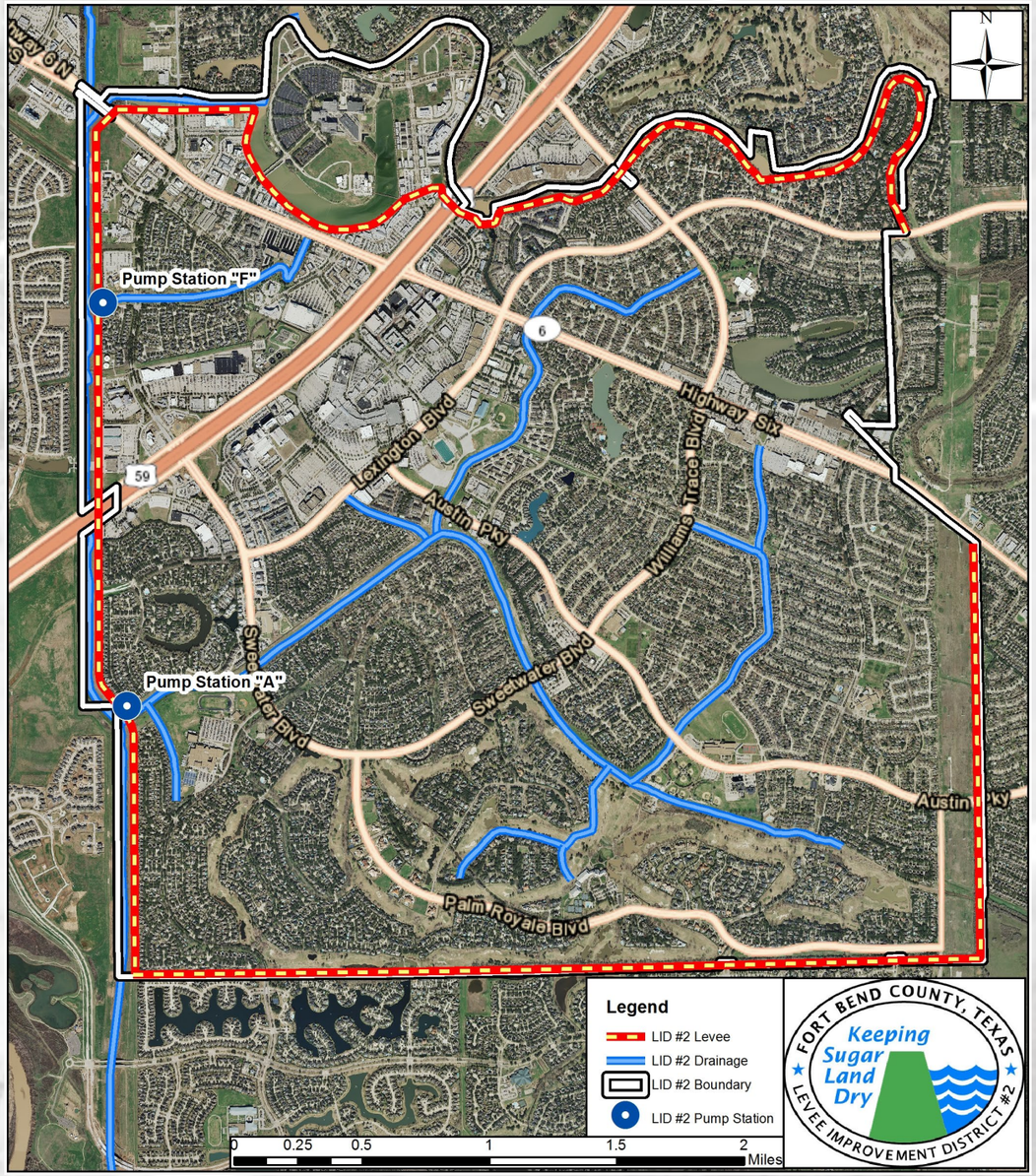
There will be a pop-up box to sign up for alerts.

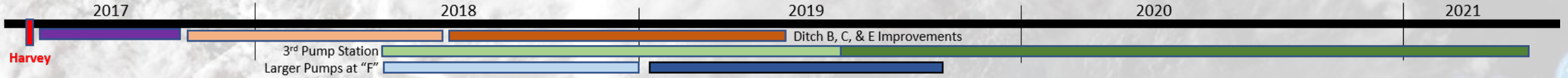


Know Where you Live!

- Everyone who lives in FBCLID 2 lives in Sugar Land
- NOT everyone who lives in Sugar Land lives in FBCLID 2
- Take a few minutes to make sure you know which levee district you live in. Easy – look at you property tax statement or go to the FBCLID2.com FAQ page.

