Groundwater Reduction Plan Participant Meeting

November 18, 2021

2021 Participant Meeting

- Introductions
- Fort Bend Subsidence District Update
- GRP Implementation
  - Integrated Water Resource Plan
- GRP Financial Update

Fort Bend Subsidence District

Robert Thompson
Assistant General Manager

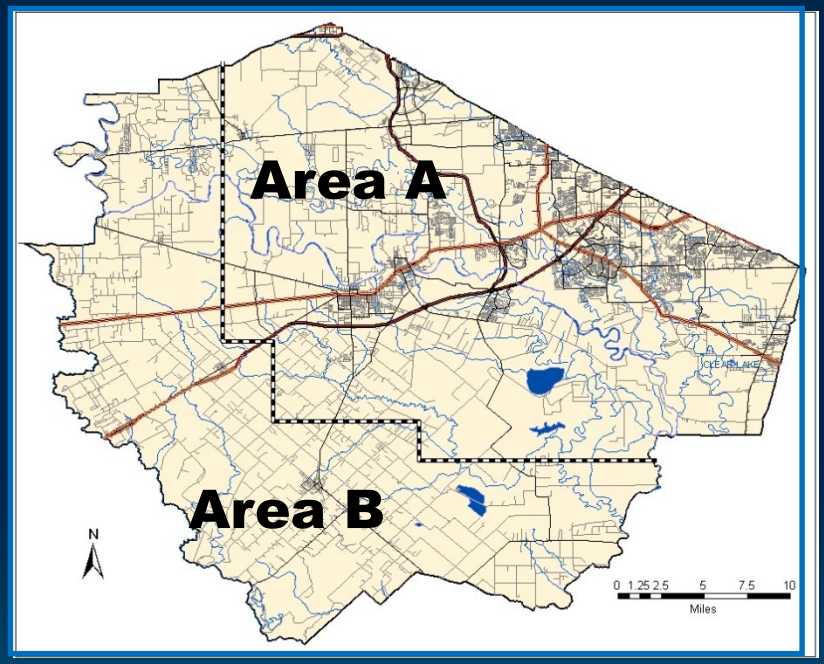
2013 Regulatory Plan
Key Elements

Regulatory Areas & Conversion Requirements

Area A

Reduce GW pumpage by 30%

Reduce GW pumpage by 60% by 2025
Exemptions: Ag. Irrigation, and
TWD ≤ 10.0 MGY until alternate water is available



Disincentive Fee currently set in 2013 at $6.50 per 1,000 gallons

Area B - No scheduled groundwater reductions at this time
FBSD will evaluate the need for reduction requirements in the future
Cannot transfer GW to Area A unless use dates back to before Sept. 24, 2003

Important Changes

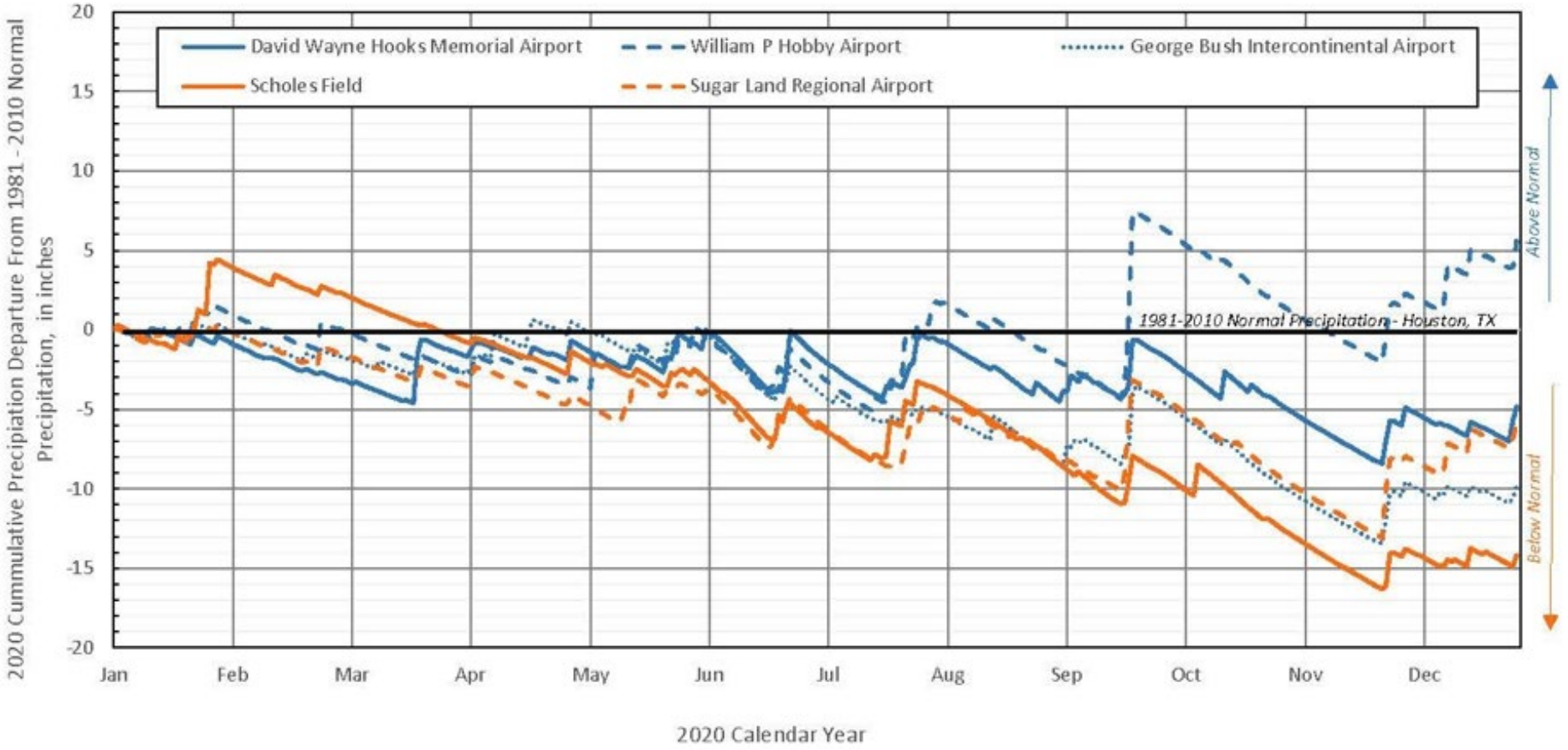
There have been no changes to the District Plan since it was adopted in 2013.

However, the FBSD Board adopted new Rules on September 28, 2016. There were three significant changes.

1. The one small-well exemption has been removed.
2. New wells for houses and/or irrigation for houses require permits and meters, if other water is available.
3. All wells are now required to be metered except for some wells with an allocation of 1.0 MG or less.

