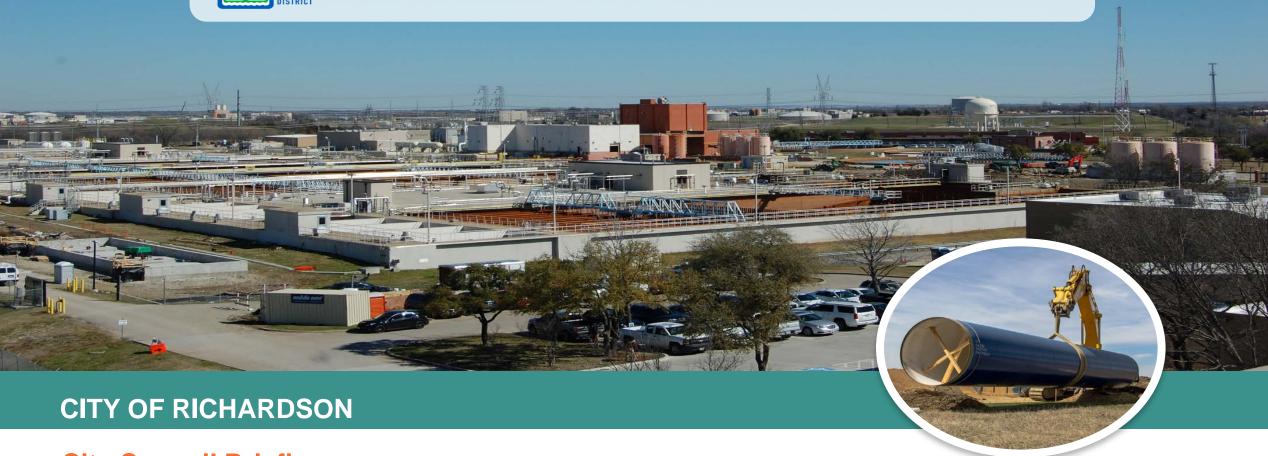
# City Council Work Session Handouts June 6, 2022

- I. North Texas Municipal Water District
- II. FY 2022-2023 Water/Wastewater Maintenance Strategies
- III. FY 2022-2023 Drainage Utility Program Strategies
- IV. Richardson CARES Program Enhancements

Regional Service Through Unity... Meeting our Region's Needs Today and Tomorrow



City Council Briefing
June 6, 2022

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### **AGENDA**

### **NTMWD** at a Glance

# **Major Capital Improvement Program Efforts:**

- Bois d'Arc Lake
- Regional Water System
- Regional Wastewater System
- Long Range Water Supply

**Pretreatment Program Partnership** 

Strategic Financial Plans for Water, Wastewater and Solid Waste





# REGIONAL PROVIDER OF WATER, WASTEWATER, **AND SOLID WASTE SERVICES**



### BY THE NUMBERS DID YOU KNOW?



Service area of 2,200 square miles in 10 counties

Serving 2 million people in one of the fastest-growing regions in the country



**MAJOR RAW & TREATED** WATER PUMP STATIONS



WATER TREATMENT PLANTS 876 MGD Capacity (million gallons/day)



WATER TRANSMISSION **PIPELINES** 



LARGE-DIAMETER WASTEWATER PIPELINES



**WASTEWATER** TREATMENT PLANTS



WASTEWATER TREATMENT CAPACITY MGD (million gallons/day)



TRANSFER **STATIONS** up to 3,295 tons of solid waste/day



Rev. Feb. 2022





# **10 Original Member Cities**

Farmersville, Forney, Garland, McKinney, Mesquite, Plano, Princeton, Rockwall, Royse City, and Wylie

"We decided we were all in this together. We couldn't do it separately."

- 1951 Created by Texas Legislature to Provide Water Service
- 1956 Began Providing Treated WATER to Member Cities
- 1970s Expanded to WASTEWATER Service
- 1973 Richardson added as Member City
- 1980s Expanded to SOLID WASTE Service
- 1998 Allen added as Member City
- 2001 Frisco added as Member City





### NTMWD VISION, MISSION AND GOALS

VISION: Regional Service Through Unity – Meeting Our Region's Needs Today and Tomorrow

MISSION: Provide high quality and dependable water, wastewater and solid waste services in a

cost efficient manner

Goal 1: Service Provide superior water, wastewater and solid waste

services today and tomorrow.

**Goal 2: Stewardship** Responsibly manage public resources to ensure

responsiveness, effectiveness and efficiency.

**Goal 3: Partnership** Actively work with members, customers, partners,

employees and stakeholders.

**Goal 4: People** Build a talented, competent and committed team.











### NTMWD AT A GLANCE



The John Bunker Sands Wetland Center is the recipient of the 2022 Texas Leopld Conservation Award.

Top Starts | Owner of the Year

### Meeting the Water Needs of a Growing Texas Region



# NTMWD Named Engineering News-Record Texas & Louisiana Owner of the Year

Bois d'Arc Lake, News Feed

April 1, 2022

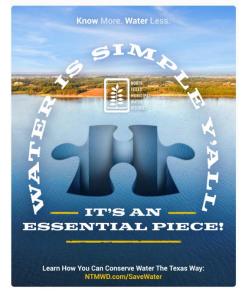


### NTMWD encourages residents to conserve water

by Connor Pittman | May 19, 2022 | Late



NTMWD Extended Winning Operations
Challenge Team: L-R back row: Brad Crement,









- Critical strategy for maximizing supplies
- Helped defer approximately \$1 billion in projects
- Award-winning outreach programs:
  - Water4Otter.org School Education Program
  - WaterMyYard.org
  - Local campaign Know More.
     Water Less.
  - Regional campaign Water is Awesome

# SUMMER WATER CONSERVATION PLAN IN EFFECT

BEGINNING APRIL 1, NO LAWN WATERING ALLOWED BETWEEN 10 A.M.-6 P.M.

implement its summer water conservation plan April 1. The strategy allows for lawn irrigation at even-numbered addresses on Tuesdays and Saturdays and at odd-numbered addresses on Wednesdays and Sundays. Watering is not permitted between 10 a.m.-6 p.m. on the allowed days from April 1-Oct.

The City of Richardson will 31. Watering is permitted at any implement its summer water time on the allowed days from Nov. conservation plan April 1. The 1-March 31.

This water conservation strategy is in place year-round unless the North Texas Municipal Water District (NTMWD) asks for more severe restrictions due to drought conditions.

The NTMWD is Richardson's water

supplier and continuously monitors its water supply to determine if there is a need for additional restrictions.

Please water only as needed, based on moisture content of the soil. For more information, visit www.cor. net/waterconservation or call 972-744-4220.









### **AGENDA**

### **NTMWD** at a Glance

# **Major Capital Improvement Program Efforts:**

- Bois d'Arc Lake
- Regional Water System
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- Long Range Water Supply

**Pretreatment Program Partnership** 

Strategic Financial Plans for Water, Wastewater and Solid Waste



### **BOIS D'ARC LAKE**

- Decade + of planning, permitting
- Surface Area: 16,641 acres
- Supply: Firm Yield of 82
   MGD
- Average/Max Depth: 22/70 ft
- Lake Elevation: 534 ft mean sea level (MSL)
- Owner & Operator: NTMWD
- Cost Estimate: \$1.6B
- Construction began May 2018
- Dam impoundment April 2021
- Water delivery expected early 2023
- BoisdArcLake.org





### **BOIS D'ARC LAKE PROGRAM – KEY COMPONENTS**

- 1. Dam, Intake, Terminal Storage Reservoir
- 2. Environmental Mitigation (17,000+ acres)
- 3. Raw Water Pump Station, Water Treatment Plant
- 4. FM 897, County Roads, Boat Ramps, Lake Office
- 5. Pipelines
  - o 35-mile 90-inch Raw Water
  - o 25-mile 84-inch treated water