First Colony LID	**FBC LID 14**	**FBC LID 7**	**FBC LID 11**
First Colony LID 2	**FBC LID 15**	**FBC LID 17**	**FBC LID 6**
FBC MUD 46	**FBC LID 19**	**FBC LID 10**	**FBC MUD 121**


Pump Station "F"
Pump Station "A"
Lexington Blvd
Austin Pky
Williams Trace Blvd
Highway Six
Sweetwater Blvd
Palm Royale Blvd
59
6
N
Legend
LID #2 Levee
LID #2 Drainage
LID #2 Boundary
LID #2 Pump Station
0 0.25 0.5 1 1.5 2
Miles


2017
2018
2019
2020
2021
Harvey
Ditch B, C, & E Improvements
3rd Pump Station
Larger Pumps at "F"

Recap – Harvey to Now

- Worst flood event in modern history for the Houston area
- Approx. 175-200,000 homes flooded in the Greater Houston area

  (Only 200,000 homes in all of Fort Bend County)
- The vast majority of those were not in the 100 year flood plain
- The Brazos River reached a modern record – 55.2’ (Richmond Gage)
- FBCLID 2 had 230+ homes that flooded due to heavy rain
- FBCLID 2 had no homes that flooded due to the high river

Lowering the Internal Critical Flood Elevation

- Current standard is 18” between maximum water level and slab
- Old standard was 12” between maximum water level and slab
- Discovered multiple homes with slabs below the minimum slab elevation within the District
- Following Harvey the goal was to provide **ALL** homes in the District flood protection meeting the most current requirements - “***If financially feasible***.”

Last Update from LID 2

Soft Improvements

- Study open end of the District
- Study South and East levee
- Improve flood monitoring system
- Improve website
- Opt-In email / text alert system
- Increase public outreach
- Purchase high water vehicle

Hard Improvements

- Pilot project to armor levee top
- Ditch B, C, & E Improvements
- Increase pump capacity at PS “F”
- Design & construct a 3rd pump station
- Redirect flow from Steep Bank Creek

ATLAS 14 - NOAA Changes Expected Rainfall

- NOAA performed a study to re-evaluate the amount of rainfall to be used when designing infrastructure in Texas
- The study was to be complete in the Spring of 2018, which became summer of 2018, which became fall of 2018
- The changes were significant and affect all of our projects
- The rainfall increased from 12.5” to 16.5” - an increase of 32% for the 100-year / 24-hour rain event

New Study on River Levels Underway

- *“The river is going to do what the river wants to do!”*
- The Brazos River is changing – all the time
- Several studies currently being performed on the Brazos River
- It is unclear if these studies will indicate that we should expect higher or lower river levels in the future
- These studies may take several months or years to complete

Soft Projects

- Open End of the District – study indicates 500+ year protection
- South and East Levee – on-going study
- Improve Flood Monitoring (partnering with Harris County & City of Sugar Land):
  - Replacing two old flood monitoring stations
  - Adding five new flood monitoring stations
  - Stations will be visible on www.harriscountyfws.org & FBCLID2.com
  - Include cameras to monitor critical areas

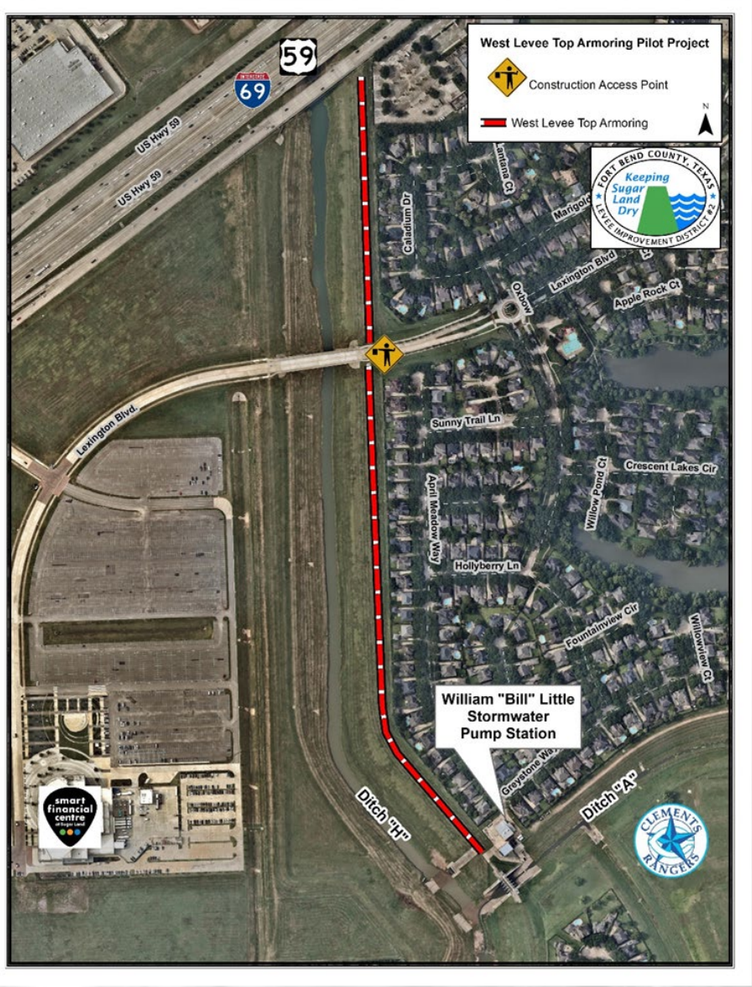
Soft Projects (cont'd)

