



THE **UNDERGROUND** UTILITIES EVENT

Underground Construction Technology | Jan. 29-31, 2019 | Fort Worth, TX

Industry Challenges and Trends...as I see them

Underground Construction Technology

January 29-31, 2019

Fort Worth, Texas





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First, a little background on





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- Created by the state legislature in 1955, TRA is a conservation and reclamation district.
- TRA provides water and wastewater treatment, along with recreation and reservoir facilities for cities within the nearly 18,000-square-mile Trinity River basin.





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Excellence in Wastewater Treatment





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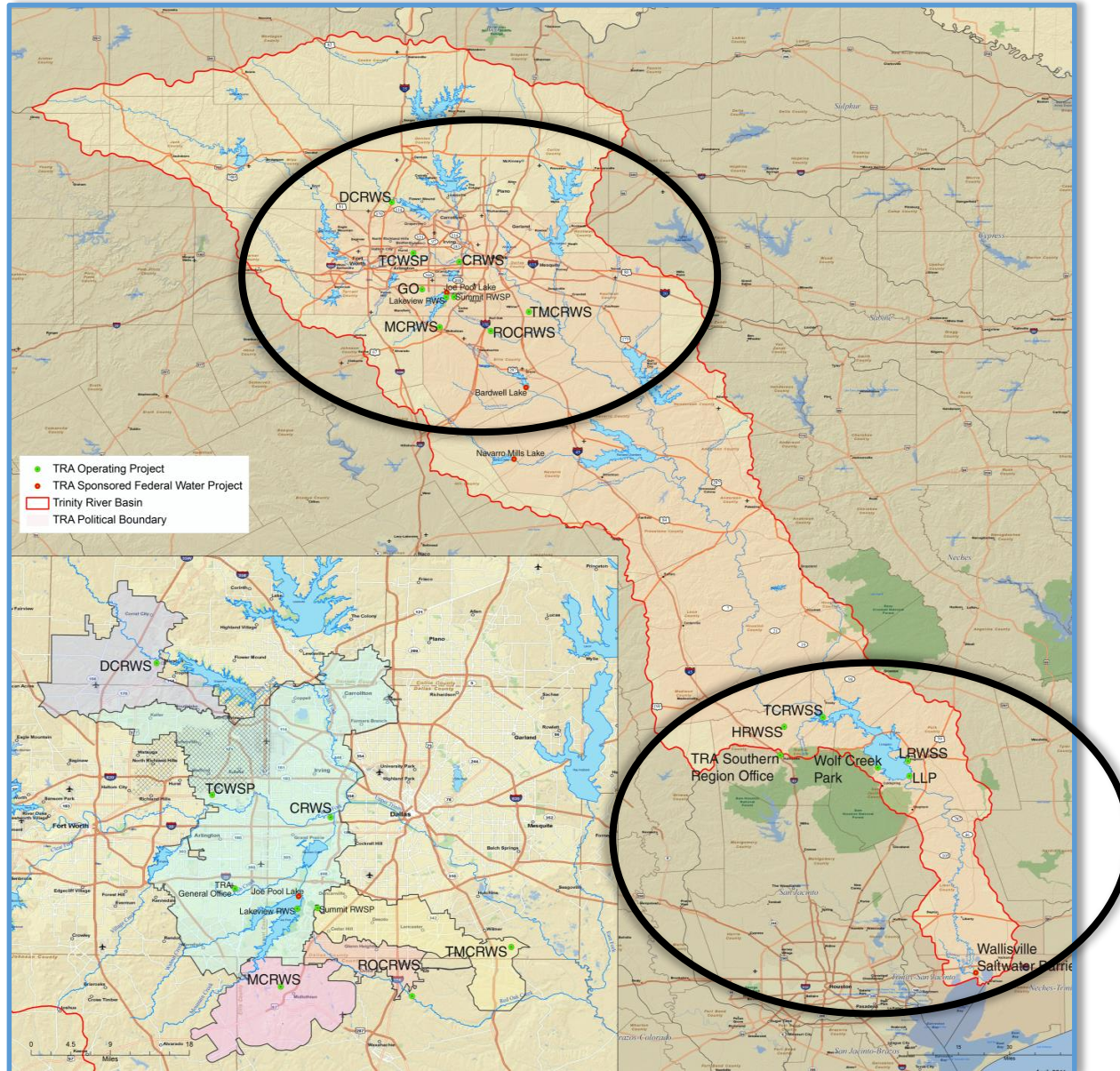
- 25 Board members
- Appointed by the Governor
- 6 year terms





