



City of Colleyville City Council Worksession Agenda

City Hall
100 Main Street
Colleyville, Texas 76034
817.503.1000
www.colleyville.com

Thursday, August 25, 2016
6:00 p.m.

Executive Conference Room
Third Floor - City Hall

1. CALL TO ORDER

2. EXECUTIVE SESSION - In accordance with Texas Government Code, Chapter 551, Subchapter D

551.071- Consultation with and legal advice from the City Attorney regarding Trinity River Authority Contracts

3. PRESENTATION AND DISCUSSION

3a Discussion of Water and Wastewater Services from Trinity River Authority

4. ADJOURNMENT

I hereby certify this agenda was posted on City Hall bulletin boards Friday, August 19, 2016 by 5:00 p.m.

Amy Shelley, TRMC
City Secretary

A quorum of any Colleyville board, commission, or committee may be present at this meeting.

Any matter on this agenda may, at the discretion of the governing body, be opened for public comment and discussion.

If you plan to attend this public meeting and have a disability that requires special accommodations, please advise the City Secretary at least 48 hours in advance at 817.503.1133, and reasonable accommodations will be made to assist you.



City of Colleyville Colleyville City Council Worksession Agenda Briefing

City Hall
100 Main Street
Colleyville, Texas 76034
www.colleyville.com

Agenda Number 3a	Agenda Date 08/25/2016	Number
Type Presentation and Discussion		
Department City Council		

Title

Discussion of Water and Wastewater Services from Trinity River Authority

Explanation

Fiona Allen, Trinity River Authority Northern Region Manager, will be present at the worksession to give the attached presentation "City of Colleyville Water and Wastewater Treatment Services" and answer questions of the City Council.

Attachments

1. City of Colleyville Water and Wastewater Treatment Services - TRA Presentation
2. TCWSP Master Plan Update Presentation
3. CRWS Capital Plan Status Report
4. TCWSP - 2017 BUDGET (WATER)
5. CRWS - 2017 BUDGET (WASTEWATER)



Trinity River Authority of Texas

Enriching the Trinity basin as a resource for Texans

City of Colleyville Water and Wastewater Treatment Services

August 25, 2016

Wastewater Treatment ▪ Water Treatment ▪ Water Storage ▪ Lake Livingston ▪ Recreation



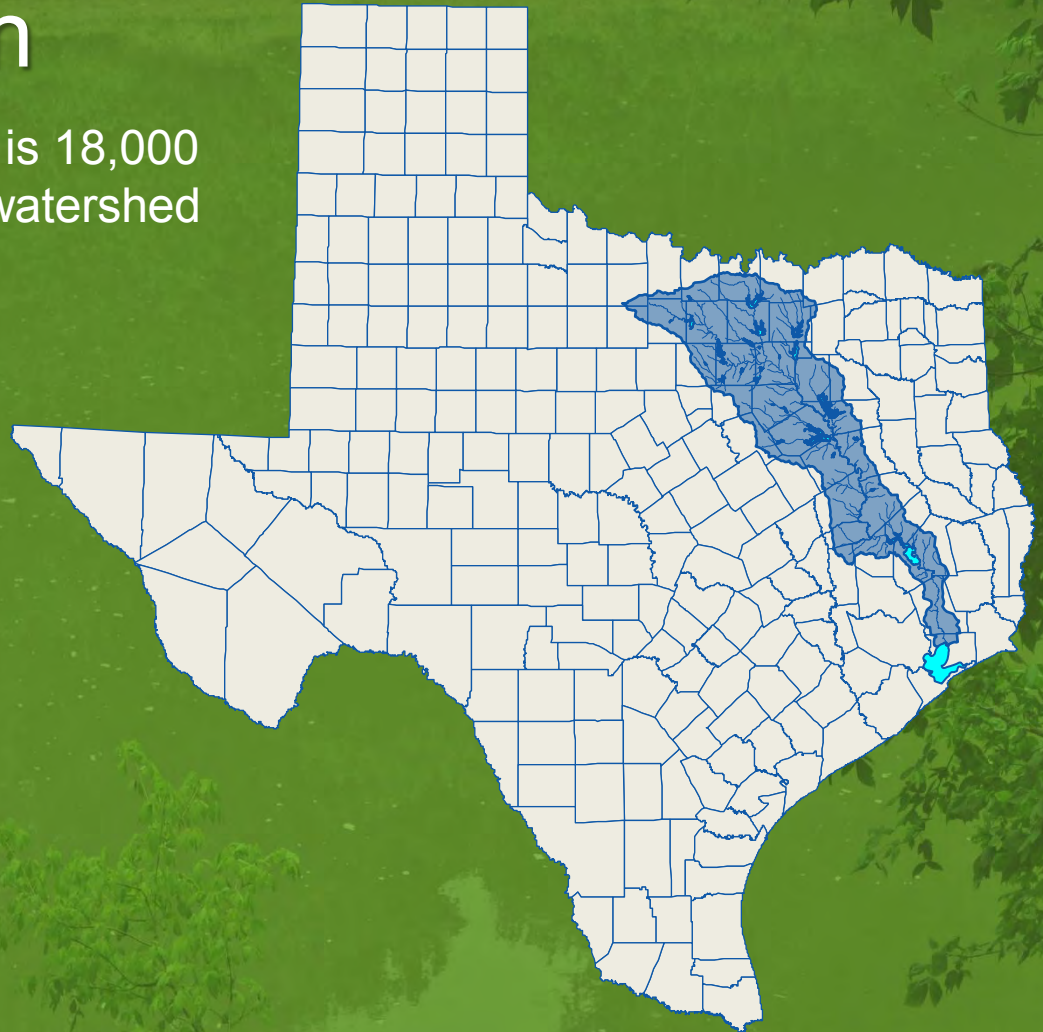


Introduction to TRA



Trinity River Basin

- The Trinity River is 18,000 square miles of watershed

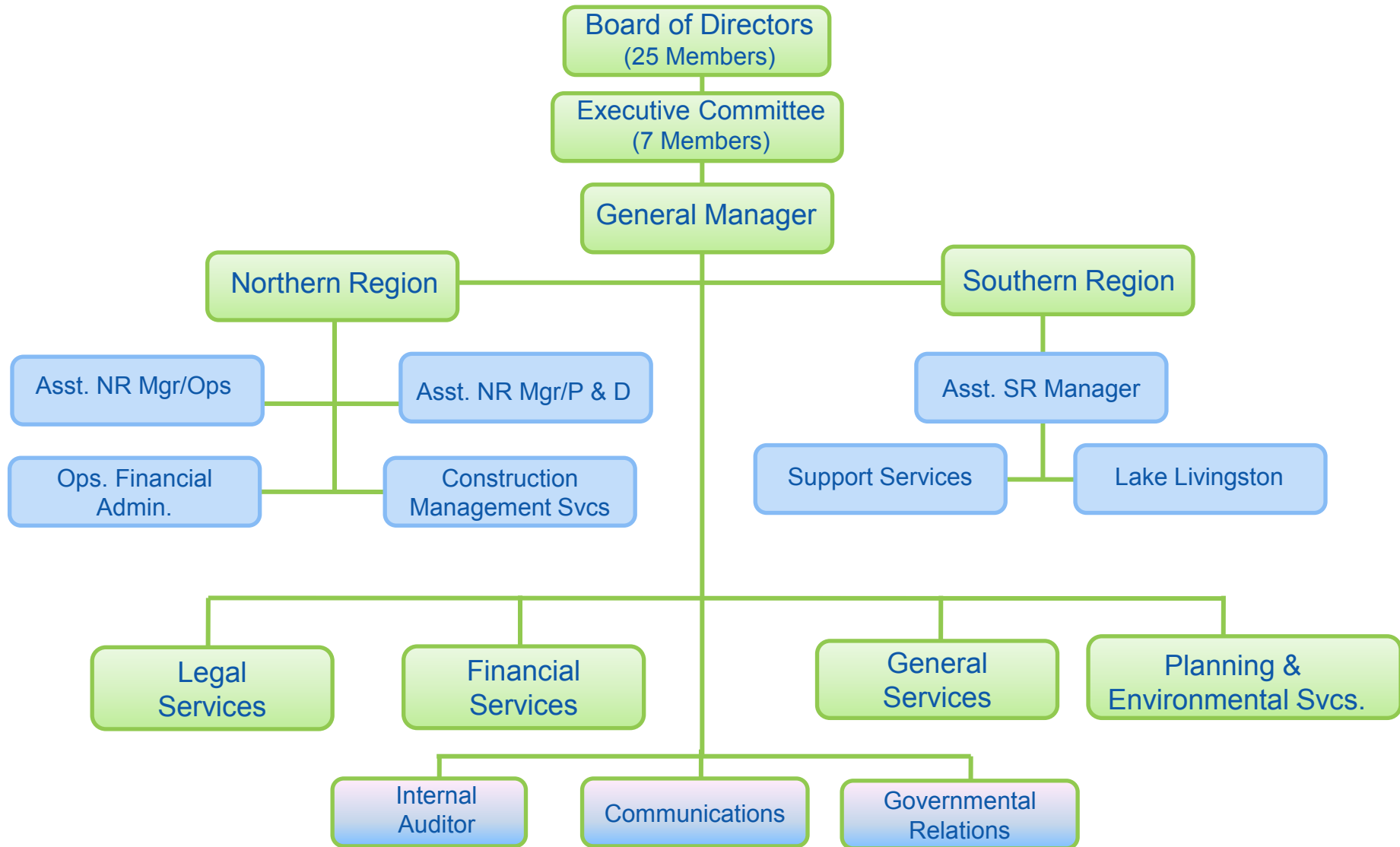


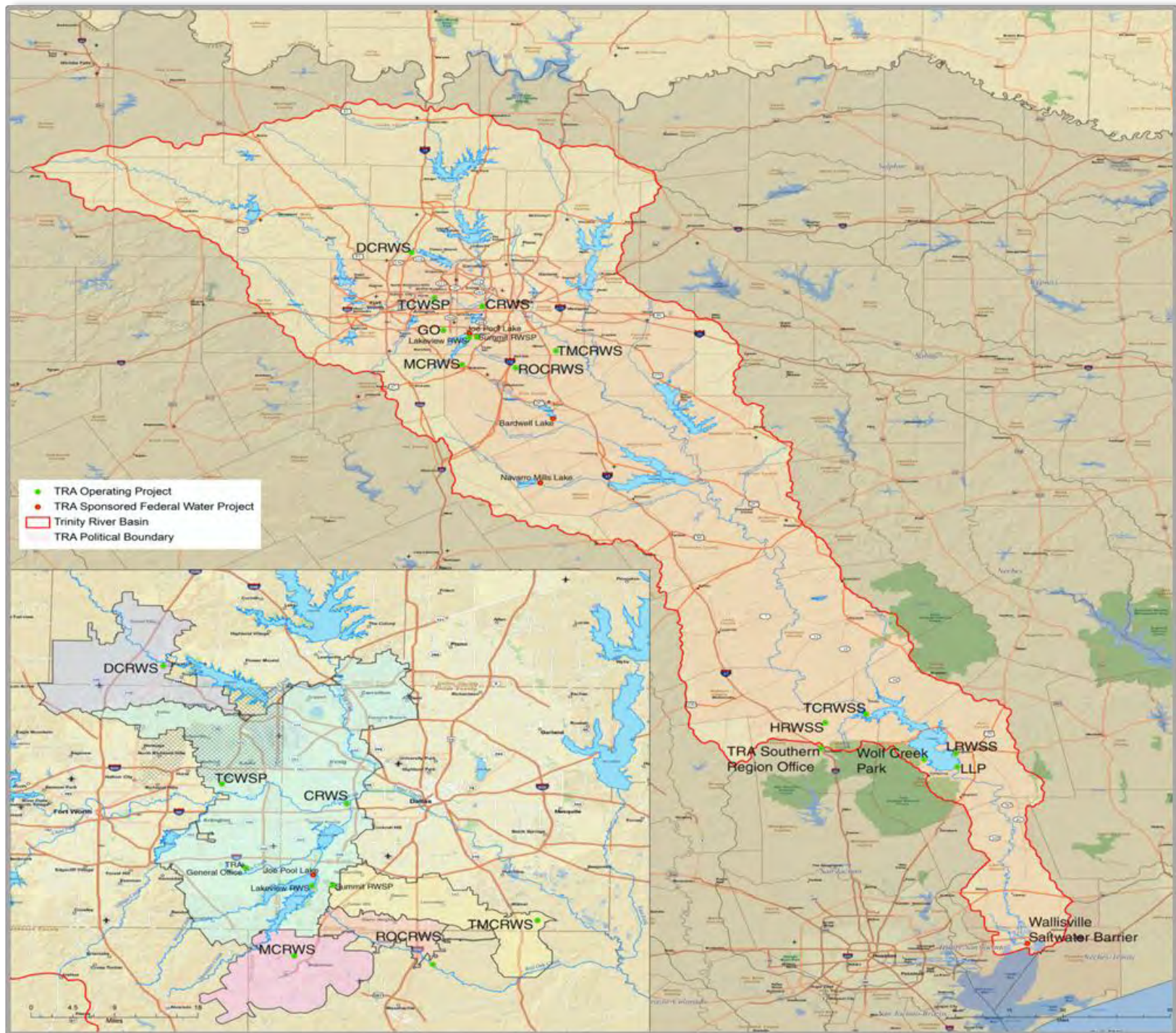
TRA Quick Facts

- Created by state legislature in 1955
- Considered a special-purpose district
- Wholesale provider of water & wastewater treatment services in Texas
- Specialize in development and operation of multi-participant regional facilities
- Sponsor federal water projects



Management Organization

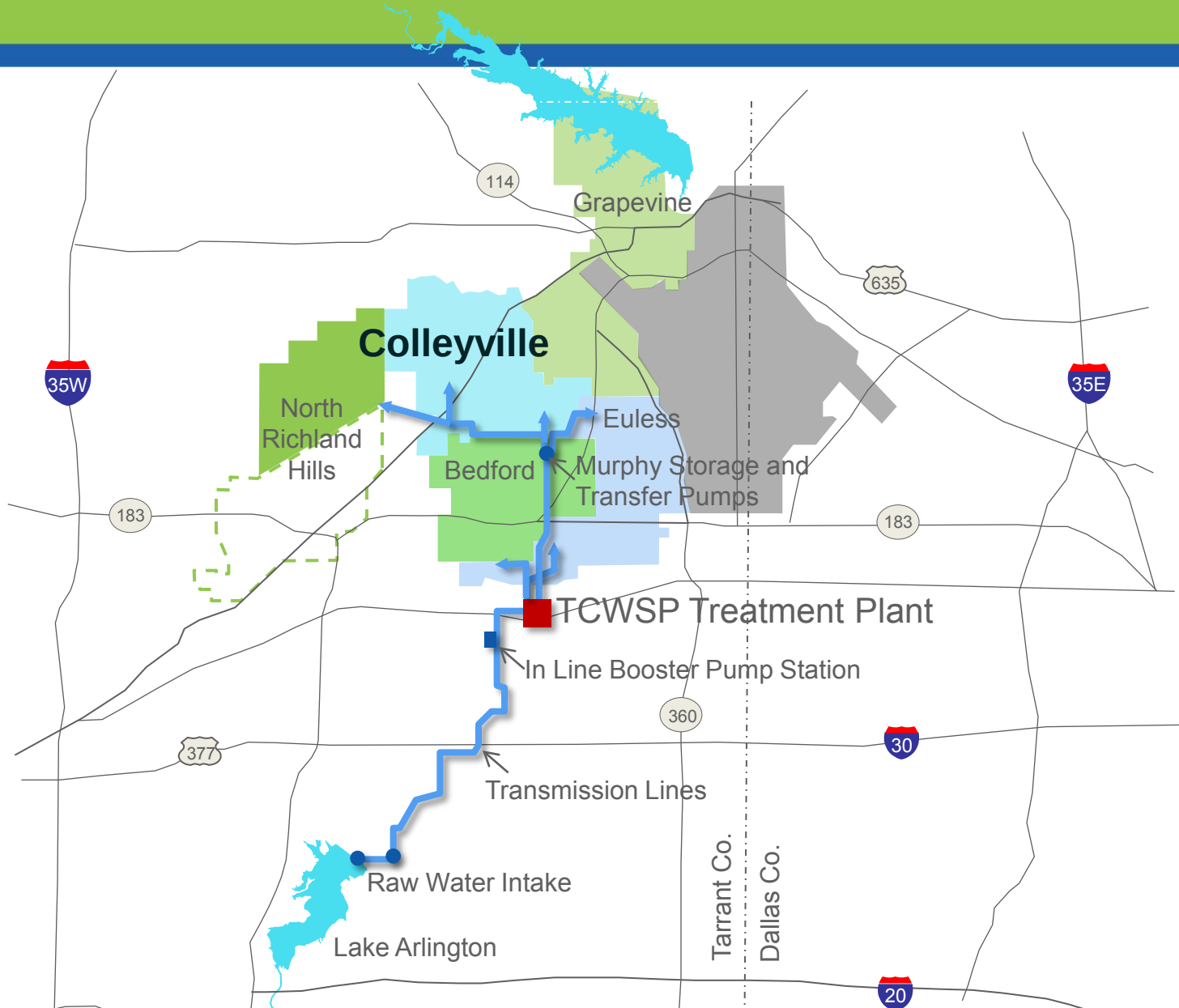




TRA Northern Region Facilities



Tarrant County Water Supply Project



Tarrant County Water Supply Project

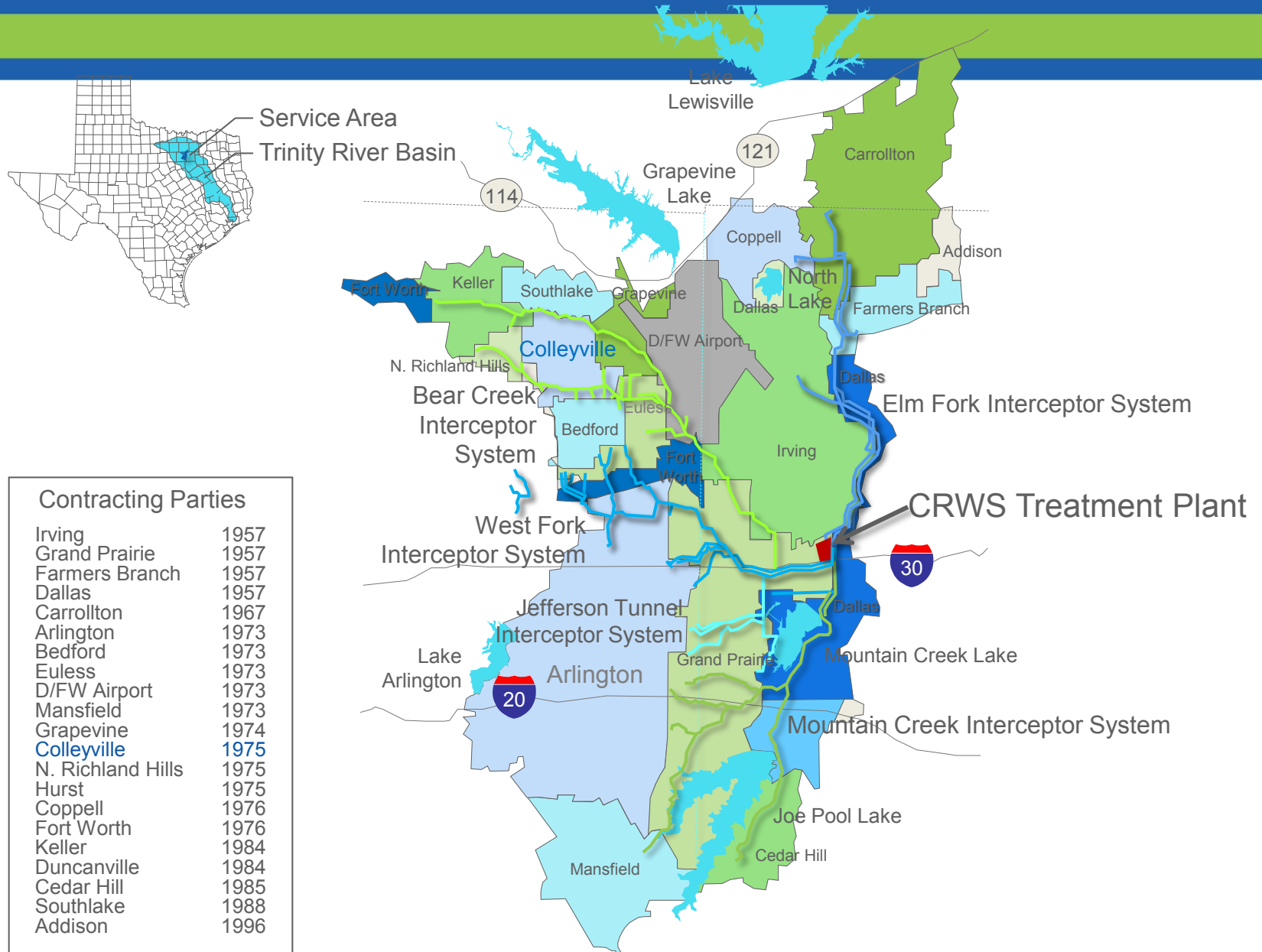




Wastewater Treatment Facilities

- **Central Regional Wastewater System**
- Ten Mile Creek Regional Wastewater System
- Denton Creek Regional Wastewater System
- Red Oak Creek Regional Wastewater System
- Mountain Creek Regional Wastewater System
- Walker Calloway Outfall Branches