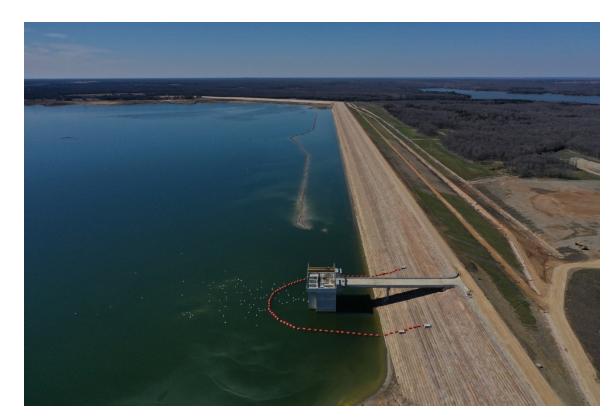








# **BOIS D'ARC LAKE PROGRESS**





**Dam Embankment** 

**Intake Tower Construction and Wet Side Impoundment** 





# **BOIS D'ARC LAKE PROGRESS**



**FM 897 Bridge Complete and Open** 



**Leonard Water Treatment Plant** 





### **MAJOR CAPITAL IMPROVEMENT PROGRAM EFFORTS**

Bois d'Arc Lake

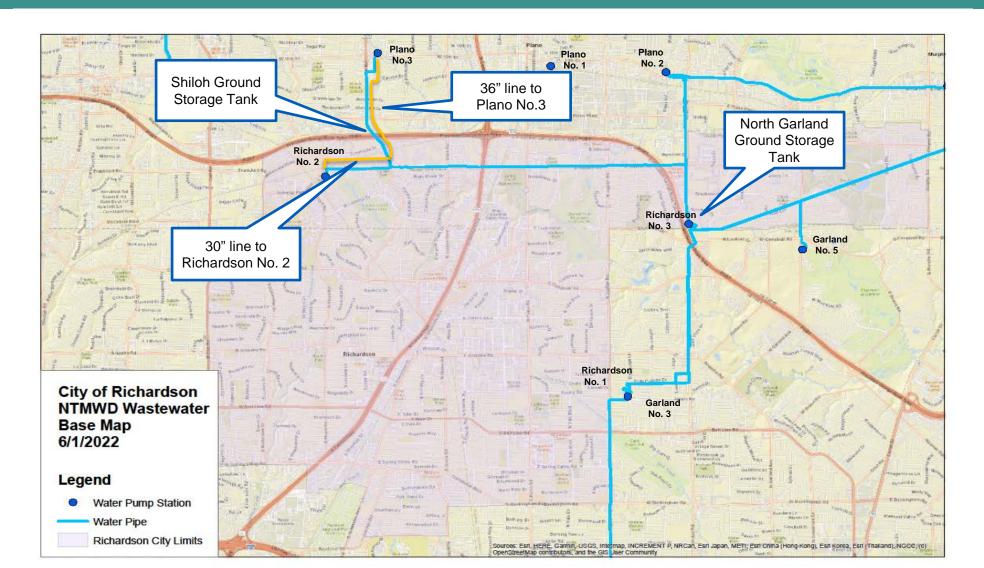
Regional Water System

Regional Wastewater System

Long Range Water Supply



### REGIONAL WATER SYSTEM SUPPORTING RICHARDSON







### **MAJOR CAPITAL IMPROVEMENT PROGRAM EFFORTS**

Bois d'Arc Lake

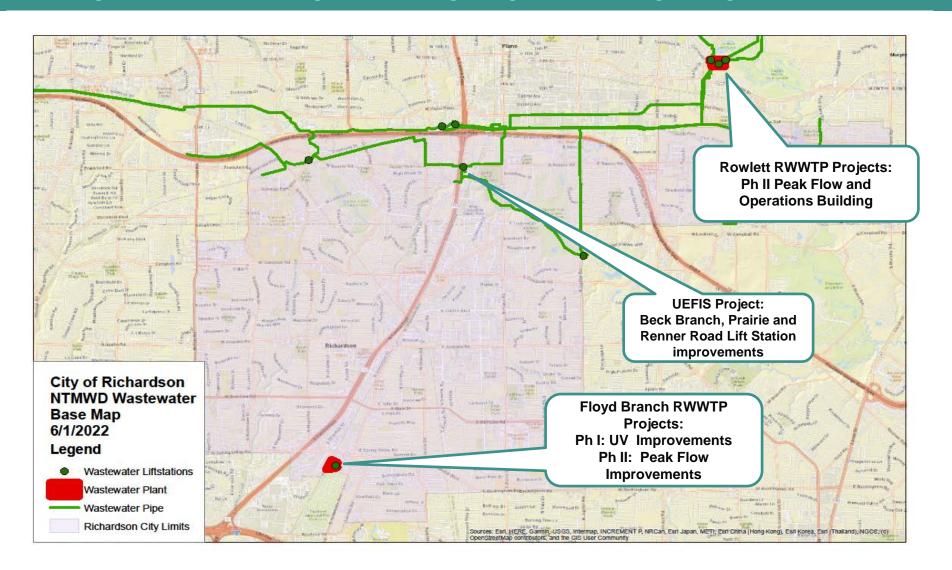
Regional Water System

Regional Wastewater System

Long Range Water Supply



### REGIONAL WASTEWATER AND UPPER EAST FORK INTERCEPTOR







### **MAJOR CAPITAL IMPROVEMENT PROGRAM EFFORTS**

Bois d'Arc Lake

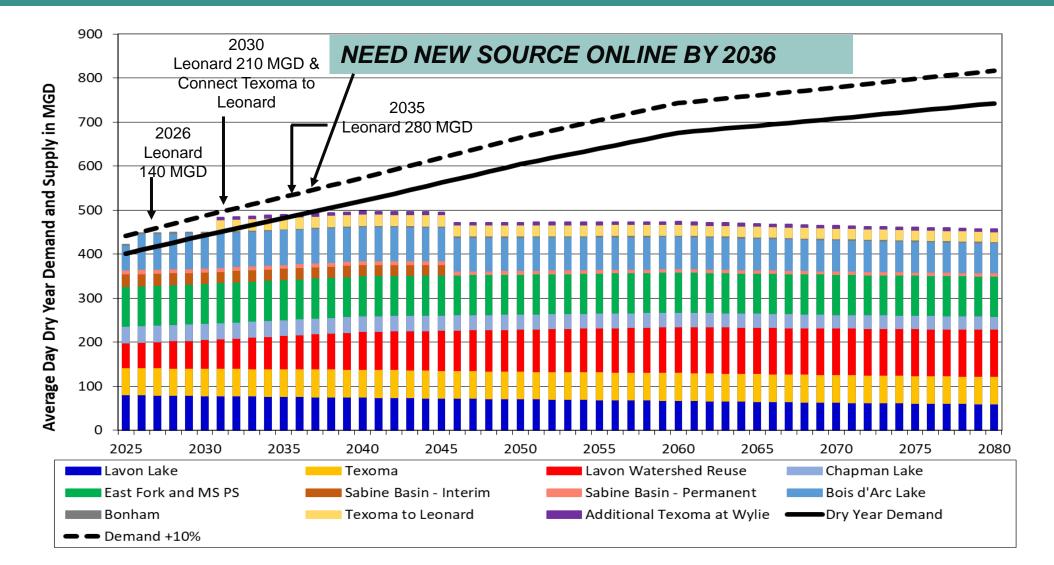
Regional Water System

Regional Wastewater System

Long Range Water Supply











### **AGENDA**

### NTMWD at a Glance

**Major Capital Improvement Program Efforts:** 

- Bois d'Arc Lake
- Regional Water System
- Regional Wastewater System
- Long Range Water Supply

# **Pretreatment Program Partnership**

Strategic Financial Plans for Water, Wastewater and Solid Waste



### PRETREATMENT PROGRAM PARTNERSHIP

### **Overview of Pretreatment Program**

- Identify and permit all industrial users
  - Industrial Waste Surveys
  - Work with Cities as new industries start up
- Sample permitted industries quarterly
- Inspect industries annually
- Compliance and Enforcement
  - Continuously review compliance for reporting deadlines, limit violations
  - Draft and recommend appropriate enforcement activities for violations
    - Filed by city
- Investigate unauthorized discharges
- Some responsibilities transfer to NTMWD in pending Multijurisdictional Agreement





### **AGENDA**

### NTMWD at a Glance

### **Major Capital Improvement Program Efforts:**

- Bois d'Arc Lake
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### **Pretreatment Program Partnership**

# Strategic Financial Plans for Water, Wastewater and Solid Waste

- Regional Water System
- Regional Wastewater System
- Solid Waste System





# STRATEGIC FINANCIAL PLANS (SFP)

- The Purpose of SFPs is to give our cities the best possible projections based on all the known data and forecasting we can obtain.
- Stayed within or below projections for the Regional Water System for the past ten plus years.
- Improvements have been made over recent years in accuracy.





### FISCAL CHALLENGES – PEOPLE, PRODUCT, PLANNING

# **Budgeting In A Time Of Unprecedented Economic Conditions**

### **People - Labor Challenges**

- **Labor shortages**
- **Higher turnover rates**
- **Highest inflation in 40 Years**

### **Product - Chemical Costs**

- **Continued supply chain issues**
- **Volatility on chemical markets**

### **Planning - Capital Projects**

- Continued growth in region and increased demands
- Construction costs highly unstable



**ECONOMY** 

# **D-FW** inflation up 9% since '21

Rising food, energy costs drive spike in region's annual rate

By ALEXANDRA SKORES alexandra.skores@dallasnews.com

Rising food, energy and housing costs are creating an even tighter squeeze in Dallas-Fort Worth.

The region's inflation rate checked in at 9% in March the highest year-over-year increase since December 1981.

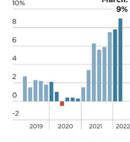
That compares with a U.S. rate of 8.5%, which also is a four-decade high.

North Texas prices rose by 1.2 percentage points from January, when the Bureau of Labor Statistics last reported on D-FW's consumer price index. BLS began tracking regional data in 1963, and D-FW recorded its highest inflation rate in April 1980 at 19%. The region saw double-digit inflation from February 1979 to October 1981.

See RISING Page 11A

#### Inflation's rise in **Dallas-Fort Worth**

Year-over-year percentage change in consumer prices in North Texas



SOURCE: Bureau of Labor Statistics

BIDEN will waive ethanol rule to try to lower gasoline prices, 11A

Collin, Denton counties among top 10 in growth



# More than houses going up

were among the top 10 counties in ear, according to data from the

son (No. 5). Denton (No. 6) and births.

bined, the bureau reported.

growth from domestic migration. At the same time, 73% of counties lost about 4,500. experienced population decline Five of the last year's top 10 larg- from natural causes, meaning the decline was fueled by increased -gaining counties - Collin at number of deaths in a given county

tions of 4.7 million and 2.6 million County lost just under 25,000 residents last year, while Harris County

The trend in natural population mortality - owing largely to the COVID-19 pandemic - as well as an aging population and a drop in

Across the country, 65.6% of residents, respectively. Dallas born, said Kenneth Johnson, a sealong comes COVID, and it hits older adults the most, often in rural

"It's like a perfect storm, if you

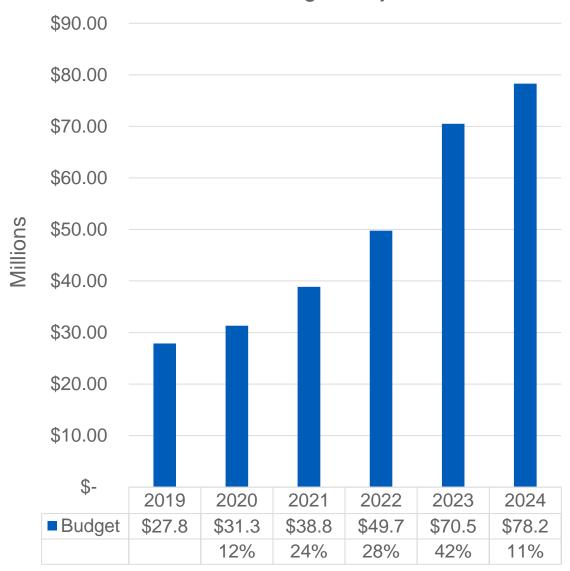
See DATA Page 3A



# **Current Economic Conditions Resulting in Significant Chemical Cost Increases**

	FY22 Budget	Anticipated FY23 Budget	Percent Increase
Ferric	\$22.8	\$34.7	52%
Caustic	12.7	18.9	49%
Chlorine	3.2	7.4	131%
Other	11.1	13.0	17%
Total	\$49.8	\$74.0	49%

### Regional Water System Chemical Budget Projections





## Regional Water System – Capital Improvements Program



### **Major Projects**

### **FY23**

- Wylie WTP Conversion to BAF \$37MM
- North Garland Ground Storage Tank \$29MM
- Northeast McKinney Pump Station \$50MM
- Waterline Relocations for TxDOT Road Improvements \$29MM

### **FY24**

- Leonard WTP Phase II \$565MM
- WTP Site Back-Up Power Improvements Phase I \$30MM
- Future Water Supply Project \$29MM

### **FY25**

- Wylie WTP II Sedimentation Basins \$25MM
- Future Water Supply Project \$63MM

### **FY26**

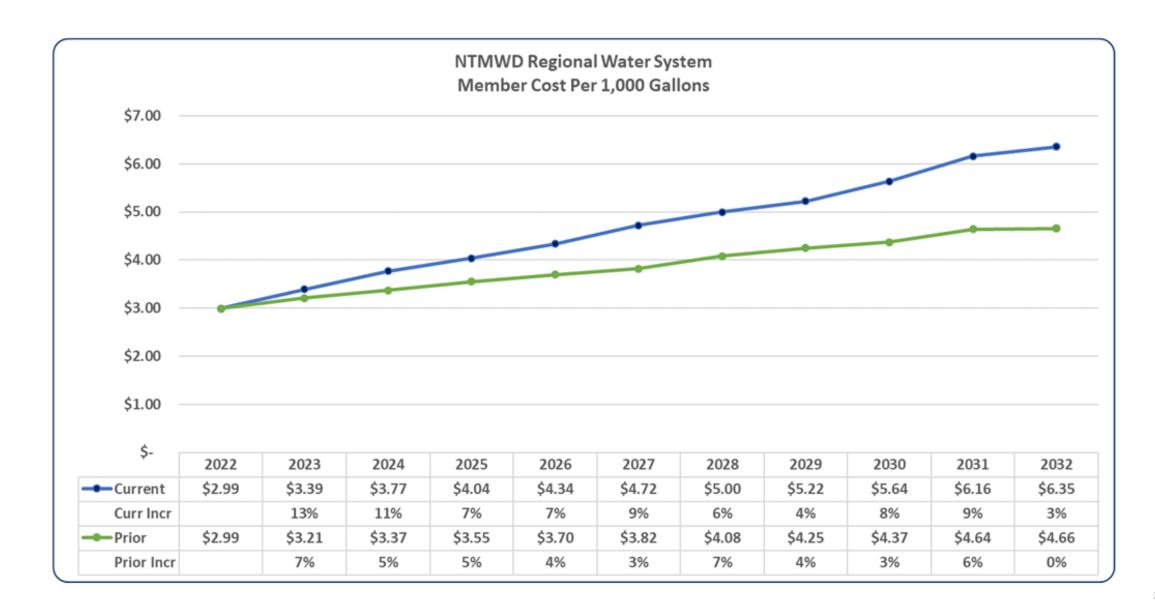
- Future Water Supply \$270MM
- Wylie WTP Construction of Thickening Facilities \$36MM