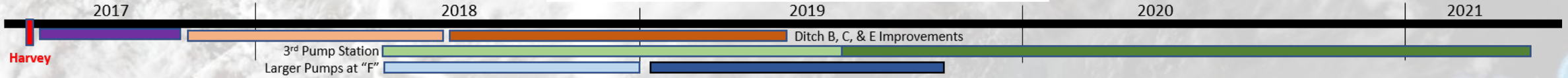
- Website improvements – ongoing process
  - Alert system
  - Still working on live data / photos
- Increase Public Outreach
  - Quarterly newsletter
  - Fall and Spring public meetings
  - Provide speakers for any group in the area
  - FBCLID2 Information to in District HOA newsletters and websites

Pilot Project to Hard Top Levee

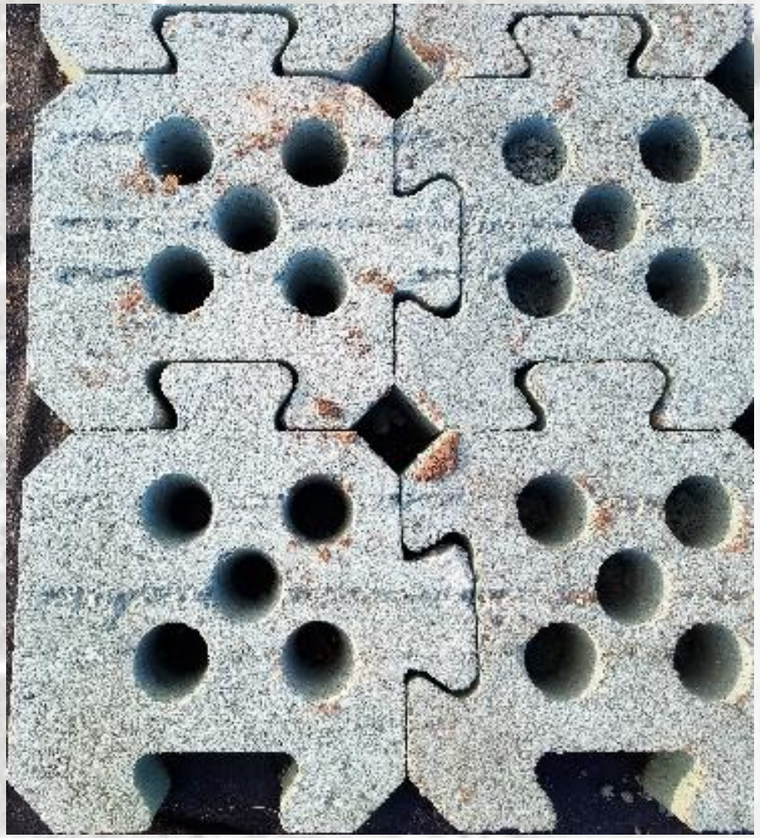
- Hard surface West levee top from US-59 to Pump Station “A”
- Allows access to station during high water event
- Substantially complete
- Pilot program – would be helpful during events to facilitate levee inspections without damaging the top of the levees