Studies and Projects

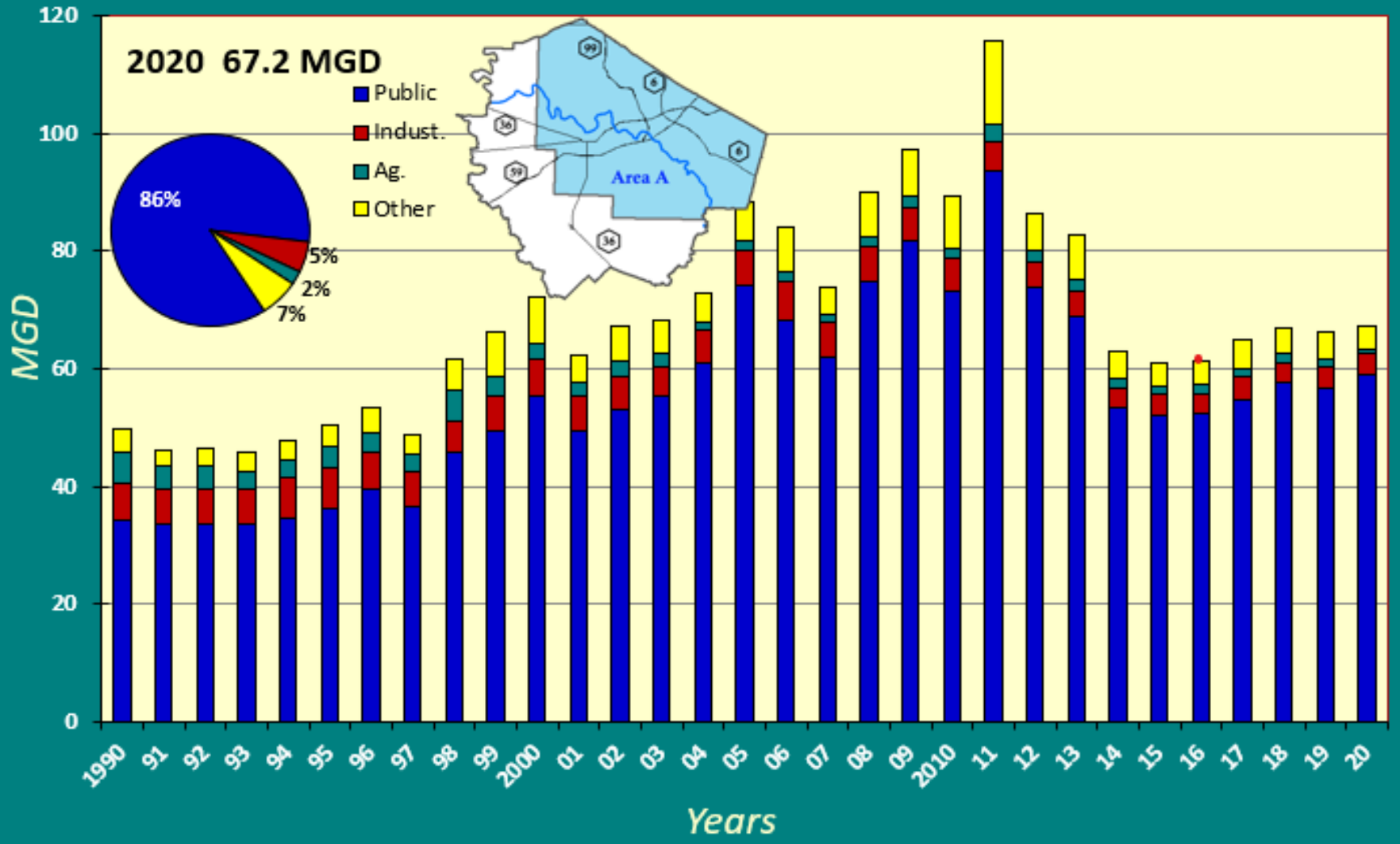
- The Subsidence District completed a study entitled the “Evaluation of Projected Population and Water Demands in Fort Bend County” in 2019.
- The Subsidence District is currently working with the Harris-Galveston Subsidence District for a joint regulatory plan review project that began in 2020. This is for the Regional Groundwater Update Project that is expected to be completed in 2023. This was last conducted from 2010 to 2013.