### **FY27**

- Expand Leonard WTP by 70 MGD to 210 MGD \$378MM
- Future Water Supply \$233MM



## Regional Water System Strategic Financial Plan







### **AGENDA**

### **NTMWD** at a Glance

**Major Capital Improvement Program Efforts:** 

- Bois d'Arc Lake
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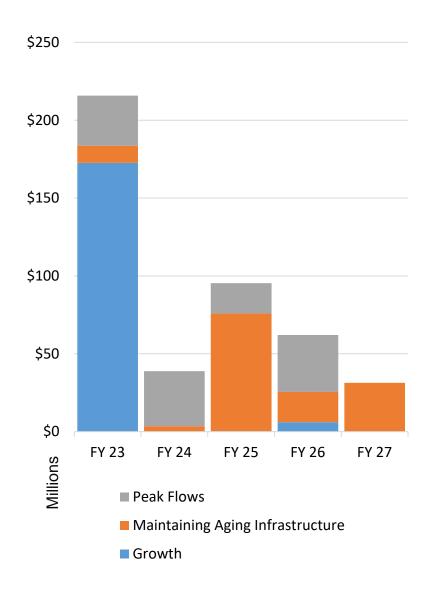
**Pretreatment Program Partnership** 

# Strategic Financial Plans for Water, Wastewater and Solid Waste

- Regional Water System
- Regional Wastewater System
- Solid Waste System



# Regional Wastewater System – Capital Improvements Program



### **Major Projects**

### **FY 23**

- Sister Grove Phase II \$99M (already funded from TWDB)
- South Mesquite Peak Flow- \$71M
- Wilson Creek \$25M

### **FY 24**

 Rowlett Creek Peak Flow Phase II - \$37M

### **FY 25**

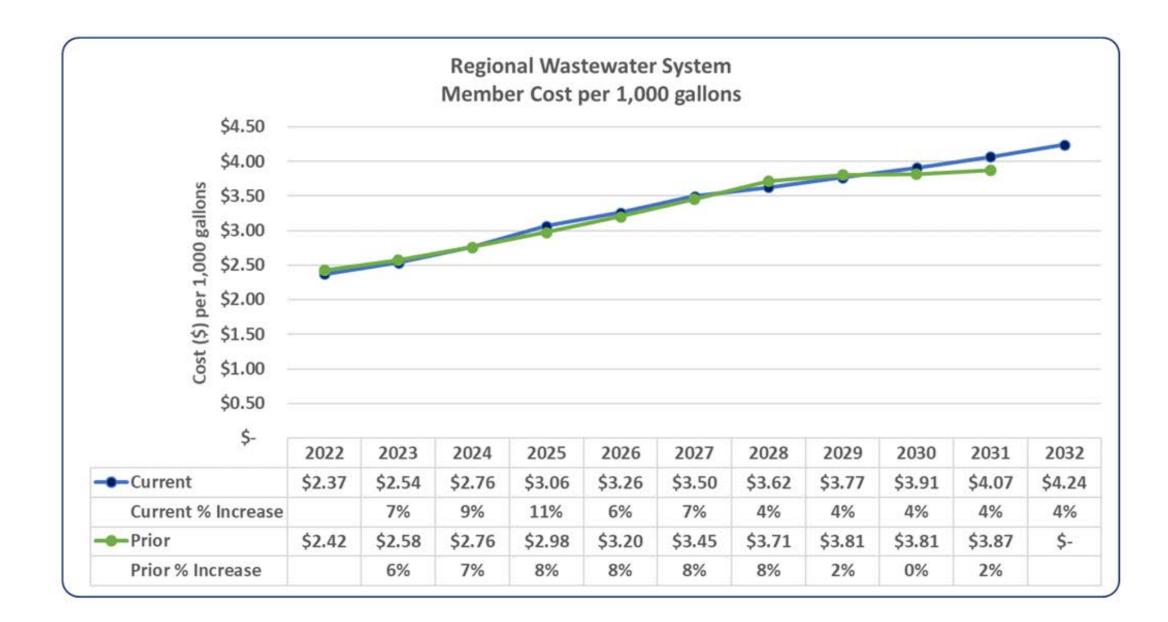
 South Mesquite Improvements -\$44M

### **FY 26**

 Rowlett Creek Peak Flow Phase III - \$37M



# Regional Wastewater System Strategic Financial Plan





# **Upper East Fork Interceptor System – Capital Improvements Program**



### **Major Projects**

### **FY 23**

McKinney East Side Extension Improvements
 \$23 MM

### **FY 24**

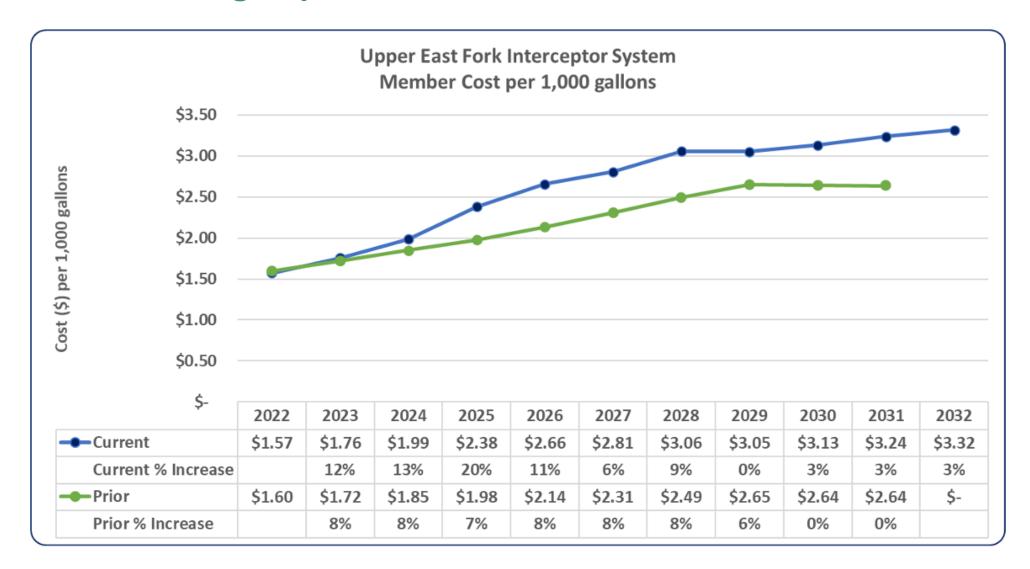
- 121 Force Main Improvements \$57MM
- Preston Road Lift Station Expansion \$44MM

### **FY 25**

121 Force Main Improvements \$59MM



# **Upper East Fork Interceptor System Strategic Financial Plan Considering Capitalized Interest**







### **AGENDA**

### **NTMWD** at a Glance

**Major Capital Improvement Program Efforts:** 

- Bois d'Arc Lake
- Regional Water System
- Regional Wastewater System
- Long Range Water Supply

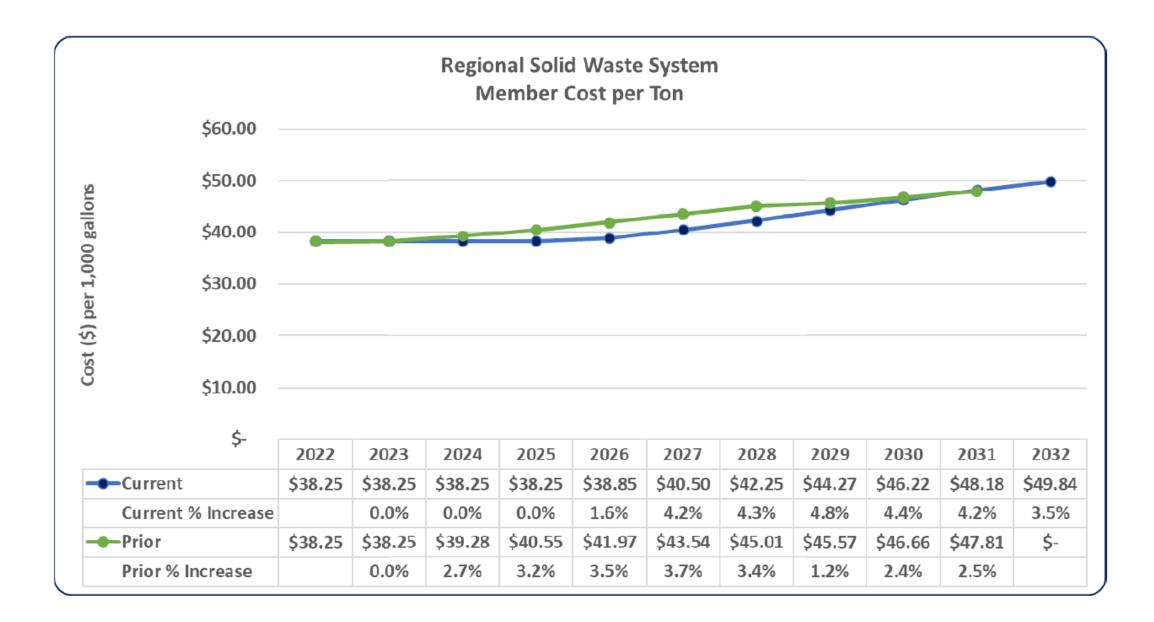
**Pretreatment Program Partnership** 

# Strategic Financial Plans for Water, Wastewater and Solid Waste

- Regional Water System
- Regional Wastewater System
- Solid Waste System



## Regional Solid Waste System Strategic Financial Plan







### **APPRECIATION OF DEDICATED SERVICE**

### **Director John Murphy**



Director for the City of Richardson from 2013 to 2022 Committee Member:

- Wastewater Committee
- Solid Waste Committee
- Finance Committee
- Legislative Committee
- Policy Committee

**Served as Chair of the Legislative Committee** 



Regional Service Through Unity... Meeting our Region's Needs Today and Tomorrow



City Council Briefing
June 6, 2022



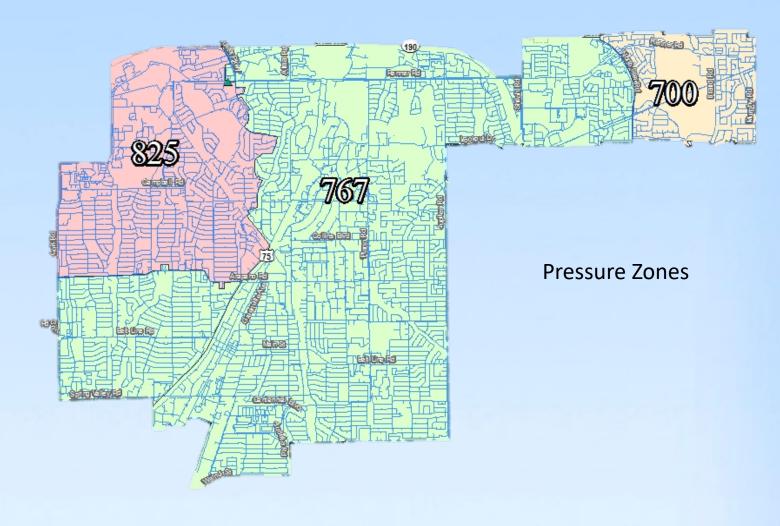
### **Infrastructure Maintenance Strategies**

- Current multi-year approach to infrastructure (water/wastewater, streets/alleys, drainage) maintenance strategy development was formalized in 2013
- Annual review by staff includes a refresh of condition and needs assessments for all key infrastructure types
- City Council "Deep Dive" briefings include:
  - Status report on current year's work plan
  - Project plan recommendations for upcoming year
  - Consideration of expanded programs and updated policies
- This important "prep" work is critical to an effective budget development process