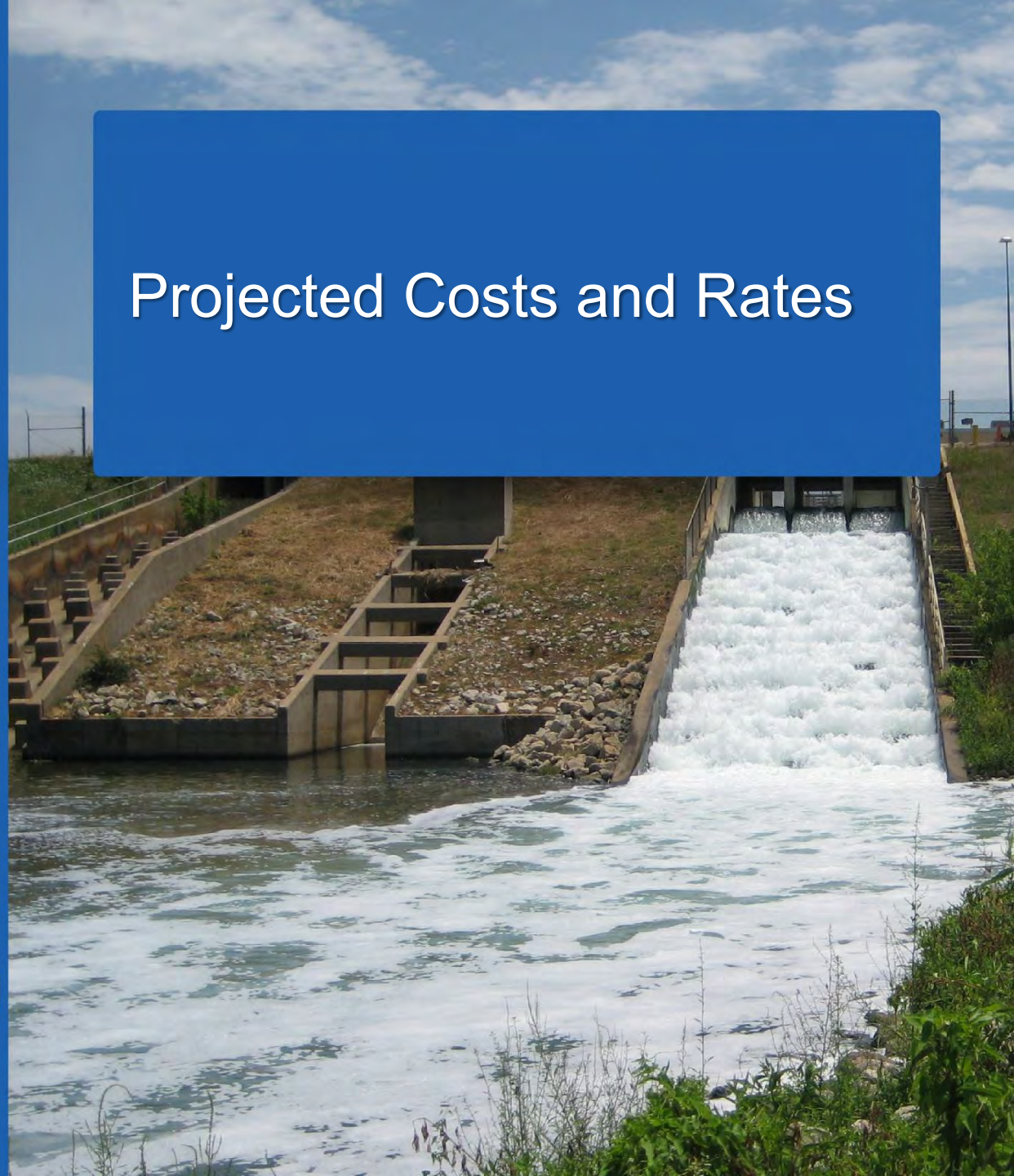
Central Regional Wastewater System



Central Regional Wastewater System



Projected Costs and Rates



Budgeting for TRA Services

- Each System is budgeted separately
 - Operations & Maintenance
 - Personnel
 - Materials
 - Equipment
 - Debt Service Budget
 - Capital Improvements
 - Regulatory
 - Rehabilitation
 - Capacity/New construction





Budgeting for TRA Services

- Each Contracting Party provides their estimated consumption/flows to TRA
- The recommended budget is presented to Advisory Committees
 - Each contracting party is a member of the committee
 - Each contracting party gets one vote
 - Advisory Committee recommendations are provided to the TRA Board of Directors for their consideration of the TRA budget

How is Wastewater Payment determined?

- Contracting parties budget based on their estimated contribution to the system
 - City flow estimate = 1.0 MGD
 - Total system flows estimate = 5.0 MGD
 - City's share = 20% of budget
- Billed at 1/12 per month of the budgeted amount
 - Mid year adjustment if necessary
 - City actual flow = 1.5 MGD
 - Total system flow = 4.5 MGD
 - City's budget = 33.33% of the budget

How is Water Payment determined?

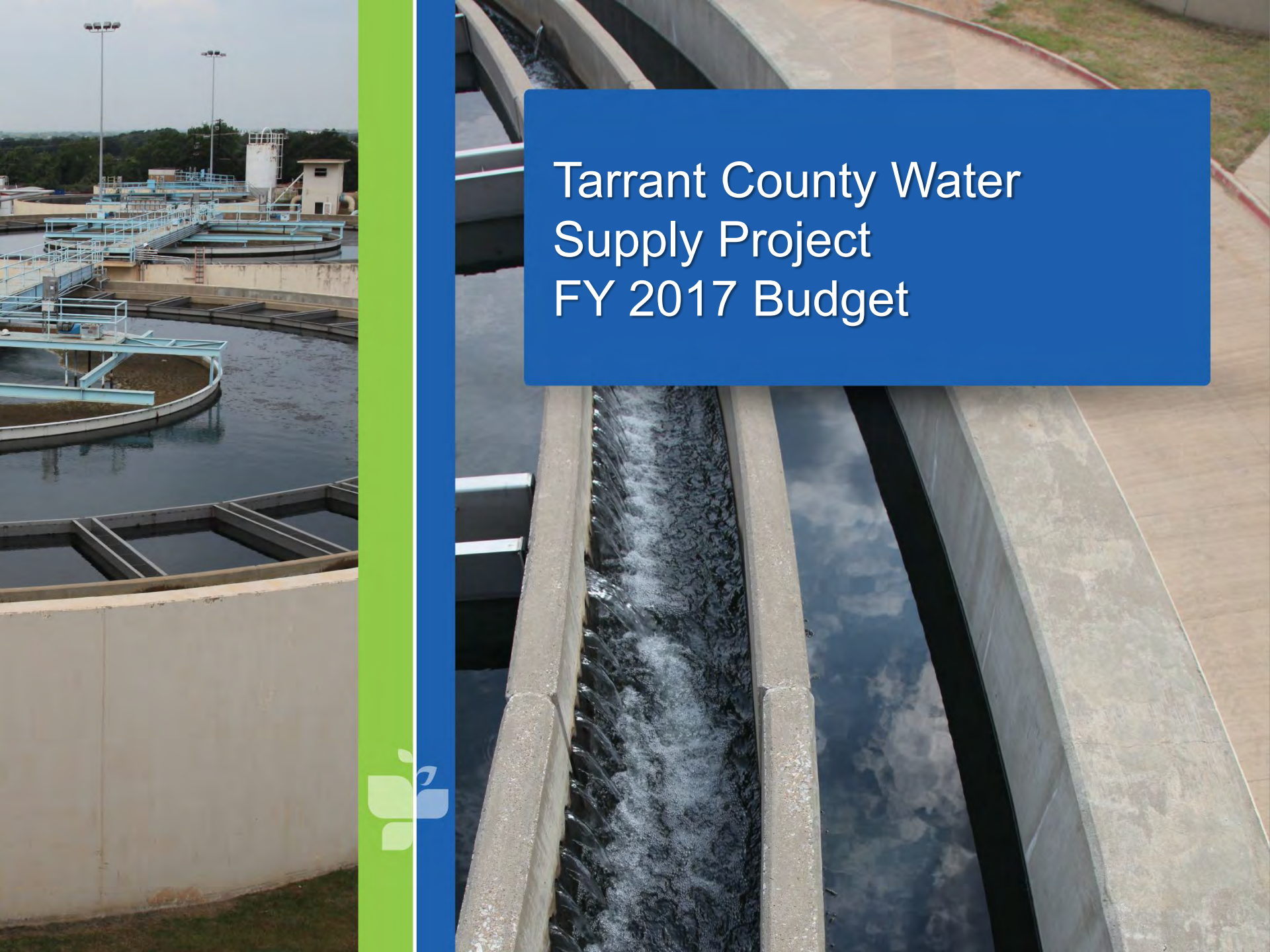
- Budgeted similar to wastewater
- Water usage based on metered flow delivered to connection point
 - Monthly consumption billing based on budgeted rate
 - Debt service based on monthly calculation



End of Year Settle Up

- TRA is required to zero out all operating budgets
- Evaluate all flows
- Audit year end actual expenditures
- Determine if funds are needed or must be returned
 - If there is an overpayment – refund given
 - If there is an underpayment – bill sent





Tarrant County Water Supply Project FY 2017 Budget

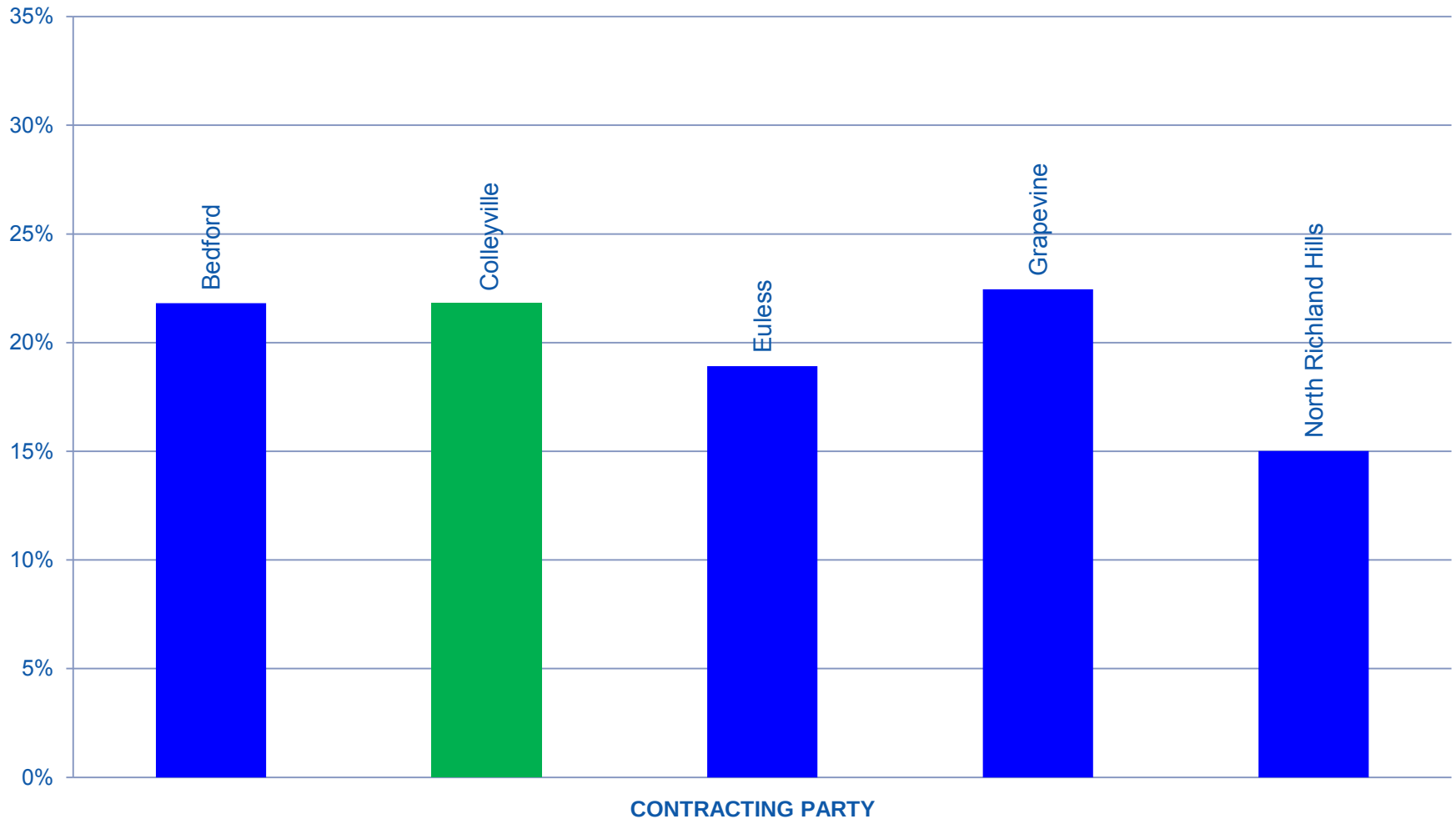


FY 2017 Anticipated Expenditures Compared to Current FY 2016

Budget Category	FY 2016 Budgeted Expenditures	FY 2017 Budgeted Expenditures	\$ Change	% Change
Personal services	\$2,077,000	\$2,189,773	\$112,773	5.430%
Supplies	\$2,033,091	\$2,095,005	\$61,914	3.045%
Other services & charges	\$19,268,916	\$20,500,219	\$1,231,303	6.390%
Capital outlays	\$161,000	\$201,168	\$40,168	24.949%
Transfers & miscellaneous	\$10,350	\$11,000	\$650	6.280%
Debt Service	\$13,220,422	\$12,014,322	(\$1,206,100)	-9.123%
Total	\$36,770,779	\$37,011,487	\$240,708	0.655%

FY 2017 Flow Allocation By Contracting Party

BUDGETED FY 2017 FLOWS
% ALLOCATION



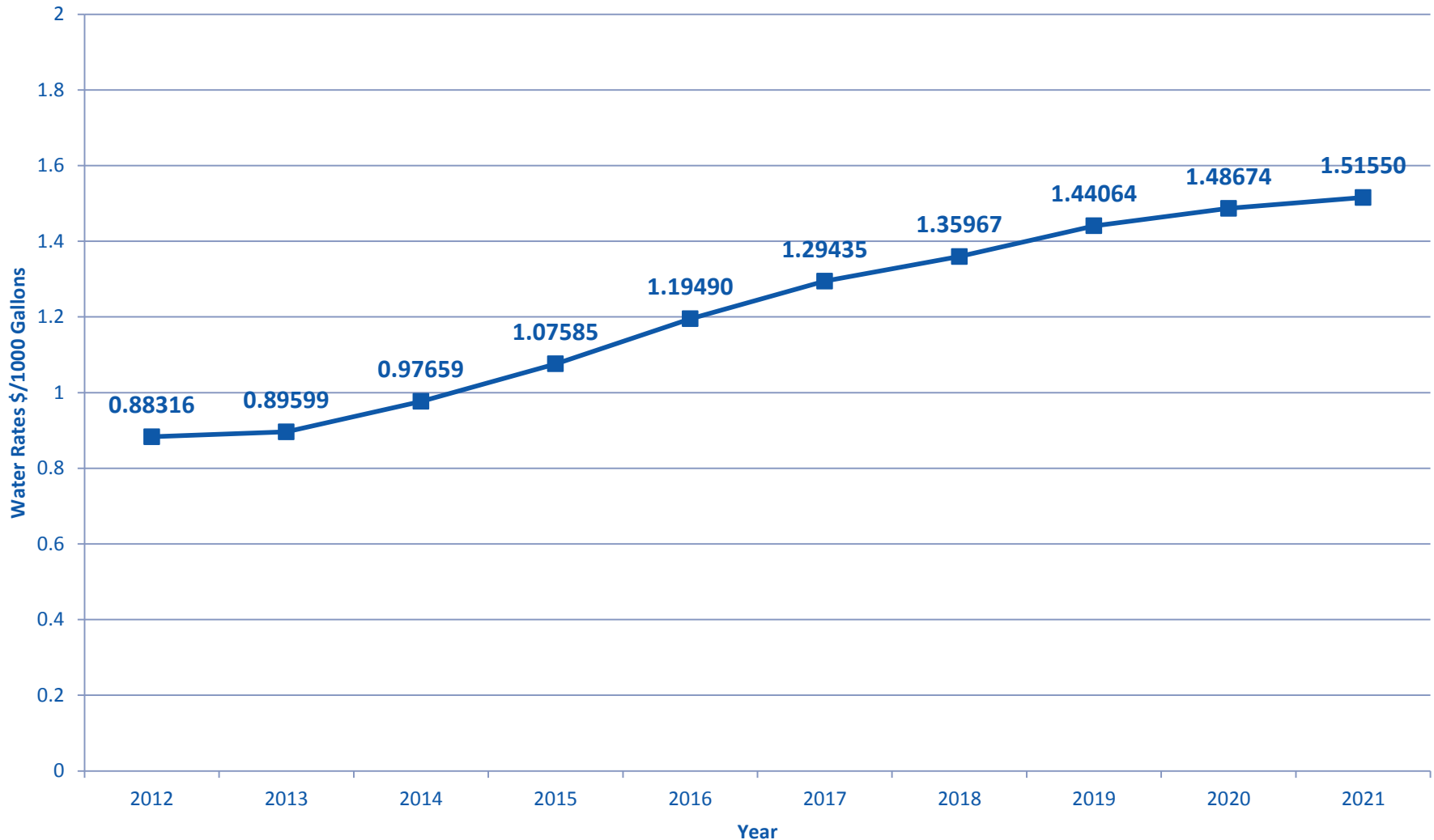
Comparison of Unit Costs

2017 Proposed vs. 2016 Budgeted

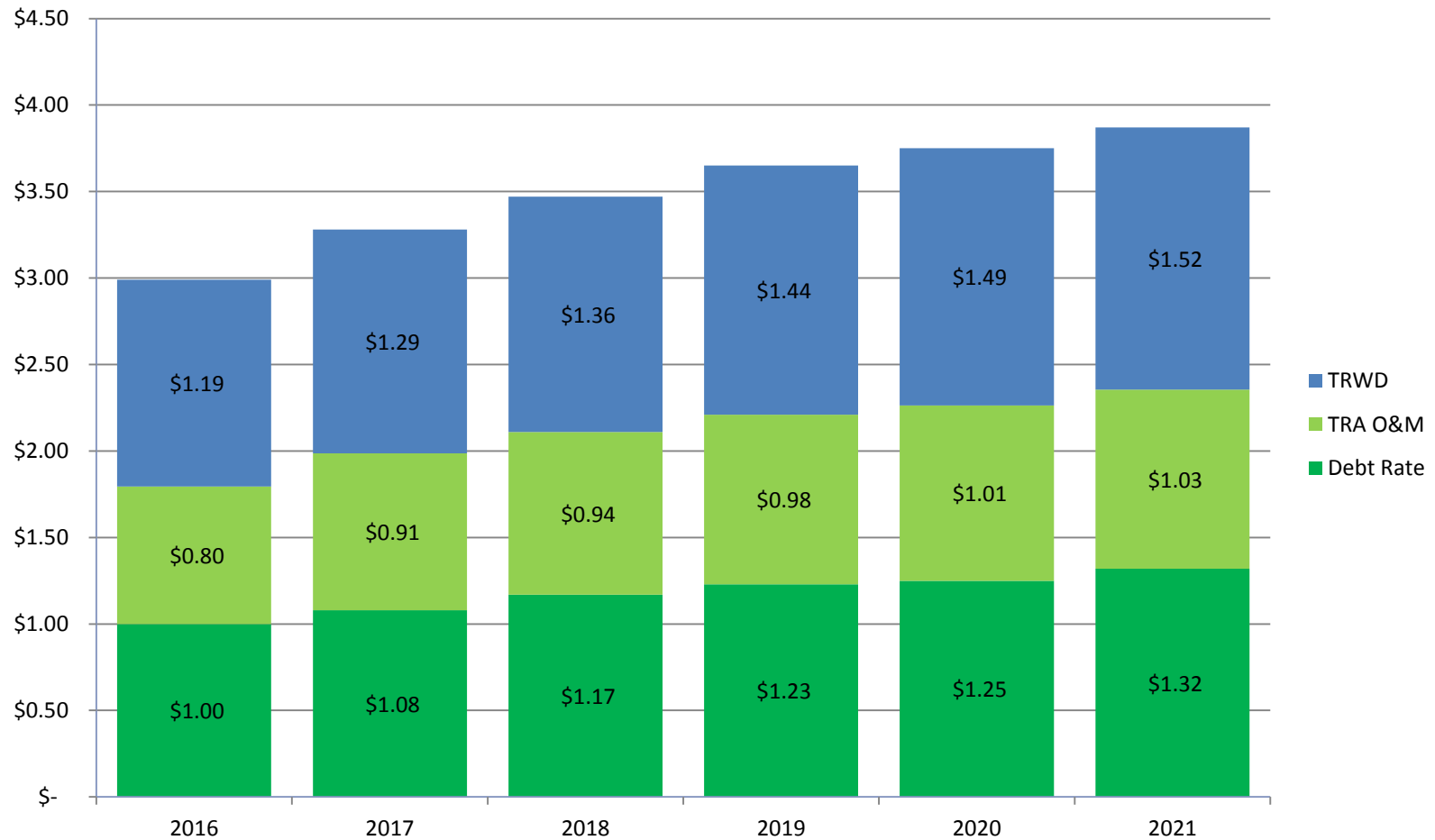
	Cost/1,000 Gallons	
	Proposed FY 2017	Budgeted FY 2016
Net Cost to Contracting Parties	\$ 3.273	\$ 3.080