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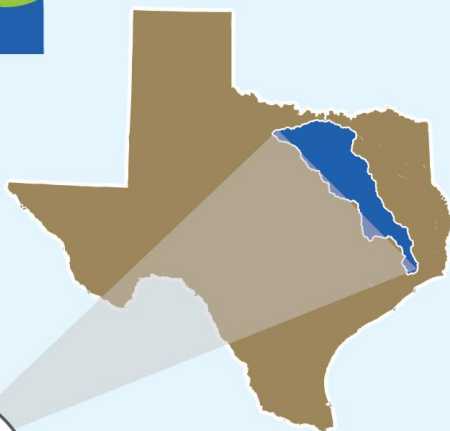
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BY THE NUMBERS

DID YOU KNOW?



55
WHOLESALE

CUSTOMERS

18 water
37 wastewater

Serving 329,729 water
and 1,679,020
wastewater customers in
the Trinity River Basin.

Record day treatment amount
for water and wastewater is
544.048 million gallons.



10

WATER PUMP
STATIONS

4

WATER TREATMENT PLANTS
105.5 MGD Capacity

83.75
miles

WATER TRANSMISSION
PIPELINES



15

WASTEWATER PUMP
STATIONS

5

WASTEWATER
TREATMENT PLANTS
232.1 MGD Capacity

351
miles

WASTEWATER
TRANSMISSION
PIPELINES



Biosolids is a
nutrient-rich
product that is
land applied by
farmers as
fertilizer.

It assists with
soil regeneration
and is a
sustainable
green product.





WASTEWATER



CENTRAL REGIONAL WASTEWATER SYSTEM

DALLAS
21 Customers

SERVICE BEGAN
1959



TEN MILE CREEK REGIONAL WASTEWATER SYSTEM

FERRIS
5 Customers

SERVICE BEGAN
1970



DENTON CREEK REGIONAL WASTEWATER SYSTEM

ROANOKE
11 Customers

SERVICE BEGAN
1990



RED OAK CREEK REGIONAL WASTEWATER SYSTEM

WAXAHACHIE
6 Customers

SERVICE BEGAN
1991



MOUNTAIN CREEK REGIONAL WASTEWATER SYSTEM

MIDLOTHIAN
4 Customers

SERVICE BEGAN
2005



WATER



TARRANT COUNTY WATER SUPPLY PROJECT

EULESS
5 Customers

SERVICE BEGAN
1974



HUNTSVILLE REGIONAL WATER SUPPLY SYSTEM

HUNTSVILLE
4 Customers

SERVICE BEGAN
1980



LIVINGSTON REGIONAL WATER SUPPLY SYSTEM

LIVINGSTON
3 Customers

SERVICE BEGAN
1981



TRINITY COUNTY REGIONAL WATER SUPPLY SYSTEM

TRINITY
6 Customers

SERVICE BEGAN
1983



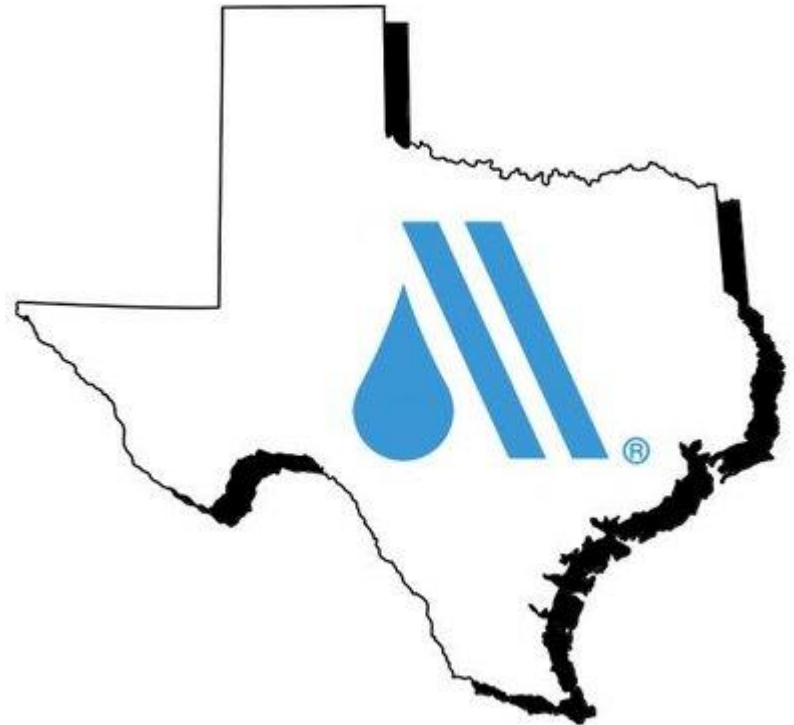
So what challenges and trends do I see?