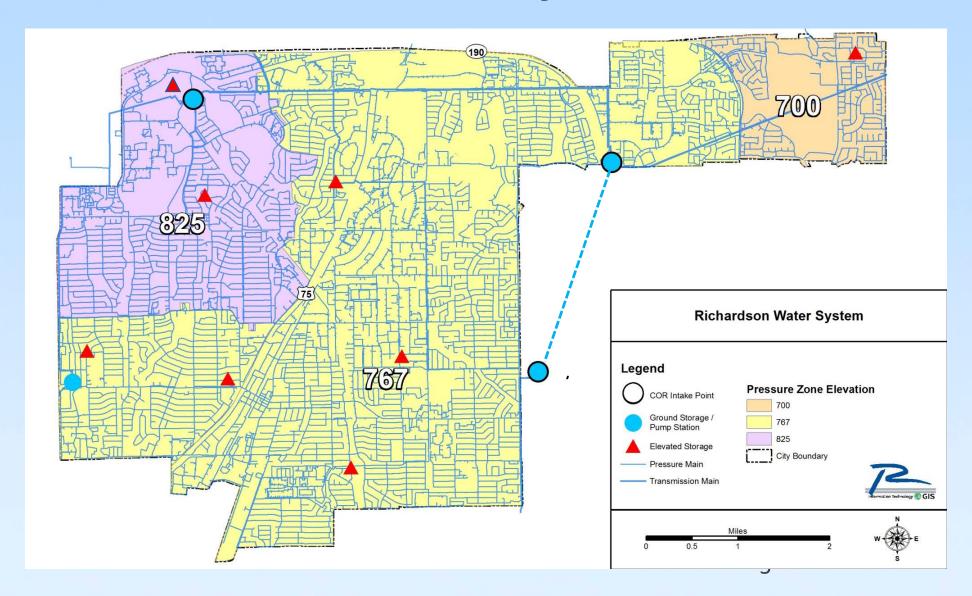


### **COR Water System Highlights**

- 578 miles of Water Main
- 14,940 Valves
- 4,777 Hydrants
- 34,950 Service Connections
- 5 Pump Stations
- 15 Water Storage Facilities
- 60 Million Gallons Per Day
- 3,955 Calls for Service
- 176 Water Leaks



# **Water Distribution System Overview**



# Water Maintenance & Capital Strategies

- Guiding Principles
  - Comply with all federal, state and local regulations
  - Efficiently and effectively manage, operate and maintain all parts of the distribution system
  - Maintain "Superior" water system rating from Texas Commission on Environmental Quality
  - Provide adequate capacity to deliver water during peak demand while transporting water through the distribution system as expeditiously as possible to ensure water quality
  - Strategic capital planning for the future demands of system
  - Continue to closely partner with NTMWD on water related projects

### **Utility Fund Operations – Maintenance Plan**

Programs	FY 19/20 (Budget)	FY 20/ 21 (Budget)	FY21/22 (Estimate)
Water Facilities (Elevated/Ground Storage/Pump)	\$359,000	\$287,000	\$373,000
Water Main Repair	\$564,000	\$567,000	\$568,000
Hydrant Repair/Replacement	\$560,000	\$364,000	\$400,000
Water Valve Maintenance	\$64,000	\$27,000	\$25,000
Water Meter Maintenance	\$176,000	\$176,000	\$150,000
Total	\$1,723,000	\$1,421,000	\$1,516,000

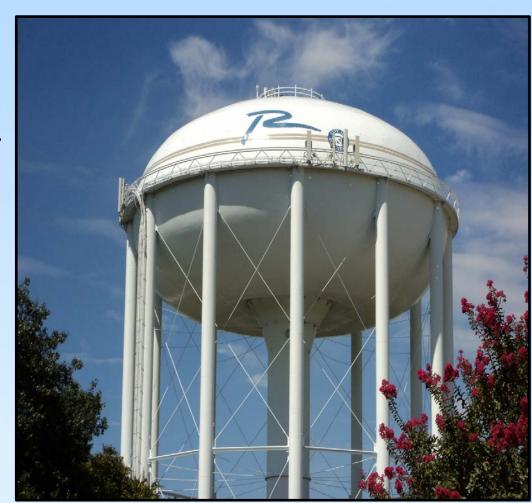
# 2021/22 Maintenance Plan Update

#### **Water Facilities Maintenance**

- Eastside Pump Station replace Pressure Regulating Valve (Completed)
- Eastside Pump Station replace discharge valve actuator (Completed)
- Northside Pump Station pump rebuild (Completed)
- Westside Pump Station Check Valve replacement (In Progress)
- Shiloh Pump Station Check Valve replacement (In Progress)

#### **Hydrant Maintenance**

- Test and service 1,000 hydrants (Complete)
- Repair/replacement (103 complete)
- Assessed 1,037 hydrants (complete)



# **Utility Fund Operations – Maintenance Plan**

Programs	FY 19/20 (Budget)	FY 20/ 21 (Budget)	FY21/22 (Estimate)	FY22/23 (Proposed)
Water Facilities (Elevated/Ground Storage/Pump)	\$359,000	\$287,000	\$373,000	\$298,000
Water Main Repair	\$564,000	\$567,000	\$568,000	\$585,000
Hydrant Repair/Replacement	\$560,000	\$364,000	\$400,000	\$460,000
Water Valve Maintenance	\$64,000	\$27,000	\$25,000	\$25,000
Water Meter Maintenance	\$176,000	\$176,000	\$150,000	\$150,000
Total	\$1,723,000	\$1,421,000	\$1,516,000	\$1,518,000

# 2022/23 Proposed Maintenance Plan

#### **Water Facilities Maintenance**

- Eastside Pump Station Pump rebuild
- Shiloh Pump Station Control Valve/Actuator replacement
- Northside Pump Station Flow Meter replacement
- Northside Pump Station Check Valve replacements
- Westside Pump Station Flow Meter replacement
- Westside Interconnect Vault rehab

#### **Hydrant Maintenance**

- Entire city has been tested and serviced
- Repair/replacement of identified hydrants





# **Utility Fund Debt Capital Plan**

Programs	FY 19/20 (Actual)	FY 20/21 (Actual)	FY 21/22 (Actual)
Water Main New/Replacement	\$2,475,000	\$1,663,000	\$1,125,000
Large Valve Replacement	\$225,000	\$250,000	\$250,000
Meter Replacement	\$1,175,000	\$1,255,000	\$2,825,000
Total CO Issuance	\$3,875,000	\$3,168,000	\$4,200,000

# 2021/22 Capital Plan Update

### Water Main Replacement

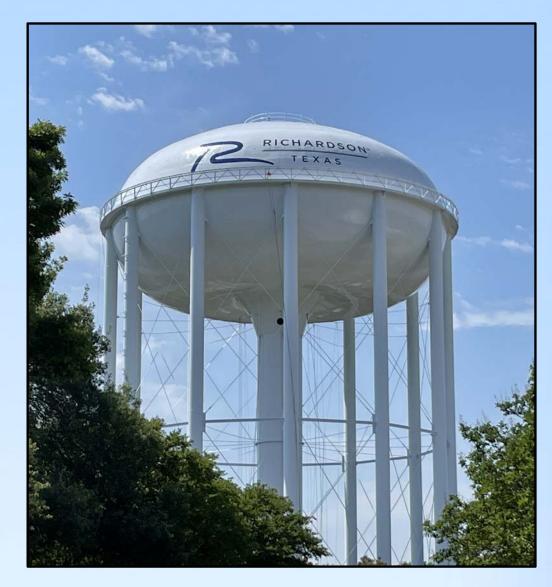
• 9 water main replacements (In Progress/Complete)

### Valve Replacement Program

 Dogwood/ Belt Line (Under Design/Construction)

### Meter Replacement Program

- Annual goal of 8,000 water meter replacements (In Progress)
- Residential meters completed in FY2022



# **Utility Fund Debt Capital Plan**

Programs	FY 19/20 (Actual)	FY 20/21 (Actual)	FY 21/22 (Actual)	FY 22/23 (Proposed)
Water Main New/Replacement	\$2,475,000	\$1,663,000	\$1,125,000	\$1,200,000
Large Valve Replacement	\$225,000	\$250,000	\$250,000	\$300,000
Meter Replacement	\$1,175,000	\$1,255,000	\$2,825,000	\$1,125,000
Total CO Issuance	\$3,875,000	\$3,168,000	\$4,200,000	\$2,625,000

# 2022/23 Proposed Capital Plan

#### **Water Main Replacement**

Scheduled water main replacement at six locations

#### **Valve Replacement Program**

Campbell at Floyd (Design/Construction)

#### **Meter Replacement Program**

- Goal of 1,500 Commercial water meter replacements
  - Pending trial run of contractor installs of commercial meters





825 Pressure Zone Water Capacity Improvements

**Capital Plan** 

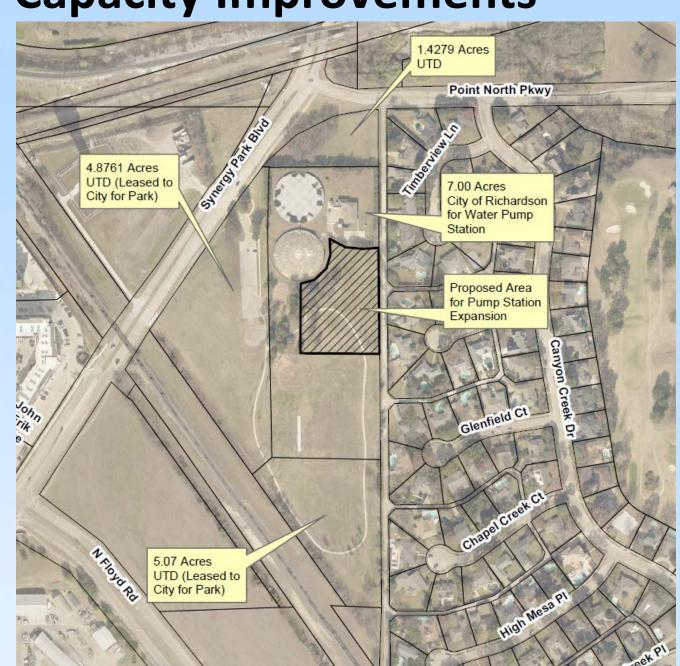
- City owned 7-acre tract purchased from UTD on Nov. 5, 1975 for water pump stations consists of:
  - Two 3-million-gallon ground storage tanks
  - Five distribution pumps
  - Three transfer pumps
  - Pumping capacity is 21 Million Gallons per Day
  - Site provides room for future expansion to address water capacity improvements



825 Pressure Zone Water Capacity Improvements

**Capital Plan** 

- 5.07-acre tract leased from UTD on November 5,
   1975, for a period of 99 years (2074) for open space use
- 4.8761-acre tract leased from UTD on December 8, 1988, for a period of 5 years (1993) for open space use. Lease automatically extended for a year after initial 5 years.
  - Lease updated on February 25, 2014. Term of new lease is 1988-2052.
- 1.4279-acre parcel is UTD property



# **Open Space Considerations**

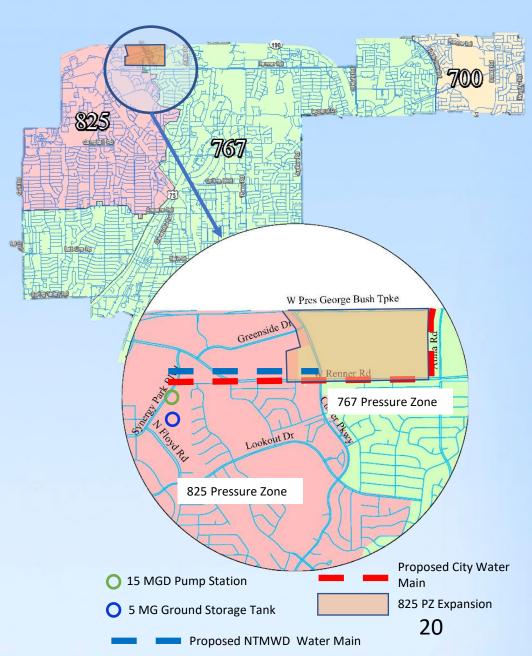
- Goals will be to maintain level of service of existing open space
- Trail will be relocated
- Ballfield will be relocated
- Maintain multi-purpose field
- Playground will be reconstructed as part of 2021 Bond Program
- Screening will be provided around pump station facilities

825 Pressure Zone Water Capacity Improvements

**Capital Plan** 

 15 MGD Northside Pump Station (NSPS) Expansion & 5 MG NSPS Ground Storage Tank (GST) (Under Design)

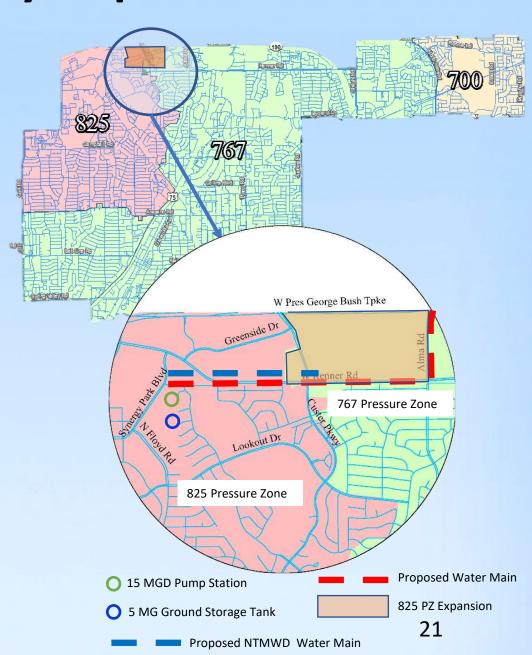
- ➤ GST construction start: Fall 2022
- NSPS construction start: Summer 2023
- Water Transmission Line from NSPS to Alma Rd (Under Design)
  - Along Renner Rd and Alma Rd
  - > 6,500 linear feet (LF) of 30-inch, 20-inch and 12-inch water mains
  - ➤ 30-inch pipeline from NSPS to Texas Instruments (TI) in service: Summer 2023
  - 20-inch line along Renner from TI to Alma & 12-inch line along Alma in service: Summer 2024



825 Pressure Zone Water Capacity Improvements

**Capital Plan** 

- Use Construction Manager At Risk (CMAR) procurement method.
- Recommend retaining one CMAR for City and NTMWD water projects based on several efficiencies.
- City Council to consider approving CMAR preconstruction services contract on July 11, 2022.
- City Council to consider authorizing Interlocal Agreement with NTMWD for the construction of 4,800 LF of 30-inch water line along Renner Road from Custer Road to the NSPS at Point North (TBD).