- Cost is based on total revenue requirement divided by total flow in 1000's of gallons.
- Debt billed at 1/12th
- O&M billed based on actual flow and settled up at end of fiscal year

TRWD Projected Raw Water Costs



Projected Future Cost of Water Treatment



Projected Future Cost of Water Treatment

FLows BASED ON HISTORICAL DATA AND TRENDS

Fiscal Year Ending Nov. 30	Projected Flow in MGD	Cost Per 1000 GAL
2017	31.180	\$3.273
2018	31.355	\$3.474
2019	31.530	\$3.650
2020	31.707	\$3.741
2021	31.884	\$3.877



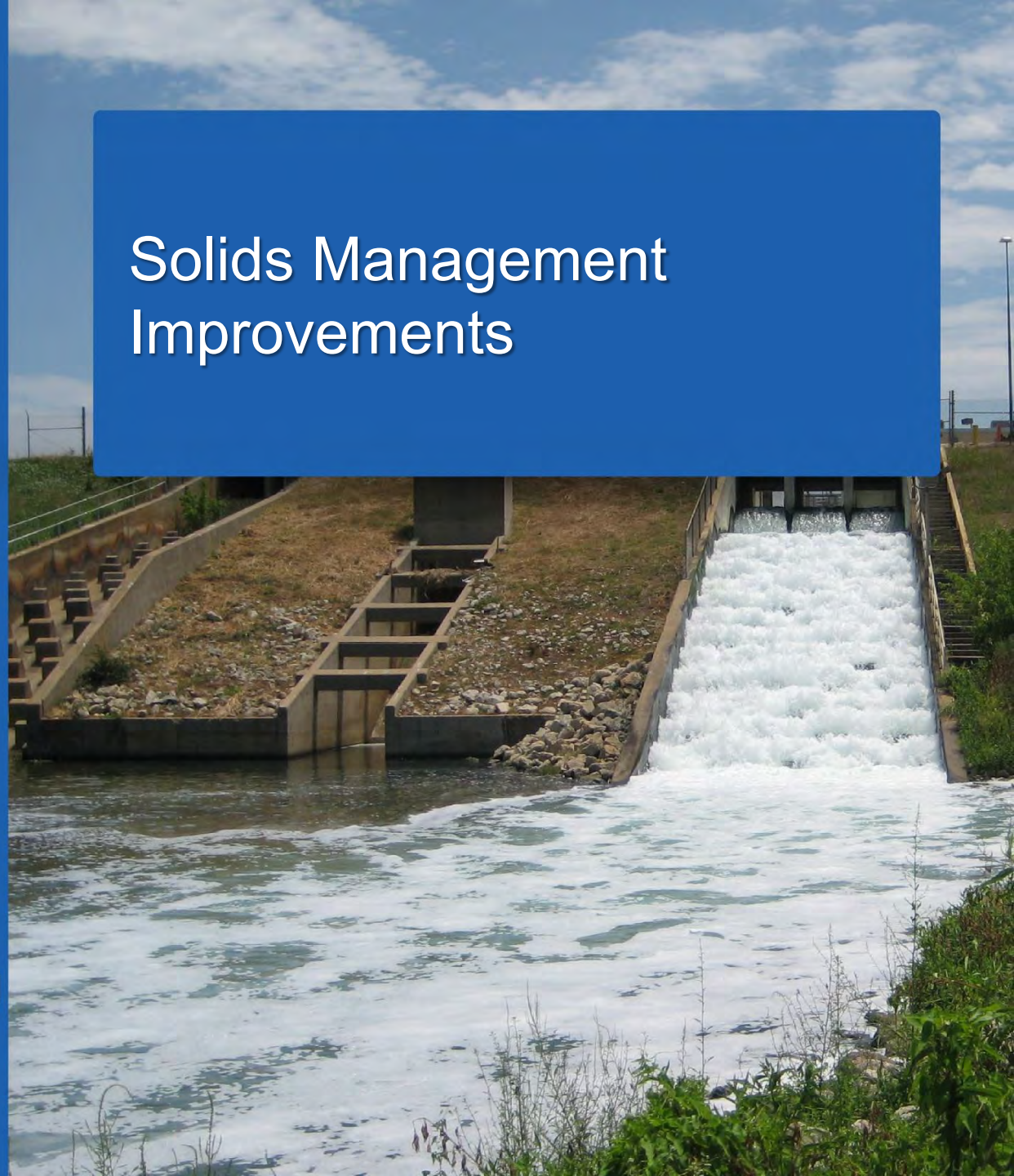
Trinity River Authority of Texas
Enriching the Trinity basin as a resource for Texans

Central Regional Wastewater System

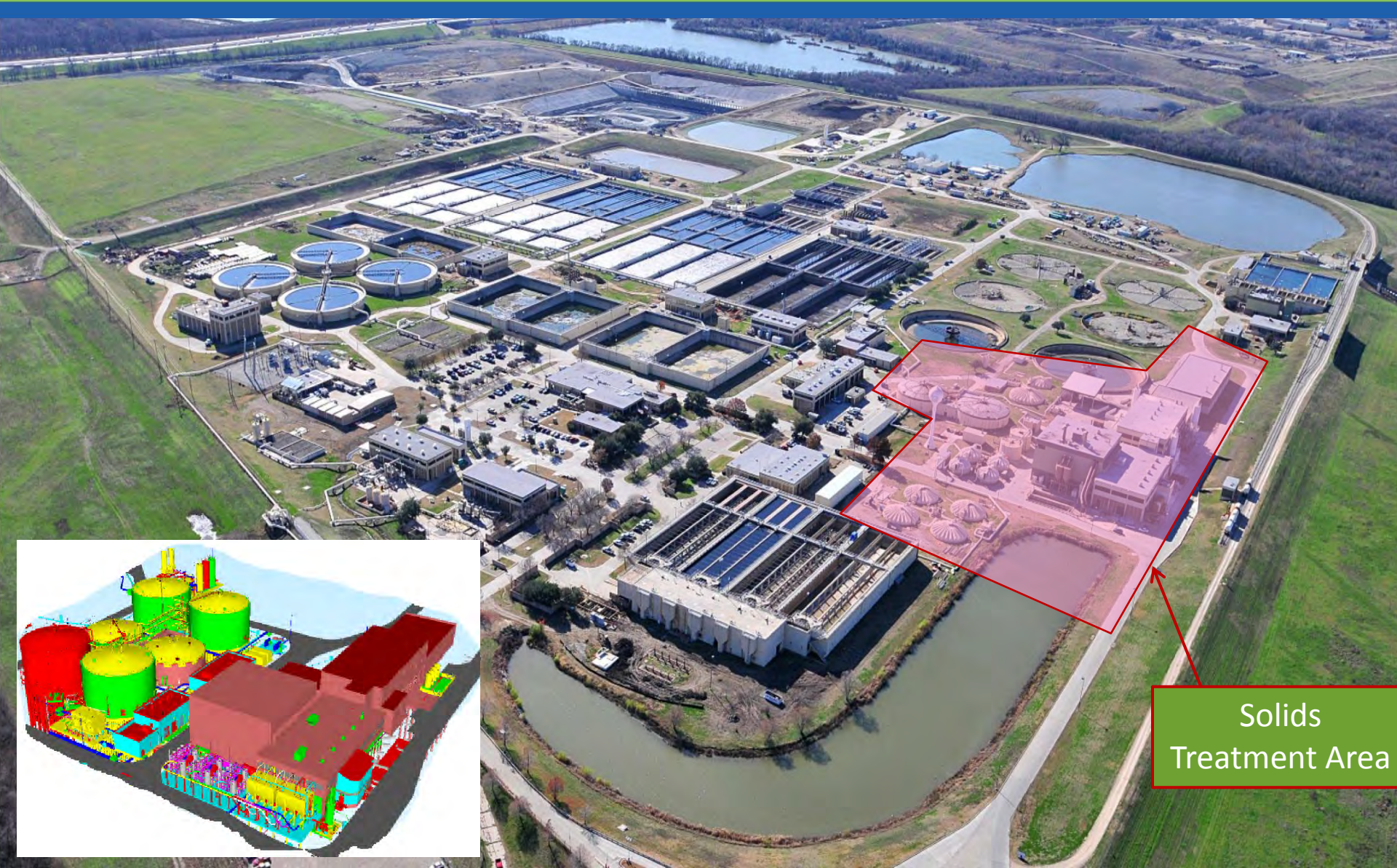
Wastewater Treatment ▪ Water Treatment ▪ Water Storage ▪ Lake Livingston ▪ Recreation



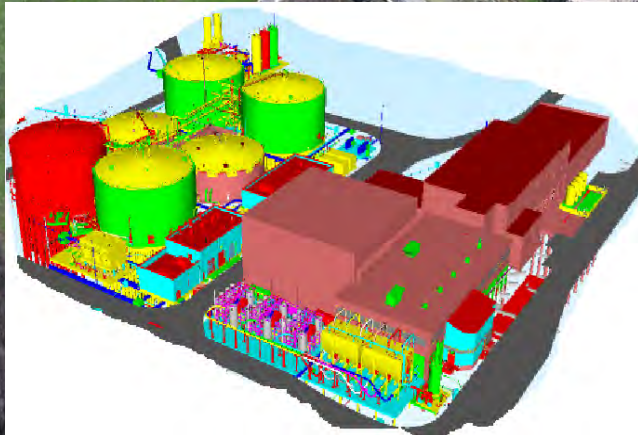
Solids Management Improvements



CRWS Solids Management Improvements



Solids
Treatment Area





Solids Management Goals

- Produce Class A biosolids
- Minimize volume of biosolids
- Ensure redundancy and reliability
- Optimize use of existing structures
- Leverage potential markets for biosolids
- Maximize resource recovery



Phases I & II Progress

- Phase I:
 - GBT Start-up activities ongoing
 - Odor Control installation ongoing
 - Completion anticipated in August
- Phase II:
 - Pump Station 15 construction ongoing
 - New Belt Filter Press installation under way
 - DAFT Demolition under way



CURRENT

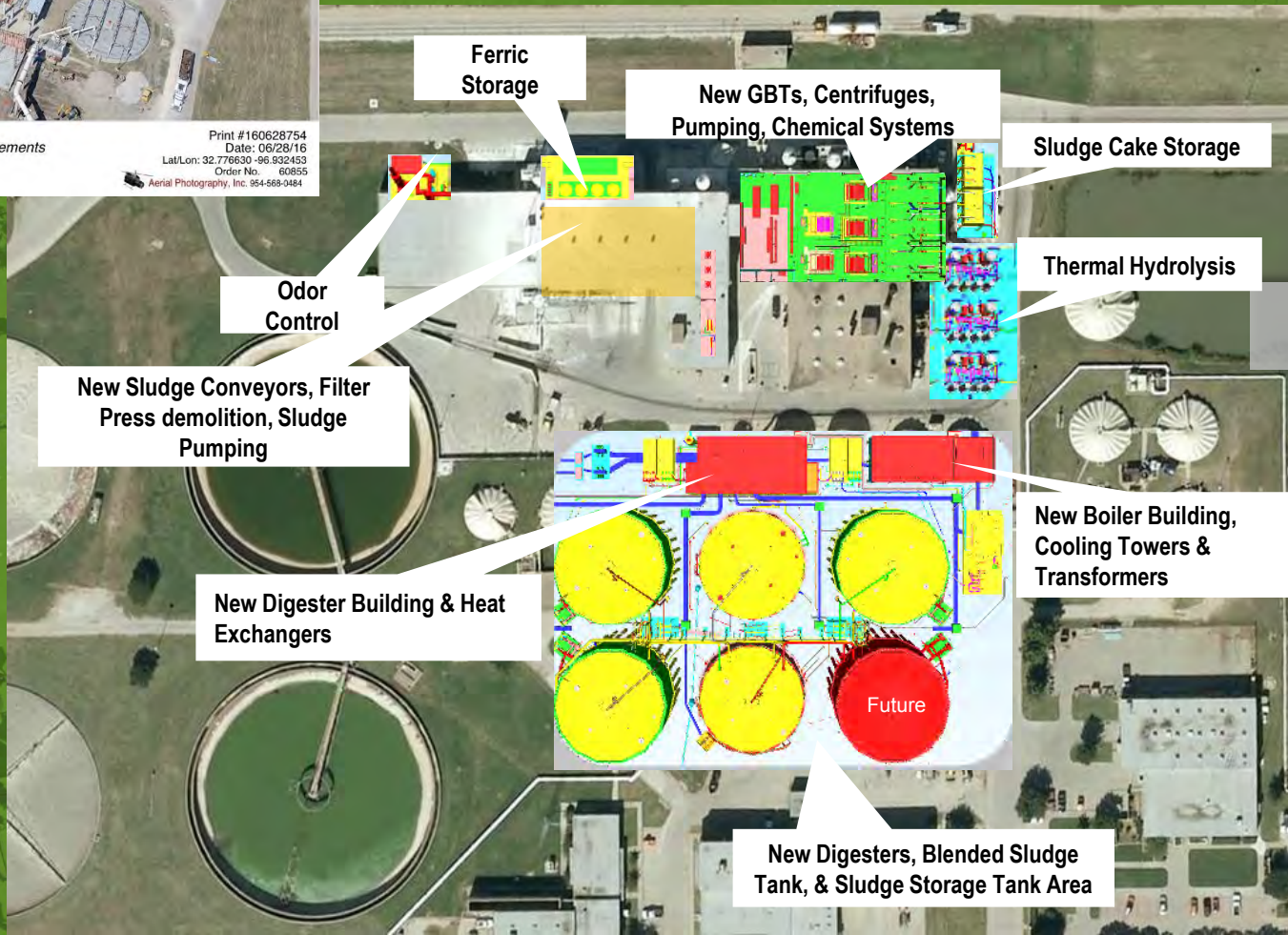


Phase III Improvements

McCarthy Black & Veatch JV

CRWS Solids Management Improvements
PH III

Print #160628754
Date: 06/28/16
Lat/Lon: 32.776630 -96.932453
Order No. 60655
Aerial Photography, Inc. 954-568-0484



Why THP for TRA?

- Overall lowest life cycle cost
- Minimize volume of biosolids leaving the plant
- Minimize digester volume to build
- Produce Class A biosolids
- Optimize use of existing structures
- Leverage potential markets for biosolids in future
- Potential for resource recovery



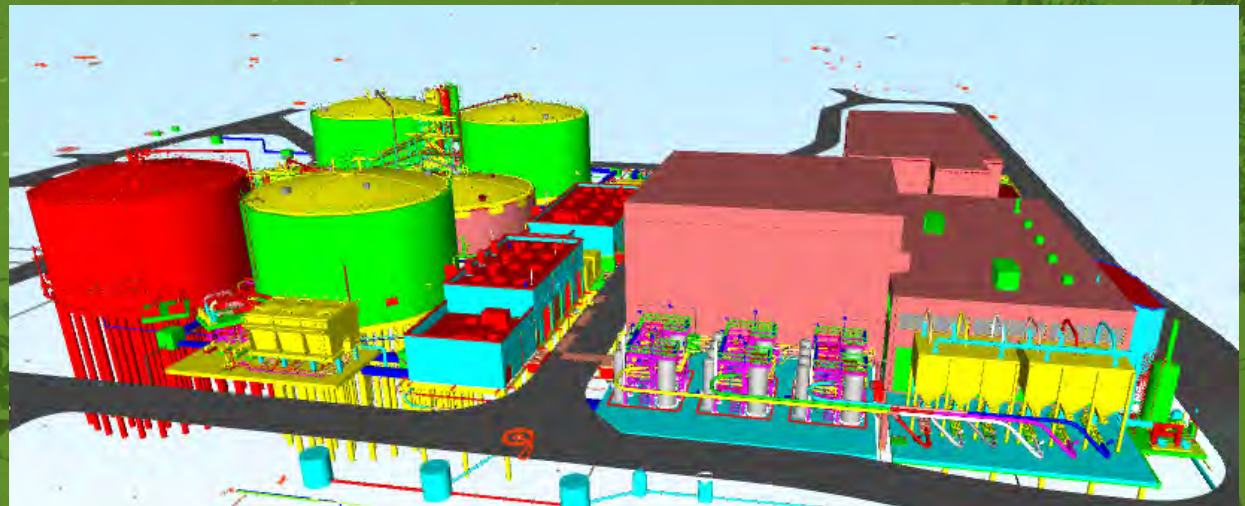
Phase IIIA Progress

- CMAR construction activities began Feb 2016
- Demolition work underway, includes asbestos abatement
- Temporary piping systems underway
- Expected completion June 2017



Phase IIIB Progress

- Design 90% complete in Aug 2016
- Construction contracting method change
- Procurement of new contractor by Competitive Sealed Proposal process
- Selection Process begins in Nov. 2016
- Board Action projected for April 2017



CRWS FY 2017 Anticipated Expenditures Compared to Current FY 2016

Budget Categories	2016 Budgeted Expenditures	FY 2017 Budgeted Expenditures	\$ Change	% Change
Personal Services	\$11,904,074	\$12,318,082	\$414,008	3.48%
Supplies	\$5,843,179	\$6,142,635	\$299,456	5.12%
Other Services & Charges	\$24,325,479	\$28,839,049	\$4,513,570	18.55%
Capital Outlays	\$301,065	\$404,081	\$103,016	34.22%
Transfers & Miscellaneous	\$28,850	\$59,750	\$30,900	107.11%
Debt Service	\$68,977,473	\$71,974,831	\$2,997,358	4.35%
Total	\$111,380,120	\$119,738,428	\$8,358,308	7.50%

CRWS Comparison of Unit Costs 2017 Proposed vs. 2016 Budgeted

Unit	Projected FY 2017 Cost/1,000 Gallons	Budgeted FY 2016 Cost/1,000 Gallons
Cost to Contracting Parties	\$2.507	\$2.380

- Cost is based on total revenue requirement divided by total flow in 1000's of gallons.
- Billing to our customers is not based on rate.