National Oceanic and Atmospheric Administration

Groundwater Withdrawals

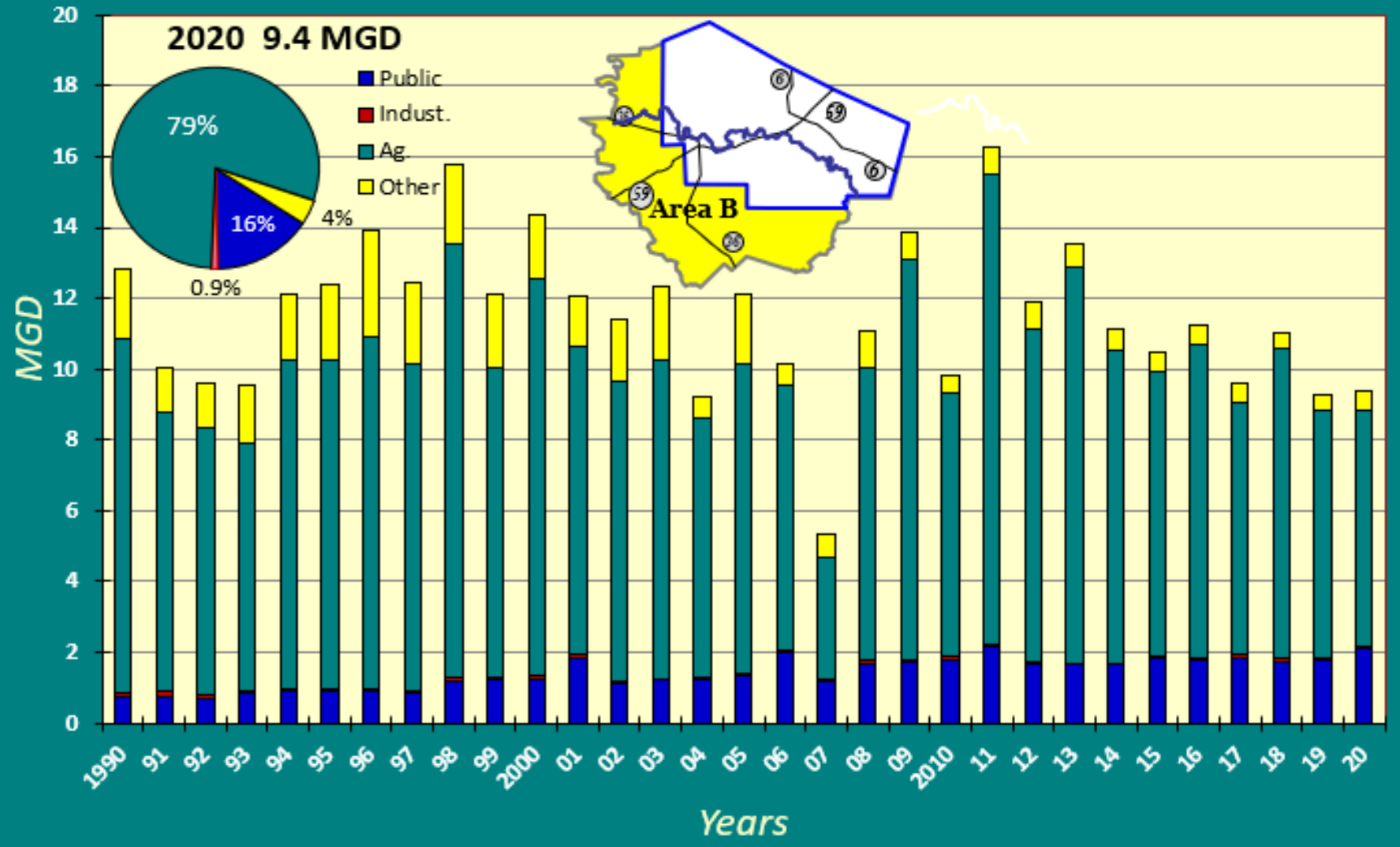
Grouped by Use - Regulatory Area A



FBSD Exhibit 3

Groundwater Withdrawals

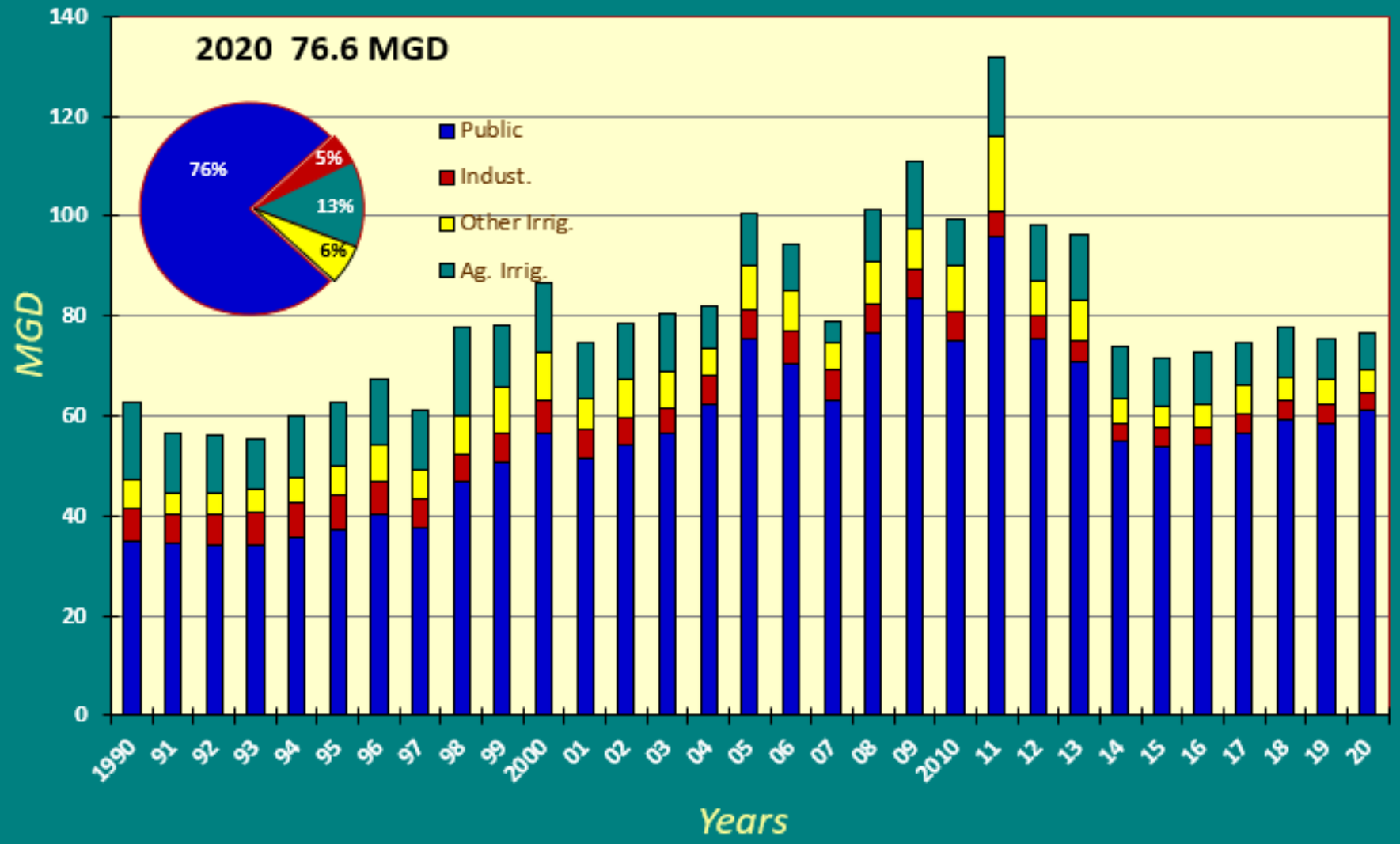
Grouped by Use - Regulatory Area B



FBSD Exhibit 4

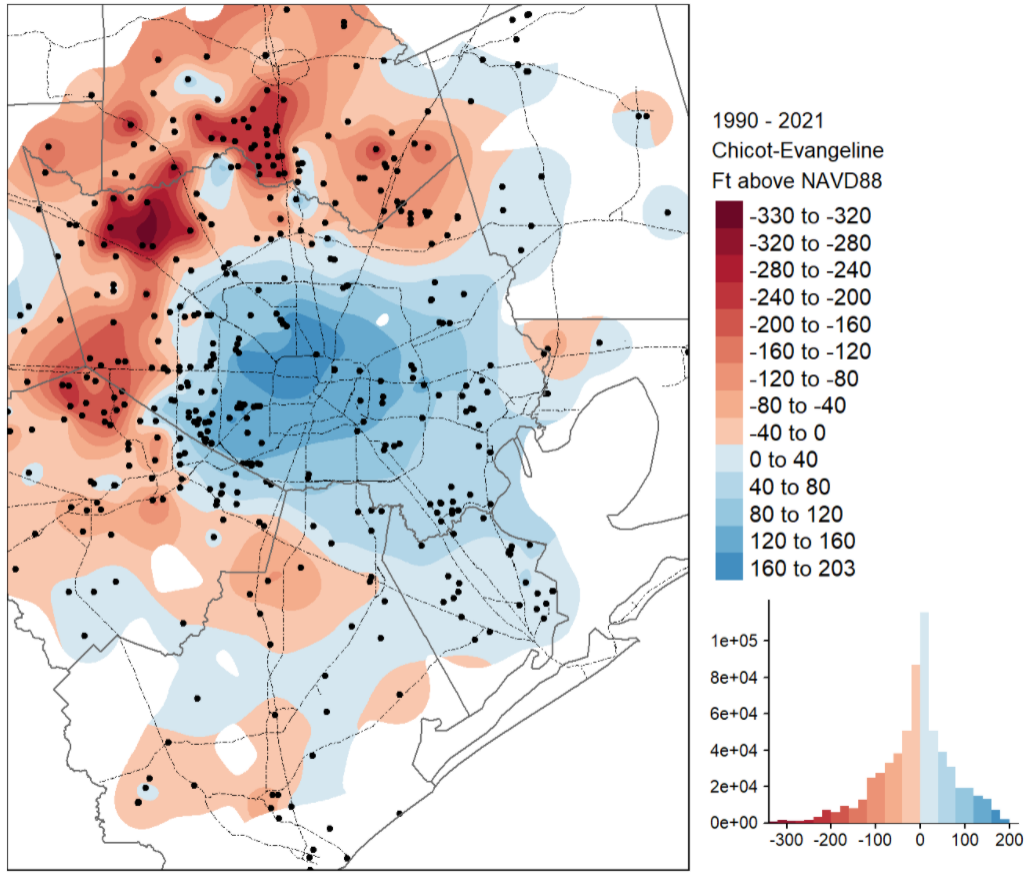
Groundwater Withdrawals

Grouped By Use - Entire District



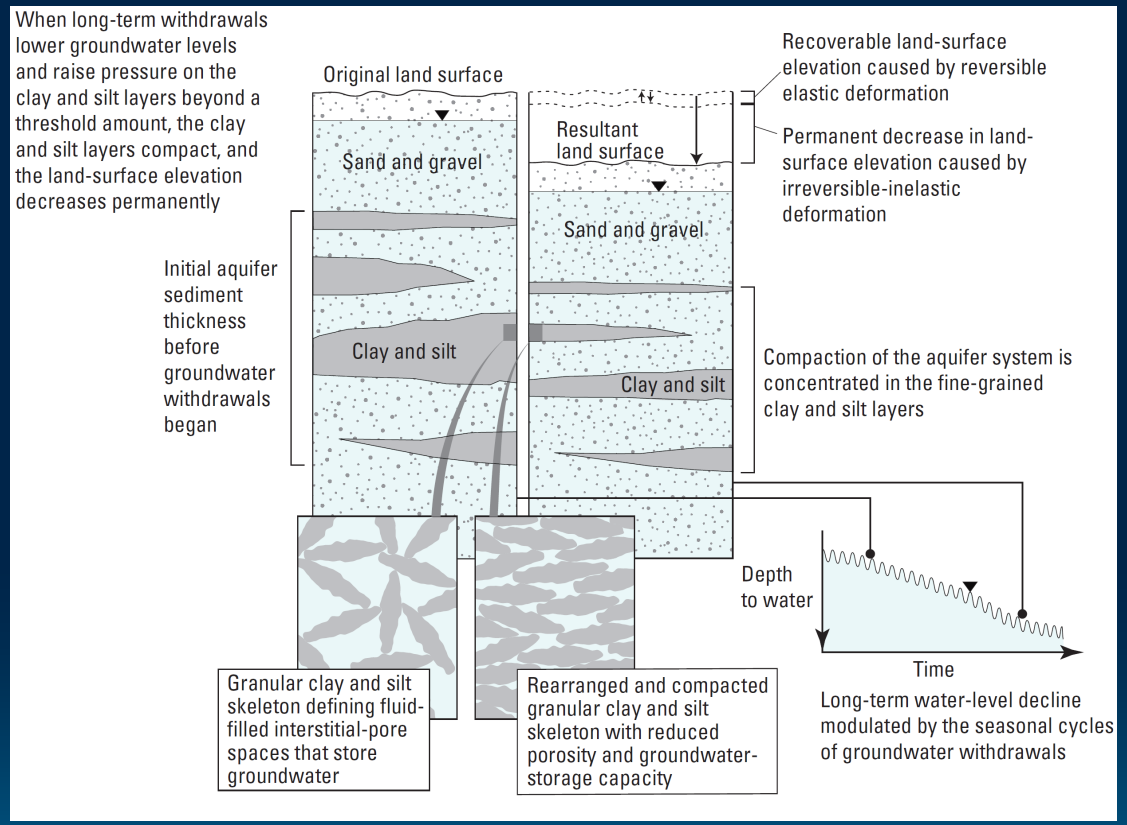
FBSD Exhibit 5