# 825 Pressure Zone Water Capacity Improvements Debt Capital Plan

Programs	FY 20/21 (Actual)	FY 21/22 (Actual)	FY 22/23 (Proposed)	FY 23/24 (Proposed)	FY 24/25 (Proposed)	FY 25/26 (Proposed)
Water Main	\$560,000	\$950,000	\$5,350,000	\$1,250,000	\$4,800,000	\$2,137,000
Water Facilities	\$2,400,000	\$4,500,000	\$9,925,000	\$12,150,000	\$4,925,000	-
American Rescue Plan Act (ARPA) Funding	-	(\$2,500,000)	(\$7,320,000)	-	-	-
Other Funding Sources	-	-	-	(\$5,000,000)	(\$3,000,000)	-
Total CO Issuance	\$2,960,000	\$2,950,000	\$7,775,000*	\$8,400,000*	\$6,725,000*	\$2,137,000*

<sup>\*\$48,947,000</sup> Total Project Cost- Staff will continue to evaluate opportunities to leverage funding from other sources to lower the CO issuance.



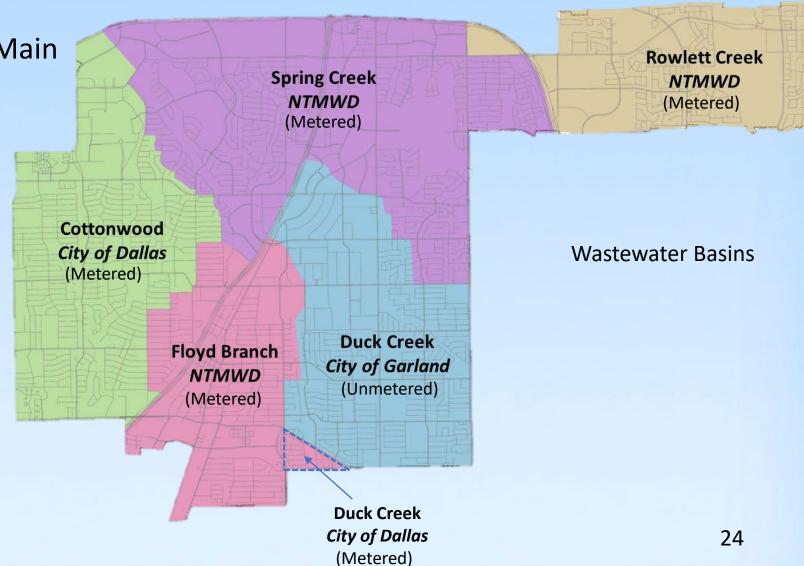
### **Wastewater System Highlights**

425 Miles of Wastewater Main

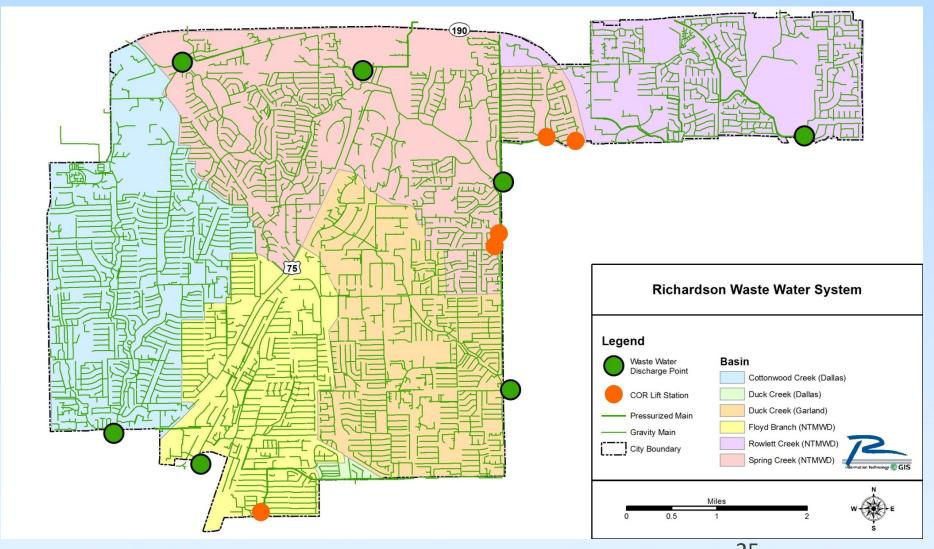
• 5,405 Manholes

• 2,200 Mainline Cleanouts

- 5 Lift Stations
- 10 Wastewater Pumps
- 1,665 Calls for Service



# **Wastewater System Overview**



# Wastewater Collection System Maintenance & Capital Strategies

- Guiding Principles
  - Comply with all federal, state and local regulations
  - Efficiently and effectively manage, operate and maintain all parts of the wastewater collection system
  - Provide adequate capacity to convey peak flows
  - Minimize the frequency of sanitary sewer overflows
  - Mitigate the impact of sanitary sewer overflows
  - Continue Capacity, Management, Operations and Maintenance (CMOM) Initiatives
  - Closely partner with NTMWD, City of Dallas and City of Garland on regional wastewater initiatives and programs

**Capacity** C Management M **Operations** 0 M Maintenance

### **Capacity**

- Flow Monitoring
  - Multiple Meters in drainage basins
  - Dependent on rainfall
- Modeling
  - Software identifies pipe segments in need of capacity upgrades
- Capital Improvement Plan (CIP)
  - Capacity
  - Priority
  - Condition



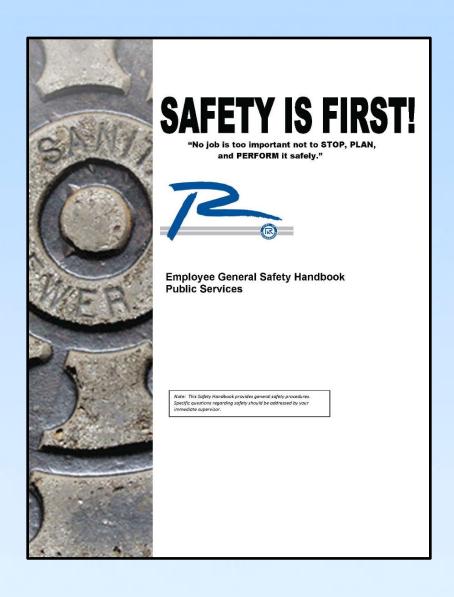
#### Management

- Components
  - Training
  - Customer Service
  - Documentation
  - Budget Allocation



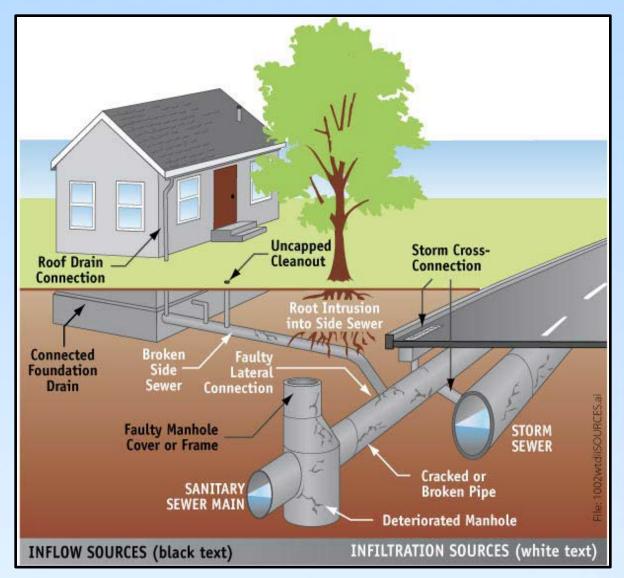
#### **Operations**

- Safety
  - Updated Standard Operating Procedures (SOP's)
  - Developed Sanitary Sewer Overflow Response Plan
- GIS Mapping
- Fats/Oil/Grease (FOG)
  - 700-800 Inspections Annually
  - FOG Manual
  - FOG Ordinance



#### Maintenance

- Condition Assessment
  - TV Inspection
  - Cleaning
  - Smoke Testing
  - Manhole Inspections
  - Lift Station Inspections
- Rehabilitation
- Equipment
  - Camera Units
  - Vac/Jet Trucks



# **Sewer Fund Operations – Maintenance Plan**

Programs	FY 19/20 (Budget)	FY 20/21 (Budget)	FY 21/22 (Estimate)
*Program  Management- Equipment and Design	\$545,000	\$748,889	\$516,892
Condition Assessment	\$1,418,000	\$2,426,624	\$1,875,100
Rehabilitation	\$309,000	\$379,541	\$902,719
*Sewer Operations	\$902,000	\$859,000	\$904,000
Total	\$3,174,000	\$4,414,054	\$4,198,711

<sup>\*</sup>Includes personnel

### 2021/22 Maintenance Plan Update

#### MAINTENANCE ACTIVITIES

- Duck Creek Basin
   Manhole Rehab
   (Ongoing, to be completed in January 2023)
- Cottonwood Basin Manhole Rehab (35 Manholes to be completed by September 2022)

#### PROJECT PRIORITIZATION

- Master Plan Update
  - Ongoing (To be completed by September 2022)

#### DATA COLLECTION

- Spring Creek Basin
   Condition Assessment
  - Smoke Testing (Ongoing, Starts June 6<sup>th</sup>, to be completed by August 2022)
  - Sanitary Sewer
     Evaluation Report (To
     be done after Smoke
     Testing)

# **Sewer Fund Operations – Maintenance Plan**

Programs	FY 19/20 (Budget)	FY 20/21 (Budget)	FY 21/22 (Estimate)	FY22/23 (Proposed)
*Program  Management- Equipment and Design	\$545,000	\$748,889	\$516,892	\$611,054
Condition Assessment	\$1,418,000	\$2,426,624	\$1,875,100	\$800,000
Rehabilitation	\$309,000	\$379,541	\$902,719	\$2,014,000
*Sewer Operations	\$902,000	\$859,000	\$904,000	\$1,020,000
Total	\$3,174,000	\$4,414,054	\$4,198,711	\$4,445,054

<sup>\*</sup>Includes personnel

### 2022/23 Proposed Maintenance Plan

#### MAINTENANCE ACTIVITIES

- Cottonwood Basin Manhole Rehab (222 Utility Holes)
- Gravity Main Pipe Rehab/Repairs
- Rainbow Drive Pipe Repairs
- Design for FY24 MH & Gravity Main Rehab Projects