Central Regional Wastewater System Forecasted Cost of Service - Debt vs. O&M August 2016



CRWS Projected Future Cost of Service Flows Based on Historical Data & Trends

FISCAL YEAR ENDING NOV. 30	PROJECTED FLOW (MGD)	COST PER 1,000 GALLONS
2017	131.912	\$2.507
2018	133.500	\$2.862
2019	133.500	\$3.152
2020	133.500	\$3.351
2021	133.500	\$3.545



Trinity River Authority of Texas
Enriching the Trinity basin as a resource for Texans

Questions?
Fiona M. Allen, P.E.
Regional Manager

www.trinityra.org

Wastewater Treatment ▪ Water Treatment ▪ Water Storage ▪ Lake Livingston ▪ Recreation





Master Plan Update



Master Plan Goals and Objectives

- Comprehensive assessment of TCWSP assets
- Identification of CIP projects for:
 - Asset rehabilitation, renovation, replacement
 - O&M needs
 - Required upgrades
- Prioritization of CIP projects through 2040





Master Plan Elements

- Population and water demand projections
 - Raw water system
 - Water treatment plant
 - Treated water delivery system
 - SCADA system
 - GIS data
 - Triennial evaluation update
- 

Water Demand Projections 2015-2040

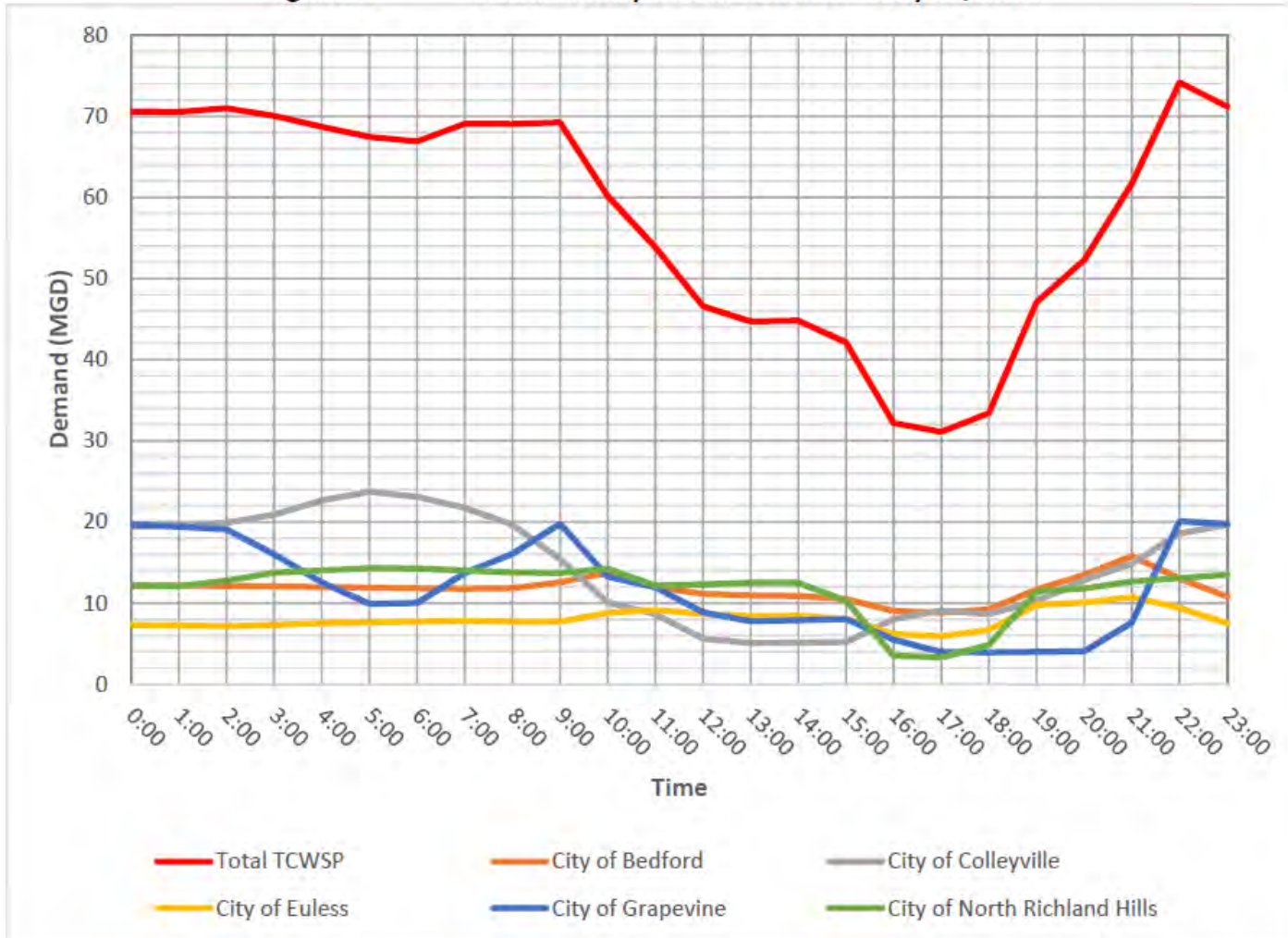
Table 4-1 **Summary of Projected TCWSP Populations and Water Demands**

Year	Population	Average Day Supply from TRA (MGD)	Contracting Party Maximum Day Supply from TRA (MGD)	TCWSP Maximum Day Demand (MGD)	Peak Hour Supply from TRA (MGD)
2015	243,597	37.2	79.8	75.8	107.0
2020	255,434	39.0	83.9	79.7	112.4
2025	261,699	40.2	86.5	82.1	115.9
2040	271,613	41.9	90.1	85.6	120.6

Current Water Treatment Plant
Capacity: 87 MGD

Summer Hourly Water Demand

Figure 3-1 TCWSP Hourly Demand Curves – July 12, 2014



Population Projections 2015-2040

Table 2-2 TCWSP Contracting Party Population Projections

Year	Bedford⁽¹⁾	Colleyville⁽²⁾	Eules⁽³⁾	Grapevine⁽³⁾	North Richland Hills⁽⁴⁾	Total
2015	49,700	24,083	53,852	48,786	67,176	243,597
2020	49,700	25,800	54,214	52,414	73,306	255,434
2025	49,700	26,400	55,682	55,672	74,245	261,699
2040	49,700	27,700	57,150	60,000	77,063	271,613

⁽¹⁾ Source: City of Bedford 2014 Water Master Plan Update.

⁽²⁾ Source: City of Colleyville 2014 Water and Wastewater Master Plan.

⁽³⁾ Source: 2016 Region C Water Plan Projections.

⁽⁴⁾ Source: North Richland Hills 2011 Water and Wastewater Master Plan.

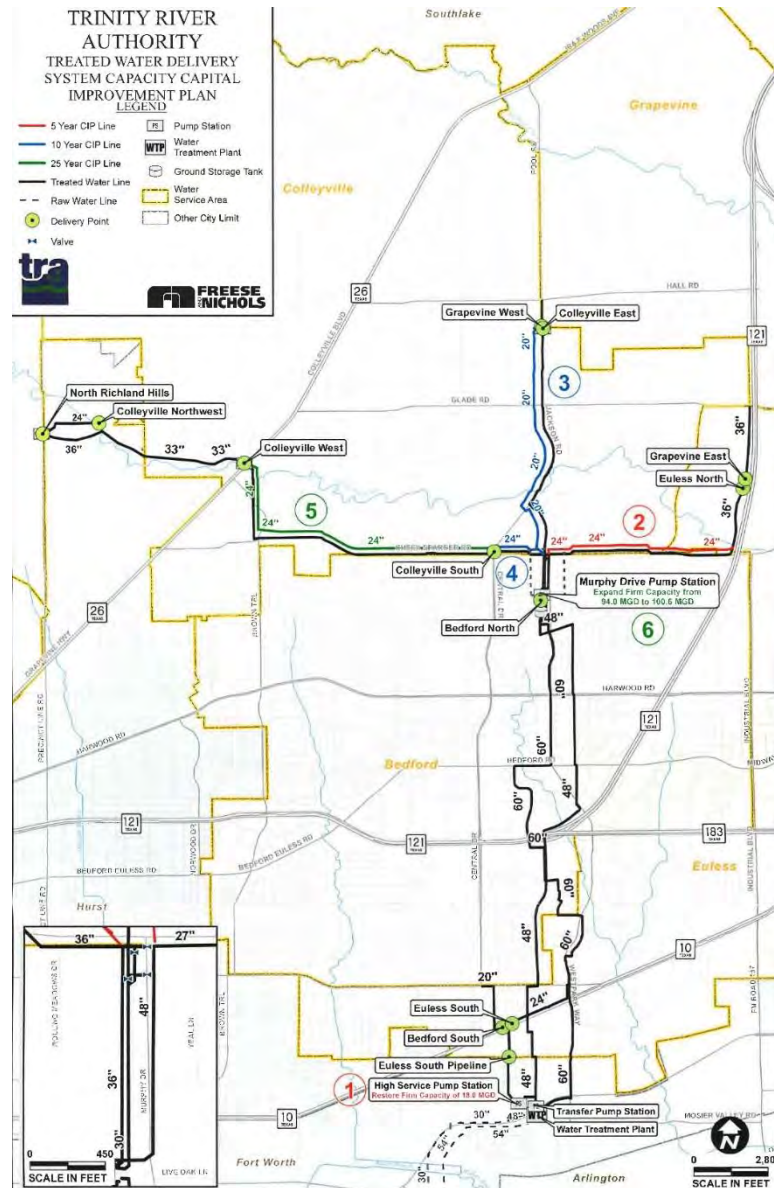
Raw Water Supply Alternatives



Triennial Update – Risk Assessment Matrix

TCWSP		Condition				
		Very Good	Good	Fair	Poor	Very Poor
Criticality	Low Impact	Fluoride, Peroxide, Sidestream Ozone Injection PS, Bedford South Meter Station				
	Medium Impact	Rapid Mix Basins, Main Electrical System, Clearwells 1 & 2	All Backwash Holding Tanks, High Service PS Near Filters, Emergency Generators - Murphy Drive PS, TCWSP & RWPS	Colleyville East and Grapevine West Meter Station		
	High Impact	Clariflocculators 8-9, Ozone Contact Basins, Murphy Drive Ground Storage Tanks, Polymer, Clearwell 3	Clariflocculators 1-7, All Filters, Filter Backwash, Murphy Dr PS (6 Pumps), Raw Water Intake and Booster PS			
	Very High Impact	Ozone Generation, Ammonia, Chlorine, Caustic, Chlorine Scrubber	Alum, Transfer Pump Station 2, Murphy Dr Pump Station (5 Pumps)	Transfer Pump Station 1, Chemical Feed Building		

Treated Water Delivery System CIP



Identified CIP Project Categories

- Transmission Capacity
 - Parallel 36" with 24" to Colleyville West
 - Parallel 30" with 20" to Grapevine West/Colleyville East
 - Parallel 27" with 24" to Grapevine East/Euless North
- Pumping Improvements
 - Expand Murphy Drive PS
 - Restoring Pumps at High Service PS to OEM
- Inspection of Medium Risk Water Lines
- Rehab of Murphy GSTs #1 - 4

Identified CIP Project Categories

- Studies
 - Filter Hydraulics
 - Clearwell Hydraulics
 - Space Utilization
 - Plant Stormwater Master Plan
- Electrical Improvements
 - Arc Flash Mitigation (2 locations)
 - Remote Monitoring Multilin Relays (5 locations)
 - Switchgear Replacement at Murphy Drive & Transfer PS #1
 - Replace Oncor Electric Service (3 locations)

Identified CIP Project Categories

- SCADA Improvements
 - RTU Upgrades – In-Plant and Remote Sites
 - Instrumentation Replacements – In-Plant and Remote Sites
 - Radio Path Study
- Raw Water Pump Station – Joint Project with Arlington
- Miscellaneous Improvements from Triennial Update



Trinity River Authority of Texas
Enriching the Trinity basin as a resource for Texans

Tarrant County Water Supply Project Advisory Committee Meeting

August 9, 2016

Wastewater Treatment ▪ Water Treatment ▪ Water Storage ▪ Lake Livingston ▪ Recreation





Central Regional Wastewater System

Capital Improvement Program STATUS REPORT



June 2016

Central Regional Wastewater System Capital Improvement Program Status Report – June 2016

TABLE OF CONTENTS

SYSTEM-WIDE PROJECTS

Northern Region Regulatory Issues	1
Northern Region Regulatory Issues	3
Northern Region Regulatory Updates	5
CRWS I/I Proration Update for 2015, TMCRRS Inventory/POE FY 2015 Update, DCRWS Inventory/POE FY 2015 Update, Surface Inspection and Aerial Review of Stream Bank Erosion, MCRWS GIS/GPS	7
FY 2016 Northern Region Interceptor Studies.....	9
Electronic Data Improvements, Support, and Management.....	11
Capital Program Management System (CPMS) Software and Implementation Services.....	13

TREATMENT PLANT PROJECTS:

Master Plan and Facility Modeling.....	17
Levee Certification Program Updates (COMPLETED)	19
CRWS Strategic Asset Management System and Reliability-Centered Maintenance Program ..	21
CRWS Buried Asset System Inspection and Condition Assessment (BASICA).....	25
2015 Geographic Information System Asset Based Inventory, GABI 15	27
CRWS Power Monitoring and Control System Upgrade.....	29
Arc Flash and Electrical System Management Study	31
Process Control System Improvements Phase III	33
Phase II Plant Rehabilitation, Replacement, and Corrosion Remediation – Contract 1 & 2	37
Phase IV Plant Rehabilitation, Replacement, and Corrosion Remediation Project	39
On-Site Storage Basin	41
Headworks B Improvements Phase I Project	43
Headworks B Improvements Phase II Project	45
Phase IV-C Pump Station Improvements	47
Phase V Rehabilitation Aeration Basin Improvements.....	49
Central Chilled Water Plant.....	51
Solids Management Improvements Phase I Construction and Phase II Preliminary Design	53
Solids Management Improvements Phase II	55
Solids Management Improvements Phase III	57
Phase IV-D Pump Station 6 and 6A Coarse Screen Improvements and Phase IV-A Pump Station Improvements Part 2.....	61

Primary Clarifiers (PC) 6-8 Evaluation.....	63
Pipelines, Filters, Pumping, and Odor Control Improvements Phase II Filter Improvements	65
Phase IIIA Filter Improvements	67
Pump Station 14 Phase II Service & Potable Water Loop	69
Collection System Building and Equipment Area Improvements	71
Chlorine Building Vent Line Improvements.....	73
Storm Water System Improvements.....	75
Meter Station Rehabilitations, Phase I	77

INTERCEPTOR SYSTEM PROJECTS:

BEAR CREEK

Bear Creek Interceptor, Segment 09BC-1	79
Bear Creek Interceptor Rehabilitation	83

ELM FORK

Elm Fork Relief Interceptor System Critical Area of Concern, Seg. CAC-11 (COMPLETED)	85
Coppell Interceptor Improvements	87
Elm Fork North Interceptor Rehabilitation.....	89
Elm Fork Relief Interceptor, Segment EF-2, Phase 1	91
Elm Fork Relief Interceptor, Segment EF-2A	93
Elm Fork Interceptor, Segment EF-2B	97
Elm Fork Relief Interceptor, Segment EF-3.....	99
Elm Fork Relief Interceptor, Segment EF-7	101
Elm Fork Relief Interceptor System, Segment EF-R1/R2	103
EF-R3 Rehabilitation of Elm Fork Relief Interceptor Segment 1C	105

JEFFERSON TUNNEL

JT-R1 Pipeline Replacement.....	107
Jefferson Tunnel Relief Interceptor, 09JT-1	109

MOUNTAIN CREEK

Lift Stations 5 and 5A Rehabilitation.....	111
Mountain Creek Fish Creek Interceptor MC-3, Phases I & II	113
Mountain Creek Interceptor MC-5 and MC-6, Phase 2A	117
Mountain Creek Interceptor MC-5 and MC-6, Phase 2B	119
Mountain Creek Interceptor MC-7 and MC-8, Phases I & II.....	121
Mountain Creek Interceptor, Segment 30MC-1	125
East Mountain Creek Interceptor (from NELV to MC-5).....	127
Northeast Lakeview Force Main Air Relief Valve Replacement	129

WEST FORK

West Fork Relief Improvements, Segments WF-6 and WF-14	131
West Fork Pipeline Improvements, WF-10 and WF-13.....	133
West Fork Interceptor System, WF-12	135
West Fork Interceptor, WF-R1, Phase II.....	137
West Fork Interceptor System, WFXIA2, WF-R3, Sulfur Branch Outfall, WF-R2 and WF-15 Rehabilitation Project	139
10WF-1 West Fork Interceptor & CRWS Feed 2 Interceptor Rehabilitation.....	143

Northern Region Regulatory Issues

Contract No.: 10-16
File No.: 0202.2002

Manager of
Technical Resources: Cynthia B. Robinson (CBR)

Contact Information: robinsonc@trinityra.org Phone: 817-493-5100

Location: CRWS and TMCrWS



Name: **Northern Region Regulatory Issues**

Engineer: Alan Plummer Associates, Inc.

Scope: Regulatory Studies and Issues

Description: Engineering and regulatory assistance for beginning preparation of permit applications, the processing and review of the applications through TCEQ and negotiation of the appropriate TPDES permit provisions for CRWS. Additionally, for assistance in determining parameter sampling locations associated with the DCURD pipeline and for TMCRRWS – assistance with Pretreatment provisions in Permit. Other items for CRWS, TMCRRWS, and DCRWS include projects related to sampling and statistics of whole effluent toxicity (WET) tests, compliance with air issues, and miscellaneous issues that may surface related to regulatory compliance.

Contract Amount: Basic Services: not to exceed \$955,150
Special Services: not to exceed \$100,000

Funding Source: CRWS and TMCRRWS O&M Budgets
DCRWS Series 2009 Bonds
TMCRRWS Series 2010 Bonds

Current Status: Remaining items include negotiations with TCEQ on the CRWS permit provisions for Outfall 002, and an Air Regulations Technical Memorandum.

75 Percent of Authorized Amount
62 Percent of Total Amount

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Regulatory Items		2/2010	11/2016	
Preliminary Design				
Final Design				
Land Rights				
Construction Administration				
Construction				

Northern Region Regulatory Issues

Contract No.: 12-17
File No.: 0202.2005

Manager of
Technical Resources: Cynthia B. Robinson (CBR)

Contact Information: robinsonc@trinityra.org Phone: 817-493-5100

Location: Northern Region Wastewater Projects



Name: **Northern Region Regulatory Issues**

Engineer: Alan Plummer Associates, Inc.

Scope: Regulatory issues requiring engineering assistance

Description: Assistance and support for regulatory issues to include local limits assessments and Pretreatment Program development as may be required in the TPDES permits; assistance with whole effluent toxicity (WET) test analysis and interpretation of WET test results for CRWS, DCRWS, ROCRWS, and TMCRRWS. Additionally, continued assistance in securing the appropriate limits and treatment options for the Lake Remle System, CRWS Outfall 002.

Contract Amount: Basic Services: not to exceed \$399,000
Special Services: not to exceed \$ 50,000

Funding Source: CRWS, DCRWS, ROCRWS, and TMCRRWS O&M Budgets
ROCRWS Series 2006 Bonds
TMCRRWS Series 2010 Bonds

Current Status: Tasks still in progress include the Lake Remle System treatment options for the CRWS permit application and WET test review for CRWS, DCRWS, ROCRWS, and TMCRRWS.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Regulatory Items		4/2012	11/2016	
Preliminary Design				
Final Design				
Land Rights				
Construction Administration				
Construction				

Northern Region Regulatory Updates

Contract No.: 15-46
File No.: 0202.2015

Manager of
Technical Resources: Cynthia B. Robinson (CBR)

Contact Information: robinsonc@trinityra.org Phone: 817-493-5100

Location: Northern Region Wastewater Projects



Name: **Northern Region Regulatory Updates**

Engineer: Alan Plummer Associates, Inc.

Scope: Regulatory Studies and Issues

Description: Engineering and regulatory assistance for collecting information to begin preparation of permit applications, the processing and review of the applications through TCEQ, and negotiation of the appropriate TPDES Permit provisions for each operating system. Additionally, performing a preliminary investigation of groundwater quality in CRWS monitoring wells, for assistance in the on-going determination of parameter sampling locations associated with the DCURD pipeline; for DCRWS - pretreatment program assistance for submission; and for TMCRWS – assistance with Pretreatment provisions in Permit. Additional assistance is also needed with the USACE flowage easement survey and cut/fill calculations for the DCRWS peak flow storage basin project. Other items for CRWS, TMCRWS, and DCRWS include projects related to sampling and statistics of whole effluent toxicity (WET) tests, compliance with air issues, and additional miscellaneous issues that may surface related to regulatory compliance.

Contract Amount: Basic Services: not to exceed \$911,350
Special Services: not to exceed \$ 60,000

Funding Source: CRWS, DCRWS, MCRWS, ROCRWS, and TMCRWS O&M Budgets
MCRWS Series 2011-2 Bonds

Current Status: The redraft of the drawings and cut/fill for the DCRWS peak flow basin in response to comments from the USACE and has been resubmitted for their review. The preparation of the DCRWS and MCRWS TCEQ Permit Applications has been completed and proof of publication for both has been submitted to TCEQ. Preparation of the TMCRWS Permit Application has been completed and submitted on June 1, 2016. Waiting to hear from TCEQ for next steps.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Regulatory Items		8/2015	11/2017	
Preliminary Design				
Final Design				
Land Rights				
Construction Administration				
Construction				

**CRWS I/I Proration Update for 2015, TMCrWS Inventory/POE
FY 2015 Update, DCRWS Inventory/POE FY 2015 Update,
Surface Inspection and Aerial Review of Stream Bank
Erosion, MCRWS GIS/GPS**

Contract No.: 15-19
File No.: 0202.2009

Manager of
Technical Resources: Cynthia B. Robinson (CBR)

Contact Information: robinsonc@trinityra.org Phone: 817-493-5100

Location: Northern Region Wastewater Projects



Name: **CRWS I/I Proration Update for 2015, TMCRRS and DCRWS Inventory/POE FY 2015 Update, Surface Inspection and GIS Aerial Review of Stream Bank Erosion**

Engineer: Black & Veatch Corporation

Scope: Evaluation, Reporting, and Updates

Description: Each year the Inflow/Infiltration (I/I) Proration must be calculated for the CRWS contracting parties to equably allocate the I/I in the Authority's interceptors. The adjusted interceptor I/I flows are then deducted from the Years Flow Contribution and the annual fiscal requirement for the contracting parties.

Additionally, the Northern Region has taken a more progressive approach in phasing in-house GIS/GPS database and Lucity updates for CRWS, DCRWS, MCRWS, ROCRWS, and TMCRRS. This is designed to provide timely flow capacity projections as well as structure locations. Increased updates to the GPS database are necessary due to construction, upgrades, and new points of entry to the interceptors.

Contract Amount: Basic Services: not to exceed \$728,900
Special Services: not to exceed \$ 60,000

Funding Sources: CRWS Series 2013 Bonds
TMCRRS Series 2013 Bonds
DCRWS Series 2013 Bonds
CRWS, DCRWS, MCRWS, ROCRWS, and TMCRRS O&M Budgets

Current Status: 65 Percent Complete

Remaining tasks include DCRWS and TMCRRS POE Inventory updates and CRWS, DCRWS, MCRWS, ROCRWS, and TMCRRS Lucity assistance and updates.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study		2/2015	12/2016	
Preliminary Design				
Final Design				
Land Rights				
Construction Administration				
Construction				

FY 2016 Northern Region Interceptor Studies

Contract No.: 16-17
File No.: 0202.2018

Manager of
Technical Resources: Cynthia B. Robinson (CBR)

Contact Information: robinsonc@trinityra.org Phone: 817-493-5100

Location: Northern Region Wastewater Projects



Name: **FY 2015 Northern Region Interceptor Studies**

Engineer: Black & Veatch Corporation

Scope: Evaluation, Reporting, and Updates

Description: Each year the Inflow/Infiltration (I/I) Proration must be calculated for the CRWS contracting parties to equably allocate the I/I in the Authority's interceptors. The adjusted interceptor I/I flows are then deducted from the Years Flow Contribution and the annual fiscal requirement for the contracting parties.