LEGAL DISCLAIMER



AWWA – State of the Water Industry – 2013

- 13 Items
- All still applicable today





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CHALLENGES...



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Challenge 1: Lack of public appreciation for the value of water





Lets talk diamonds !!!



- Diamonds are pretty
- Diamonds are a girl's best friend
- Diamonds are expensive
- What do diamonds actually do?



Are diamonds.....



- a mode of transportation?
- a source for energy production?
- a recreation provider?
- vital for life to exist on earth?
- NO! Yet they are considered and priced to be valuable.





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Challenge 2: Communicating the value of water



[illegible]

Imagine a Day Without Water

October 23, 2019



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WHAT'S THE VALUE OF WATER?

Mornings wouldn't be the same without water.

Most of us never think about how water gets to the tap or where it goes after it swirls down the drain. Luckily, we don't have to. Pumps, treatment plants, and pipes bring us clean water.

But our water systems are aging. They need investment to continue delivering life's most essential resource. We need water to make a cup of coffee and most everything we do in life. All day, every day.

Water—Essential. Reliable. Invaluable.

Learn how water works for you.
Visit TheValueofWater.org.

#ValueWater

Value of Water
COALITION

Presented in cooperation with the Value of Water coalition

- “You will never know the worth of water till the well is dry” – Thomas Fuller
- Everyone wants it in a drought or dry region
- No one wants in a flood





‘Water is the new oil’: Ranch’s sale reflects influence of fracking 37,000-acre property fetches high price for presence over aquifer

FROM WIRE REPORTS

PERMIAN BASIN



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Challenge 3: Condition of water/wastewater/ underground infrastructure





ASCE Scorecard - 2017

- Nationally:
 - Water: D
 - Wastewater: D+
- In Texas:
 - Water: D+
 - Wastewater: D





How much will it cost to raise our grade?

AWWA estimates \$1 trillion nationwide to fix the problem.

In Texas - \$62.6 billion in water management strategies for the next 50 years.





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- Texas has implemented the State Water Plan
 - Identifies sources and needs for water over 50 years
- Texas has put together funding mechanisms to help bridge the gap
 - Prop 6 – State Water Implementation Fund for Texas (SWIFT) was passed
 - Est \$27B over 50 years
 - \$800M annually over the next 10 years
- Federal Programs
 - WIFIA
 - CWSRF
 - DWSRF



