

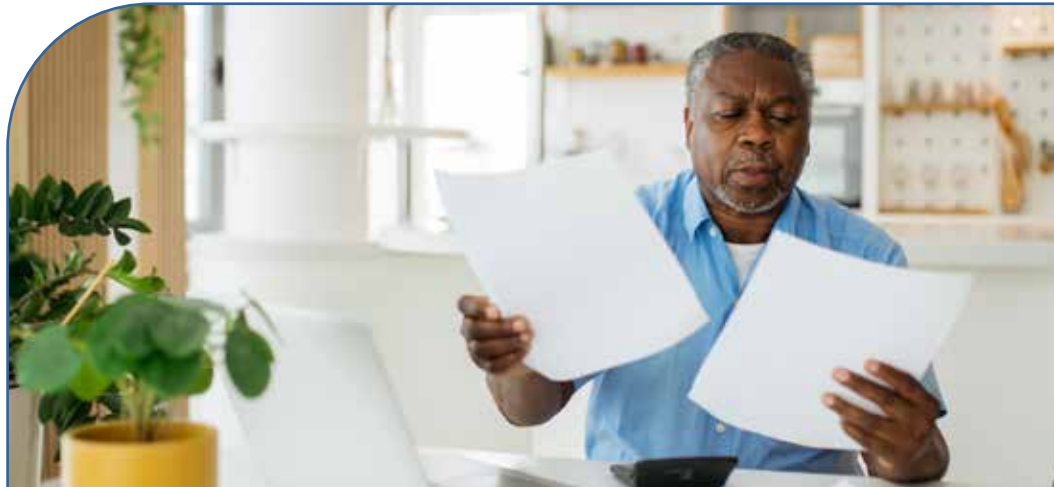


WHCRWA

2023

WINTER
EDITION

PARTNERS IN PROGRESS



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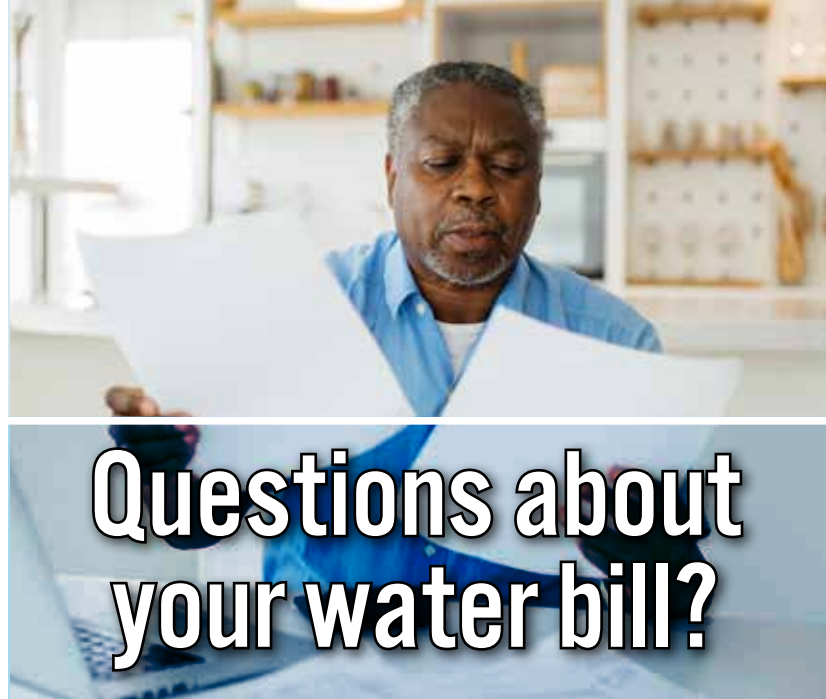
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Do you have questions about your water bill? Or perhaps you'd like to know where your water comes from... Or learn about the rising cost of this critical natural resource... Or get items on your water bill explained -- Let's start at the beginning.

Q. What is the WHCRWA?

A. The West Harris County Regional Water Authority (WHCRWA) is a wholesale water provider created by the Texas Legislature 2001. Its primary mission was to manage compliance with regulatory groundwater reduction mandates. It is not a retail water provider like a Municipal Utility District (MUD), nor does it have any oversight of MUD operations (e.g., delivering water to homes and businesses, sewer services, retail billing, etc.).



The MUDs that supply our neighborhoods with drinking water have traditionally pumped groundwater from individual wells drilled into the aquifers below. Dramatically increasing population and decades of aggressive water usage have caused the aquifers to decline, resulting in land subsidence and causing increased flooding.

In 1975, the Texas Legislature created the Harris Galveston Subsidence District (HGSD) and gave it the power to restrict groundwater withdrawals as a method to minimize subsidence and to help give aquifers an opportunity to recharge. The HGSD began its efforts in the Baytown Pasadena area, which proved to be extremely successful, and later extended its phased groundwater regulation to include north and west Harris County in 2000.

Compliance with the HGSD's northwest Harris County **mandated** conversion from groundwater to surface water to mitigate subsidence is being accomplished in phases:

- 30 percent surface water by 2010;
- 60 percent surface water by 2025; and
- 80 percent surface water in 2035.

The initial mandate was met in 2010, which reduced reliance on groundwater in the area by 30 percent.*

**Failure to meet these deadlines would trigger a HGSD ("Disincentive") penalty of \$10.20/1000 gallons pumped, which is significantly higher than the current amount charged for water usage.*



Northeast Water Purification Plant
Expansion Project - August 2022

Q. Where does our surface water come from?

A. For the past two decades, the WHCRWA has partnered with the City of Houston and other area water Authorities to deliver available water supplies to where they are needed most. This involves constructing new pipelines and more infrastructure to receive and deliver water treated at the Northeast Water Purification Plant (NEWPP) to the MUDs/water providers within the Authority's boundaries. (See more detailed information on the website about current and future water resources and construction projects.)

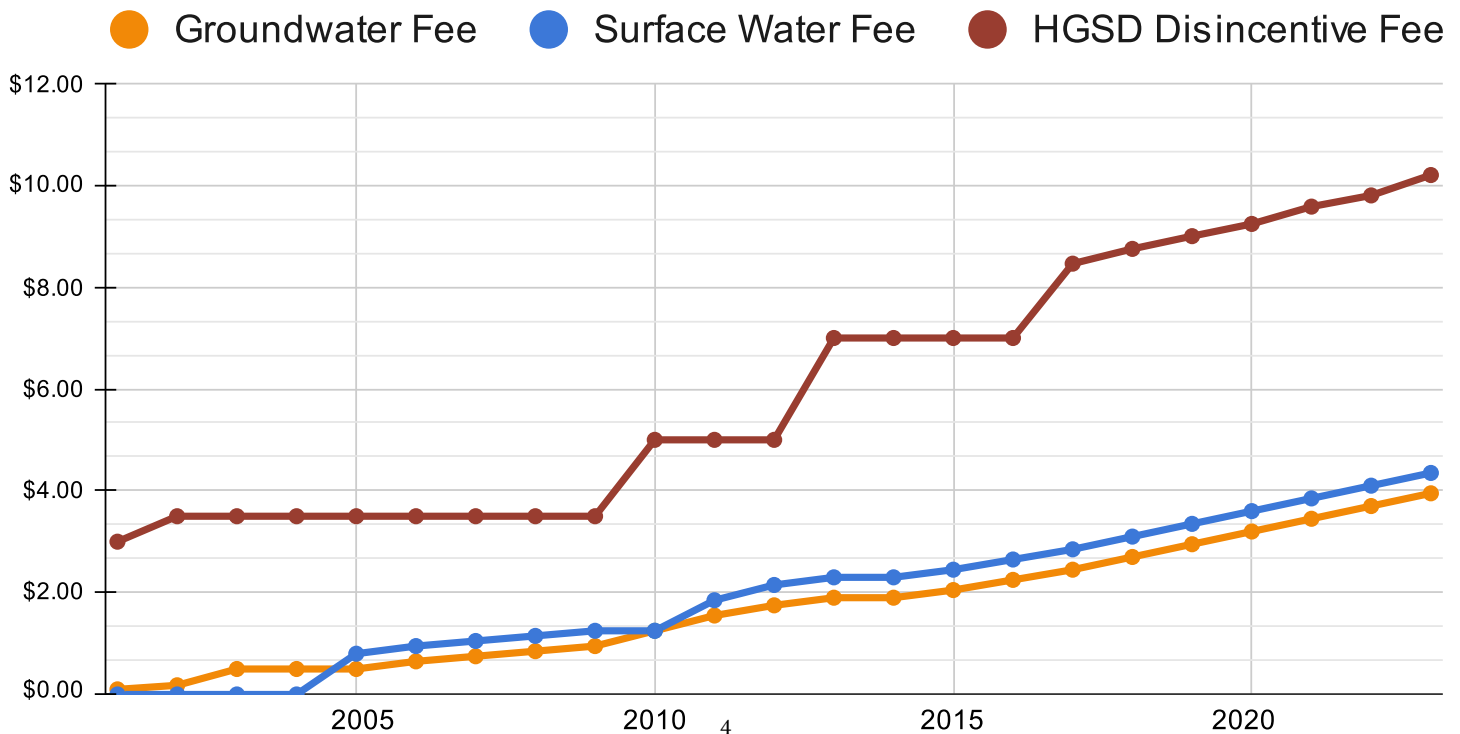
Q. How do we pay for converting to surface water?