Additionally, the Northern Region has taken a more progressive approach in phasing in-house GIS/GPS database, hydraulic models and Lucity updates for CRWS, DCRWS, MCRWS, ROCRWS, and TMCRRWS. This will aid in providing timely flow capacity projections as well as specific structure locations. Increased updates to the GPS database are necessary due to construction, upgrades, and new points of entry to the interceptors.

Contract Amount: Basic Services: not to exceed \$636,200
Special Services: not to exceed \$ 65,000

Funding Sources: CRWS Series 2013 Bonds
TMCRRWS Series 2011-1 Bonds
CRWS, DCRWS, MCRWS, ROCRWS, and TMCRRWS O&M Budgets

Current Status: 3 Percent Complete

CRWS I/I Proration task and meter station evaluations are on-going as well as the GIS/Lucity/Hydraulic model integration. The remaining tasks, such as the CRWS and TMCRRWS Stream Bank erosion evaluations are scheduled.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study		2/2016	12/2017	
Preliminary Design				
Final Design				
Land Rights				
Construction Administration				
Construction				

Electronic Data Improvements, Support, and Management

Contract No.: 14-46
File No.: 0202.2012

Engineering Manager: Matthew S. Jalbert, P.E. (MSJ)

Contact Information: jalbertm@trinityra.org Phone: 972-975-4320

Location: Northern Region Operating Projects



Name: **Electronic Data Improvements, Support, and Management**

Engineer: Mike Tidwell & Associates LLC

Scope: Professional Services

Description: Provide on-going systems and data support, administration, and web development in addition to Design and Construction Guidelines Committee support and oversight.

Contract Amount:	Basic Services:	not to exceed	\$385,397
	Special Services:	not to exceed	\$ 60,000

Funding Source: CRWS Series 2013 Bonds
 DCRWS Series 2008 and 2013 Bonds
 ROCRWS Series 2013 Bonds
 TCWSP Series 2008 Bonds
 TMCRRS Series 2006 and 2013 Bonds
 CRWS O&M Funds
 MCRWS O&M Funds
 TCWSP O&M Funds
 TMCRRS O&M Funds
 DCRWS O&M Funds
 ROCRWS O&M Funds

Current Status: 70 Percent Complete

Remaining items include uploading O&M Manuals, ongoing support for Design & Construction Guidelines website and facility iVisitor management system. Additionally, web applications and database support and implementation of GoPlant field data collection software.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study		10/2014	12/2016	
Preliminary Design				
Final Design				
Land Rights				
Construction Administration				
Construction				

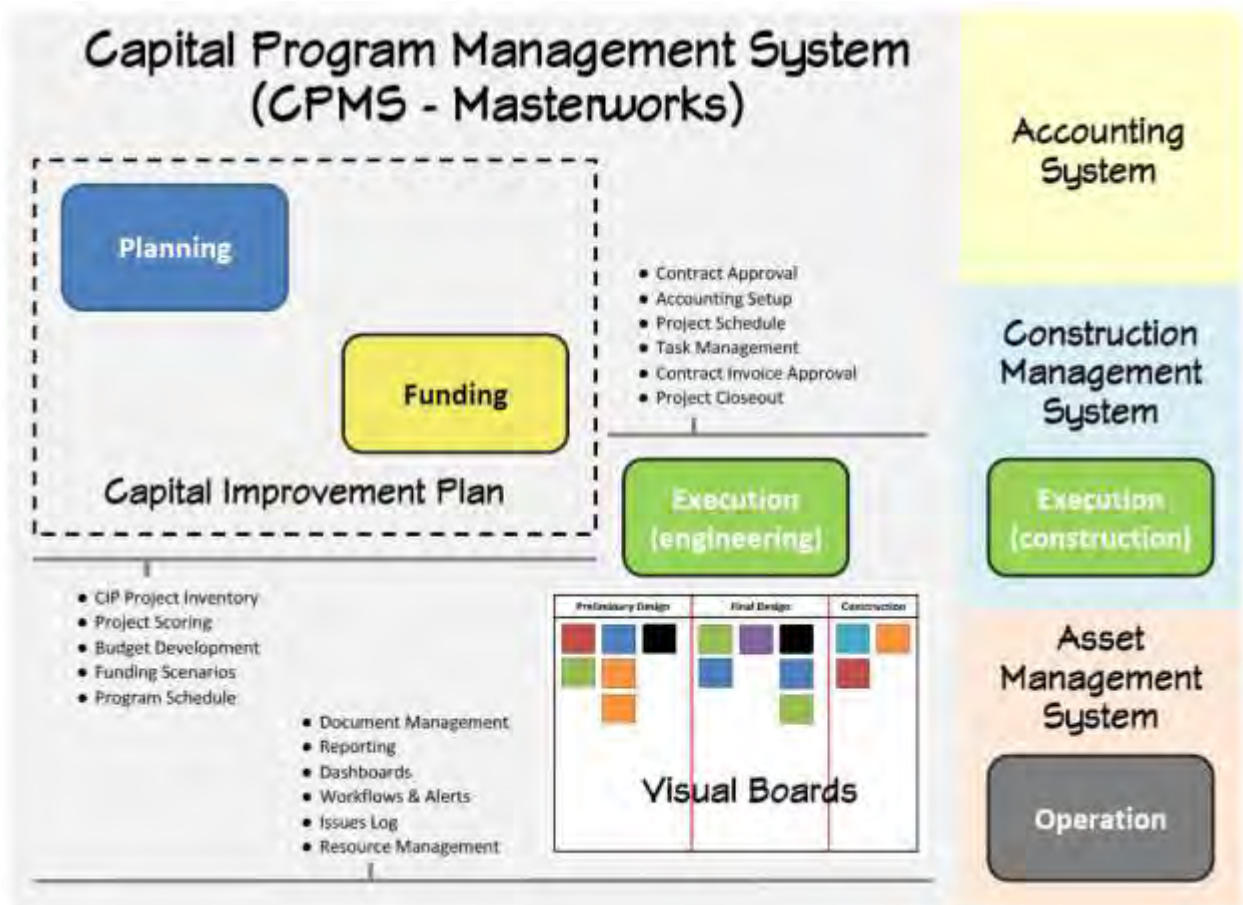
Capital Program Management System (CPMS) Software and Implementation Services

Contract No.: 15-47, 15-48
File No.: 0202.2016

Assistant Regional Manager/
Planning & Development: Patricia M. Cleveland (PMC)

Contact Information: clevelandp@trinityra.org Phone: 817-493-5100

Location: Northern Region Operating Projects



Name: **Capital Program Management System (CPMS) - Software and Implementation Services**

Contract No: 15-47

Consultant: Aurigo Software Technologies, Inc.

Scope: Software Implementation

Description: Project includes all services required to configure and implement the Masterworks software to satisfy the Authority's stated functional requirements pertaining to management of its Capital Improvement Program (CIP). Major tasks include business process mapping, development of a detailed Statement of Work (SOW), and solution configuration, testing, acceptance, and training. (Four year annual subscription included.)

Contract Amount:	Basic Services:	not to exceed \$383,900
	Special Services:	not to exceed \$ 35,000

Funding Source: CRWS Series 2013 Bonds
DCRWS Series 2013 Bonds
MCRWS Series 2011-2 Bonds
ROCRWS Series 2013 Bonds
TCWSP Series 2013 Bonds
TMCRRWS Series 2013 Bonds

Current Status: 25 Percent Complete

The project startup meeting was conducted September 2015. An internal implementation team has been assembled that includes key subject matter experts representing various departments within the Authority having involvement in the CIP. The team participated in a multi-day CIP business process mapping effort facilitated by the consultant and engineer. The consultant utilized the business process maps in conjunction with the original list of Functional Requirements to develop a draft SOW, which documents the detailed specifications that the consultant's technical team will utilize to configure and customize the software. After addressing the Authority's draft SOW review comments, the consultant delivered the final SOW on March 17, 2016, and the Authority has approved. On May 2, 2016 the consultant presented the agile project delivery plan which consists of a series of two-week "sprints" for incremental development and testing of the solution. The consultant delivered the first of 5 scheduled software releases on May 27, 2016 and the implementation team is currently involved in User Acceptance Testing (UAT). Release 2 is scheduled for delivery on July 8, 2016, with UAT occurring July 18 – 29, 2016.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study		8/26/2015	11/30/2016	
Preliminary Design				
Final Design				
Land Rights				
Construction Administration				
Construction				

Contract No: 15-48

Engineer: IT Nexus, Inc.

Scope: Support the Capital Improvement Program with improvements to information management systems and ongoing review of capital funding needs for performing CIP updates.

Description: Provide support to improve the data, tools, and processes related to CIP planning and management activities and engineering services to represent the Authority's interest with Aurigo Software Technologies, Inc., for configuring, populating, integrating, testing, and training related to implementation of the Masterworks software.

Contract Amount: Basic Services: not to exceed \$148,140
Special Services: not to exceed \$ 20,000

Funding Source: CRWS Series 2013 Bonds
DCRWS Series 2013 Bonds
MCRWS Series 2011-2 Bonds
ROCRWS Series 2013 Bonds
TCWSP Series 2013 Bonds
TMCRWS Series 2013 Bonds

Current Status: 45 Percent Complete

Masterworks Implementation: The internal implementation team members have been identified and roles defined. The Authority's core CIP processes have been identified, mapped, and aligned with the software's feature sets. Engineer has worked extensively with the software vendor to finalize the SOW that details the configuration/customization specifications for solution delivery. Critical workflows addressed include: project justification, project prioritization, project budgeting and funding, CIP program development and approval, contract development and approval, contract change order approval, consultant invoice payment processing, and project closeout. Engineer has extracted data for the following from existing Authority information

systems for migration to Masterworks: projects, phases, contracts, contract tasks, historical task level invoice payment data. Engineer has developed detailed integration specifications for the Lawson financial system, including prototypes of exchange files.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study		8/26/2015	11/30/2016	
Preliminary Design				
Final Design				
Land Rights				
Construction Administration				
Construction				

Master Plan and Facility Modeling

Contract No.: 15-42
File No.: 3110.2057

Senior Engineer,
Planning and Development: Sherri van der Wege, P.E. (SLV)

Contact Information: vanderweges@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



Name: **Master Plan and Facility Modeling**

Contract No.: 15-42

Engineer: Garver USA

Scope: Study

Description: The Authority has undertaken a number of studies and evaluations since the last master plan was completed. This project is designed to incorporate that information and develop appropriate strategies for implementation considering the CRWS plant in a holistic manner. The project will address condition and reliability assessment of existing equipment and aging infrastructure facilities and evaluate the best use of existing assets through process and hydraulic modeling, as well as provide recommendations for operational and capital improvements. The project elements include the following:

- Historical data review;
- Field assessment and verification;
- Assessment of potential regulatory issues;
- Development of process and hydraulic models;
- Needs assessment and gap analysis;
- Technical evaluations of nutrient removal, sidestream nitrogen management, phosphorus management, rectangular clarifier operational strategies, chemically enhanced primary treatment, reuse water quality, disinfection alternatives, onsite storage optimization, and unit process capacity;
- Physical space management plan and security assessment;
- Electrical system configuration and back-up power evaluation;
- Bond resolution update;
- Alternatives evaluation;
- Development of capital improvements plan;
- Vulnerability self-assessment tool conversion and update; and
- Master plan report.

Contract Amount: Basic Services: lump sum \$3,131,300
Special Services: not to exceed \$ 250,000

Funding Source: CRWS Bond Series 2007, 2012-2, and 2013; and CRWS O&M Funds

Current Status: Several technical memoranda have been completed, and data collection is ongoing. The process and hydraulic models are in development. Project is approximately 40 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study		8/2015	3/2017	
Preliminary Design				
Final Design				

Levee Certification Program Updates

COMPLETED

Contract No.: 15-38
File No.: 3110.2105

Manager of
Technical Resources: Cynthia B. Robinson (CBR)

Contact Information: robinsonc@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater Plant Levee



Name: **Levee Certification Program Updates**

Engineer: Freese & Nichols, Inc.

Scope: Updates to the Current Program

Description: Updating and Streamlining the Current CRWS Levee Operation and Maintenance plan, the Levee Change Management Process Document.

Contract Amount: Basic Services: not to exceed \$ 49,409.00
Special Services: not to exceed \$ 0.00

Funding Source: CRWS Series 2013 Bonds

Current Status: 100 Percent Complete

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study		8/4/2015		5/31/2016
Preliminary Design				
Final Design				
Land Rights				
Construction Administration				
Construction				

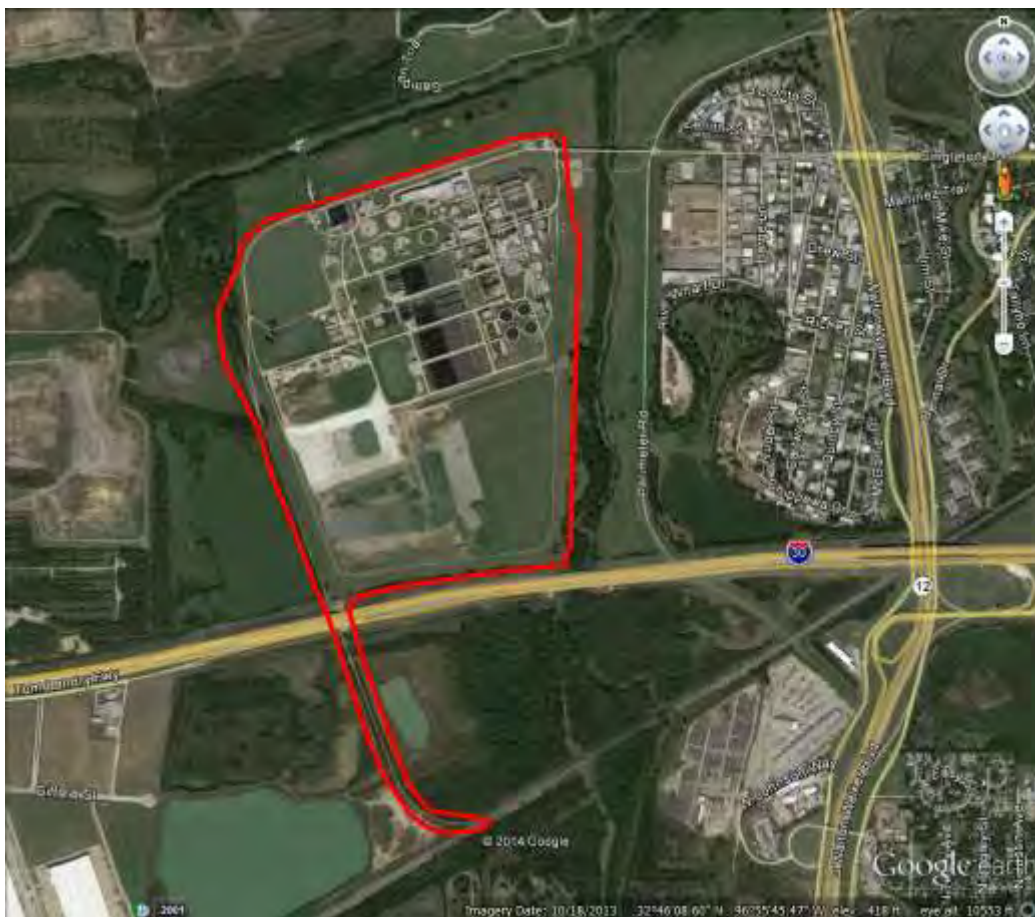
CRWS Strategic Asset Management System and Reliability-Centered Maintenance Program

Contract No.: 15-04
File No.: 3110.2061

Engineering Manager: Matthew S. Jalbert, P.E. (MSJ)

Contact Information: jalbertm@trinityra.org Phone: 972-975-4320

Location: Central Regional Wastewater System Plant



Name: **CRWS Strategic Asset Management System and Reliability-Centered Maintenance Program**

Engineer: Black & Veatch Corporation

Scope: Formalizing current Asset Management System (AMS) and Improving CRWS Predictive Maintenance Program

Description: Engineer shall recommend improvements to Authority's Asset Management System and develop a cost-effective Reliability-Centered Maintenance (RCM) program for wastewater treatment plant assets. Through this process, the engineer will work with TRA to review ISO 55001 criteria and industry practice, and identify specific gaps and areas for improvement. This project will also evaluate the current CRWS Predictive Maintenance Program, compare it with industry standards and make recommendations for improvement.

Contract Amount: Basic Services: not to exceed \$499,000
Special Services: not to exceed \$ 50,000

Funding Source: CRWS Series 2013 Bonds

Current Status: Consultant completed Task 6 which will include the TM 5: Predictive Maintenance Program Development. The final Asset Management Steering Committee meeting was held with the Consultant on February 29, 2016. Assistance is being provided by the Consultant in the development of an asset management program manual for the Central Regional Wastewater System plant. The final TM 2: Asset Management System Improvement Plan will be delivered to the Authority at the end of June 2016.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Project (Study)		12/2014	6/2016	
Task II – CRWS ISO 55001 Assessment (TM1: ISO 55001 Gap Assessment Report)				6/2015
Task III – Asset Management System Improvement Plan (TM2: Asset Management System Improvement Plan)			In progress, 7/2016	

Task IV – Assessment and evaluation of current maintenance program (TM3)				7/2015
Task V – Asset Identification and Documentation (TM4)				9/2015
Task VI –Predictive Maintenance Program Development (TM5: Predictive Maintenance Program Recommendations)			6/2016	

CRWS Buried Asset System Inspection and Condition Assessment (BASICA)

Contract No.: 16-12
File No.: 3110.119B

Engineering Manager: Matthew S. Jalbert, P.E. (MSJ)

Contact Information: jalbertm@trinityra.org Phone: 972-975-4320

Location: Central Regional Wastewater System Plant



Name: **CRWS Buried Asset System Inspection and Condition Assessment (BASICA)**

Engineer: Tetra Tech, Inc.

Scope: Field inspections and condition assessment of 8,835 linear feet (LF) of in-plant drain lines, 14,334 LF of storm drains, and 160 storm drain structures.

Description: The CRWS treatment plant has over five miles of storm drains, plant drains, and buried process piping within the plant boundaries. Diameters of these buried pipelines range from 4- to 72-inches and include approximately 80 manholes. The plant drain system allows drainage from various treatment units and structures to be redirected back into the head of the plant for treatment. The storm drain system collects runoff from rain events and this water is discharged to the Trinity River. Approximately 80 percent of the plant drain system is older than 20 years and the storm drain system has collected debris and silt over time. In addition to the field inspections, the data collected will be incorporated in the CRWS geographic information system (GIS). This information will allow for cleaning and maintaining the in-plant and storm drain system on a regular basis.