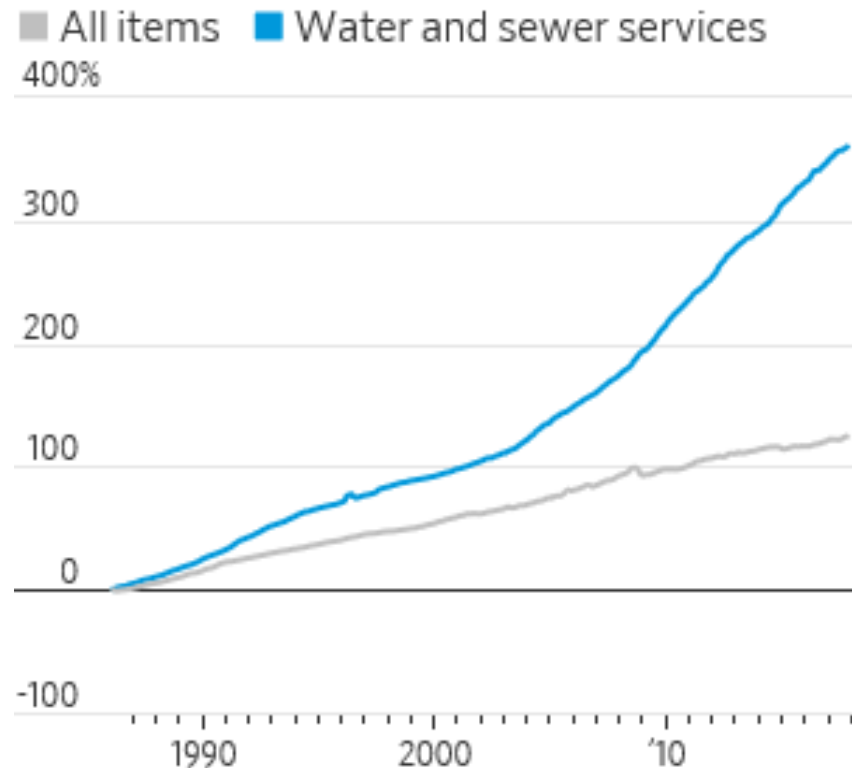


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To meet this challenge:

- Rates will go up.
- We need to be proactive
- Utility providers need your support
- Longer lasting infrastructure





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Challenge 4: Replacing a retiring workforce





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- Boomers are retiring
- Fewer replacement workers
 - “knowledge gap”
- Millennials aren’t interested in working construction jobs (*The Hartford’s 2015 Millennial Leadership Survey*)

Boomers vs. Millennials @ Work

SCHEDULE

thecooperreview.com

boomers

Monday	9am - 5pm
Tuesday	9am - 5pm
Wednesday	9am - 5pm
Thursday	9am - 5pm
Friday	9am - 5pm

millennials

Monday	10am - 8pm
Tuesday	2pm - 12am
Wednesday	11am - 5pm
Thursday	3am - 2pm
Friday	10am - 4pm



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Baby Boomers vs. *Millennials*





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TRENDS...



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Trends: Where did all the bidders go?





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- Economy is still good
- Lots of bidding opportunities
- Movement in and out of the market by contractors/construction firms
- Still more work coming
 - Utility needs
 - TxDOT
- Workforce issues





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Trends: Where did all the consulting firms go?



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- Forrest & Cotton > URS > AECOM
- Metcalf & Eddy > AECOM
- Carter & Burgess > Jacobs
- CH2MHill > ch2m > Jacobs
- Montgomery/Watson > MWH > Stantec
- KBR > Stantec
- Espy Consultants > RPS
- Klotz Associates > RPS





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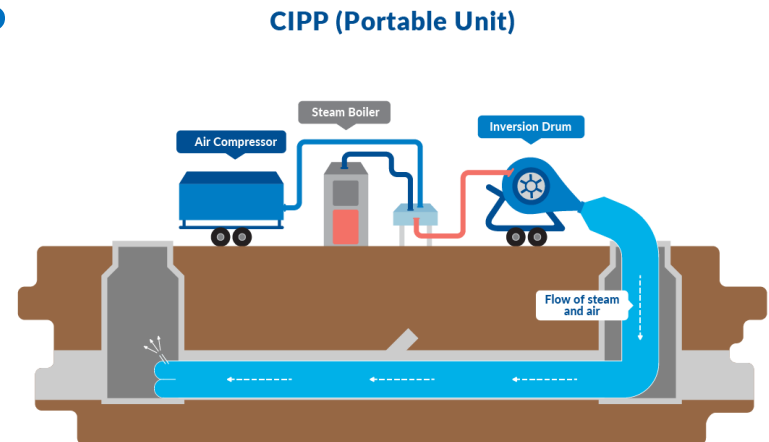
Trends: REHAB REHAB REHAB our pipelines



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- Utility corridors are tight
- Construction areas are limited
- At TRA, large percentage of pipeline infrastructure is over 30 years old
 - Large percentage of wastewater pipelines are unlined RCP
- And there is only so much \$\$





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Trends: REHAB of the future



Rehab of the future

- Continue to fine tune existing products/technology
 - Is there a different approach we could take?
 - Is this a way to get millennials interested in the industry?
-
- My Challenge to you



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DO YOUR
BEST TO
ENJOY
YOUR DAY.