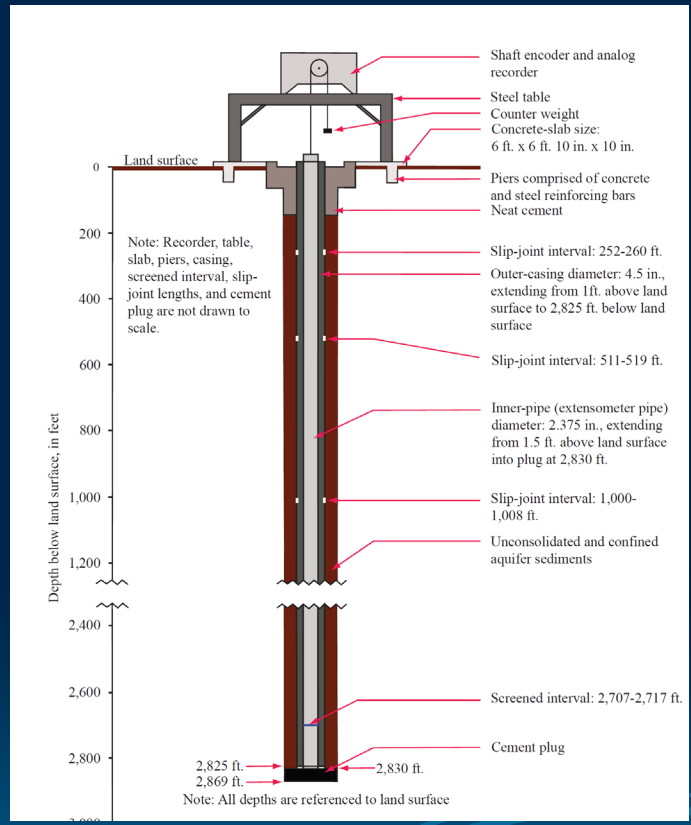
Chicot-Evangeline water-level change since 1990



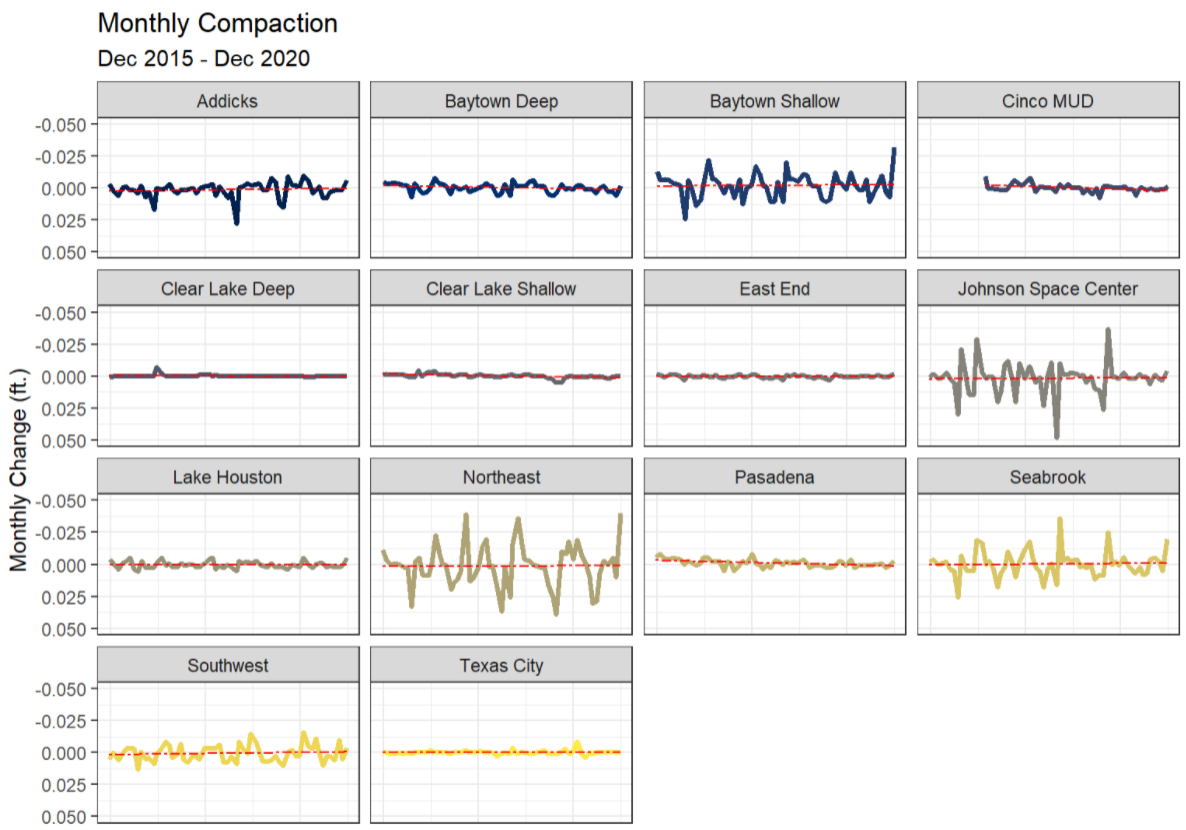
- Data Summary:
  Min : **-330**
  Mean : **-9**
  Max : **203**
- Water-level rises across most of central and eastern Harris County as well as Galveston and Brazoria Counties
- Water-level declines in the Northern part of Fort Bend County, NW portions of Harris County, and most of Montgomery County