A. The Texas Legislature did not give WHCRWA taxing authority when it was created. To generate sufficient revenue to cover debt service and pay operating and construction costs for the infrastructure already in the ground, the WHCRWA adds a **usage charge** for groundwater pumped by the utility districts and cities and delivered to their customers, and for sales of surface water. MUDs and cities in HGSD Area 3 that do not meet the surface water conversion requirements of the HGSD would be forced to pay the HGSD's \$10.20 per 1000 gallons disincentive fee.

The Authority has had numerous bond sales over the past 20 years to fund the 2010 and 2025 distribution system and other construction and operating costs. As more bonds are sold to fund the 2025 and 2035 conversion projects, the debt service will continue to rise.



Groundwater Fee, Surface Water Fee and HGSD Disincentive Fee



The Authority has also had access to the **State Water Implementation Fund for Texas**. The WHCRWA has been one of the largest recipients of subsidized, multi-year funding through the SWIFT Program in the state. This will save the Authority's rate payers millions of dollars in interest payments over the next 30 years!

Q. What is the WHCRWA Water Usage Charge on my bill?

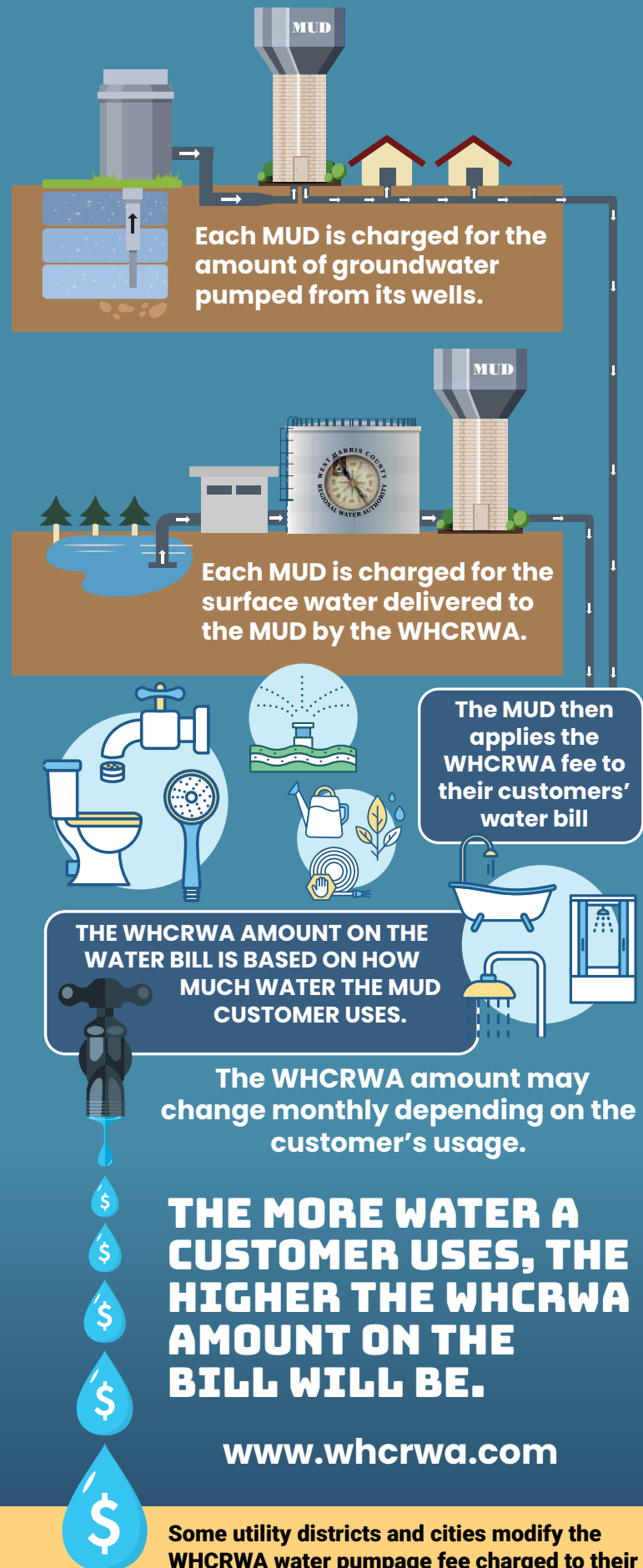
A. WHCRWA does not bill any individual homeowner/customer for the water they use; that is the responsibility of the MUD or city – their retail water provider.

WHCRWA charges each MUD and city for the (metered) groundwater they pump from their well(s) and the surface water delivered to them by the Authority.

The WHCRWA Board of Directors approved a rate increase as of January 1, 2023 of \$0.25 per 1,000 gallons of Surface Water delivered (from \$4.10 per 1000 gallons to \$4.35 per 1000 gallons) and for Groundwater pumped (from \$3.70 per 1000 gallons to \$3.95 per 1000 gallons).*

Based on meter readings, the retail water provider in turn applies the WHCRWA charge to their customers' bills based on how much water the customer uses, so the amount may change monthly depending on your water use.

*Some MUDs and cities modify the WHCRWA water usage charge and pass-through various costs on the retail water bill to cover such things as leaks in the system, mandatory flushing, community water uses which include common areas, (esplanades, amenity lakes or ponds, etc.) and emergency/fire services that require variable amounts of water from month to month. 💧



The 2023 Rising Cost of Water Brochure is now available for districts in The Authority.

THE RISING COST OF WATER
January 1, 2023

Land Subsidence
WHCROWA was created by the Texas Legislature in 2001 to comply with groundwater reduction as mandated by the Harris Galveston Subsidence District.

Conversion Mandate
Harris Galveston Subsidence District's Regulatory Plan requires conversion from groundwater to surface water.

Population
The population of WHCROWA has grown exponentially over the past 20 years and is expected to increase from 562,968 in 2020 to 697,575 in 2070.

Cost of Construction
The total regional costs to meet the HGSD requirements and to ensure a long-term supply of surface water are estimated to be approximately \$6.24 Billion.