Contract Amount:	Basic Services:	not to exceed \$329,500
	Special Services:	not to exceed \$ 50,000

Funding Source: CRWS 2013 Series Bonds

Current Status: The project is currently at 36 percent complete. Approximately 6,760 LF of the storm drain lines have been inspected along with 873 LF of the in-plant drain lines. Approximately 132 storm drain structures have been inspected. The project will resume inspections in mid to late June. Initial recommendations for improvements will be completed by August 1, 2016 and a final report is tentatively scheduled for October 15, 2016.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study		2/24/2016	10/21/2016	
Preliminary Design				
Final Design				
Land Rights				
Construction Administration				
Construction				

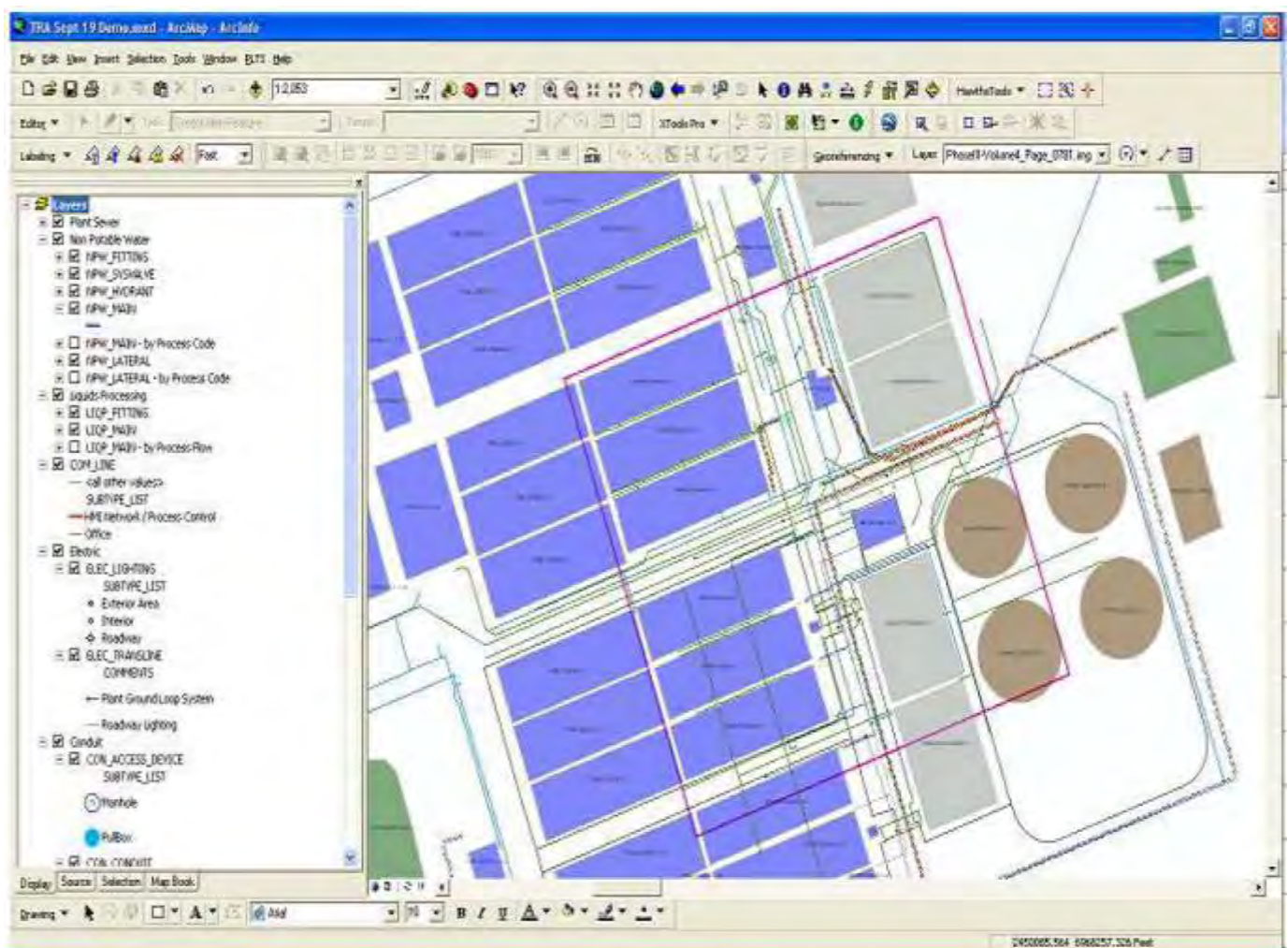
2015 Geographic Information System Asset Based Inventory, **GABI 15**

Contract No.: 15-24
File No.: 3110.3002

Engineering Manager: Matthew S. Jalbert, P.E. (MSJ)

Contact Information: jalbertm@trinityra.org Phone: 972-975-4320

Location: Central Regional Wastewater System Plant



Name: **GABI 15**

Engineer: Freese and Nichols, Inc.

Scope: Geographic Information System (GIS) Asset Based Inventory

Description: CRWS GIS implementation includes preparing a comprehensive GIS for the CRWS facility entailing data inventory and assessment, strategic visioning, gap analysis, data capture plan, GIS/Maximo integration plan, updated geodatabase design and plan execution. The overall goal is to produce a reliable tool including procedures for maintaining database as plant modifications occur.

Contract Amount: Basic Services: not to exceed \$841,391
Special Services: not to exceed \$ 70,000

Funding Source: CRWS Series 2013 Bonds

Current Status: Technical Memorandum (TM) 2 Geodatabase Design final TM is being completed. TM-3 GIS/Maximo Integration is under review. Draft TM-1 Data Capture plan will be delivered by July 1, 2016. Data collection will begin in July 2016 and completed in August 2016.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Project (Study)		4/2015	11/2016	
Task II- Developing and Implementing CRWS GIS Database – (TM1:Data Capture Plan & TM2: Updated Geodatabase Design)			7/2016	
Task III – Collection Data			8/2016	
Task IV – Maximo Linking (TM3:GIS/Maximo Integration)			7/2016	

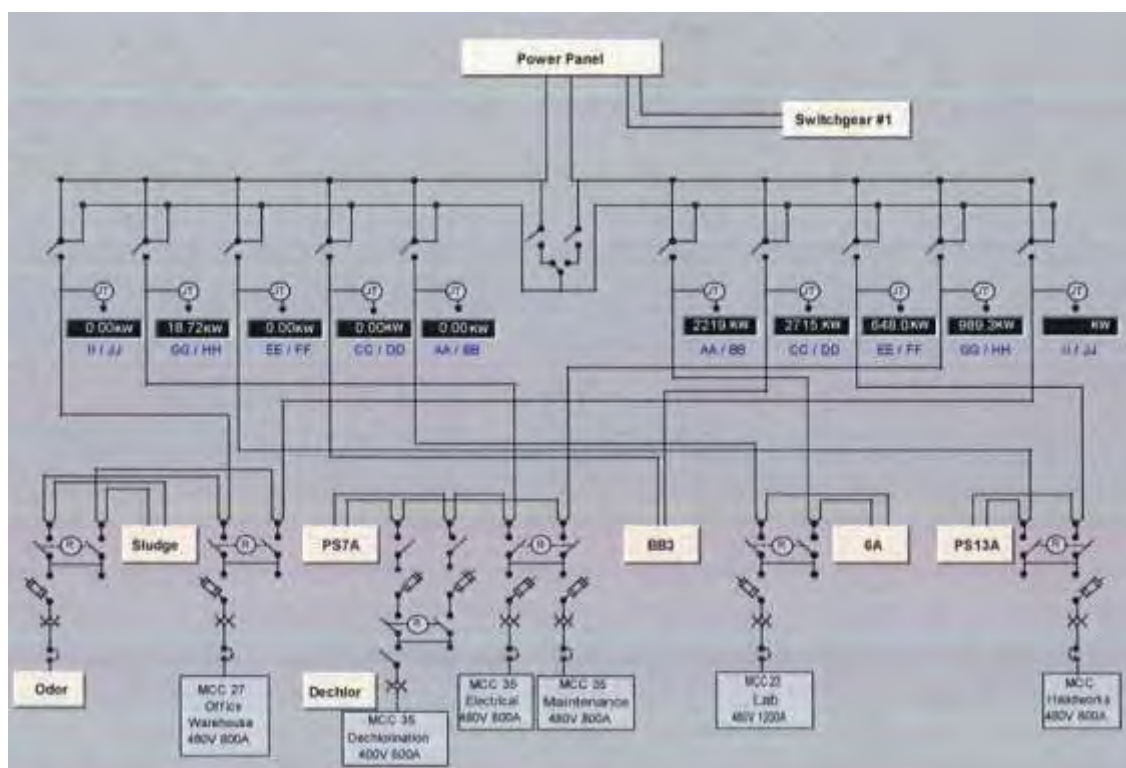
CRWS Power Monitoring and Control System Upgrade

Contract No.: 16-29
File No.: 3110.2117

Assistant Regional
Manager/Operations: Julia J. Hunt, P.E. (JJH)

Contact Information: huntj@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



Name: **Power Monitoring and Control System Upgrade**

Engineer: GE Grid Solutions, LLC

Scope: The existing power monitoring and control system (PMCS) requires an upgrade to the server and software management tools in order to remain a viable troubleshooting and data analysis tool. The original server and software installation no longer supports the number of field devices installed, nor fully utilizes the functionality of the new field devices.

Description: The CRWS Plant invested in a PMCS in 2007 that offers significant tools for this purpose. In addition, the PMCS provides improved personnel safety, improved operational reliability through the use of diagnostic and reporting tools, and significant improvement in troubleshooting and repair of the electrical distribution system. The existing PMCS server has stabilization issues, and does not currently function as designed (unable to establish reliable connection to field devices). In addition, the software supporting data communication is out of date. Additional licenses are needed for the number of field devices installed at CRWS.

Contract Amount: Basic Services: not to exceed \$223,480
Special Services: not to exceed \$ 50,000

Funding Source: CRWS 2008 Series Bonds

Current Status: This project start-up meeting is scheduled to occur in mid-July 2016.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		6/22/2016	6/30/2017	
Land Rights				
Construction Administration				
Construction				

Arc Flash and Electrical System Management Study

Contract No.: 16-11
File No.: 0202.2017

Senior Engineer,
Planning and Development: Sherri van der Wege, P.E. (SLV)

Contact Information: vanderweges@trinityra.org Phone: 817-493-5100



Name: **Arc Flash and Electrical Management Study**

Engineer: Burns & McDonnell Engineering Company, Inc.

Scope: Study, Preliminary Design and Final Design

Description: This project includes inventory and assessment of the current condition of all existing electrical equipment from the utility substation down to the 208/120 volt distribution and lighting panelboards. The study will also identify obsolete electrical equipment in need of replacement for incorporation into the capital improvements program and will include posting the required warning labels based on the results of the electrical power system studies performed. This project will provide recommendations to the Authority on how to maintain a reliable and up-to-date electrical power system model and how these models will be maintained for ongoing and future projects at CRWS, ROCRWS, and MCRWS treatment plants. Final design for arc flash mitigation measures for Lift Station 5A are included in this project.

Contract Amount: Basic Services: not to exceed \$ 922,944
Special Services: not to exceed \$ 50,000

Funding Source: CRWS 2011A-1 and 2013 Series Bonds
MCRWS 2011-2 Series Bonds
ROCRWS 2011 Series Bonds

Current Status: Data collection is ongoing.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study		2/2016	9/1/2016	
Preliminary Design		2/2016	9/1/2016	
Final Design		2/2016	9/1/2016	
Land Rights				
Construction Administration				
Construction				

Process Control System Improvements Phase III

Contract No.: 14-01; 14-43
File No.: 3110.404; 3110.404B

Engineering Manager: Matthew S. Jalbert, P.E. (MSJ)

Contact Information: jalbertm@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



Name: **Process Control System Improvements Phase III**

Engineer: CDM Smith Inc.

Scope: Final Design

Description: Provide Lift Station telemetry upgrade, network configuration, security policies and procedures, Liquids Operation Center Uninterruptible Power Supply upgrade, and upgrade failing instruments.

Contract Amount: Basic Services: not to exceed \$2,095,200
Special Services: not to exceed \$ 225,000

Funding Source: CRWS Series 2010-A Bonds

Current Status: Design is approximately 90 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		12/4/2013	9/30/2016	
Land Rights				
Construction Administration	6/22/2016		4/2017	
Construction	6/22/2016		4/2017	

Contract No: 14-43

Name: **Priority Switch Replacement**

Engineer: CDM Smith Inc.

Phase/Scope: Implement sensitive security items including providing managed network switches, eliminating network single points of failure, reconfiguring existing network switches, programming existing network devices with new security measures, migrating legacy devices to the new Virtual Local Area Network, and updating the PCS network architecture drawings.

Contract Amount: Basic Services: not to exceed \$2,861,300
Special Services: not to exceed \$ 300,000

Funding Source: CRWS Series 2012-2 Bonds

Current Status: Project is currently under construction.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		10/22/2014		7/31/2015
Land Rights				
Construction Administration		10/22/2014	12/30/2016	
Construction		10/22/2014	12/30/2016	

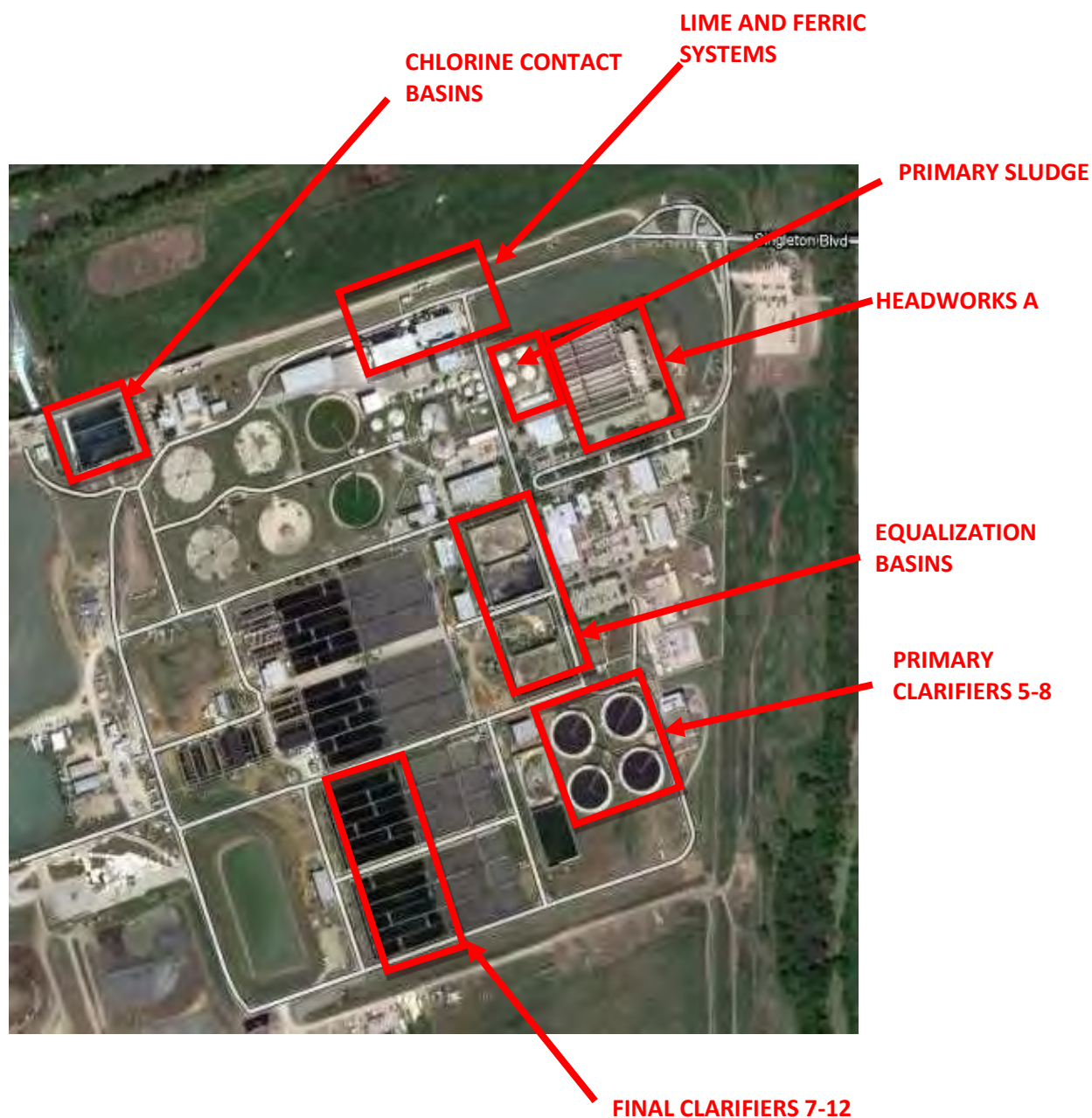
Phase II Plant Rehabilitation, Replacement, and Corrosion Remediation – Contract 1 & 2

Contract No.: 11-23
File No.: 3110.122B

Engineer, Planning
and Development: Ronald K. Tamada, P.E. (RKT)

Contact Information: tamadar@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



Name: **Phase II Plant Rehabilitation, Replacement, and Corrosion Remediation – Contract 1 & 2**

Engineer: AECOM Technical Services, Inc.

Scope: Construction Administration

Description: Address the rehabilitation needs defined in the Preliminary Design Report for the Priority I and II Structures listed in the Capital Improvements Plan. The project covers several structures across the plant including electrical, structural, and mechanical rehabilitation.

Contract Amount: Basic Services: not to exceed \$1,427,000
Special Services: not to exceed \$ 310,000 shared with Contract 5

Funding Source: CRWS Series 2010 Bonds

Current Status: 99 Percent Complete

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				
Land Rights				
Construction Administration		6/22/2011	11/2016	
Construction		6/22/2011	7/2016	

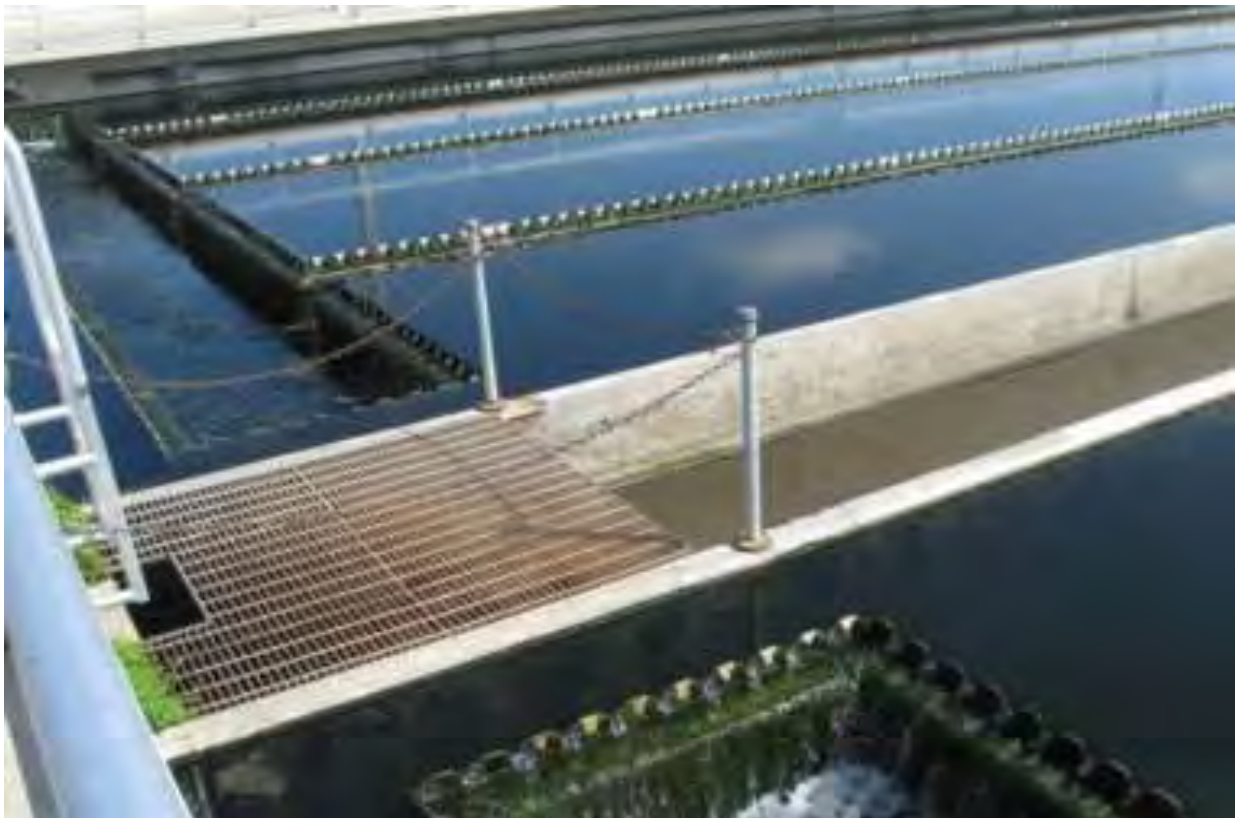
Phase IV Plant Rehabilitation, Replacement, and Corrosion Remediation Project

Contract No.: 12-30, 14-09
File No.: 3110.124

Engineer, Planning
and Development: Ronald K. Tamada, P.E. (RKT)

Contact Information: tamadar@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



Name: **Phase IV Plant Rehabilitation, Replacement, and Corrosion Remediation Project**

Contract No: 12-30 **COMPLETED**

Engineer: AECOM Technical Services, Inc.

Scope: Final Design

Description: Rehabilitation of Final Clarifiers, replacement of Aeration Basin 1-6 influent and drain valves, replacement of Primary Clarifier 1-4 influent gates, and rehabilitation of influent Junction Box 1-D.

Contract Amount: Basic Services: not to exceed \$1,553,700
Special Services: not to exceed \$ 70,000

Funding Source: CRWS Series 2010 Bonds

Current Status: Complete

Contract No.: 14-09

Engineer: AECOM Technical Services, Inc.

Scope: Construction Administration

Description: Construction phase engineering services for replacement of 56 prefabricated stainless steel slide gates in final clarifiers, primary clarifiers, and aeration basins. Other improvements include primary clarifier access vaults, final clarifier drives, instrumentation, and controls.

Contract Amount: Basic Services: not to exceed \$1,017,300
Special Services: not to exceed \$ 120,000

Funding Source: CRWS Series 2008 Bonds

Current Status: Construction is approximately 95 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		10/2012		5/2014
Land Rights				
Construction Administration		2/26/2014	4/2017	
Construction		2/26/2014	12/2016	

On-Site Storage Basin

Contract No.: 11-02
File No.: 3110.206

Assistant Regional Manager/
Planning & Development: Patricia M. Cleveland (PMC)

Contact Information: clevelandp@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant
(southwest corner of the CRWS Plant)



Name: **On-Site Storage Basin**

Engineer: Freese and Nichols, Inc.

Scope: Construction Administration

Description: 125 million gallons basin storage volume; 220 MGD fine screen facility (screens relocated, refurbished, and reused from Pump Station 6/6A); 50 MGD pump station; approximately 9,000 linear feet of process piping ranging in sizes from 30- to 96-inch; all related hydraulic, electrical, mechanical, and civil facilities.