Compaction Mechanics and Method of Measurement



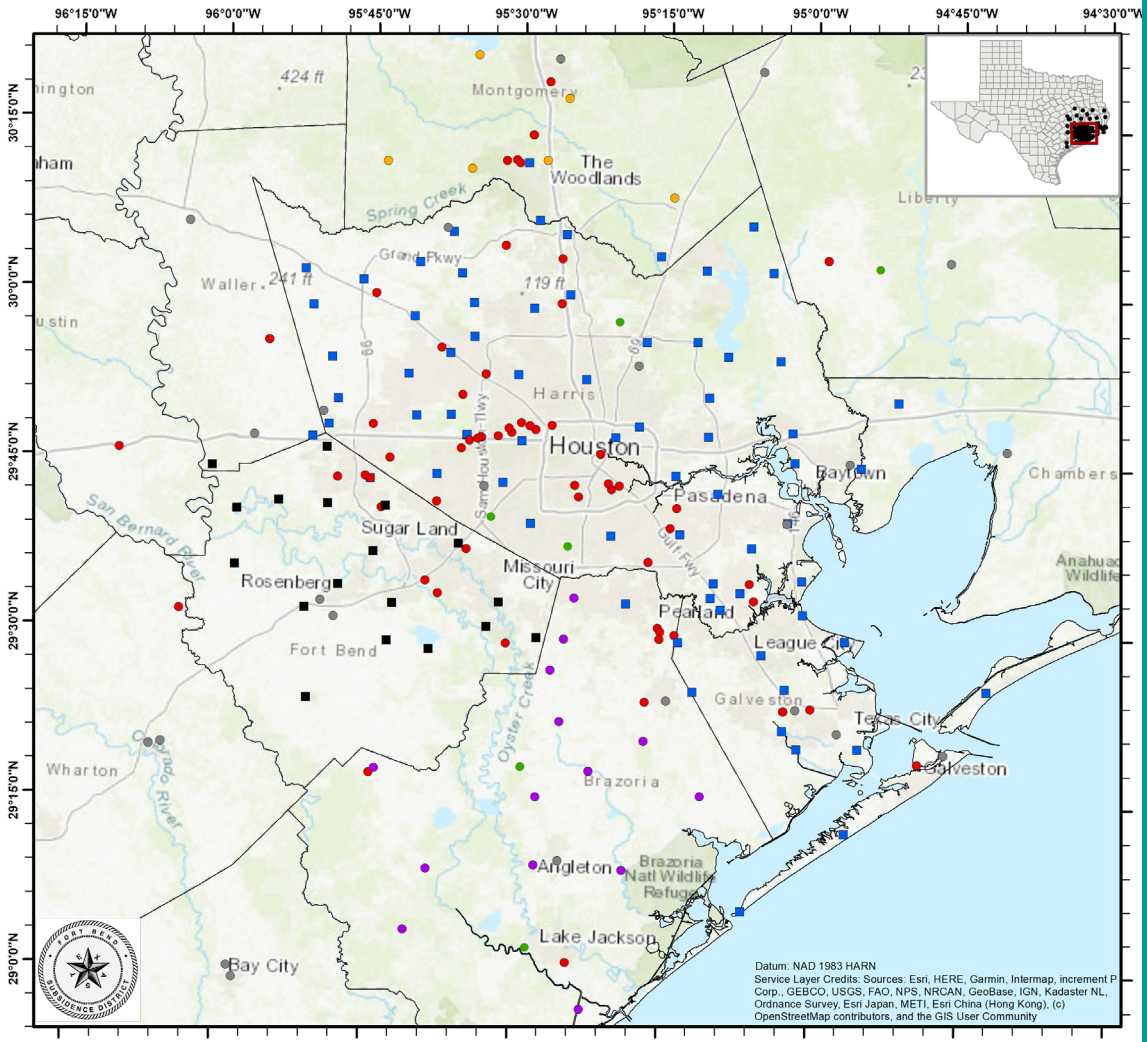


Compaction 5 year monthly changes



Monthly change in land surface elevation at each location

- Slight increase (compaction) in trend
  - *Pasadena*
  - *Cinco MUD*
- Slight decrease (uplift) in trend
  - *Addicks*
  - *Seabrook*
  - *Baytown Shallow*



EXPLANATION

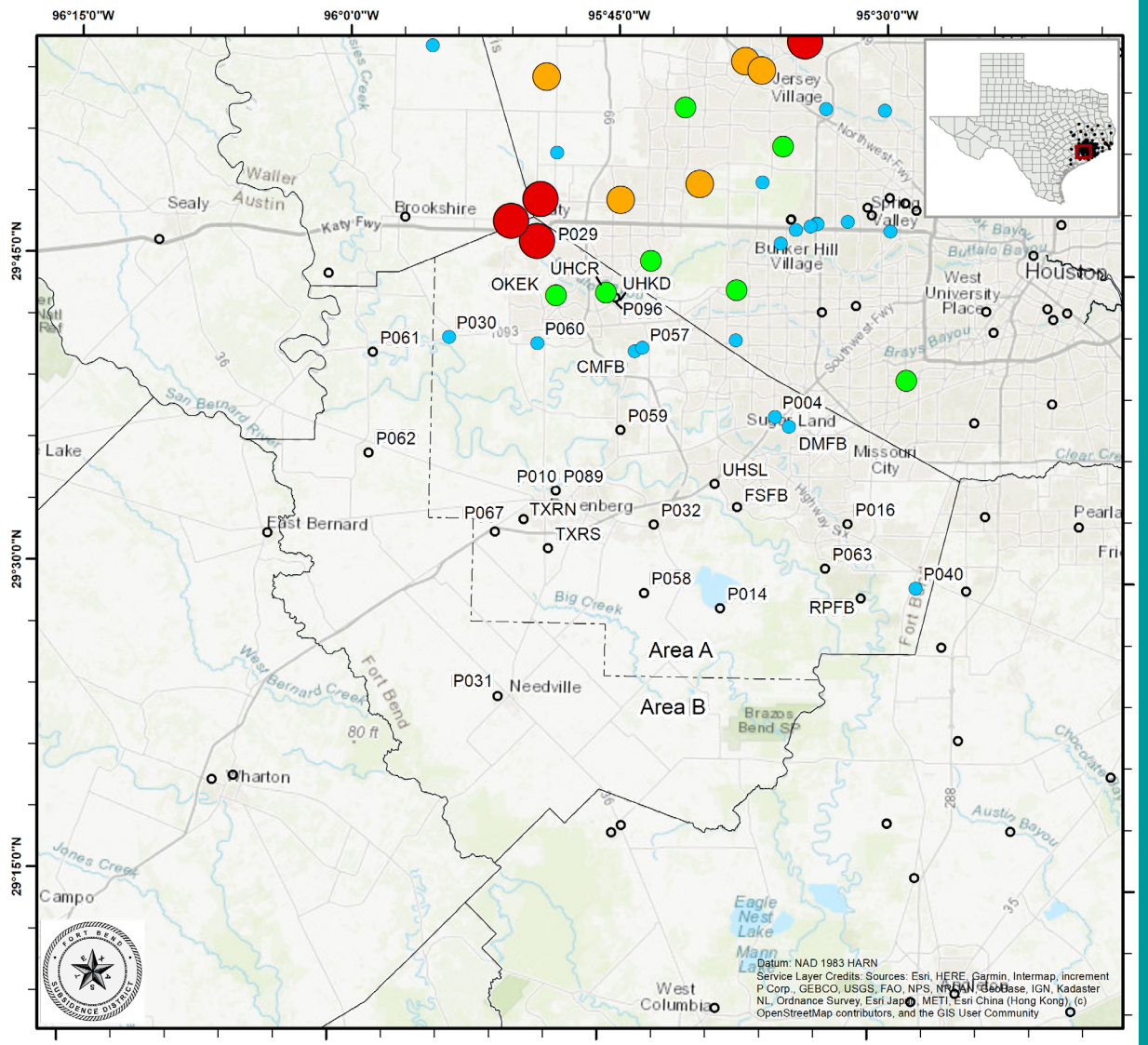
0 5 10 20 30 Miles

0 15 30 60 Kilometers

GPS Station Operator

- Fort Bend Subsidence District
- Harris-Galveston Subsidence District
- Brazoria County Groundwater Conservation District
- Lone Star Groundwater Conservation District
- Texas Department of Transportation
- University of Houston
- Other Agencies

FBSD Exhibit 14



EXPLANATION

Subsidence rate (cm/yr) from 2016 to 2020

- Greater than 2.0
- <2.0 - 1.5
- <1.5 - 1.0
- <1.0 - 0.5
- Less than 0.5 or period of record less than 3 years

0 5 10 20 Miles

0 5 10 20 Kilometers

FBSD Exhibit 15

Fort Bend Subsidence District

Sugar Land GRP
Participant Meeting
November 18, 2021
http://www.fbsubsidence.org/

Groundwater Reduction Plan Implementation Update

Merritt Nolte-Roth
Water Resources Manager

GRP Participants

Public Water Systems

- FBC MUD 192 (Greatwood Lake)
- Plantation MUD (Tara Plantation)
- Royal Valley Utilities
- City of Sugar Land
  - Greatwood *(annexed Dec 2017)*
  - New Territory *(annexed Dec 2017)*

Private Businesses

- Texas Par Golf Academy
- River Pointe Golf
- Sweetwater Golf, LLC
- Schlumberger

Property Owner Assoc & Levee Dist

- Avalon CAI
- Sugar Mill CAI
- Sugar Lakes HOA
- First Colony Community Assoc.
- First Colony Property Owners Assoc.
- New Territory Res. Comm. Assoc.
- River Park on the Brazos Property Owners Assoc.
- Royal Lakes Estates HOA
- Sugar Land Business Park
- FBC LID 17 (Telfair Levee Dist.)
- Oyster Creek Property Owners Assoc.