#### PROJECT PRIORITIZATION

None for FY23

#### DATA COLLECTION

- Rowlett Creek Basin
   Condition Assessment
  - Smoke Testing
  - Infiltration/Inflow Analysis and Recommendations Report



# **Utility Fund Debt Capital Plan**

Programs	FY 19/20 (Budget)	FY 20/21 (Budget)	FY 21/22 (Estimate)
Wastewater Main Replacement	\$800,000	\$800,000	\$2,800,000
Utility Hole/Lift Station Replacement	\$600,000	\$600,000	\$600,000
Total	\$1,400,000	\$1,400,000	\$3,400,000

# 2021/22 Capital Improvement Plan Update

#### **Gravity Mains**

- Greenville Phase I
   (WWTP to
   Centennial): Design Phase 100% plans
- Ruth Young Park Sanitary Sewer Replacement: Construction

#### Manholes

- Cottonwood
   Manhole
   Replacement, Priority
   1: Completed
- Floyd Branch
   Manhole
   Replacement, Priority
   1: Design
- Canyon Creek Golf MH; Campbell/Plano MH; Sherman Rd MH: Design

# Sewer Improvements – Other Fund Sources

- North Glenville Drive:
   Design
- Fontana and West
   Shore Drive Alley and
   Utility
   Reconstruction:
   Construction
   Complete
- Custer Rd (Arapaho to Campbell):
   Construction
- St Paul Court Alley: Construction

# 2021/22 Capital Projects Photos

# RUTH YOUNG PARK SEWER LINE





# CUSTER ROAD (ARAPAHO TO CAMPBELL)





# **Utility Fund Debt Capital Plan**

Programs	FY 19/20 (Budget)	FY 20/21 (Budget)	FY 21/22 (Estimate)	FY22/23 (Proposed)
Wastewater Main Replacement	\$800,000	\$800,000	\$2,800,000	\$3,500,000
Utility Hole/Lift Station Replacement	\$600,000	\$600,000	\$600,000	\$1,000,000
Total	\$1,400,000	\$1,400,000	\$3,400,000	\$4,500,000

### 2022/23 Proposed Capital Improvement Plan

#### **Gravity Mains**

- Greenville Phase I (WWTP to Centennial): Construction
- 1200 Blk Hampshire Lane Alley: Construction

#### Manholes

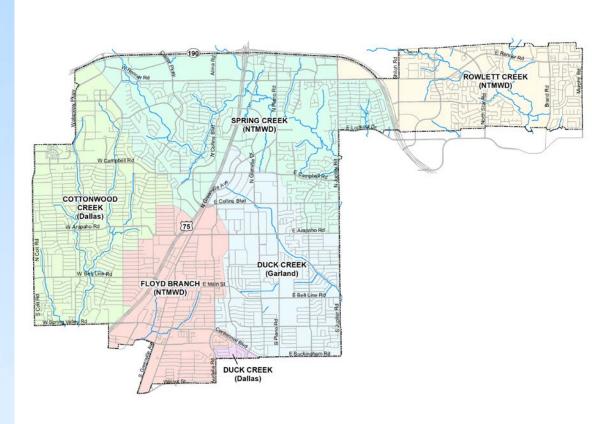
- Floyd Branch Manhole (MH) Replacement,
   Priority 1: Construction
- Duck Creek Manhole Replacement, Priority 1: Design
- Canyon Creek Golf MH; Campbell/Plano MH; Sherman Rd MH: Construction

# Sewer Improvements – Other Fund Sources

- North Glenville Drive:
   Construction
- West Prairie Creek:
   Construction
- McKinney Street
   Reconstruction:
   Construction

#### **Industrial Pre-Treatment Program**

- The pretreatment program is designed to prevent industrial wastewater discharges from adversely affecting the local Publicly Owned Treatment Works (POTW) infrastructure, operations, workers, and the environment.
- The City's Sanitary Sewer System consists of five (5) sanitary sewer drainage basins that discharge to City of Dallas, City of Garland, and the North Texas Municipal Water District (NTMWD).
- City of Dallas 0 permitted Industries
   City of Garland 4 permitted Industries
   NTMWD 3 permitted Industries



#### **Industrial Pre-Treatment Program**

- NTMWD will assume administration of the program for all industries in Richardson
- NTMWD has a high level of expertise in a heavily regulated program
- Standard agreement with other customer cities
- Approximate cost of \$150,000 annually
- A proposed fee for permitted industries to help recover costs related to this program will be discussed during Budget Retreat

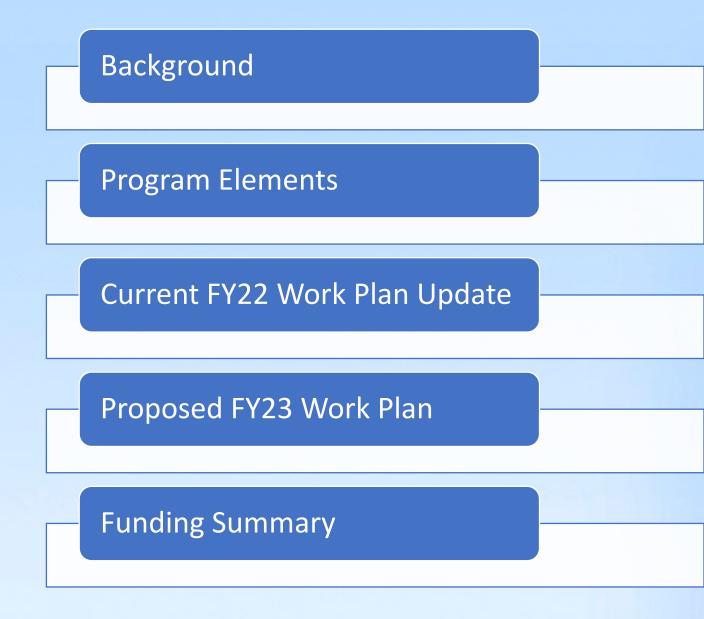




# DRAINAGE UTILITY PROGRAM UPDATE

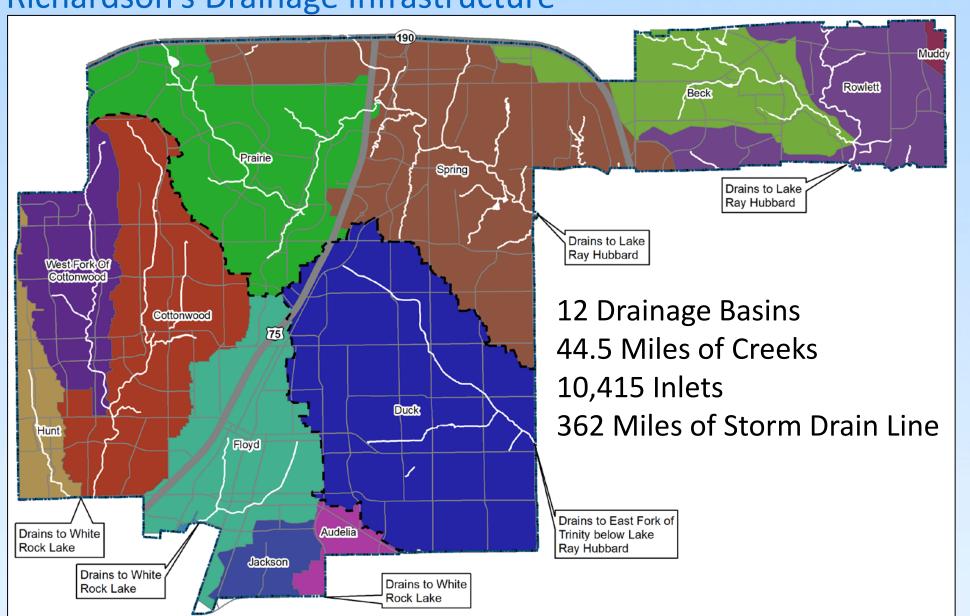
City Council Briefing: June 6, 2022

# Drainage Utility Program Presentation Overview



### **Background**

Richardson's Drainage Infrastructure



#### **Background**

#### **Drainage Infrastructure Funding Elements**

- Maintaining and Improving Richardson's Drainage Infrastructure involves multiple programs and funding sources that include:
  - Drainage Utility Program
  - G.O. Bond Programs
  - Annual C.O. Programs
  - Private Development
  - Partnerships with other State and Local Agencies including but not limited to
    - Texas Water Development Board
    - Dallas County
    - UTD
- The focus of this presentation is on the Richardson Drainage Utility Program

#### Established - November 2011

# Background Drainage Utility

#### Purposes:

- Continue to sustain the City's environmental and regulatory obligations for stormwater management
  - Public education and outreach
  - Illicit discharge detection and elimination
  - Construction site stormwater pollution prevention
  - Post construction pollution prevention
  - Floodplain management
- Enhance maintenance, capital work plans and services in response to community needs
- Allocate cost of services through an equitable rate method

# **Drainage Utility Program**



#### **City Operations**

- System Maintenance and Storm Preparation & Response
- TCEQ Permit Compliance
- Street Sweeping
- Floodplain Management
- Public Education/Outreach



#### **Contract Services**

- Open Channel Maintenance
- Litter Abatement
- Storm Drain Inspection & Cleaning
- Storm Drain Pipe Repairs
- Studies & Assessments
- Street Sweeping



#### **Projects**

- Flood Prevention
- Erosion Protection

# City Operations – System Maintenance, Storm Preparation & Response

City Forces, through scheduled work plans, advanced storm warnings and Service Requests received during or after storm events

- Clear debris from bridges and culverts following storm events
- Remove debris from storm inlets
- Repair damaged storm drainpipes
- Remove litter from City Parks, Rights of Way and Park lakes
- Close roadways in the event of high water
- Provide sandbags at known/reported flooding



Texas Commission on Environmental Quality requires stormwater discharge permit for all City's within urbanized areas

# City Operations – TCEQ Permit Compliance

Permits are issued for a term of five years

New permit term renewal is January 2024

#### Six minimum control measures

- Public Education, Outreach, Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post-construction Stormwater Management
- Pollution Prevention, Good House Keeping for Municipal Operations
- Industrial Stormwater Sources

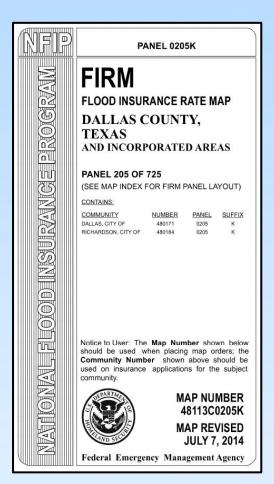
## **City Operations – Street Sweeping**

- Litter and sediment removal and disposal
- Public building parking lots, Parks trails and parking areas
- Sweeping after ice events to remove sand



# City Operations – Floodplain Management

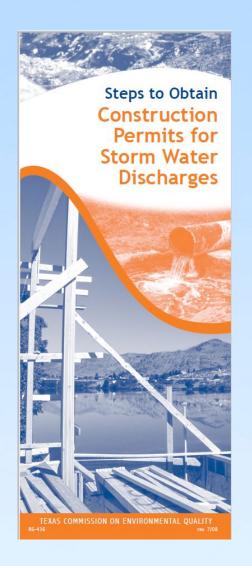




Administering the local portion of the National Flood Insurance Program and assisting residents in interpreting map data.