ABOUT THE RISING COST OF WATER?

water infrastructure. These costs have been passed along to the MUDs – the retail water providers --in usage fees.

Since its creation in 2001, WHCROWA has held numerous Bond Sales to fund the 2010 distribution system and other construction and operating costs. As more bonds are sold to fund the 2025 conversion projects, the debt service will continue to rise. Fortunately, WHCROWA has had access to the State Water Implementation Fund of Texas. This will save consumers millions of dollars in interest payments over the next 30 years.

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Groundwater Fee, Surface Water Fee and HGSD Disincentive Fee

● Groundwater Fee ● Surface Water Fee ● HGSD Disincentive Fee

Reasoning that it would be virtually impossible for the individual MUDs to accomplish this challenge on their own, the Texas Legislature – with a public vote – created regional water authorities to facilitate compliance with the mandates.

Districts and cities in the Authority can order printed copies of the brochure for free by visiting whcrrwa.com/order-form



Preventing Further Subsidence in the Houston Area with Surface Water Conversion

Article by Michael Turco, General Manager, Harris-Galveston Subsidence District



Significant issues with subsidence in the Houston area have been documented as early as 1918 when the Goose Creek Oil Field near Galveston Bay began to display surficial fissures caused by oil and water extraction beneath the surface. Subsequently, extensive research on local subsidence has confirmed a correlation between groundwater withdrawal and subsidence.



In 1975, the Texas Legislature created the Harris-Galveston Subsidence District (HGSD), the first political subdivision

of its kind in the United States, to serve as a groundwater regulatory agency to prevent future subsidence.

HGSD has taken a reasonable and inclusive approach to groundwater regulation, water conservation education, and science and research programs resulting in reduced subsidence rates within Harris, Galveston, and surrounding counties.

Groundwater is not an infinite resource, and the best way to combat the consequences of excessive withdrawals is to account for future water demands and utilize alternative water sources. An alternative water supply assessment has been completed as part of Harris-Galveston Subsidence District and Fort Bend Subsidence District's ongoing Joint Regulatory Plan Review. It provides an evaluation of alternative water supply strategies, including treated surface water, aquifer storage and recovery strategies, brackish groundwater development, and seawater desalination. The best strategy to prevent aquifer water-level decline, decrease in municipal supply well yields, and reduce subsidence is to diminish our reliance on groundwater and utilize alternative sources for water demand.

The Importance of Surface Water Conversion

It is crucial to diversify our water sources to prevent further water-level declines in our aquifers. Surface water development involves the construction of new reservoirs, inter-basin transfer of available water supplies, and utilization of appropriated but undeveloped water supplies requiring

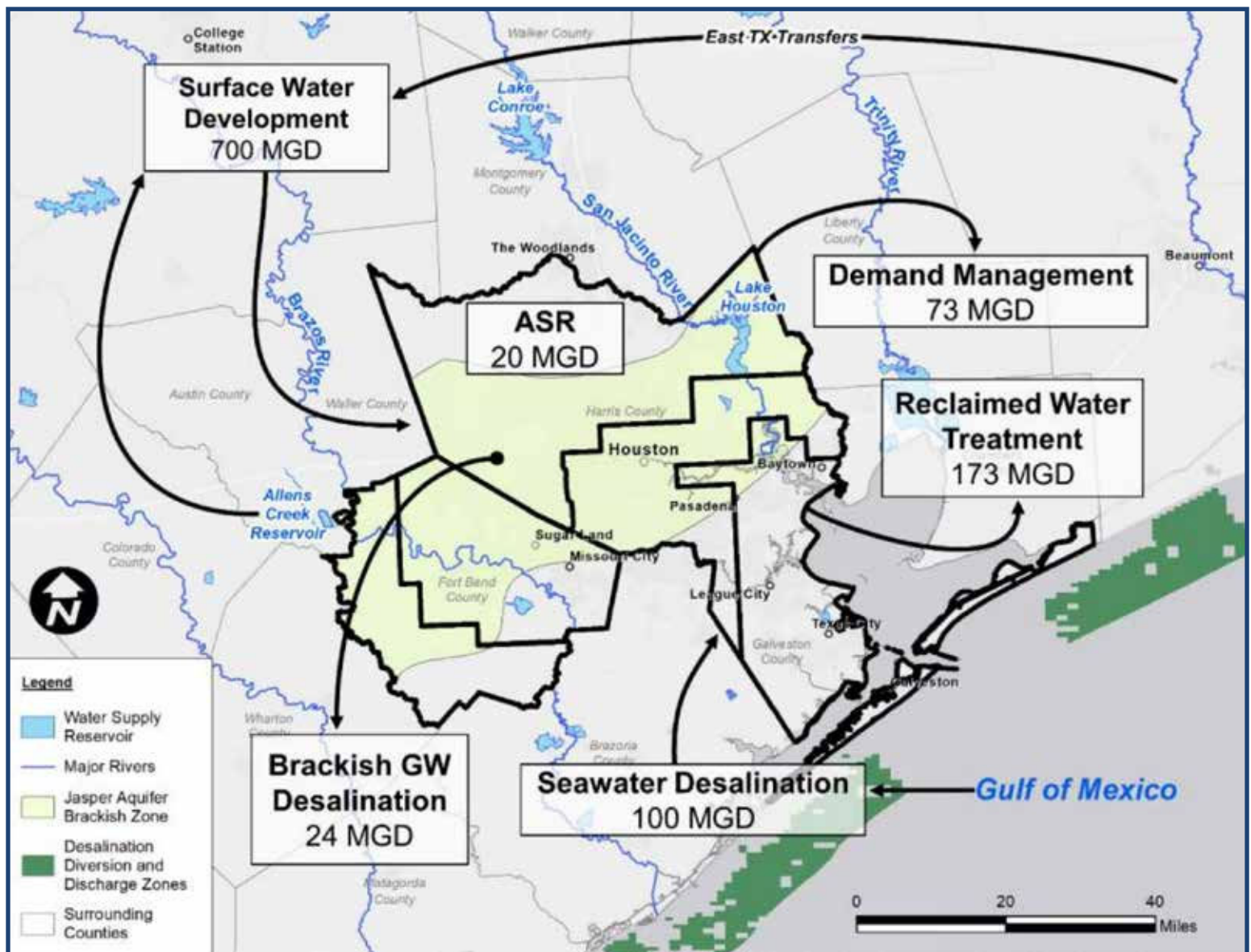
extensive planning, permitting, inter-agency coordination, and infrastructure construction. The development of regional surface water supplies is relatively cost-effective due to their high yields, accessibility, higher water quality, and lower treatment costs compared to other alternatives.

A major benefit of surface water reservoirs is that they capitalize on existing natural water supplies by storing water and allowing for its use during higher demand periods when natural streamflow may not provide adequate supply.

As we continue to reduce our reliance on

groundwater resources, and further our efforts to educate the community on water efficiency and conservation, we anticipate reduced subsidence rates in the Houston area. The District continues its mission to prevent subsidence in our area by enforcing reasonable groundwater regulation, water conservation, and conducting science-based water planning. This approach will continue to assure that future water demands can be fulfilled without the consequence of subsidence.