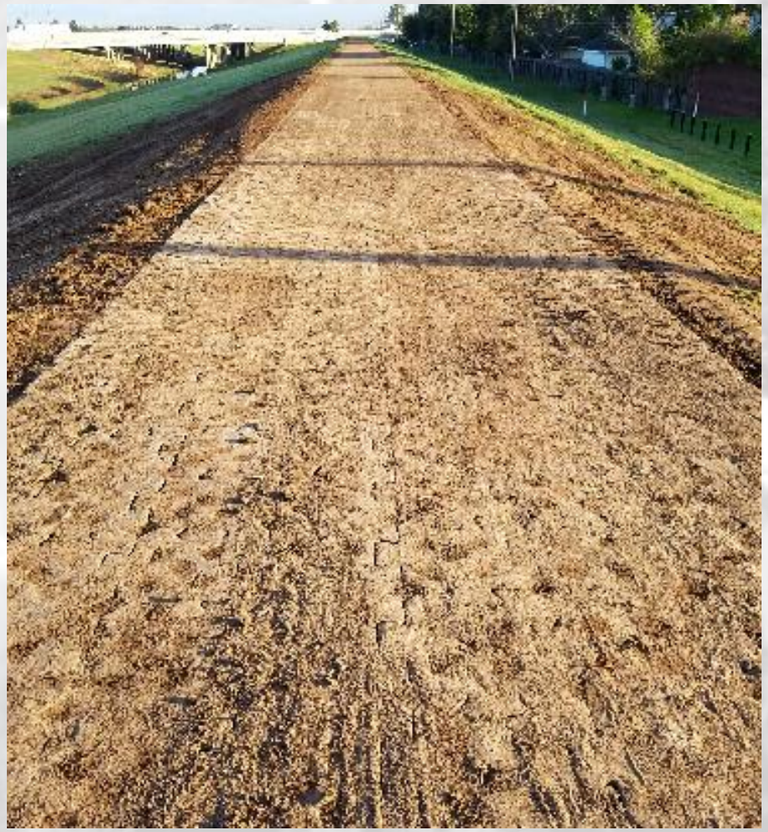
Pilot Project to Hard Top Levee

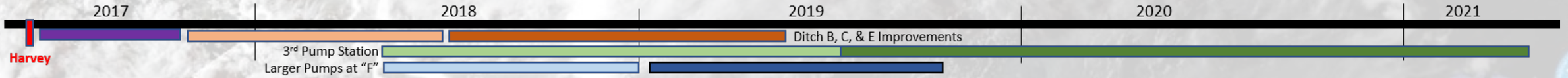




Pilot Project to Hard Top Levee



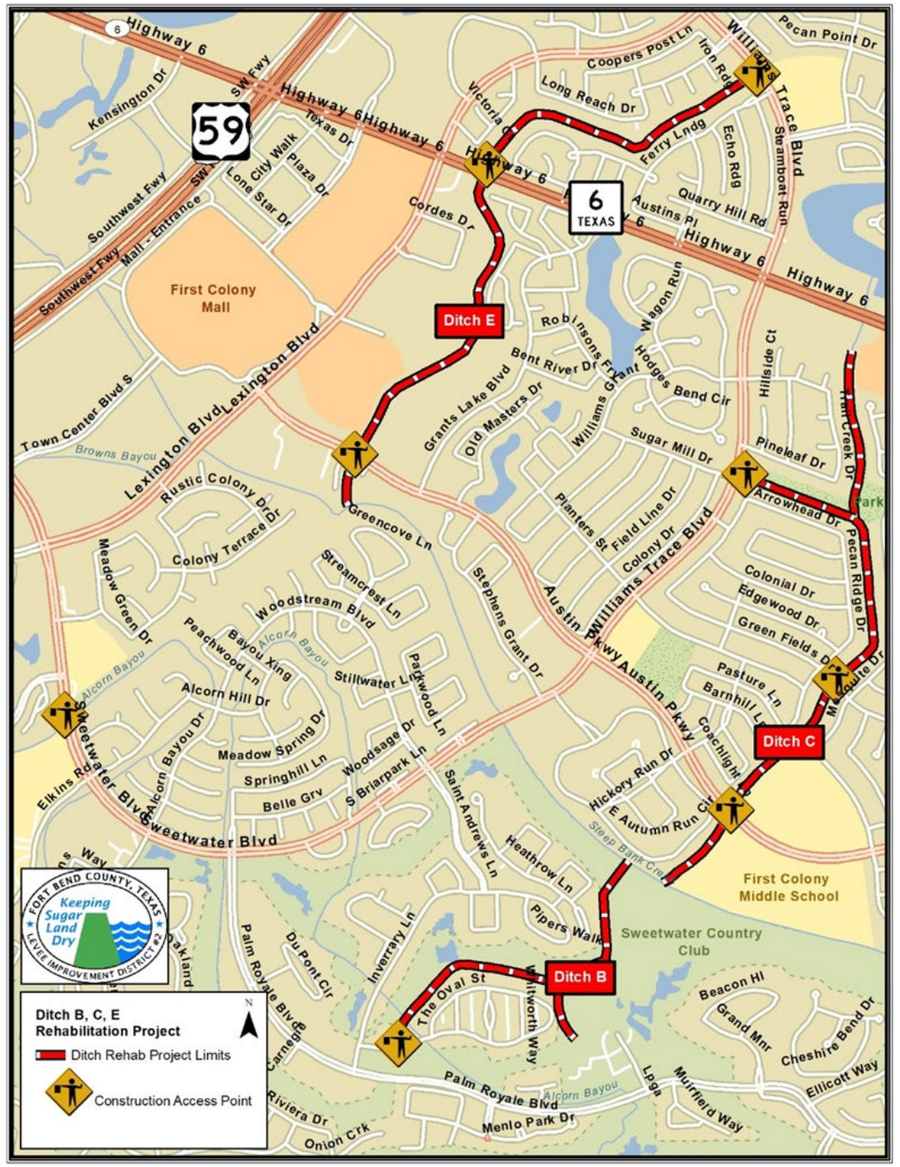


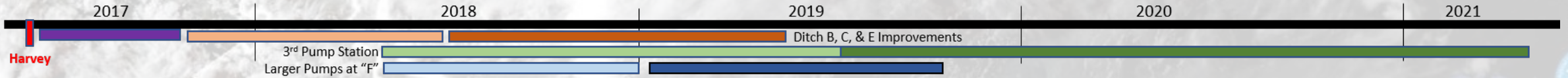


Ditch B, C, & E Project

- Rectify channel of ditches serving the areas most impacted
- Hard surfacing the main channel to prevent erosion and meandering
- Project is well underway – will be complete late summer of 2019
- This will complete the ditch rehab program
- Should improve drainage in the Chimney Stone / Settlers Park areas

Ditch B, C, & E Project





Ditch B, C, & E Project

Increase Pump Capacity at Pump Station “F”

(“Mike Thelen Pump Station”)

- Insure pump capacity meets current FBCDD requirements using new ATLAS 14 data
- Final design is being completed now
- Pumps will be replaced in 2019
- Long lead item; manufacturing and delivery of the pumps (6 months)

Increase Pump Capacity at Pump Station "F"

("Mike Thelen Pump Station")

- Ditch F Pump Station currently 60,000 GPM firm capacity, 85,000 GPM Total
- Replace all 4 pumps - 103,200 GPM Total (+13%)
- H&H analysis to confirm new pumps meet latest FBCDD design criteria w-ATLAS 14

Design and Construct 3rd Pump Station

- Preliminary engineering is complete – final design is underway
- Bid project in 5 distinct phases
  - Feb 2019 – Pumps bid
  - Feb 2019 – Generators bid
  - July 2019 – Structures bid
  - Nov 2019 – Armoring Ditch H Outfall bid
  - July 2020 – Control and Operations Building bid