Contract Amount: Basic Services: not to exceed \$3,332,500
Special Services: not to exceed \$ 470,000

Funding Source: CRWS Series 2010-A Bonds

Current Status: Project behind schedule at 99 percent complete, 137 percent of project duration.

- Project Substantially Complete as of 9/15/2014;
- Contractor installed the new partition wall valve actuators. Basin flushing testing was partially completed on 12/21/2015. Additional minor instrumentation and controls work is pending;
- The replacement 96-inch gate was installed, and leakage tests did not pass. Re-testing will be done as soon as the basin can be drained, weather permitting; and
- Final O&M manuals and record drawings will be issued when the remaining items above are completed.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				
Land Rights				
Construction Administration		12/1/2010	8/2016	
Construction		12/1/2010	8/2016	

Headworks B Improvements Phase I Project

Contract No.: 14-22, 16-23
File No.: 3110.125

Engineer, Planning
and Development: Tania M. Ho, P.E. (TMH)

Contact Information: hotm@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



Name: **Headworks B Improvements Phase I Project**

Engineer: CP&Y, Inc.

Scope: Preliminary and Final Design

Description: Provide design for Headworks B Phase I Improvements including additional vortex grit system, bar screen rehabilitation, and various electrical and HVAC improvements.

Contract Amount: Basic Services: not to exceed \$1,740,500
Special Services: not to exceed \$ 210,000

Funding Source: CRWS Series 2010 Bonds

Current Status: Phase I design is complete, and the project is in construction. Phase II design is included in this agreement and is ongoing (see separate status report).

Contract No: 16-23

Engineer: CP&Y, Inc.

Scope: Construction Administration

Description: Phase I includes installation of one new bar screen, rehabilitation of one bar screen, installation of two conveyors and a vortex grit system, bar screen area coating rehabilitation, electrical/instrumentation modifications and construction of a new PLC room, construction of a new HVAC room and installation of HVAC systems, grit system modifications, and piping modifications.

Contract Amount: Basic Services: not to exceed \$699,700
Special Services: not to exceed \$100,000

Funding Source: 2011A-1 Series Bonds

Current Status: Construction was authorized in May 2016 and is ongoing.

Schedule for Phase I:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design		4/2014		10/2014
Final Design		4/2014		3/2016
Land Rights				
Construction Administration		4/2016	8/2017	
Construction		4/2016	8/2017	

Headworks B Improvements Phase II Project

Contract No.: 14-22
File No.: 3110.125

Engineer, Planning
and Development: Tania M. Ho, P.E. (TMH)

Contact Information: hotm@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



Name: **Headworks B Improvements Phase II Project**

Engineer: CP&Y, Inc.

Scope: Preliminary and Final Design

Description: Provide design for Headworks B Phase II Improvements including additional vortex grit system, bar screen rehabilitation, and various electrical improvements.

Contract Amount: Basic Services: not to exceed \$1,740,500
Special Services: not to exceed \$ 210,000

Funding Source: CRWS Series 2010 Bonds

Current Status: Phase II preliminary design has been completed, and the Phase II final design will begin in October 2016.

Schedule for Phase II:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design		4/2014		9/2015
Final Design		4/2014	8/2017	
Land Rights				
Construction Administration	8/2017		9/2018	
Construction	8/2017		9/2018	

Phase IV-C Pump Station Improvements

Contract No.: 10-10
File No.: 3110.209C

Senior Engineer,
Planning and Development: Sherri van der Wege, P.E. (SLV)

Contact Information: vanderweges@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



Name: **Phase IV-C Pump Station Improvements**

Engineer: AECOM Technical Services, Inc.

Scope: Construction Administration

Description: Removal and Replacement of two fine screens, washer compactors, conveyors, and waste containers at PS-6 on the influent side of the Central wastewater plant.

Contract Amount: Basic Services: not to exceed \$377,900
Special Services: not to exceed \$ 90,000

Funding Source: CRWS Series 2010 Bonds

Current Status: Construction is 100 percent complete.

- Resolution of fine screen issues is ongoing.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				
Land Rights				
Construction Administration		2/2010	7/2016	
Construction		2/2010	7/2016	

Phase V Rehabilitation Aeration Basin Improvements

Contract No.: 13-05, 15-39
File No.: 3110.225

Senior Engineer,
Planning and Development: Sherri van der Wege, P.E. (SLV)

Contact Information: vanderweges@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



AERATION BASINS

Name: **Phase V Rehabilitation Aeration Basin Improvements Project**

Description: Rehabilitation of Aeration Basin internals, Control modification, Blower evaluation.

Contract No.: 13-05 **COMPLETED**

Engineer: CH2M Hill Engineers, Inc.

Scope: Preliminary and Final Design

Contract Amount: Basic Services: not to exceed \$1,020,300
Special Services: not to exceed \$ 70,000

Funding Source: CRWS Series 2011-A1 Bonds

Contract No.: 15-39

Engineer: CH2M Hill Engineers, Inc.

Scope: Construction Administration

Contract Amount: Basic Services: not to exceed \$754,400
Special Services: not to exceed \$ 50,000

Funding Source: CRWS Series 2011-A1 Bonds

Current Status: The Contractor continues the work on Aeration Basins No. 1 – 3. The Project is approximately 20 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design		2/2013		1/2014
Final Design		2/2013		5/2015
Land Rights				
Construction Administration		6/2015	9/2018	
Construction		6/2015	9/2018	

Central Chilled Water Plant

Contract No.: 13-26
File No.: 3110.123

Senior Engineer,
Planning and Development: Sherri van der Wege, P.E. (SLV)

Contact Information: vanderweges@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



Name: **Central Chilled Water Plant**

Engineer: Vic Weir Consulting, Inc.

Scope: Construction Administration – which includes attending construction progress meetings and site visits; reviewing shop drawings, test reports, and pay estimates; assisting with change orders and start-up; and providing record drawings.

Description: 1200 ton capacity chiller plant for CRWS, upgrade the HVAC systems of five CRWS buildings. Modifications to Administration Building for ADA compliance added to original scope by change order.

Contract Amount: Basic Services: not to exceed \$2,991,000
Special Services: not to exceed \$ 275,000

Funding Source: CRWS Series 2012-2 Bonds

Current Status: Construction approximately 95 percent complete. Commissioning complete for portions of the work, and substantial completion achieved for major work elements.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				
Land Rights				
Construction Administration		6/2013	12/2017	
Construction		6/2013	12/2017	

Solids Management Improvements Phase I Construction and Phase II Preliminary Design

Contract No.: 13-20
File No.: 3110.904A

Senior Engineer,
Planning and Development: Tom Jacobs, P.E. (JTJ)

Contact Information: jacobst@trinityra.org Phone: 817-907-4474

Location: Central Regional Wastewater System Plant



Name: **Solids Management Improvements Phase I Construction and Phase II Preliminary Design**

Engineer: CDM Smith Inc.

Scope: Construction Administration, Preliminary Design

Description: This project is the second phase of improvements to the CRWS solids handling facilities. The improvements are based on the recommendations in the CRWS Solids Master Plan and Phase I/II Preliminary Design Report. Phase I improvements include construction administration for the construction contract awarded in April 2013. Phase II improvements include expansion of primary sludge pump and screening station, installation of primary sludge screening equipment, demolition of the four existing dissolved air flotation thickeners, rehabilitation of three existing belt filter presses, replacement of one plate-and-frame press with two new belt filter presses, roof repair at the lime silo location, replacement of the solids building elevator, rehabilitation of the solids facilities at the wet pad, potential solids building upgrades to meet code, odor control equipment, yard piping, electrical, instrumentation, and control facilities.

Contract Amount: Basic Services: not to exceed \$2,189,600
Special Services: not to exceed \$ 150,000

Funding Source: CRWS Series 2012-1 Bonds

Current Status: Phase I is under construction. Phase II preliminary design is complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design-Ph II		4/2013		2/2014
Final Design				
Land Rights				
Construction Administration-Ph I		4/2013	6/2016	
Construction-Ph I		4/2013	6/2016	

Solids Management Improvements Phase II

Contract No.: 14-10
File No.: 3110.907

Senior Engineer,
Planning and Development: Tom Jacobs, P.E. (JTJ)

Contact Information: jacobst@trinityra.org Phone: 817-907-4474

Location: Central Regional Wastewater System Plant



Name: **Solids Management Improvements Phase II**

Engineer: CDM Smith Inc.

Scope: Final Design

Description: This project is the second phase of improvements to the CRWS solids handling facilities. The improvements are based on the recommendations in the CRWS Solids Master Plan and Phase II Preliminary Design Report. Phase II improvements include expansion of primary sludge pump and screening station, installation of primary sludge screening equipment, demolition of the four existing dissolved air flotation thickeners, rehabilitation of three existing belt filter presses, replacement of one plate-and-frame press with two new belt filter presses, roof repair at the lime silo location, replacement of the solids building elevator, rehabilitation of the solids facilities at the wet pad, potential solids building upgrades to meet code, odor control equipment, yard piping, electrical, instrumentation, and control facilities.

Contract Amount:	Basic Services:	lump sum	\$1,165,000
	Special Services:	not to exceed	\$ 175,000

Funding Source: CRWS Series 2012-1 Bonds

Current Status: Final design is completed. Phase II is under construction.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		2/2014		6/2015
Land Rights				
Construction Administration		8/2015	11/2017	
Construction		11/2015	11/2017	

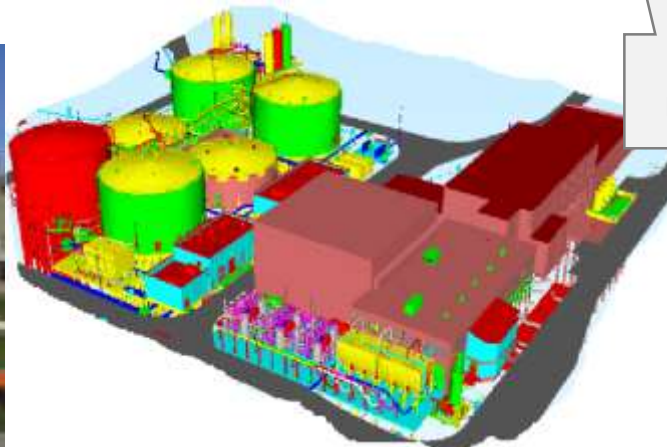
Solids Management Improvements Phase III

Contract No.: 14-26, 15-33, 16-01, 11901
File No.: 3110.2051

Senior Engineer,
Planning and Development: Tom Jacobs, P.E. (JTJ)

Contact Information: jacobst@trinityra.org Phone: 817-907-4474

Location: Central Regional Wastewater System Plant



New
Facilities

Name: **Solids Management Improvements Phase III Preliminary/Final Design**

Description: This project is the third phase of improvements to the CRWS solids handling facilities. The improvements are based on the recommendations in the CRWS Solids Master Plan and 2014 Revised Build-Out Plan. Phase III includes the design and construction of a biosolids treatment process that utilizes thermal hydrolysis followed by anaerobic digestion for the rated plant flows, replacing the current lime stabilization process and reducing the volume of solids produced by the plant. Specific improvements for this phase include installation of three thermal hydrolysis units, a process-specific chiller system, three anaerobic digesters and related building with pumps and piping, new pre-dewatering and polymer addition facilities, gas flare, rehabilitation of two existing digesters for solids storage, solids cake storage and conveyance facilities, rehabilitation of existing buildings for the new processes, electrical and instrumentation improvements, odor control improvements, yard piping, miscellaneous demolition, and general site work. The Project also includes assessments of sidestream treatment, solids drying, struvite harvesting, and combined heat and power options for beneficial use of the digester gas. Phase III will be constructed using a combination of Construction Management At-Risk (CMAR) and a yet to be determined procurement method. The Authority has determined that it will exercise its election not to continue negotiations and not to enter into and execute a Guaranteed Maximum Price (GMP) 2 Amendment with MBV. MBV is still responsible for construction of GMP1. Henceforth, GMP1 will be known as Solids Management Improvements Phase III-A, and GMP2 will be known as Solids Management Improvements Phase III-B.

Contract No.: 14-26 **COMPLETED**

Engineer: CDM Smith Inc.

Scope: Preliminary Design

Contract Amount:	Basic Services:	lump sum	\$5,549,200
	Special Services:	not to exceed	\$ 450,000

Funding Source: CRWS Series 2011A-1 Bonds

Current Status: Preliminary design is complete.

Contract No.: 15-33

Engineer: CDM Smith Inc.

Scope: Final Design

Contract Amount:	Basic Services:	lump sum	\$14,133,200
	Special Services:	not to exceed	\$ 750,000

Funding Source: CRWS Extended Commercial Paper (ECP)

Current Status: Final Design is at 90 percent completion.

Contract No.: 16-01

Engineer: CDM Smith Inc.

Scope: Construction Administration

Contract Amount: Basic Services: not to exceed \$8,571,568
Special Services: not to exceed \$ 750,000

Funding Source: CRWS ECP

Current Status: Construction administration was initiated in December 2015.

Contract No.: 11901

Engineer: McCarthy-Black & Veatch (MBV)

Scope: CMAR

Contract Amount: Basic Services: \$15,261,068
GMP 1 (Solids Phase III-A) Amendment
(Demolition & Foundations): \$38,334,221

Funding Source: CRWS ECP

Current Status: GMP 1 (Solids Phase III-A) Authorization to Proceed issued December 2015.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design		6/2014		6/2015
Final Design		6/2015	9/2016	
Land Rights				
Construction Administration		12/2015	9/2019	
Construction-GMP1		12/2015	8/2017	
Construction-GMP2	10/2016			

Phase IV-D Pump Station 6 and 6A Coarse Screen Improvements and Phase IV-A Pump Station Improvements Part 2

Contract No.: 12-09
File No.: 3110.210D

Senior Engineer,
Planning and Development: Sherri van der Wege, P.E. (SLV)

Contact Information: vanderweges@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



PUMP STATIONS 6 AND 6A

Name: **Phase IV-D Pump Station 6 and 6A Coarse Screen Improvements and Phase IV-A Pump Station Improvements Part 2**

Engineer: AECOM Technical Services, Inc.

Scope: Construction Administration

Description: Addition of three coarse screening systems at PS 6, PS 6A, and OSSS, three additional pumps and variable frequency drives at PS 6, and coatings at PS 6A

Contract Amount: Basic Services: not to exceed \$1,691,900
Special Services: not to exceed \$ 100,000

Funding Source: CRWS Series 2010-A Bonds

Current Status: Construction is 80 percent complete. Additional services are ongoing.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				
Land Rights				
Construction Administration		2/2012	3/2017	
Construction		2/2012	3/2017	

Primary Clarifiers (PC) 6-8 Evaluation

Contract No.: 15-57
File No.: 3110.2084

Engineer, Planning
and Development: Tania M. Ho, P.E. (TMH)

Contact Information: hotm@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



**PRIMARY
CLARIFIERS 5-8**

Name: **Primary Clarifiers (PC) 6-8 Evaluation**

Engineer: JQ Infrastructure

Scope: Study

Description: This project includes a new evaluation of PCs 6-8 after an emergency repair was required for PC 5. The intent is to plan for design and construction of repairs and/or modifications in a timely and proactive manner.

Contract Amount: Basic Services: not to exceed \$54,625
Special Services: not to exceed \$ 0

Funding Source: CRWS Series 2013 Bonds

Current Status: The data collection is complete, and a draft report is being revised.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study		12/2015	8/2016	
Preliminary Design				
Final Design				
Land Rights				
Construction Administration				
Construction				

Pipelines, Filters, Pumping, and Odor Control Improvements **Phase II Filter Improvements – Construction Administration**

Contract No.: 12-20, 13-07
File No.: 3110.207, 3110.121B

Engineer, Planning
and Development: Ronald K. Tamada, P.E. (RKT)

Contact Information: tamadar@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant at various locations



Name: **Pipelines, Filters, Pumping, and Odor Control Improvements**
Phase II Filter Improvements – Construction Administration

Description: Filter improvements consist of pre-purchase of filtration equipment, design of filtration equipment installation, and design of filter hydraulics improvements. Pumping improvements consist of design of Solids Recycle Pump Station. Odor control improvements consist of design of bioscrubbers for proposed solids treatment improvements.

Contract No.: 12-20 **COMPLETED**

Engineer: Alan Plummer Associates, Inc.

Scope: Final Design

Contract Amount: Basic Services: not to exceed \$769,780
 Special Services: not to exceed \$ 50,000

Funding Source: CRWS Series 2011- A1 Bonds

Current Status: Contract completed January 2016.

Contract No.: 13-07

Engineer: Alan Plummer Associates, Inc.

Scope: Construction Administration

Contract Amount: Basic Services: not to exceed \$327,370
 Special Services: not to exceed \$ 35,000

Funding Source: CRWS Series 2012-2 Bonds

Current Status: Construction was substantially complete on March 4, 2016. Construction completion is anticipated in June 2016.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		6/27/2010		1/2016
Land Rights				
Construction Administration		2/27/2013	6/2017	
Construction		2/27/2013	6/2016	

Phase IIIA Filter Improvements

Contract No.: 15-43
File No.: 3110.2053A

Engineer, Planning
and Development: Ronald K. Tamada, P.E. (RKT)

Contact Information: tamadar@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



Name: **Phase IIIA Filter Improvements**

Engineer: Alan Plummer Associates, Inc.

Scope: Final Design

Description: This project is the design of the retrofit of Aqua-Aerobics AquaDiamond© filters into two existing filter basins. The project scope includes survey, filter design, operations impact planning, programmable logic controller and human machine interface design, and bidding assistance.

Contract Amount: Basic Services: not to exceed \$423,330
Special Services: not to exceed \$ 40,000

Funding Source: CRWS 2011A Series Bonds

Current Status: Design is 95 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		8/26/2015	8/2016	
Land Rights				
Construction Administration				
Construction				

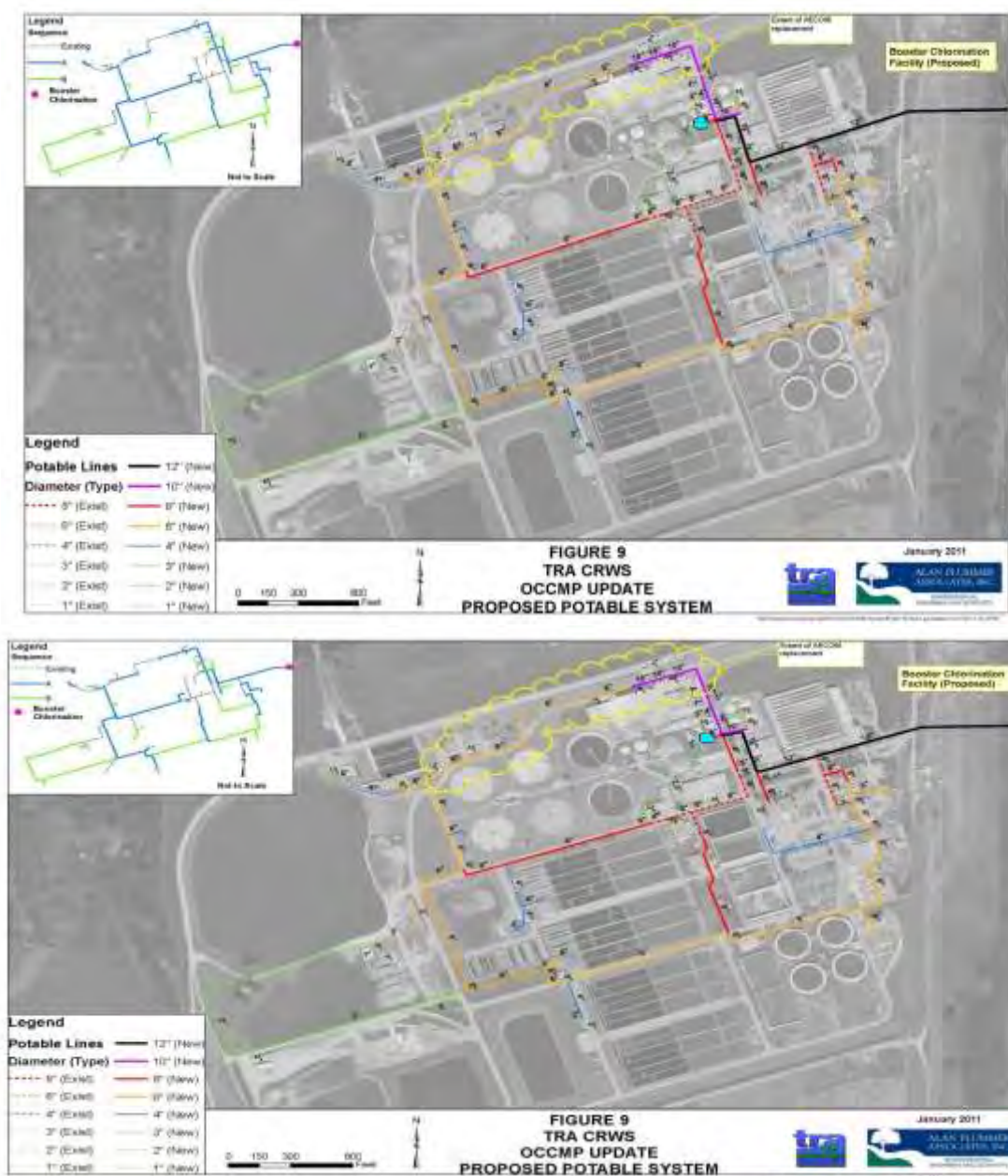
Pump Station 14 Phase II Service & Potable Water Loop

Contract No.: 13-40
File No.: 3110.210E

Engineer, Planning
and Development: Ronald K. Tamada, P.E. (RKT)

Contact Information: tamadar@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



Name: **Pump Station 14 Phase II Service & Potable Water Loop**

Engineer: Alan Plummer Associates, Inc.