Visit hgsubsidence.org for more information regarding subsidence, groundwater regulation, planning, research, and more. 💧

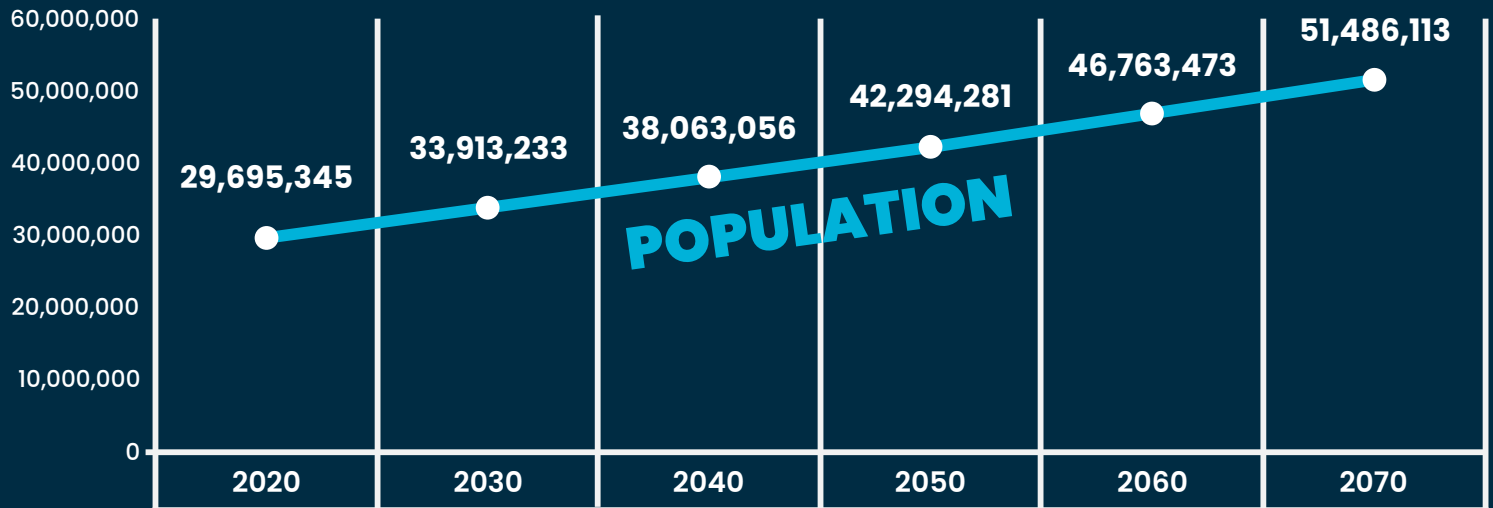


Alternative Water Supplies Available of other Long-term for HGSD/FBSD Regulatory Participants

The Harris-Galveston Subsidence Districts released an alternative water supply availability report earlier this year, the report can be found by visiting <https://nhcrwa.info/hgsd22>

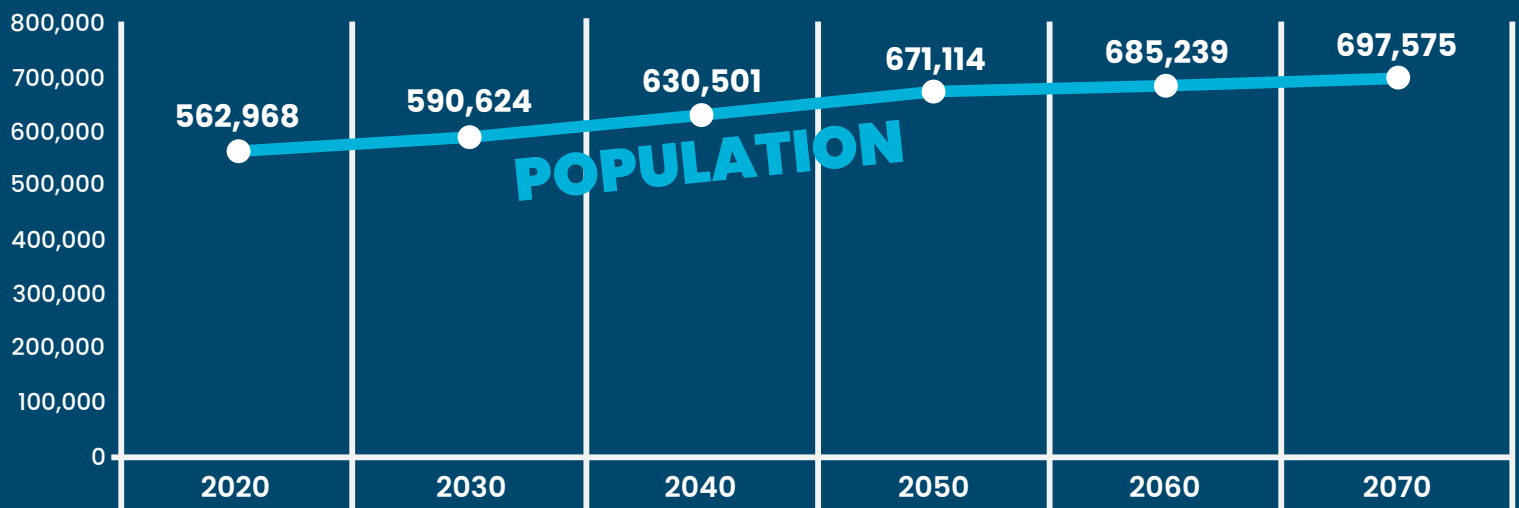
TEXAS POPULATION

The Texas Water Development Board (TWDB) projects a 73% population increase over the next 50 years, **from 29.7 million in 2020 to 51.5 million in 2070**



WHCRWA POPULATION

TWDB projects a 24% population increase in WHCRWA over 50 years **from 562,968 in 2020 to 697,575 in 2070**



Visit whcrwa.net/twdb-data to learn more



Lake Houston during the 2011 Drought

Photo by Russell Lambert

PLANNING FOR ENOUGH WATER SUPPLY DURING DROUGHT

If you lived in Texas in 2011, this summer's record heat and dry conditions may bring back memories of what resulted in the worst one-year drought on record in parts of the state. Texans may wonder what is being done to plan for the state's water supply if a drought of that extent, or worse, were to happen again.

Regional water planning process is underway

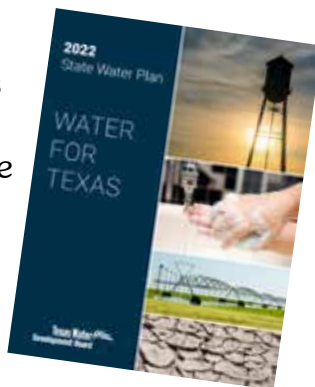
The latest state water plan was adopted just over a year ago, but planning for the 2027 State Water Plan is well underway to ensure adequate water supplies for all Texans in times of drought. This process starts locally with 16 regional planning groups, each implementing a bottom-up approach to develop regional water plans that identify proposed strategies and projects to meet water supply needs over the next 50 years.

Regional planning groups consist of representatives from a variety of water users, ranging from industry, agriculture, environment, water utilities, groundwater management areas,

the public, and more. These groups consider water demand and needs (potential shortages) in their region throughout the five-year planning cycle and identify, evaluate, and recommend strategies and projects to address them. Their final plan must reflect and respond to changes in population, water supplies, technological improvements, economic shifts, project viability, and state policy.

"Depending on the region's geography and the water resources that are available, regional planning groups take their own path that fits their resources and the concerns they have related to water supply," said Matt Nelson, Deputy Executive Administrator of Planning at the Texas Water Development Board (TWDB). "They're planning for themselves within the State's framework, but the process is unique to their needs and the resources that they depend upon to be prepared for drought."

Each planning group identifies potential water shortages under drought of record conditions and recommends water management strategies and projects with cost estimates and designated sponsors to address those potential shortages.



“Together, the planning regions recommended more than 2,400 water management strategy projects in the 2022 State Water Plan that must be implemented to meet water needs during a drought of record in the next 50 years,” said Nelson. “The success of each regional plan relies entirely on local project sponsors to implement, and, like any plan, they must be implemented to be effective.”