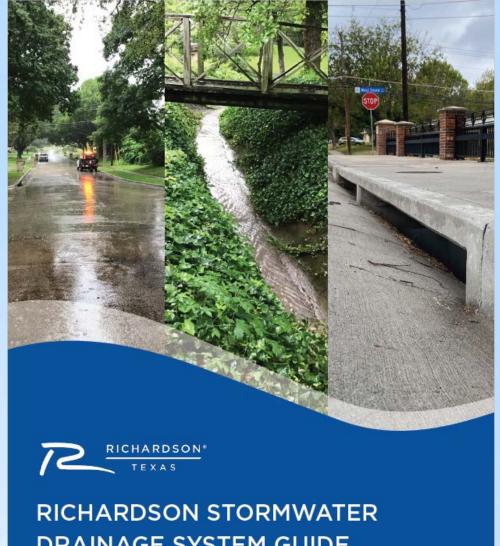
# City Operations - Public Education/Outreach

- Provide flood insurance/ flood risk information to the public
- Advise residents with lot grading and drainage concerns
- Advise property owners regarding erosion protection measures
- Provide information regarding stormwater pollution prevention measures



# City Operations - New Stormwater Drainage System Guide

- Requested by Council in budget workshops last summer
- Guide finalized in Spring 2022
- Customer Education Focus
  - Overview of City's storm drain system and watersheds
  - Describes expectations for drainage in streets
  - Helpful tips to promote better drainage
  - Erosion mitigation along creeks and waterways
  - Do's and Don'ts



DRAINAGE SYSTEM GUIDE

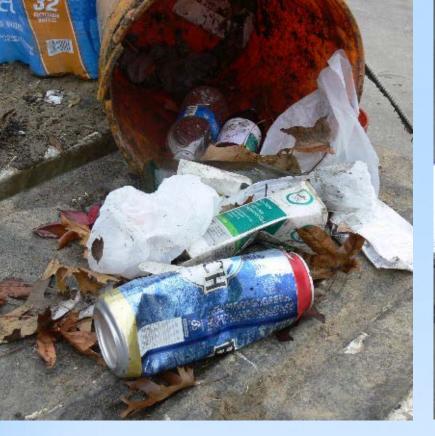
Download link:

https://www.cor.net/departments/health-department/environmental-health/stormwater/ stormwater-resident-s-guide

# **Contract Services –** Open Channel Maintenance

- Maintain the capacity of the City's open drainageways
- Remove sediment, debris, and wooded vegetation from culvert, bridges, city owned gabions, and concrete channels
- Repair damaged storm drain outfalls
- Repair concrete channels and city owned gabions









# Contract Services – Litter Abatement

- Program started in 2016 to capture debris near the source with inlet filter baskets
- Baskets capture sediment and litter yet allow storm water to pass and are emptied on a regular basis
- Locations are selected based on land use and area served
- Can also be used during construction activity

# Contract Services – Storm Drain Pipe

# Inspection and Cleaning

Storm Drain Pipe Inspection and Cleaning utilizes CCTV camera within the storm drain

- Inspect pipes, culverts, junction boxes and inlets
- Remove debris to maintain capacity
- Assess pipe condition
- Locate obstructions
- Identify repair needs for pipes, joints, connections, etc.





### Contract Services – Storm Drain Pipe Repairs

#### **Storm Drain Pipe Repairs**

- Repairs are time consuming and often require considerable coordination
- Engineering Design Services
- Franchise Utility Coordination

Contract to fix point repairs (damaged pipe, segmented joints, etc.)



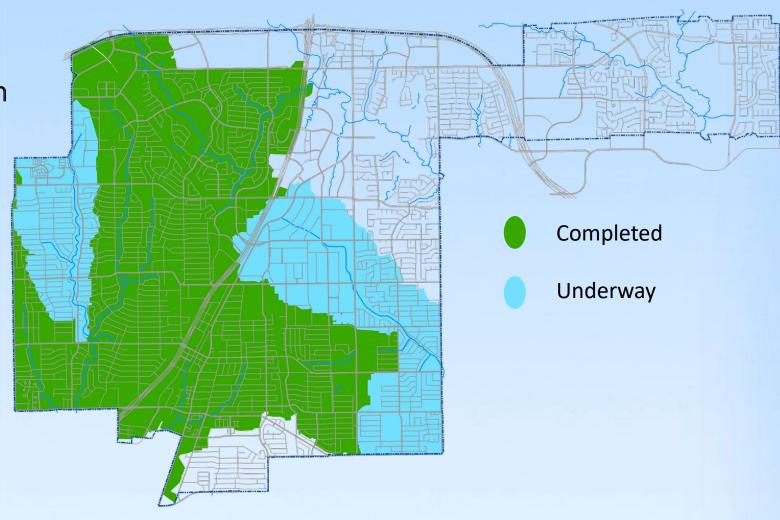
**Before** 



**After** 

#### **Contract Services –** Studies and Assessments

- Watershed Studies identify flooding concerns and mitigation
- Update Flood Insurance Maps
- City wide creek bank erosion assessments
- City lake assessments
- Studies Underway:
  - Duck Creek watershed (Phase 1)
  - West Fork of Cottonwood Creek watershed



## **Contract Services – Street Sweeping**

- Contract monthly sweeping of primary roadways
- Litter and sediment removal and disposal
- Swept nearly 1,000 curb miles, removing an estimated 70 tons of sediment as of April 30, 2022
- Sweeping streets after ice events to remove sand



# Drainage Utility Program Update Current FY22 Work Plan

#### **Current FY22 Work Plan**

# Contract Services Open channel maintenance

#### Fall 2021 Project Completed

- Cottonwood Creek upstream of Wisteria Way Storm debris removal
- Sherrill Park Woody vegetation cleared from 1,300 linear feet of gabion walls
- Texas Street Channel cleared debris from 2,000 linear feet of concrete lined open channel + cleaned 1,500 linear feet of 3barrel box culverts

#### Remaining Projects Programmed for FY 2022

- Sediment removal within culvert & upstream of culvert intake
   Sharps Farm lake
- Vegetation removal on gabions along Cottonwood Creek at intersection with Beltline Rd
- Flood mitigation West Fork of Cottonwood Creek between Campbell Rd and Arapaho Rd





**Texas Street Channel** 

#### **Current FY22 Work Plan**

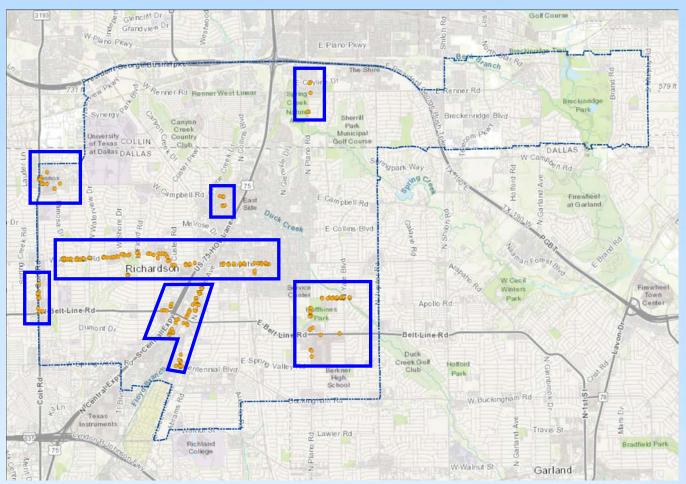
#### **Contract Services**

#### Litter abatement program

- 207 unique inlets have been cleaned at least once as of April 30, 2022
- Inlet basket locations adjusted throughout the year based on level of debris production
- Debris Collection Metrics:

FY	Projected	Actual	
2021	26,000 lbs	30,145 lbs	

FY	Projected	Actual / To Date	Total Estimated
2022	36,000 lbs	20,055 lbs	56,055 lbs



#### **Current FY22 Work Plan**

#### **Contract Services**

#### **Storm Drain System Inspection and Cleaning**

**FY21 Completed** 

Pipe inspection 21,000 feet

Pipe cleaning 600 feet

FY22 Estimated

Pipe inspection 24,000 feet

Pipe cleaning 600 feet





# Current FY22 Capital Projects Work Plan

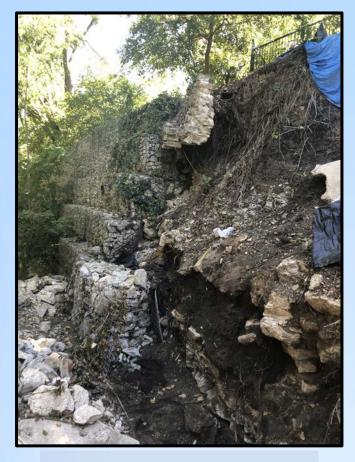
# Funding: Drainage Fund

#### **CAPITAL PROJECTS**

PROJECTS	SCHEDULE
Cambridge & Floyd Culverts at Nantucket Channel	Complete Construction Fall 2022
Beck Branch Storm Drain Outfall/Erosion	Began Construction Spring 2022
West Fork and Cottonwood Creeks Detention Basin Design (at UTD)	Begin Construction Fall 2022
West Fork Gabion Maintenance	Began Construction Spring 2022
Cherrywood Dr and Beltline Rd Culverts at Hunt Branch	Begin Construction Summer 2022
Lois Branch Flood Prevention Study *	Began Study Spring 2022
2801 Wyndham Lane Drainage Relief *	Begin Construction Summer 2022
300 Thompson Drive Drainage Relief *	Begin Construction Summer 2022

<sup>\*</sup> Denotes projects arising from the May 2021 storm event

# **Current FY22 Capital Projects Work Plan**



West Fork Gabion Maintenance



2801 Wyndham Lane Drainage Relief



Hunt Branch at Cherrywood Drive Culvert



Nantucket Branch Channel Improvements

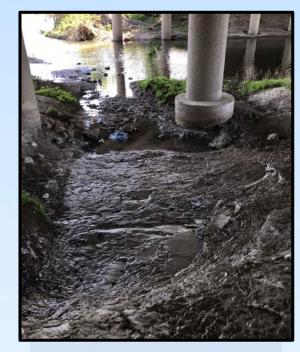
# Current FY22 Capital Projects Work Plan

Funding:
Other Sources

# Jupiter Road at Spring Creek Bridge Repairs & Slope Stabilization Complete Construction Spring 2022. Lawnmeadow Drive Drainage Relief (Phase 1) Complete Design Winter 2023. Begin Construction Spring 2023. Renner Road Bridge Repairs over Prairie Creek Complete Design Spring 2022. Begin Construction Summer 2022. Sherrill Park Golf Course Erosion, Course 1 Holes 1 & 16 Completed Construction April 2022 Sherrill Park Golf Course Erosion, Course 2 Hole 11 Completed Construction April 2022