Design and Construct 3rd Pump Station

Significant Increase In Pumping Capacity

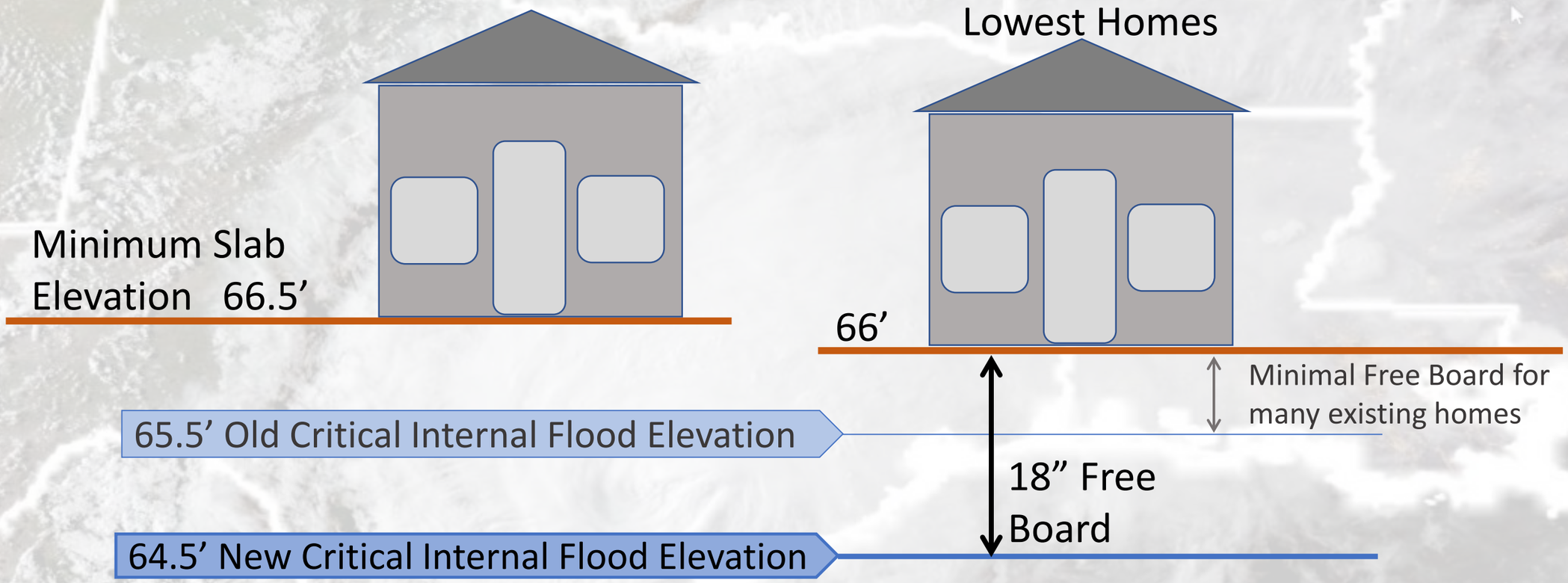
Existing pump station “A”	240,000 gpm	
3rd pump station adds	980,000 gpm	(4 x larger than existing)
Total capacity now	1,220,000 gpm	

Design and Construct 3rd Pump Station

<u>Key Features of New Pump Station</u>

- Begin pumping earlier, as little as 6’ of water in Ditch “A”
- Early operation allows District to reclaim storage during an event
- Natural gas generators will serve as backup power
- Re-circulation system allows testing of pumps