The TWDB has financial assistance programs to help sponsors implement projects. One in particular, the State Water Implementation Fund for Texas (SWIFT)* program, was created to solely fund state water plan projects and has committed over \$9 billion to more than 60 projects across the state since 2015.

Utilizing localized data for water planning

Because Texas spans multiple geographies and climatic conditions, each region’s water resources

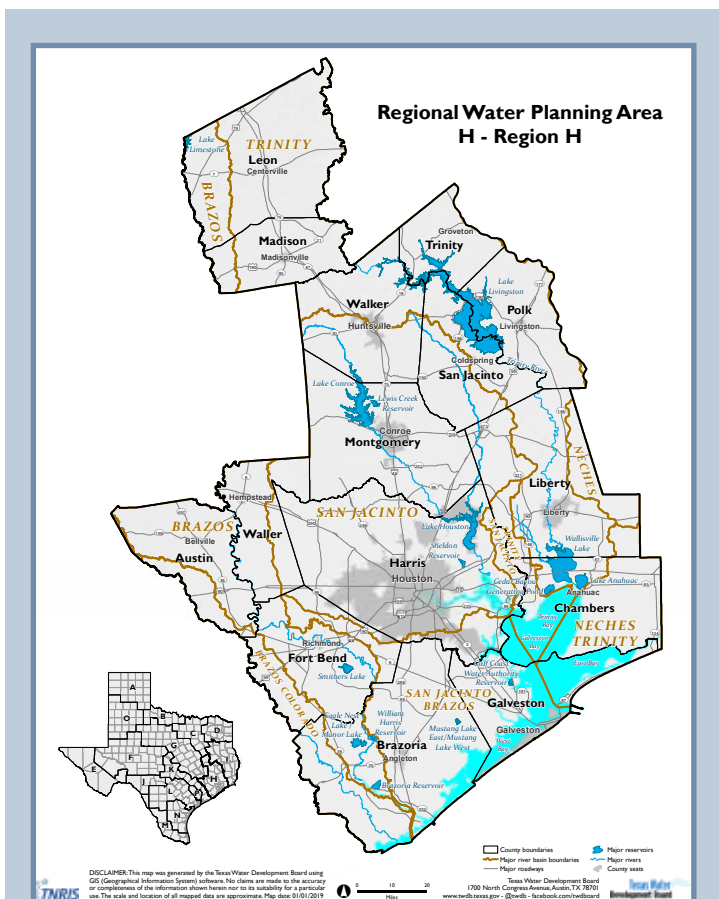
and needs differ across the state. Annual rainfall amounts vary significantly from east to west, with Beaumont seeing an average of more than 60 inches of precipitation and El Paso seeing about 9 inches of precipitation, according to the National Oceanic and Atmospheric Administration. On top of that, drought conditions also vary by location and, together, these factors impact how each region plans for future risks.

The drought of the 1950s is the most significant statewide drought recorded in Texas’ history in terms of geographic extent, duration, and intensity and is considered the benchmark drought for statewide water planning. However, more recent localized droughts of record vary by river basin, so planning groups consider and plan for the most relevant drought for their region and water resources.

“Planning groups are aware that new drought conditions may happen again in some areas, and they are taking that data into consideration when they’re planning,” said Nelson.

The five-year cyclical process allows the planning groups to incorporate new data and experiences to adapt accordingly. Regional planning groups can also plan for conditions that are worse than their drought of record, such as utilizing conservative (lesser) water source yield assumptions to provide some cushion in their plans.

Drought management strategies, which are measures implemented by local water providers to temporarily reduce water use, such as restricting car washing or lawn watering, can also be recommended by regional planning groups. In the 2022 State Water Plan, several regions made recommendations that collectively could reduce water use by up to 87,000 acre-feet per year in the immediate future and approximately 158,000 acre-feet per year by 2070 during a future drought of record. 💧



West Harris County Regional Water Authority is part of Texas Regional Water Planning Area H (Region H)

Article originally appeared in the Texas Water Development Board Texas Water Newsroom August 2022.

WHCRWA NFBWA


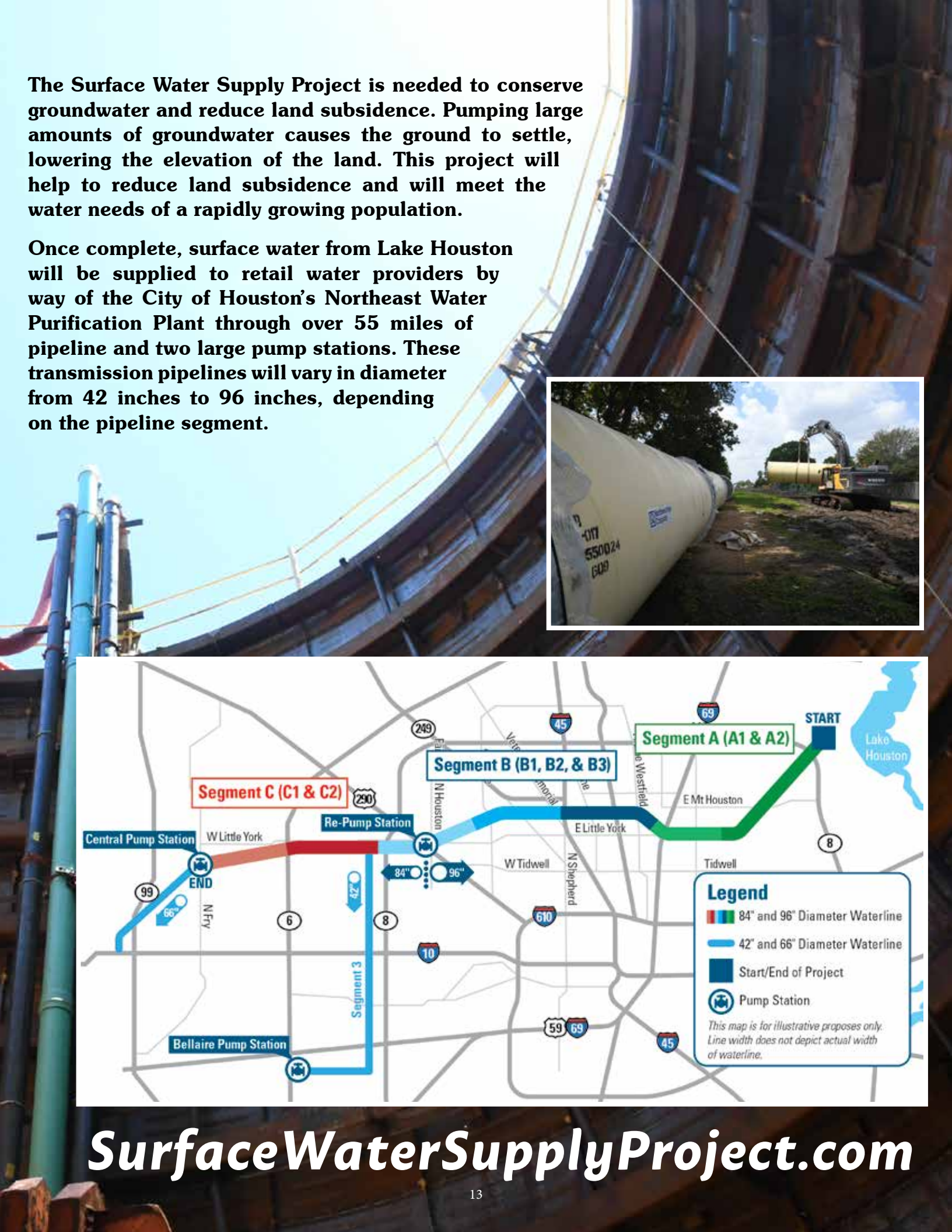
SURFACE WATER SUPPLY PROJECT

To meet the Harris-Galveston Subsidence District and Fort Bend Subsidence District's groundwater reduction requirements for 2025 and beyond, the West Harris County Regional Water Authority has partnered with the North Fort Bend Water Authority to construct the Surface Water Supply Project.