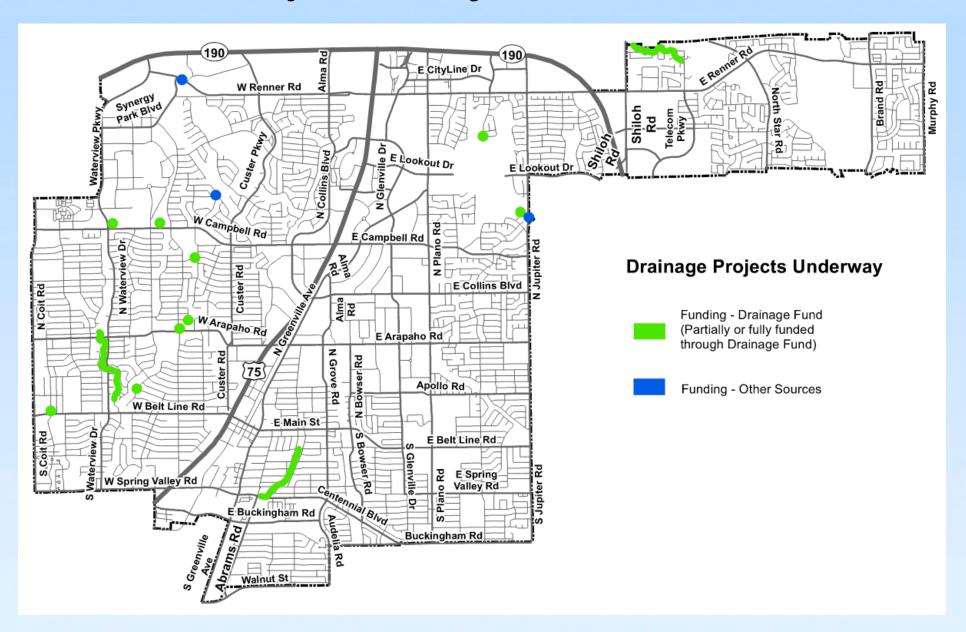


Jupiter Road Bridge Slope Stabilization



Renner Road Bridge Repairs

# **Current FY22 Capital Projects Work Plan**



# Drainage Utility Program Update Proposed FY23 Work Plan

## **Proposed FY23 Drainage Utility Program Work Plan**

#### Street Sweeping

Maintain current funding level

#### Litter Abatement

Increase current funding level

# Open Channel Maintenance

Increase current funding level

# Storm Pipe Inspection, Cleaning

Increase current funding level

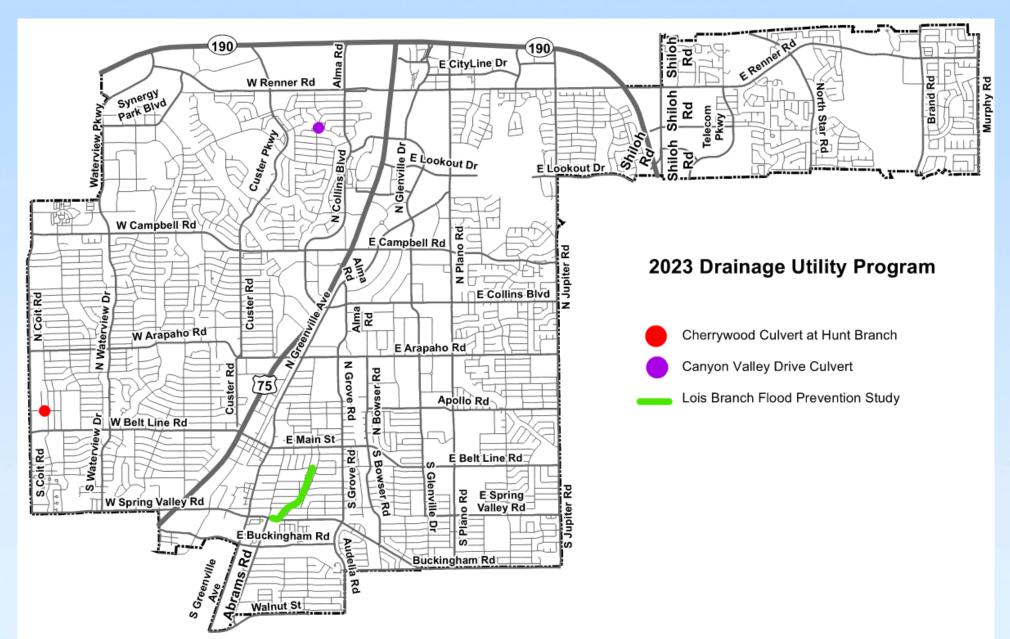
#### Watershed Study

- Duck Creek Phase II (Lower Duck Creek)

#### **Capital Projects**

- Lois Branch Ph 1 Drainage Design
- Canyon Valley Drive Drainage
   Supplement
- Cherrywood Culvert at Hunt Branch
   Supplement

## **Proposed FY23 Capital Projects Work Plan**



## **Proposed FY23 Drainage Utility Work Plan**

Category No.	Category	FY19/20	FY20/21	FY21/22	FY22/23 (Proposed)
1	City Operations	\$830,000	\$830,000	\$830,000	\$910,000*
2	Contract Services	\$957,000	\$1,000,000	\$1,008,000	\$1,145,000*
3	Projects	\$1,004,000	\$1,102,000	\$1,050,000	\$850,000
	Total [1 + 2 + 3]	\$2,827,000	\$2,932,000	\$2,888,000	\$2,905,000

<sup>\*</sup>Increase due to inflation

# **Drainage Utility Program Funding Summary**

- Current rate was established by Council in December 2011 and has generated approximately \$2,900,000 annually since inception.
- Operational and Contract Expenses primarily support Regulatory Requirements and have steadily increased year over year.
- Capital Project budgets have been steadily reduced to sustain operational and contract services.
- Capital Project expenses have steadily increased as well.





# **Proposed FY23 Drainage Utility Work Plan**Next Steps

- Continue delivery of the Drainage Utility Plan
- Comply with the TPDES/TCEQ Permit
- Review the Drainage Utility Fee at Budget Meetings



# RICHARDSON

TEXAS



City Council Work Session June 6, 2022

Program Enhancements

### 2021-2023 Council Goal

#### Goal:

Improve access, usability, and user experience with policies, processes, and procedures

#### Tactic:

Review Richardson CARES curriculum for opportunities to enhance citizen understanding of policies, processes, and procedures

#### Overview

- Program History
- Review Process
- 2022 Program Enhancements
- 2022 Class Schedule
- Review Application Process
- Next Steps

# Identified as a tactic from the 2017-2019 City Council Goals

- For Richardson to be a place where people are proud to live, work, invest, and ENGAGE in the community.
- To have stakeholders choose Richardson as the best place in the region to locate, CONTRIBUTE, and PARTICIPATE.

**Strategy:** Increase the sense of community and citizen engagement

**Tactic:** Develop a citizen academy



# CARES

Citizens Academy Resource & Education Series

# CARES Program Implemented in 2018

#### **Program Goals:**

- Designed to provide an opportunity for stakeholders to directly access and witness their local government at work
- Provide participants a better understanding and knowledge of the structure and function of the City
- Offer a meaningful and engaging program in which participants meet city staff, learn about the day-to-day operations, and discover ways to contribute and be an active participant in their local government



- 50 applicants
- 25 class members selected
- 6 weeks
- Class was successful in meeting program and Council goals
  - 1 class member was later selected for a City board position
  - 1 class member was a 2019 City Council candidate
  - 1 class member was a 2021 City Council candidate



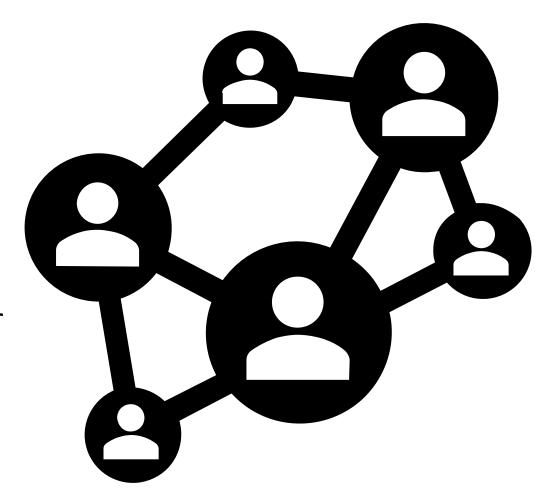
- 25 class members selected; final roster of 23
- Increased to 7-week class
- Class was successful in meeting program and Council goals
  - 2 class members were later selected for City board positions
  - 1 class member was a successful City Council candidate and now a sitting Councilmember



- 20 applicants
- 20 class members selected; final roster of 14
- 7-week class
- Class was successful in meeting program and Council goals
  - 1 class member was a 2021 City Council candidate

#### Successful Outcomes

- 105 Applicants
- 62 Graduates
- 3 Boardmembers
- 3 City Council Candidates; 1 Councilmember
- Various other community connections
  - Citizens Fire Academy
  - Citizens Police Academy
  - Volunteers in Police Service



Consider 8-week program

So much beneficial information...needed more time for questions and answers

Class Member Feedback...

I really enjoyed the information about the police department and to meet the people at the leadership level. Fascinating tour of the facility — needed more time!

I wish we had more time for some of the sessions!

Need additional, longer sessions

# Program Review for

2022

#### Opportunity to Enhance CARES

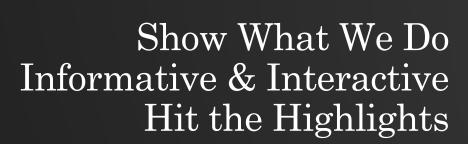
- Reviewed surveys
- Reviewed session presentations and schedules
- Asked departments to brainstorm with their team and consider these factors:
  - "Show" what we do vs. "Tell"
  - Informative and Interactive
  - Hit the highlights
  - Use various presentation methods, demonstrations, tours, etc.
  - Evaluate schedule















#### New in '22

## Program Enhancements

- More sessions
- Increased session time
- Added session for City-project tours
- Including standard department statistics and organizational charts
- Variety in session presentations and activities
- Focused session on volunteer opportunities

#### **Program Enhancements**







5:30 – 9 Thursdays



Designated Police Night



Designated Fire Night



Increased
Public
Service
Session



Saturday Morning Project Tour

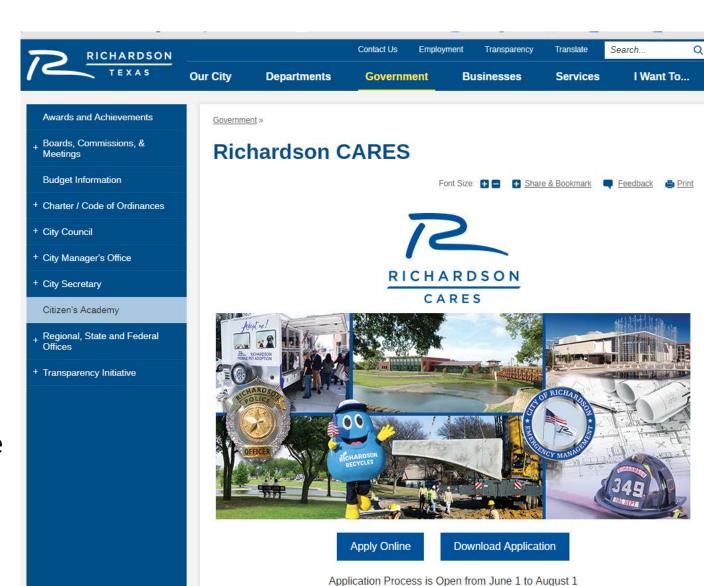


Focused
Session for
Volunteer
Opportunities

SESSION/DATE PROGRAM		PROGRAM	LOCATION
1	SEP 1	THE RICHARDSON WAY CITY MANAGER, BUDGET, HUMAN RESOURCES, CITY SECRETARY	CITY HALL
2	SEP 8	PLAN OUR WORK; WORK OUR PLAN TRANSPORTATION & MOBILITY, DEVELOPMENT SERVICES	SERVICE CENTER
3	SEP 15	HEALTH, SAFETY, AND COMMUNITY HEALTH, EMERGENCY MANAGEMENT, COMMUNITY SERVICES, MUNICIPAL COURT	FIRE TRAINING CENTER
4	SEP 22	RICHARDSON PD – A HIGHER CALIBER POLICE DEPARTMENT	POLICE HEADQUARTERS
5	SEP 29	BUILDING, MAINTAINING, & SERVING RICHARDSON CAPITAL PROJECTS/ENGINEERING, PUBLIC SERVICES	SERVICE CENTER
6	OCT 6	RICHARDSON FD – AT YOUR FULL-SERVICE RESPONSE FIRE DEPARTMENT	FIRE TRAINING CENTER
7	OCT 13	PREP & READ – PARKS, RECREATION, EVENTS, PROGRAMS & READ, ENJOY, AND DISCOVER PARKS & RECREATION, LIBRARY	SENIOR CENTER
*	OCT 15	* OPTIONAL SESSION	PROJECT LOCATIONS
8	OCT 20	INFORMATIVE, CREATIVE COMMUNICATIONS & PERFORMING ARTS & ENTERTAINMENT COMMUNICATIONS, EISEMANN CENTER	EISEMANN CENTER
	OCT 24	COUNCIL RECEPTION & GRADUATION	CITY HALL

#### **Program Promotion & Application Process**

- Program promotion in June
- Applications accepted Jun 1 Aug 1
- Eligibility:
  - Minimum age of 18
  - People who live, work, or own a business in the City of Richardson
  - Current Students of UTD, Richland, or another Richardson campus
- Maximum of 25 Class Members will be selected based on:
  - Application submission date
  - Selection from a diverse range of demographical information such as age groups, areas of the City



## Next Steps







Questions?

CARES 2022