GRP Historic Water Demand

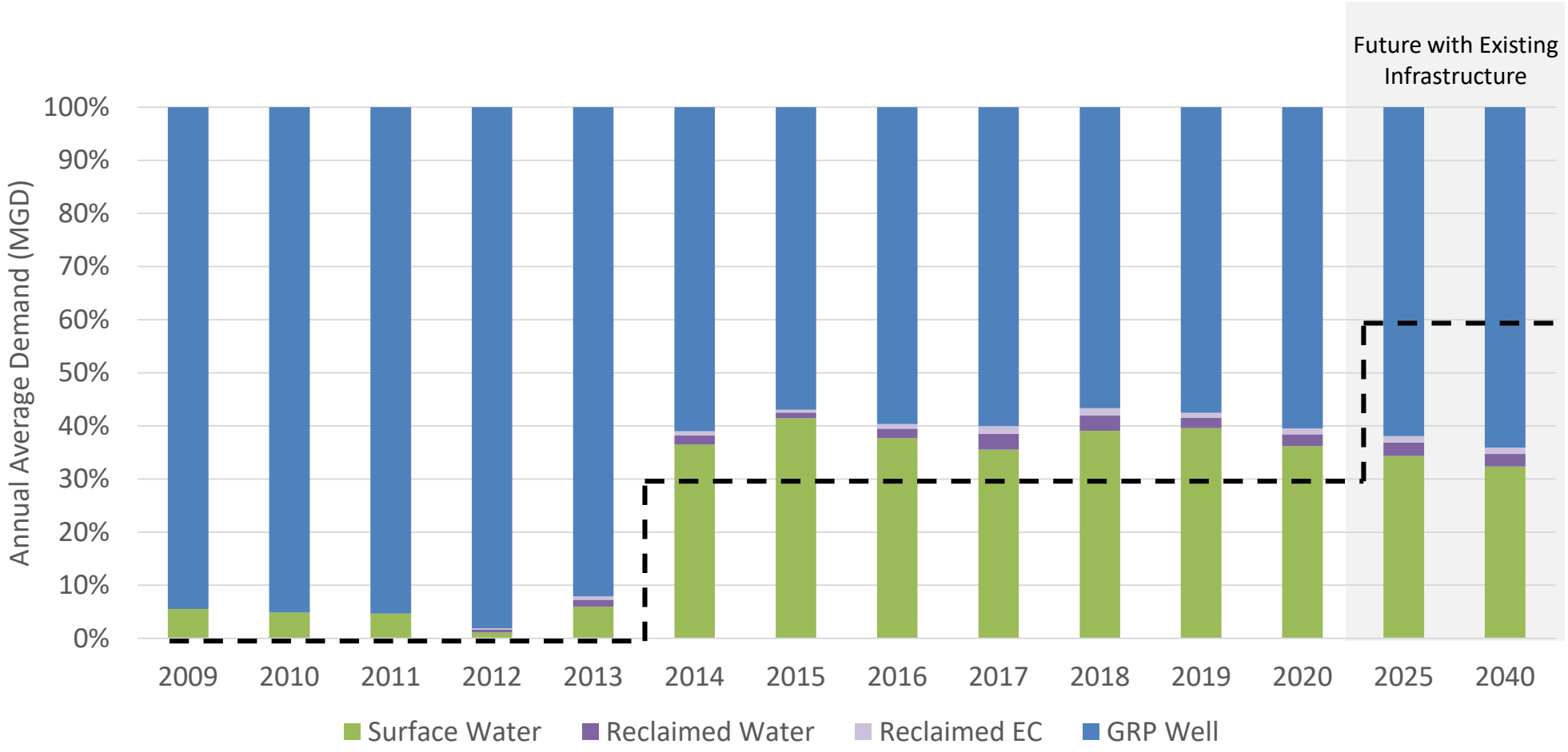
Million Gallons per Day (MGD) Average Day

FBSD Year	*Demand*	*Conversion*	
April- March		*Actual*	*Percent*
2009-10	**24.22**	**1.17**	
2010-11	**25.43**	**1.20**	
2011-12	**30.37**	**1.29**	
2012-13	**24.70**	**0.67**	
2013-14	**25.03**	**3.38**	
2014-15	**22.09**	**9.39**	**42%**
2015-16	**22.87**	**9.72**	**42%**
2016-17	**22.94**	**8.99**	**38%**
2017-18	**23.71**	**9.97**	**41%**
2018-19	**22.63**	**9.62**	**42%**
2019-20	**24.24**	**9.81**	**40%**
2020-21	**24.12**	**9.54**	**40%**

GRP Implementation Strategy

- **Secure surface water supplies**
  - Oyster Creek Water Right
  - Gulf Coast Water Authority (GCWA)
  - Brazos River Authority (BRA)
- **Surface Water Treatment Plant**
  - 10.85 MGD Facility completed November 2013
- **Raw Surface Water Pump Stations**
  - Pump stations to fill amenity lakes
- **Water Reuse / Reclaimed**
  - South Reclaimed Facility (Riverstone)
  - West Reclaimed Facility (New Territory)
  - Internal reuse at WWTPs
- **Water Conservation**
  - Education and Outreach

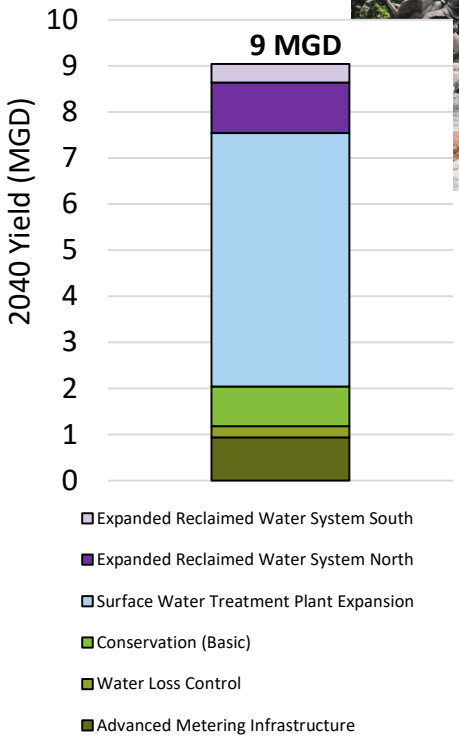
Planning for 2025 Conversion Requirements



Integrated Water Resource Plan

- Recommended by:
  - Council Task Force
  - Citizen Task Force
  - City Council- approved 3/19/2019

- Recommended Projects:
  - Basic Conservation
  - Advanced Metering Infrastructure
  - Water Loss Control
  - Surface Water Treatment Plant Expansion of 5.5MGD
  - Expanded Reclaimed Water Facilities



IWRP Implementation

- Strategic plan for project timing
- Ability to monitor progress and adapt
- 2019
  - City Council approval of IWRP
- 2020
  - Rate Study Ph1
  - BRA Water Supply Contract
  - Policy Review and Update
  - PER for SWTP Expansion
  - PER for SW Transmission Lines
  - Water Loss Audit
  - Asset Management Programs
  - Water & Wastewater Master Plan Updates