The Surface Water Supply Project is needed to conserve groundwater and reduce land subsidence. Pumping large amounts of groundwater causes the ground to settle, lowering the elevation of the land. This project will help to reduce land subsidence and will meet the water needs of a rapidly growing population.


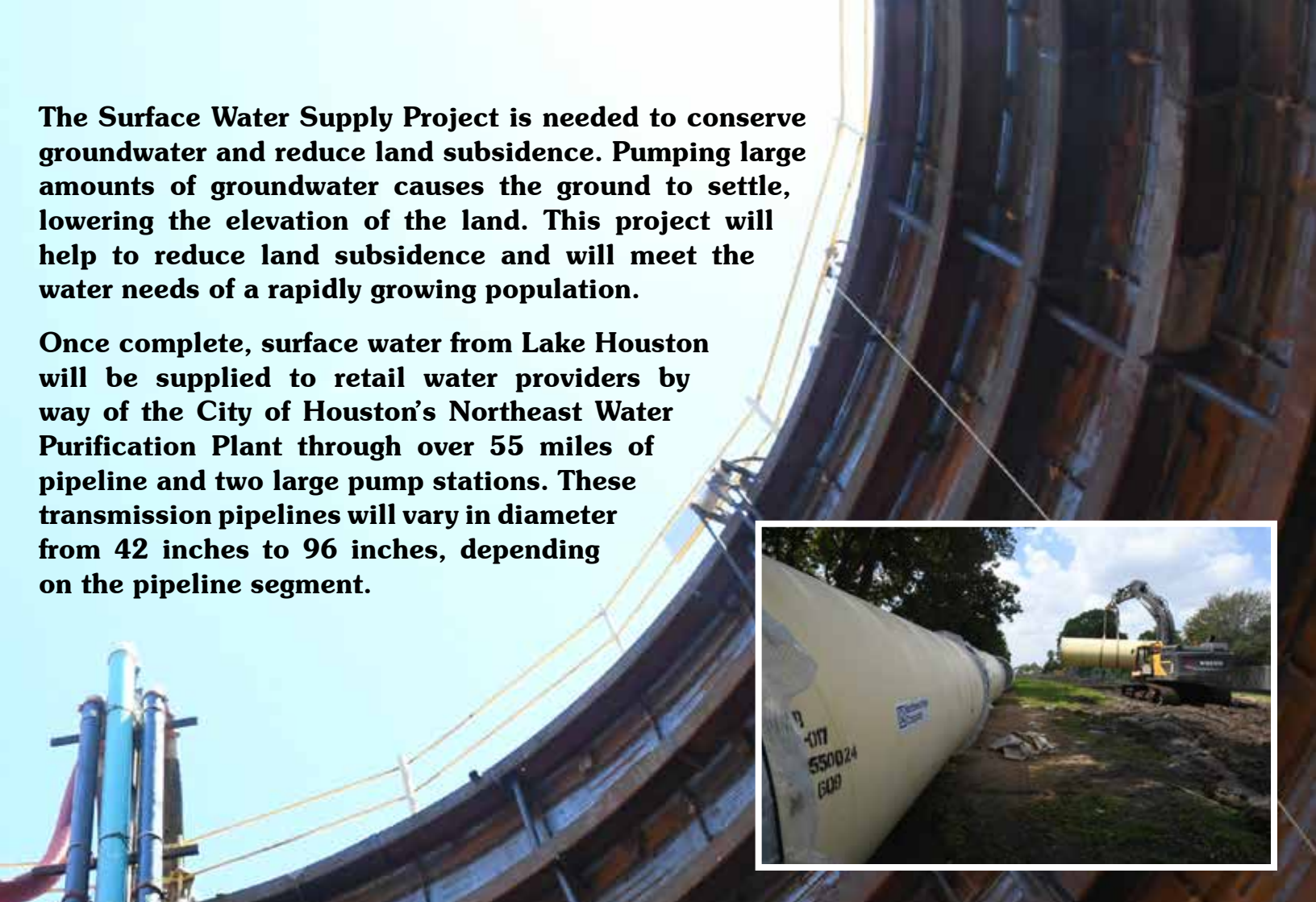
Once complete, surface water from Lake Houston will be supplied to retail water providers by way of the City of Houston's Northeast Water Purification Plant through over 55 miles of pipeline and two large pump stations. These transmission pipelines will vary in diameter from 42 inches to 96 inches, depending on the pipeline segment.