Design and Construct 3rd Pump Station



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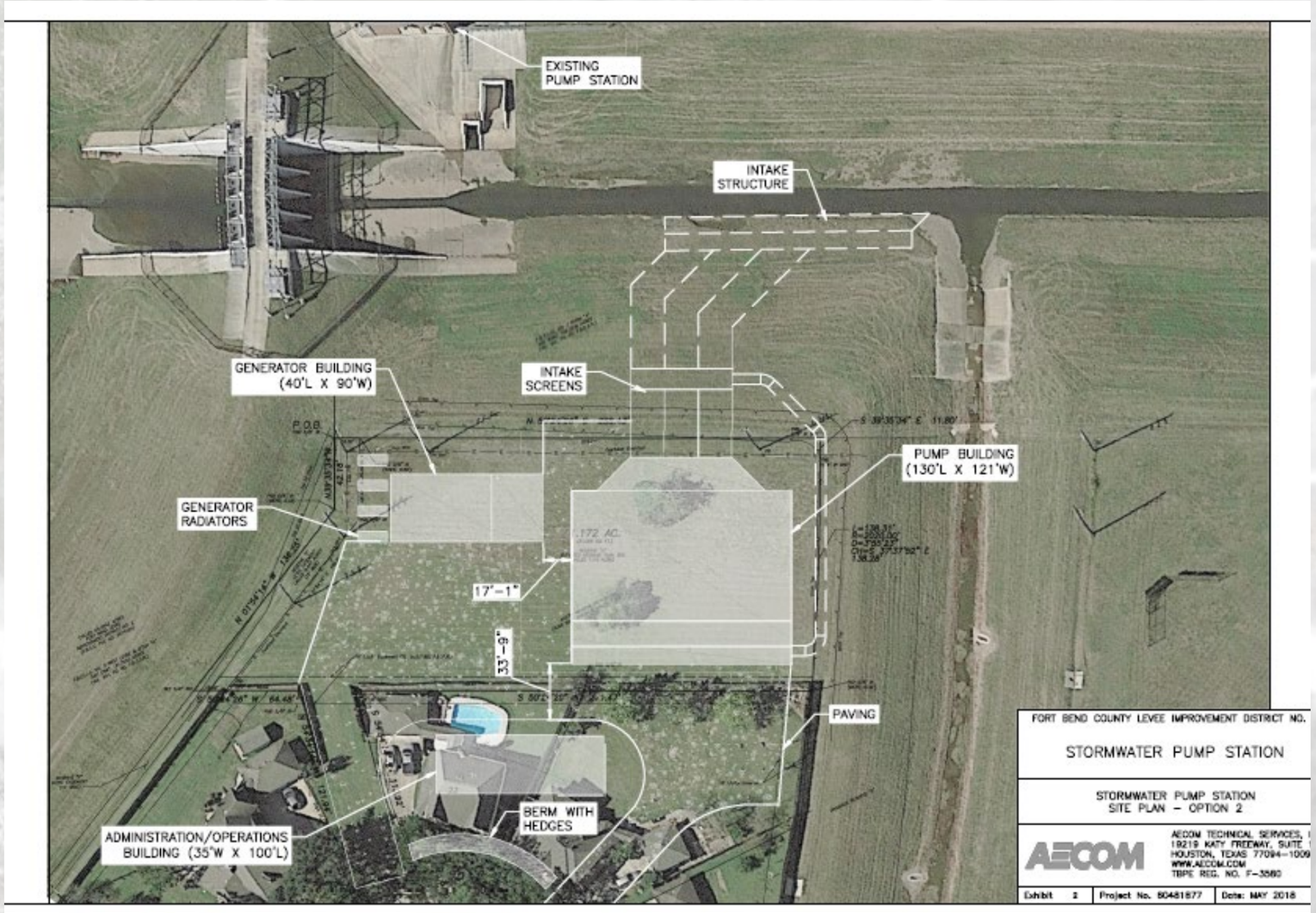

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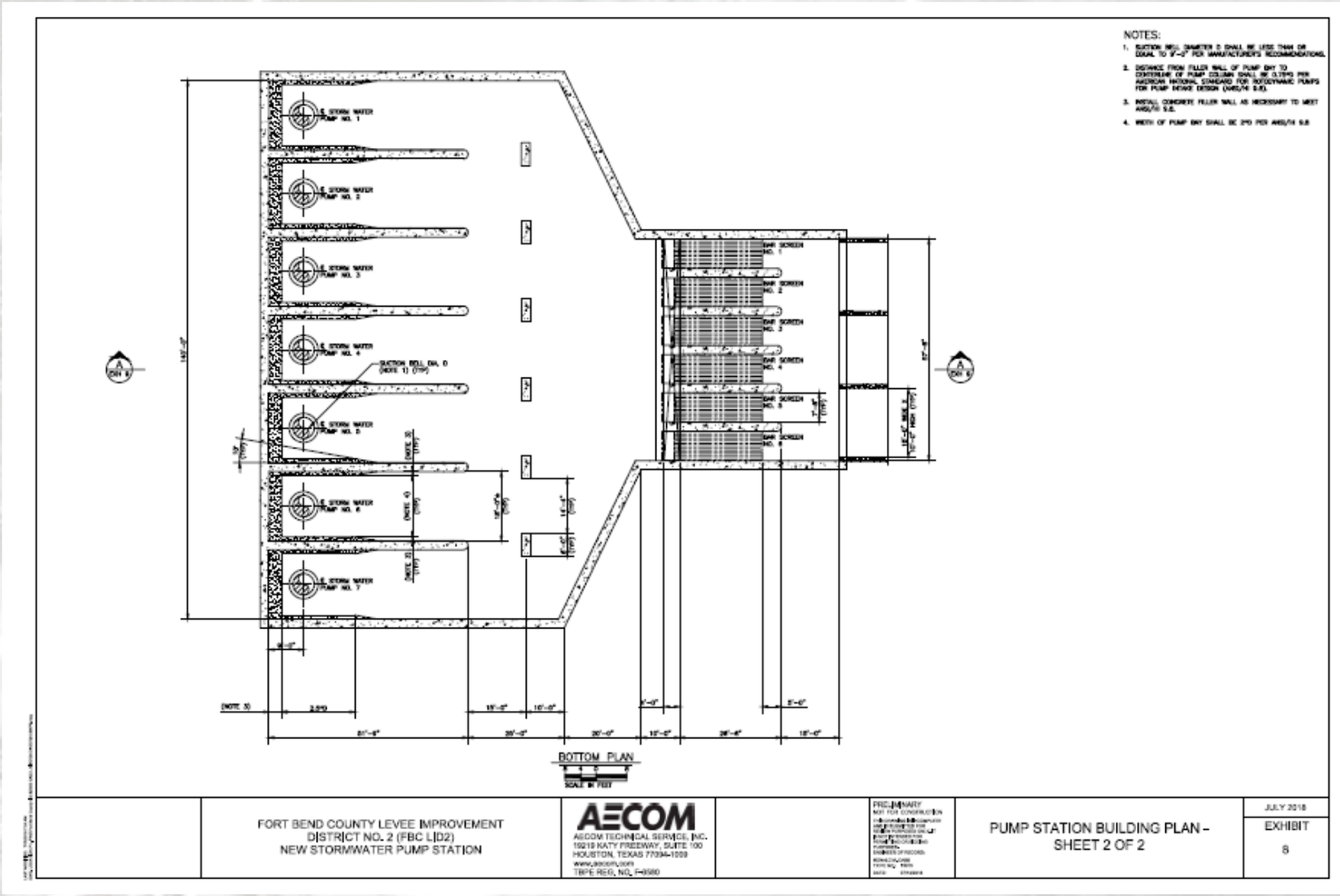
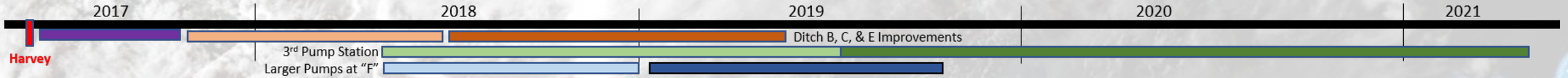