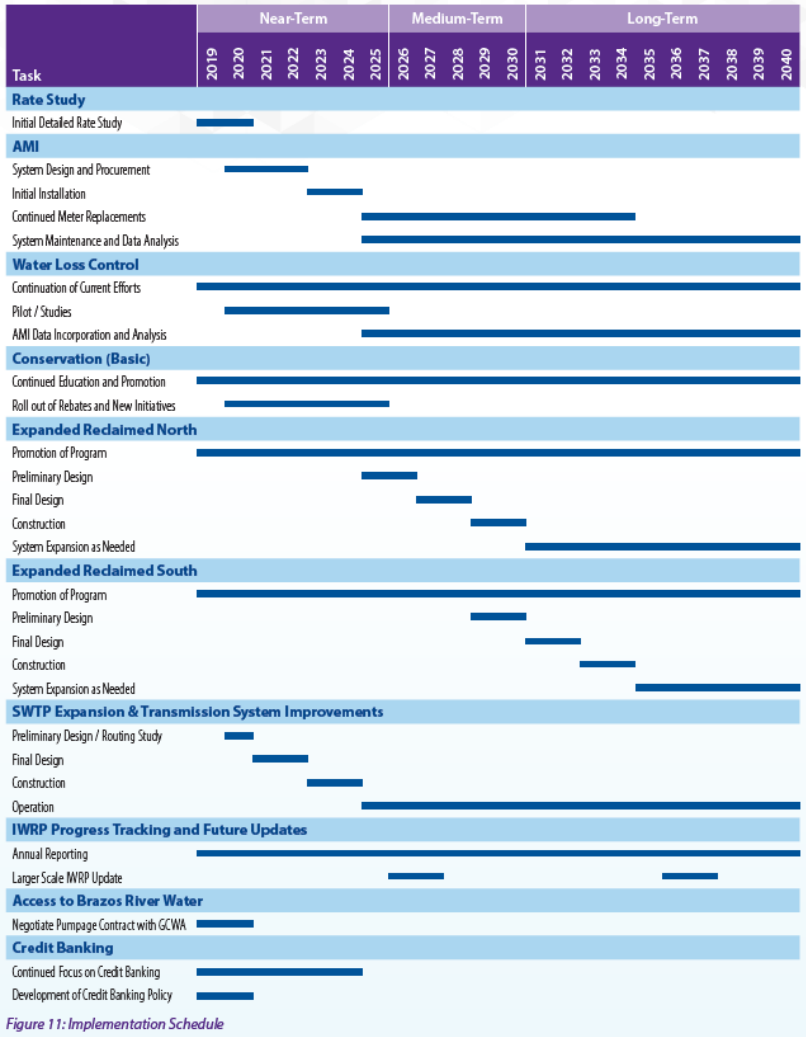


Figure 11: Implementation Schedule

IWRP Implementation

- 2021
  - Utility Rate Study Ph2
  - Completed PER of SWTP Expansion and Transmission Lines
  - Completed PER for Groundwater Plant Conversions
  - Advanced Metering Infrastructure Contract
  - Conservation Programs
  - Water Loss Control Programs
  - Groundwater Credit Policy

IWRP Implementation

- 2022
  - Utility Rate Study Ph3
  - Advanced Metering Infrastructure implementation
  - Conservation Programs
  - Water Loss Control Programs
  - Groundwater Credit Policy

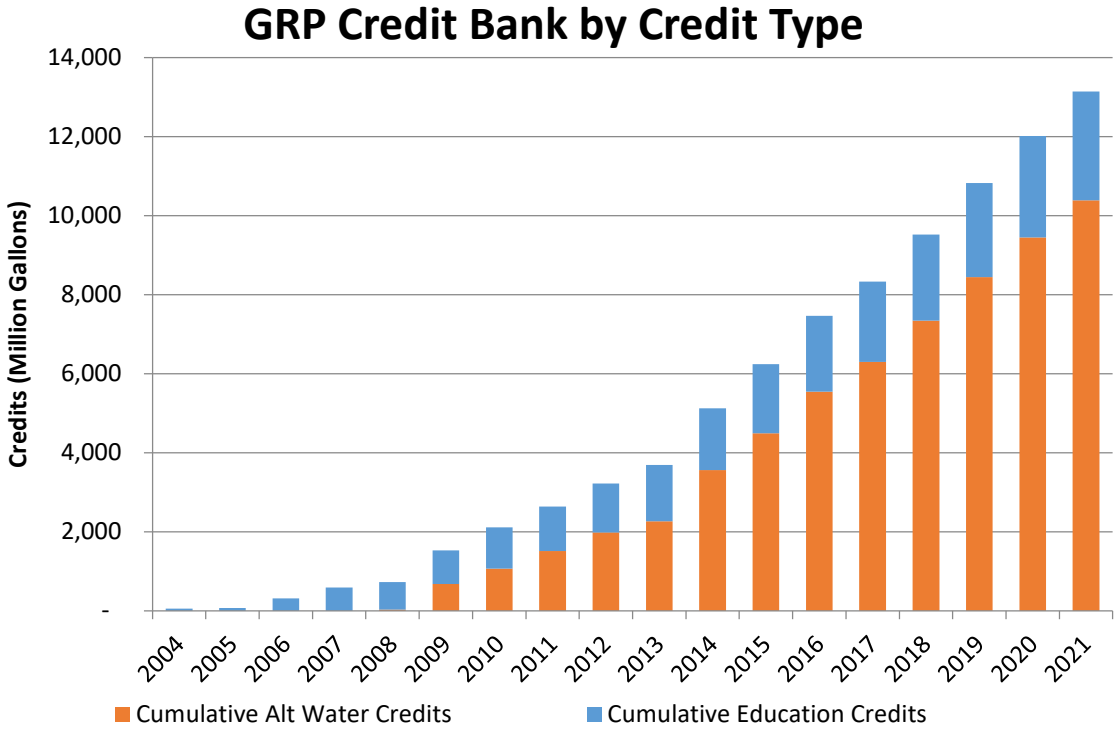
Groundwater Credit Policy

Groundwater Credit Bank

- IWRP showed importance of Credit Bank utilization
- Develop a policy for managing, using or selling surplus credits

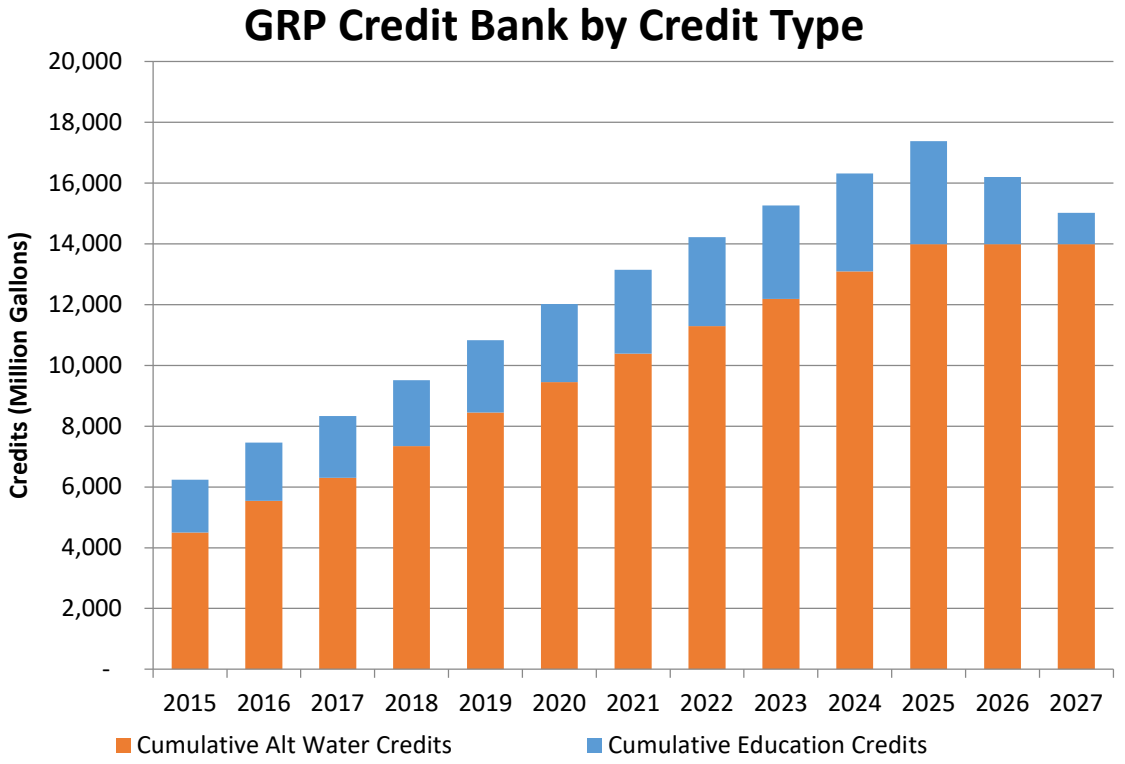
Credits earned:

- Surface Water Treatment Plant
- Raw Water Customers
- Reclaimed Water
- Sponsor 1,800 Students in Water Wise Program



Groundwater Credit Policy

- Ability to utilize groundwater credits for 2025 conversion plan
- SWTP Expansion delay by 2 years per Utility Rate Study
- Utilize education credits prior to expiration
- Maintain healthy credit bank for to offset risks



Subsidence District Advocacy Updates

- Staff are actively working with FBSD to evaluate upcoming 2025 conversion requirements