SurfaceWaterSupplyProject.com

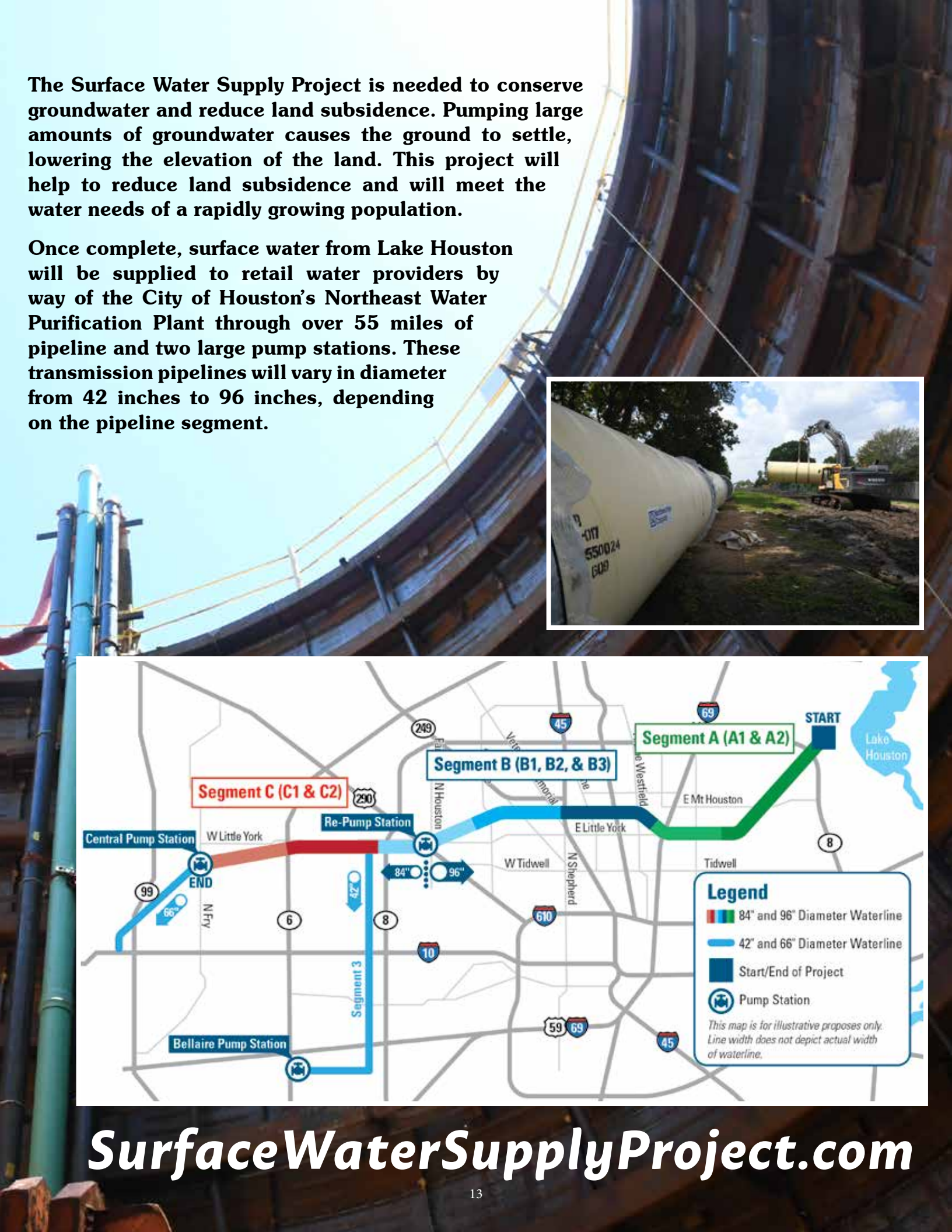
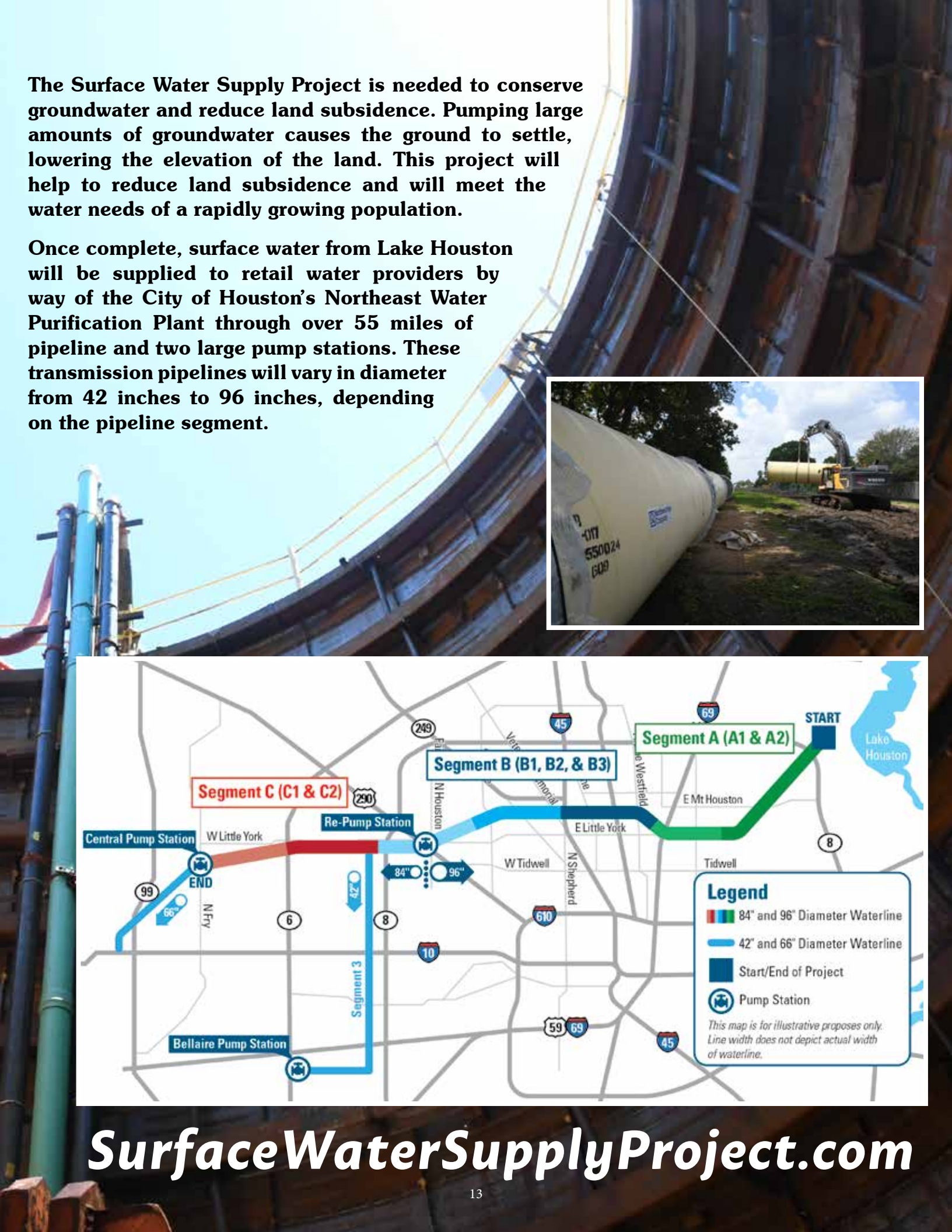
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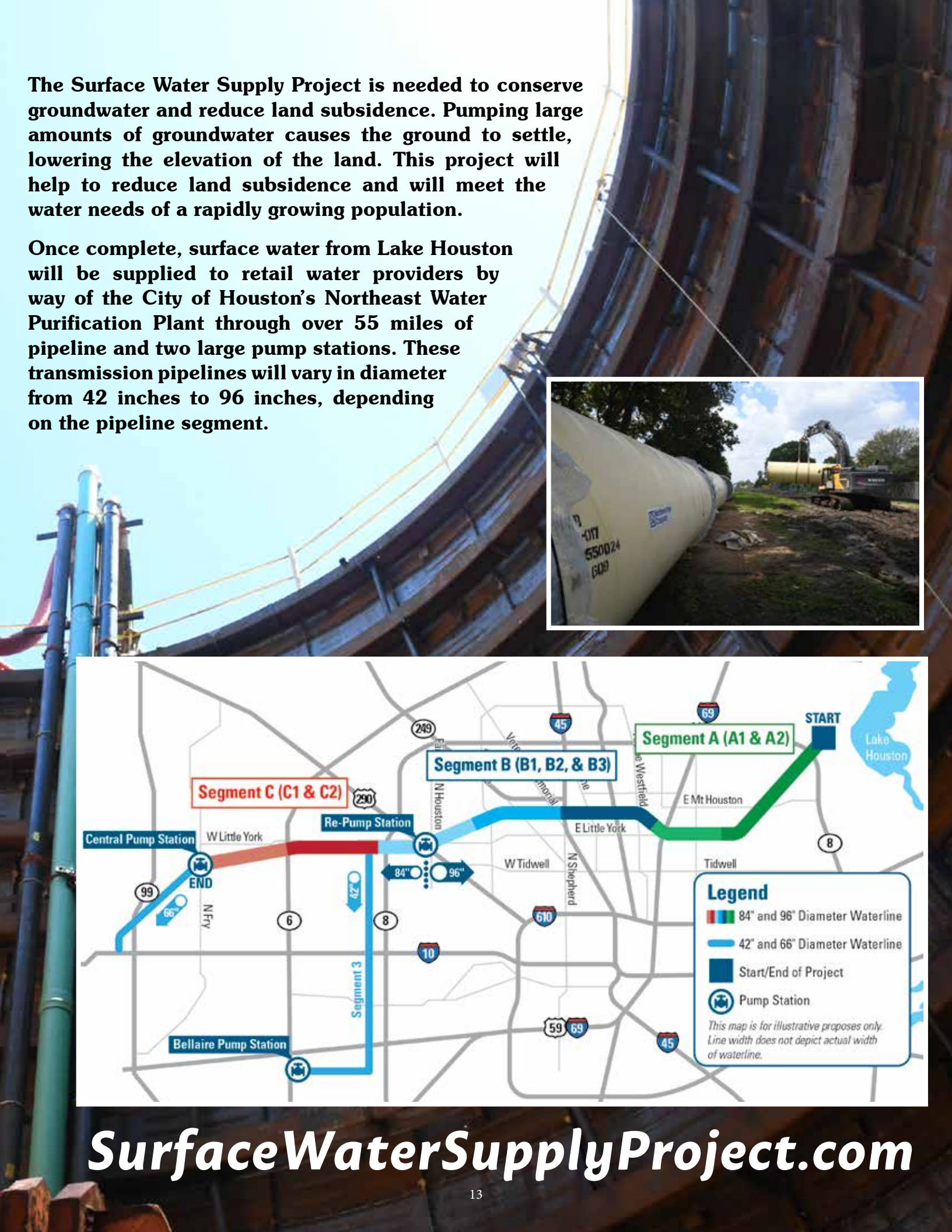
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SurfaceWaterSupplyProject.com

YES KIDS CAN CONSERVE!