Design and Construct 3rd Pump Station

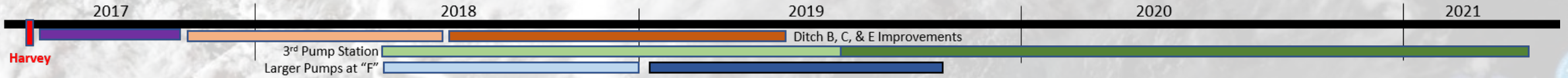
Alternative Back-Up Power Options:

- Looking at partnering with private “emergency power as a service” providers in lieu of buying generators
- Substantial cost savings
- Increased reliability
- Transfer of monthly and annual maintenance cost

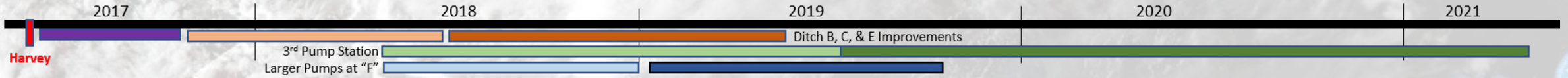
Redirect Steep Bank Creek

- Goal of project – redirect the water currently flowing from CenterPoint ROW into LID 15 & LID 19 during extreme events
- Preliminary study complete – shows LID 2 can redirect the flow to Ditch “A” outfall with no adverse impact. Some potential benefit to use the ROW as detention during extreme events
- Final design will be complete by late spring of 2019

Redirect Steep Bank Creek



High-water Vehicle



Budgets / Cost Estimates

Project Description	Project Cost
Pilot Levee Topping Project	$400,000
Ditch B, C, & E Improvements (remaining)	$5,240,000
Increase Pump Capacity at Pump Station “F”	$780,000
3rd Pump Station (Design, Build, Inspect, Admin)	$58,600,000
Redirect Flow to Steep Bank Creek	$150,000
Flood Monitor Improvements	$230,000
Completion of Studies	$100,000
Total	$65,500,000

Bond Funding

- Bonds spread the cost of projects over multiple years
- Last bond election was November 2013
- Resident's authorized the District to issue $48 million of bonds
- Plan is to issue all $48 million of authorized bonds in 2019

Funding Projects

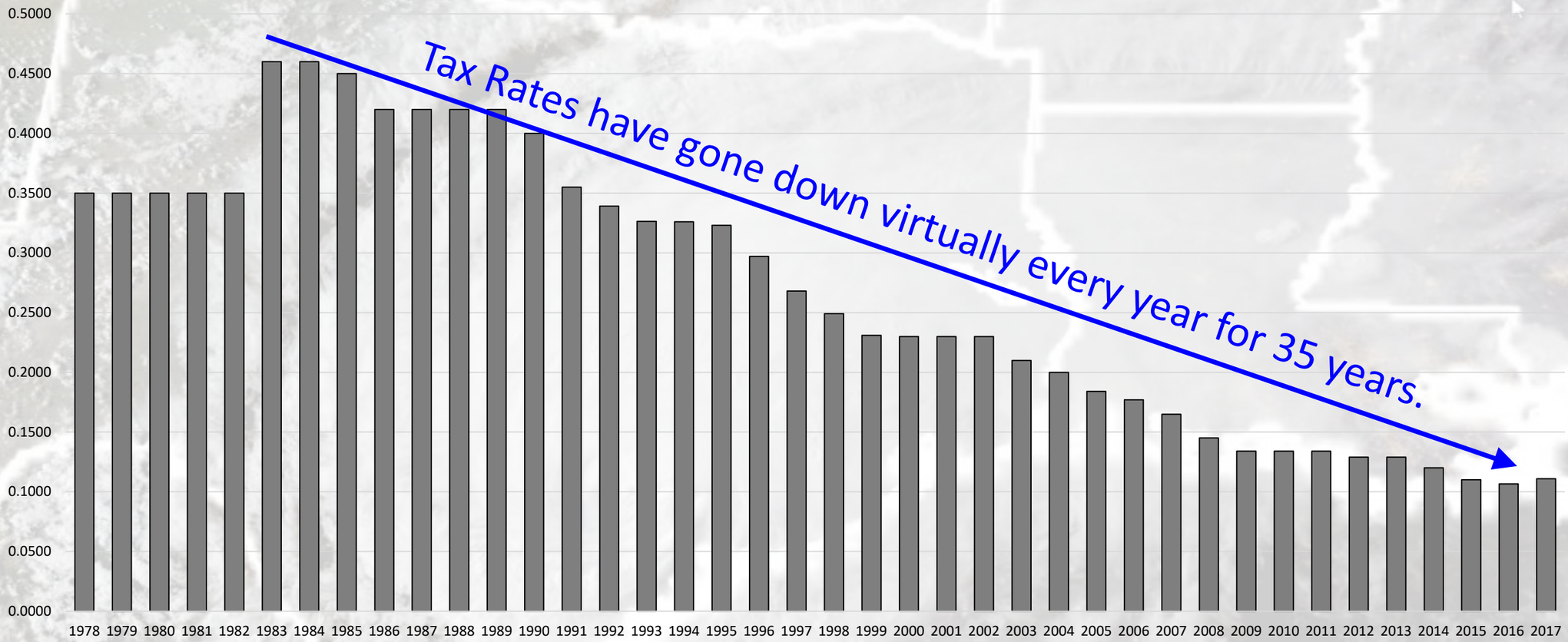
Total for all Projects	$65,500,000
Bond Proceeds	$44,500,000
Capital Project Fund	$13,000,000
Future Tax Revenues*	$ 3,200,000
Expected Shortfall	$ 4,800,000