Financial Update

Jennifer Brown
Director of Finance

GRP Philosophy

- City Policy adopted in September 2002
  - Plan for the City and our ETJ
  - Surface Water Fund to Account for Costs
- Costs of Surface Water Conversion Shared Equally among GRP Members
- Blended Rate for all Members
  - All Participants Pay Based on Same Rates
- GRP Participants avoid FBSD disincentive fee
  - $6.50 per 1,000 gallons

GRP Finances

- Operations Funded in the System Utility Fund
  - In FY2019 this was combined into the System Utility Fund
- City issued CO's backed by GRP fees in 2011
  - More cost effective than Revenue Bonds
  - GRP Benefits from City's AAA bond rating
  - No bond coverage or reserve requirements
- 2011 CO's were Advance Refunded by GO's in Dec 2017
  - Debt service savings of $14.94 million to maturity
- Rating agencies are now treating the prior bonds as system revenue debt and including them in coverage calculations
  - Future bond issues will be Revenue Bonds
  - Requires 1.25x coverage and Debt Service Reserves

Rate Study

- Consultant update the Utility Rate Model and develop a 10-year forecast for IWRP Implementation and strategic decision making
- Calculate rates necessary to generate revenues for:
  - Operating Needs
  - Capital Projects Funding
- Prior year forecasts showed increases needed over several years to fund current operations and CIP in addition to CIP needs to meet the 60% groundwater reduction mandate

Utility Rate Study

- Variables analyzed that impact the rate model
  - Weather (normal vs wet vs dry year)
  - Residential consumption impacts to revenue
    - Volumetric block rates
    - Downward trends in consumption over time
  - Water Loss
  - Raw Water Costs
  - Strategic Use of Fund Balances
  - Bond Ratings
    - Impact of all-in bond coverage
  - Five-Year Capital Improvement Program
    - O&M impact of CIP projects
    - Asset Management and Reinvestment

Utility Rate Study: Conclusions

- Existing rates are not recovering the cost of services
  - Especially for water and surface water
- Bond coverage requirements not where they need to be
  - City policy is 1.25x on Revenue Bonds
  - Rating agencies use “all-in” coverage - includes additional debt
- Staff identified the need to build revenues to recover cost of services and build capacity for future CIP projects
  - Council Finance/Audit Committee developed the 10/10/10 plan
  - Recognizing and building flexibility for future impacts
  - Council request to delay CIP projects and use GRP credits to meet 60% groundwater reduction mandate as much as possible

Rate Study Implementation Plan

- Meet financial objectives for the Utility System
  - Fiscally responsible government
  - Focus on financial resiliency of the system
  - Where possible take steps to improve bond rating
- Use the groundwater credits to delay capital construction where possible
  - Build flexibility to address outcomes of ongoing initiatives
- Utility Rates
  - Benchmark our rates with our regional partners
  - Build options to fund the projects with fewer total rate increases
  - Options that meet bond coverage requirements
  - Use cash reserves to minimize rate increases

Future Financial Needs

- Model shows rate increases needed to support future debt to be issued to meet 60% Groundwater Reduction Mandate
- In September, City Council approved rates effective January 1, 2022
  - GRP Fee $3.01
  - Surface Water Fee $3.23

Prior Years Operating Results- Cash Basis

In $M	Revenue	Expense	Net	GRP Rate
FY11*	106.38	101.36	5.01	0.70
FY12	10.00	10.32	-0.32	1.32
FY13	13.15	7.05	6.10	1.50
FY14	13.47	14.40	0.92	1.75
FY15	13.33	14.10	0.77	1.75
FY16*	25.20	25.59	-0.39	1.75
FY17*	26.73	26.61	0.13	1.75
FY18*	103.74	101.14	2.60	1.75
FY19*	14.77	13.48	1.29	1.75

- Includes Bond Proceeds and Capital Projects
- Figures not stated on a GAAP basis
- Net may not add due to rounding

Prior Years Capital Improvement Projects

Project Name	Funding
Newland Water Connection	443,732
Oyster Creek Raw Water Use	7,000
Non-Potable Water/ Pump Stations	503,623
Assets Purchased - WCID#1	49,561
Surface Water Transmission Lines	16,900,068
Surface Water Treatment Plant	81,935,521
Water Plant Upgrades	8,337,800
SCADA Comm. Conversion	385,000
SWTP OM Manual and SOP	417,830
SWTP Computerized Maintenance System	473,479

Continued…

Prior Years Capital Improvement Projects

Project Name	Funding
SWTP CT Study/Tracer Test	75,000
SWTP Raw Monitoring System	29,000
SWTP Membrane & LRV Test	155,000
Brooks Lake Wier/AMIL Gates	4,620,000
Dam 3 Flood Control Improvements	88,800
Riverstone Groundwater Plant Improvements	5,950,000
Transmission Line to Riverstone GW Plant	10,525,000
SWTP Expansion	796,250
SW Transmission Line to NT	477,800
SWTP Yard Pipe & Aerial Crossing Recoating	300,000
Groundwater Plant Surface Water Expansion	165,000
Total	**$ 132,635,464**

Surface Water Operating Results*

Millions ($)	FY20	FY21*
Revenues	$ 16.09	$ 16.59
Expenses	13.27	13.72
Net Income	$ 2.82	$ 2.87
GRP Rate	**$1.93**	**$2.50**

* Unaudited: Not Stated on a GAAP Basis
Excludes Capital Projects and Bond Proceeds
Revenues include Sale of Water to 3rd party

FY22-26 Capital Projects

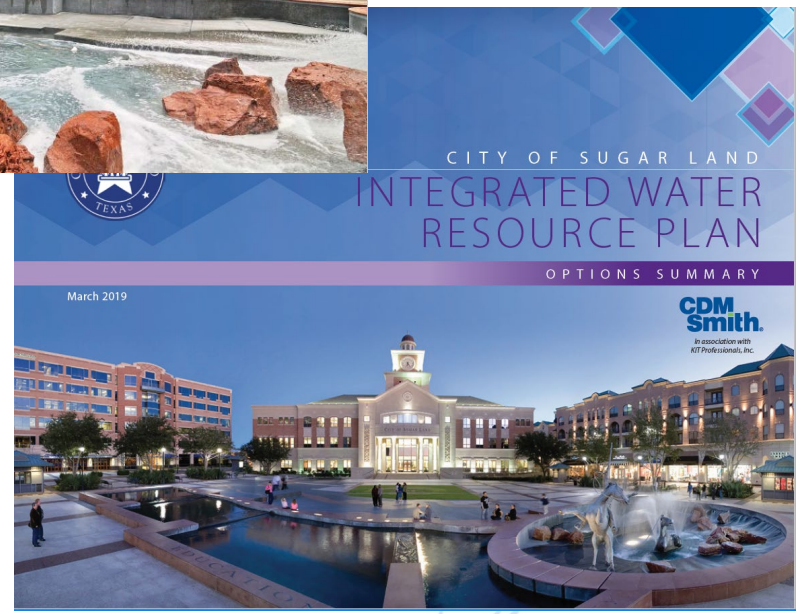
PROJECT NAME	2022 BUDGET	2023 ESTIMATE	2024 ESTIMATE	2025 ESTIMATE	2026 ESTIMATE	2022-2026 TOTAL
Surface Water Treatment Plant Expansion	-	-	$3,500,000	59,805,0000		63,305,000
Surface Water Transmission Lines		-	1,816,560	12,630,200		14,446,760
Groundwater Plant Surface Water Conversion	35,000	-	495,000	10,428,000		10,958,000
North WWTP Reuse PER	-	-	-	-	527,000	527,000
TOTAL FUNDING	**$35,000**	**$-**	**$5,811,560**	**$82,863,200**	**$527,000**	**$89,236,760**

Surface Water Comparative Rates

Per 1,000 Gallons 2020 Rates	GRP Fee	Surface Water Fee
Sugar Land	$2.50	$ 2.69
Sugar Land- Jan 2022	3.01	3.23
Comparative Rates:		
Missouri City (Oct 2020)	1.79*	2.38*
City of Richmond (Aug 2021)		2.69
City of Rosenberg (May 2021)	2.60	2.60
North Fort Bend Water Authority (Jan 2022)		4.90
Pecan Grove MUD	1.50*	1.50*
West Harris County Water Authority (Jan 2022)	3.70	4.10

*rates have not been updated in 2021

Questions?



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