WATER LESS
SAVE MORE

Everyone knows that all living things need water to survive. Sadly, we have taken our water supplies for granted and have not always been careful about how we have used this valuable natural resource.

Our drinking water is going to cost more in the future, so it is important that kids learn to use it wisely and develop some efficiency strategies that will help when they are adults and have families of their own.

Here are some things you can do to help make our water resources last longer...

Bathrooms:

About 75% of the water used inside our homes is used in the bathroom. Experts estimate that in an average household about 40+ percent of the water gets flushed down toilets and the other 30 percent is used in showers and baths.

- Take shorter showers. A five minute shower uses 25 gallons of water. One option is to turn the water on to get wet, turn it off while you lather up and wash your hair...then turn it back on to rinse off. This bathing method can save as much as a hundred gallons of water a week!

- Here's a "two-for-one" idea — place a bucket or plastic container in the shower to catch extra water. This is sometimes called a "Navy Shower" since this is how sailors shower on ships and in submarines! Use the captured water for indoor plants or to flush toilets.
- Don't use the toilet as a trash can — flush only when necessary. And, while we're talking about toilets...NO WIPES IN THE PIPES! Do not flush anything but pee and poo and toilet paper -- which was designed to decompose.
- Don't run the water while brushing your teeth. Turn it back on to rinse your toothbrush and clean the sink. Only use the water you actually need for washing your face, too.
- Tell your parents if you see a leaking faucet or if the toilet "runs" after flushing. These leaks can waste thousands of gallons of water a year and that is just money down the drain.
- It also takes a lot of water to wash dishes and to do the laundry. If you help with these household chores, use the right water level, and only run these appliances with full loads.

A huge amount of water is used outside the home...for lawns and landscaped areas. It is true that kids may not design and plant these areas, but they are often responsible for helping to maintain them.

- Adjust the lawn mower to a higher setting. Longer blades of grass will help shade the ground and this helps hold moisture longer.
- Water lawns only when necessary. Providing a deep soaking less frequently will help grow good roots for better drought resistance.
- Water the yard, not the sidewalk or concrete. If there's a sprinkler system, tell your parents if any of the heads are not functioning properly.
- In every case, only use the amount of water you actually need. Make a commitment to conserve — look for new ways to use water wisely in and around your home!

Remember...the water you conserve today can serve you tomorrow!

BECOME A WATER HERO!

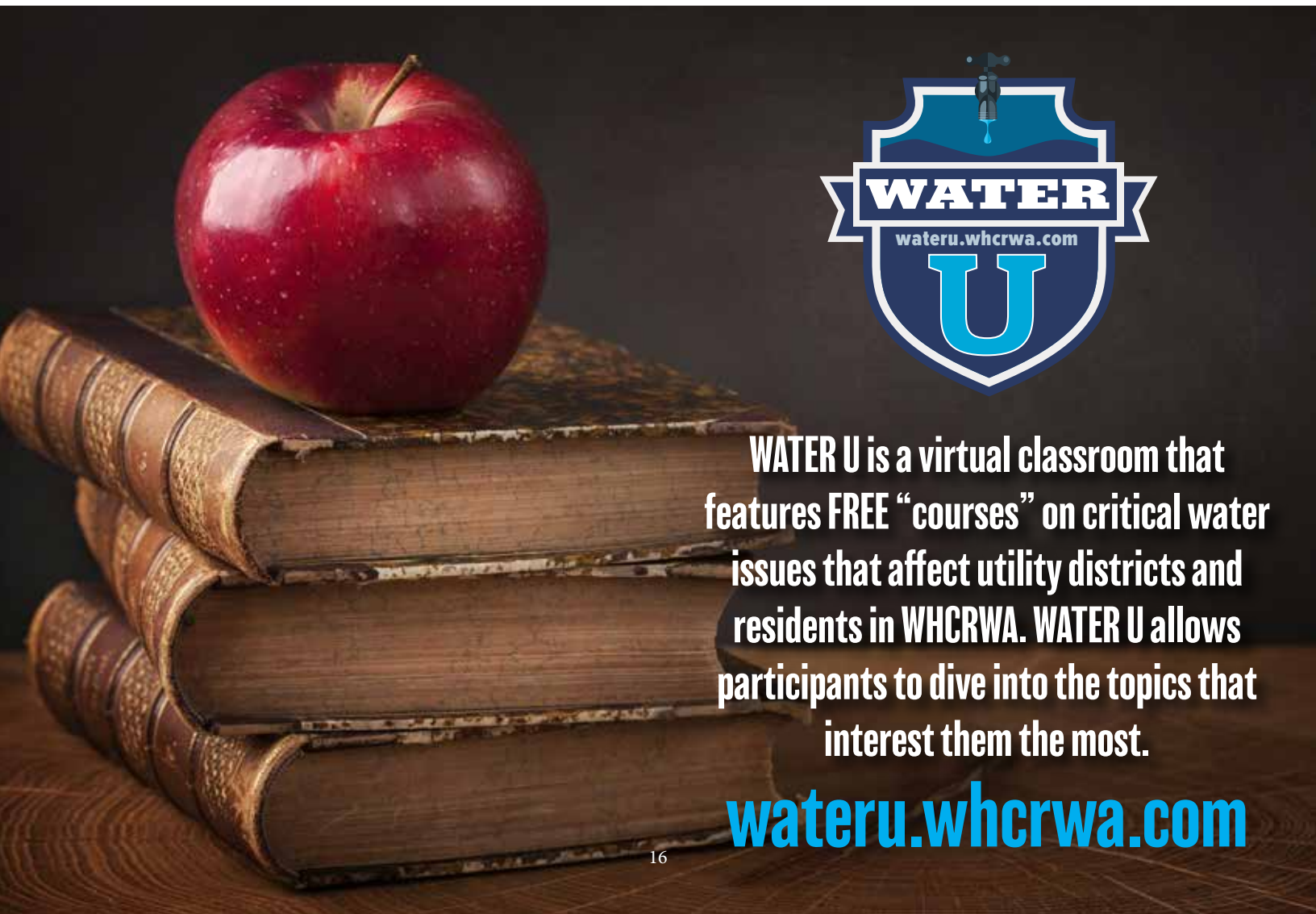


Visit KidsCanConserve.com

NEW BROCHURES ARE AVAILABLE FOR RETAIL PROVIDERS IN THE AUTHORITY



Retail providers in The Authority can order printed copies of the brochure for free by visiting whcrwa.com/order-form



Don't forget the great billing inserts available FREE to retail providers in the WHCRWA



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WHCRWA'S MOBILE TEACHING LABS

For more than a decade, the West Harris County Regional Water Authority has sponsored water conservation education programs in our communities, for area students, HOAs, Scout, business, and Civic groups. Those programs include two mobile teaching labs that are offered at no charge to districts and educators in WHCRWA. These vehicles have interactive displays and address important topics like water conservation, conversion to surface water, water quality, and subsidence. Each Lab has handout material and takeaways. For more information, or to reserve a Mobile Lab for an event, visit online (www.whcrwa.com).



Visit www.whcrwa.com/education to request the lab at your next event.



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