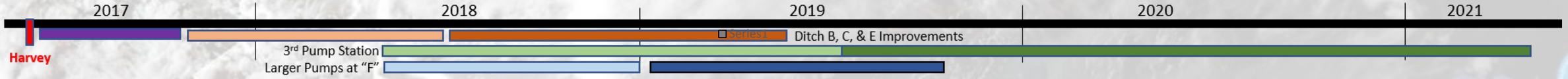
*Future tax revenues previously used to fund Capital Projects Fund

Funding Gap

- Attempting to reduce costs wherever possible on all projects
- Utilizing all currently available funds to help with debt service
- Staggering projects to best utilize cash flow
- District will need an additional bond authorization for this program and future projects – anticipate a Spring 2019 bond election

Tax History of LID 2





Tax Rate Comparison

2017 Tax Rate - Fort Bend County Levee Districts	
Levee Improvement District (LID)	Tax Rate per $100
Fort Bend County LID No. 2	0.111
First Colony LID	0.1462
Fort Bend County LID No. 14 (Avalon)	0.195
First Colony LID No. 2 (Commonwealth)	0.20
Fort Bend County LID No. 11 (Greatwood)	0.205
Fort Bend County LID No. 7 (New Territory)	0.32
Sienna Plantation LID	0.45
Fort Bend County LID No. 6	0.50
Fort Bend County LID No. 20 (Kingdom Heights)	0.55
Fort Bend County LID No. 17 (Telfair)	0.57
Fort Bend County LID No. 19 (Riverstone)	0.68
Fort Bend County LID No. 10 (Riverpark)	0.69
Fort Bend County LID No. 15 (Riverstone)	0.69

Tax Impact of Harvey

- 2017 Tax Rate was $0.111
- 2018 Tax Rate is $0.145
- Increase of $0.034 cents to cover additional debt service
  - Average home value in LID 2 = $405,000
  - Average tax increase = $137.70 per year
  - Tax increase is approximately 38 cents per day

- The tax rate in 2008 was $0.145

Historic Reference for Current Tax Increase

- 1984 $0.4600 - highest rate
- 1990 $0.4000
- 1995 $0.3230
- 2000 $0.2300
- 2005 $0.1840
- 2008 $0.1450
- 2012 $0.1290
- 2016 $0.1067 - All time low tax rate

Board maintained a policy to reduce tax rate every year when financially feasible

Tax Impact of Harvey

- Harvey identified the need for several significant projects
- All prior improvements within the District have been funded while lowering the tax rate
- Size and urgency of the current projects requires debt (bonds)
- Repayment of the bond debt requires a tax increase

Tax Impact / Tax Increase

- The current plan still has a shortfall in the required revenue
- Goal is to minimize costs and phase projects to maximize all revenue
- There is a possibility that another tax increase will be required
- It would be a fraction of the current increase
- It would be the funding mechanism of last resort

Everyone Benefits

- This rate increase pays for the projects to protect District residents from future storms like Hurricane Harvey
- It provides the homes at the lowest elevation with flood protection that meets all of the current standards
- It increases the flood protection of all the homes in the District

Conclusion

- Majority of the study work is complete
- Determination that some projects are not needed
- The necessary projects are all well underway
- The District will utilize 100% of the available bond authorization
- An additional bond election is needed
- The current tax rate increase is necessary to fund the 3rd pump station

Questions

Mike Stone, PMP, PSP, CFM
General Manager

281-201-4301 Direct
MikeStone@MikeStoneAssociates.com

Phil Martin, CFM
Assistant General Manager

713-574-5261 Direct
PMartin@MikeStoneAssociates.com