Scope: Construction Administration

Description: Service Water distribution improvements comprised of: 50 linear feet (LF) of 18-inch, 4,050 LF of 16-inch, 315 LF of 12-inch and 525 LF of 8-inch thru 4-inch diameter pipeline.

Potable Water distribution improvements comprised of: 2,765 LF of 12-inch, 850 LF of 10-inch, 2,135 LF of 8-inch, 5,960 LF of 6-inch, and 675 LF of 4-inch thru 2-inch diameter pipe.

Contract Amount: Basic Services: not to exceed \$306,620
Special Services: not to exceed \$ 55,000

Funding Source: CRWS Series 2013 Bonds

Current Status: Construction is 100 percent complete. Contractor now completing punch list items.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				
Land Rights				
Construction Administration		10/23/2013	7/2017	
Construction		10/23/2013	7/2016	

Collection System Building and Equipment Area Improvements

Contract No.: 14-08, 15-23-A1-14-08, 15-30
File No.: 3110.205A

Senior Engineer,
Planning and Development: Sherri van der Wege, P.E. (SLV)

Contact Information: vanderweges@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



Name: **Collection System Building and Equipment Area Improvements**

Description: Provide upgraded Collection System Building and Equipment Area Improvements to accommodate the increased Collection Group responsibilities and protect valuable equipment.

Contract No.: 14-08, 15-23-A1-14-08 **COMPLETED**

Engineer: Freese and Nichols, Inc.

Scope: Final Design and Construction Bidding Phase

Contract Amount: Basic Services: not to exceed \$606,500
Special Services: not to exceed \$ 40,000

Funding Source: CRWS Series 2012-2 Bonds

Contract No.: 15-30

Engineer: Freese and Nichols, Inc.

Scope: Construction Administration

Contract Amount: Basic Services: not to exceed \$410,000
Special Services: not to exceed \$ 50,000

Funding Source: CRWS Series 2012-2 Bonds

Current Status: The Contractor completed the demolition of the existing building structure, as well as the concrete pads for the Collection System Building, the Jet-Vac Building, and the Storage Building, and has begun construction of the building structures. The chilled water line construction is complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		2/26/2014		6/24/2015
Land Rights				
Construction Administration		6/24/2015	11/2016	
Construction		6/24/2015	11/2016	

Chlorine Building Vent Line Improvements

Contract No.: 15-22, 16-27
File No.: 3110.129

Senior Engineer,
Planning and Development: Sherri van der Wege, P.E. (SLV)

Contact Information: vanderweges@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Treatment Plant



Name: **Chlorine Building Vent Line Improvements**

Engineer: AECOM Technical Services, Inc.

Scope: Final Design

Description: Removal and installation of new dry chemical adsorption units at the Chlorine Building. In addition, modifications to the existing chlorine vent line piping to accommodate the new location of the dry chemical adsorption units for the chlorine gas system.

Contract Amount: Basic Services: not to exceed \$100,911
Special Services: not to exceed \$ 10,000

Funding Source: CRWS Series 2013 Bonds

Current Status: The project design is complete.

Contract No: 16-27

Engineer: AECOM Technical Services, Inc.

Scope: Construction Administration

Contract Amount: Basic Services: not to exceed \$123,990
Special Services: not to exceed \$ 10,000

Funding Source: 2011-A-2 Series Bonds

Current Status: Construction and construction administration contracts awarded at June 2016 Board of Directors meeting.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		4/2015		6/2016
Land Rights				
Construction Administration		6/2016	6/2017	
Construction		6/2016	6/2017	

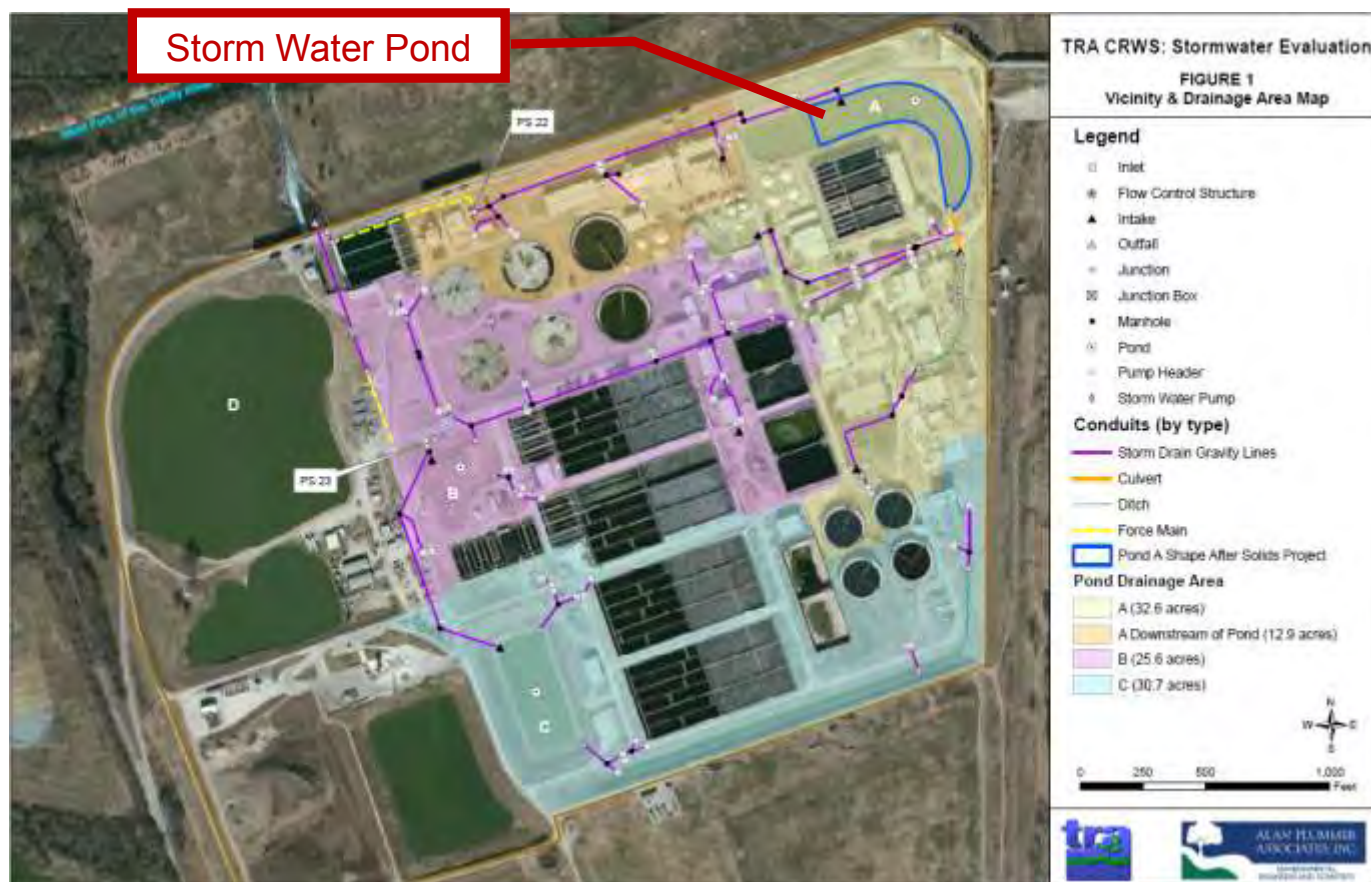
Storm Water System Improvements

Contract No.: 14-44, 16-10
File No.: 3110.2065

Engineer, Planning
and Development: Ronald K. Tamada, P.E. (RKT)

Contact Information: tamadar@trinityra.org Phone: 817-493-5100

Location: Central Regional Wastewater System Plant



Name: **Storm Water System Improvements**

Description: This project is the design of storm water system improvements recommended in the 2014 Storm Water Evaluation Technical Memorandum. The project includes improvements to Storm Water Pond A and Storm Water Pump Station 22 on the wastewater treatment plant site.

Contract No.: 14-44 **COMPLETED**

Engineer: Halff Associates, Inc.

Scope: Preliminary and Final Design

Contract Amount: Basic Services: not to exceed \$253,000
Special Services: not to exceed \$ 20,000

Funding Source: CRWS Series 2013 Bonds

Contract No.: 16-10

Engineer: Halff Associates, Inc.

Scope: Construction Administration

Contract Amount: Basic Services: not to exceed \$137,600
Special Services: not to exceed \$ 15,000

Funding Source: CRWS Series 2011A1 Bonds

Current Status: Construction is 25 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design		10/24/2014		7/2015
Final Design		10/24/2014		2/2016
Land Rights				
Construction Administration		2/24/2016	1/2018	
Construction		2/24/2016	1/2017	

Name: **Meter Station Rehabilitations, Phase I**

Description: Rehabilitation, replacement, relocation, and/or site improvements to 33 meter station sites throughout CRWS. Improvements range from improving site security to total meter station replacement. The 33 sites have been split into four sub-phases (1A, 1B, 1C, 1D) to align with land rights acquisition and to allow construction budget phasing.

Contract No.: 10-39

Engineer: Burgess & Niple, Inc.

Scope: Final Design

Contract Amount: Basic Services: not to exceed \$853,000
Special Services: not to exceed \$110,000

Funding Source: CRWS Series 2007 Bonds

Current Status: Phase 1A is under construction. Phase 1B design is approximately 75 percent complete.

Contract No.: 15-02

Engineer: Burgess & Niple, Inc.

Scope: Construction Administration (Phase 1A)

Contract Amount: Basic Services: not to exceed \$360,000
Special Services: not to exceed \$ 50,000

Funding Source: CRWS Series 2010 Bonds

Current Status: Construction is 40 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		10/2010	12/2017	
Land Rights				
Construction Administration		12/2014 (1A)	12/2017 (1A)	
Construction		12/2014 (1A)	12/2016 (1A)	

Bear Creek Interceptor, Segment 09BC-1

Contract No.: 14-11, 15-11
File No.: 3110.2046

Engineer, Planning
and Development: Marco A. Ramirez, P.E. (MAR)

Contact Information: ramirezm@tinityra.org Phone: 817-493-5100

Location: The Segment 09BC-1 begins in the DFW Airport jurisdiction and ends in the city of Grapevine. The project downstream location begins just east of State Highway (SH) 360, south of Mid Cities Boulevard and extends northward and crosses under SH 360 and SH 121 and ends at Minters Chapel Road.

Downstream Node: 1270B
Upstream Node: 3300B



Name: **Bear Creek Interceptor, Segment 09BC-1**

Contract No.: 14-11 **COMPLETED**

Engineer: Alan Plummer Associates, Inc.

Description: The Bear Creek Interceptor System is one of the five major pipeline interceptor systems serving CRWS. A review of the hydrology as provided by the Black & Veatch Corporation CRWS Phase V Infiltration/Inflow Assessment, conducted in 2013, revealed several segments of the Bear Creek Interceptor System must be constructed to transport the projected 2060 wastewater flows.

Scope: Preliminary Design and Environmental Assessment, which includes the Condition Assessment of approximately 26,800 linear feet (LF) of 30- to 54-inch diameter pipelines.

Contract Amount: Basic Services: not to exceed \$720,120
Special Services: not to exceed \$ 75,000

Funding Source: CRWS 2013 Series Bonds

Current Status: The preliminary design report has been completed and reviewed by Authority staff. An engineering service agreement for final design for the recommended improvements was approved by the Board in February 2015.

Contract No.: 15-11

Engineer: Alan Plummer Associates, Inc.

Scope: Final Design for the improvements to the Bear Creek Interceptor Segment 09BC-1, which includes the replacement of approximately 26,810 LF of mostly 30- and 54-inch diameter unlined reinforced concrete pipe.

Contract Amount: Basic Services: not to exceed \$1,873,010
Special Services: not to exceed \$ 150,000

Funding Source: CRWS 2013 Series Bonds

Current Status: Construction for this project will be split into three different phases, Phase 1A, 1B, and 2. Phase 1A has been advertised for construction and will be awarded in August 2016. Phase 1B is at 95 percent complete and Phase 2 is at 75 percent completed plans and specifications. Land rights will continue to acquire the easements for Phase 1B. The plat and legal documents for Phase 2 will be submitted to land rights in late 2017.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design		2/26/2014		6/2015
Final Design		2/25/2015	10/2019	
Land Rights Ph.1A, 1B			10/2017	
Land Rights Ph. 2			2/2019	
Construction Administration Ph.1A	8/2016		6/2017	
Construction Administration Ph. 1B	10/2017		4/2018	
Construction Administration Ph.2	2/2019		2/2020	
Construction Ph. 1A, 1B, & 2	08/2016		2/2020	

	84-inch	54-inch
Downstream Node:	7120B	110B
Upstream Node:	7210B	210B



Name: **Bear Creek Interceptor Rehabilitation.**

Description: Rehabilitation of 5,600 linear feet of parallel 54- and 84-inch unlined reinforced concrete pipelines by method of slipline (84-inch) and cured-in-place pipe technologies (54-inch). Replacement of all manholes and junction structures including upstream and downstream siphon boxes at two creek crossings.

Contract No.: 14-12 **COMPLETED**

Engineer: Lockwood, Andrews & Newnam, Inc.

Scope: Condition Assessment, Preliminary Design, and Environmental Assessment

Contract Amount: Basic Services: not to exceed \$272,780
Special Services: not to exceed \$ 25,000

Funding Source: CRWS Series 2013 Bonds

Contract No.: 15-54

Engineer: Lockwood, Andrews & Newnam, Inc.

Scope: Final Design and Construction Advertisement Phase

Contract Amount: Basic Services: not to exceed \$780,000
Special Services: not to exceed \$ 78,000

Funding Source: CRWS Series 2013 Bonds

Current Status: Final design is approximately 30 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design		2/2014		6/2015
Final Design		10/2015	11/2016	
Land Rights			10/2017	
Construction Administration	12/2017			
Construction	12/2017			

Elm Fork Relief Interceptor System Critical Area of Concern, Segment CAC-11

COMPLETED

Contract No.: 12-13
File No.: 3142.401

Engineer, Planning
and Development: James W. McDonald, P.E. (JWM)

Contact Information: mcdonaldj@trinityra.org Phone: 817-493-5100

Location: In the city of Irving, beginning at Old Singleton Blvd. and Twin Wells Golf Course northward along the west side of the Elm Fork of the Trinity River and ending at Proctor Road, just south of US 183.

Downstream Node: 1340E
Upstream Node: 1430E



Name: **Elm Fork Relief Interceptor System Critical Area of Concern, Segment CAC-11**

Engineer: Espey Consultants, Inc., dba RPS

Scope: Construction Administration

Description: Rehabilitation of the existing Elm Fork Relief Interceptor, Segment 1A, now called CAC-11, which is comprised of 17,200 linear feet of 96-inch unlined reinforced concrete pipe (RCP) pipeline and will be rehabilitated using cured-in-place pipe (CIPP) technology.

Contract Amount: Basic Services: not to exceed \$494,012
Special Services: not to exceed \$ 90,000

Funding Source: CRWS Series 2011-A3 Bonds

Current Status: Construction is complete. RPS conducted (closed circuit TV) CCTV warranty inspection of the rehabilitation, and has reported construction efforts met or exceeded the project design.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				
Land Rights				
Construction Administration		4/2012		5/2016
Construction		4/2012		7/2014

Coppell Interceptor Improvements

Contract No.: 13-27
File No.: 3136.112

Engineer, Planning
and Development: Marco A. Ramirez, P.E. (MAR)

Contact Information: ramirezma@trinityra.org Phone: 817-493-5100

Location: Located within the city of Coppell, the existing interceptor parallels Beltline Rd. from MacArthur Blvd. to Interstate Highway 35E. The Coppell Interceptor is at the end of the upstream section of the Elm Fork Interceptor System.

Downstream Node: 3485E
Upstream Node: 970E



Name: **Coppell Interceptor Improvements**

Engineer: Kennedy/Jenks Consultants

Scope: Final design of 3,500 linear feet (LF) of 48-inch diameter pipeline, 375 LF of 33-inch diameter pipeline, and the rehabilitation of 6,125 LF of 33-inch diameter pipeline, and 150 LF of aerial crossing replacement.

Description: The Coppell Interceptor serves the northwestern portion of the Elm Fork Interceptor System for the CRWS. A preliminary design has been completed and the design concluded that a combination of line replacement and rehabilitation was required to serve the growing needs of this portion of the CRWS service area.

Contract Amount:	Basic Services:	not to exceed \$762,300
	Special Services:	not to exceed \$ 97,100

Funding Source: CRWS 2010A Series Bonds

Current Status: The 95 percent plans and specifications have been reviewed by Authority staff. All easement documents have been submitted to land rights. A site certificate is anticipated late-2016. The project will be advertised for construction in October 2016.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				4/2013
Final Design		6/26/2013	12/2016	
Land Rights			12/2016	
Construction Administration	12/2016		12/2017	
Construction	12/2016		12/2017	

Elm Fork North Interceptor Rehabilitation

Contract No.: 13-37, 16-20-A1-13-37
File No.: 3136.113

Engineer, Planning
and Development: Kelly A. Davis, P.E. (KAD)

Contact Information: davisk@trinityra.org Phone: 817-493-5100

Location: Located in Carrollton, running primarily north-south from the State Highway 161 and Interstate Highway 35E interchange to Hutton Dr. south of Beltline Rd.

Downstream Node: 750E
Upstream Node MS18_0E



Name: **Elm Fork North Interceptor Rehabilitation**

Engineer: RJN Group, Inc.

Scope: Final Design and Construction Advertisement Phase

Description: Improvements include a combination of rehabilitation, replacement, and abandonment of approximately 7,950 linear feet (LF) of 33- to 66-inch concrete sewer pipeline including the replacement of MS_18.0E.

Contract Amount: Basic Services: not to exceed \$976,600
Special Services: not to exceed \$ 60,000

Funding Source: CRWS Series 2010A and 2011-A-1 Bonds

Status: Revised scope, per the First Amendment of the contract, includes an additional 3,100 LF of pipeline improvements in order to resolve negative slopes within the system. Approximately 5,100 LF of 66-inch pipe previously identified for rehabilitation will be replaced. Final design is approximately 50 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design		8/2013		3/2015
Final Design		8/2013	2/2017	
Land Rights			4/2017	
Construction Administration	8/2017		12/2020	
Construction	8/2017		12/2019	

Downstream Node: EF-2
Upstream Node: 1430E JB 2500E



Name: **Elm Fork Relief Interceptor, Segment EF-2, Phase 1**

Engineer: Black & Veatch Corporation

Scope: Construction Administration for the construction of 15,000 linear feet of 108-inch pipe.

Description: EF-2, Phase 1 project begins at Proctor Road, just south of US 183 and proceeds north/northwest along the west side of the Elm Fork of the Trinity River to a newly constructed junction box (JB 2500E) at Tom Braniff Road. The line will relief an existing 90- and 45-inch interceptor.

Contract Amount: Basic Services: not to exceed \$748,179
Special Services: not to exceed \$130,000

Funding Source: CRWS 2008 Series Bonds

Current Status: Construction activities have been on hold since May 2015 due to the flooding of the construction area. The project is 50 percent completed and construction activities will resume as soon as the site conditions improve and the water levels in the river decreases. After site conditions improve, the contractor will mobilize to clean and fix any damaged pipe. The contractor will then continue to lay pipe and build the junction boxes.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				
Land Rights				
Construction Administration		8/28/2013	12/2017	
Construction				

Elm Fork Relief Interceptor, Segment EF-2A

Contract No.: 14-13, 14-38
File No.: 3110.2011

Engineer, Planning
and Development: Marco A. Ramirez, P.E. (MAR)

Contact Information: ramirezma@trinityra.org Phone: 817-493-5100

Location: This project is located in the city of Irving, begins at the Authority's MS 4.0E at Proctor Road, crosses under US 183 and ends at TRA's Lift Station No. 1 (LS-1E).

Downstream Node: MS 4.0E
Upstream Node: Lift Station LS-1E



Name: **Elm Fork Relief Interceptor, Segment EF-2A**

Contract No.: 14-13

Engineer: Halff Associates, Inc.

Description: Segment EF-2A has been identified as needing immediate attention due to past pipeline failures. The pipeline consists of approximately 4,500 linear feet (LF) of 45-inch unlined reinforced concrete pipe. The majority of the current flows will be transferred over after the 108-inch EF-2, Phase 1 line is placed in service.

Scope: Condition Assessment and Preliminary Design for approximately 4,500 LF of 45-inch diameter unlined reinforced concrete pipe. The objective is to determine if it has the structural integrity to remain in service for up to five more years or if it should be rehabilitated or replaced immediately.

Contract Amount: Basic Services: not to exceed \$150,000
Special Services: not to exceed \$ 1,000

Funding Source: CRWS 2013 Series Bonds

Current Status: The preliminary design report has been completed and reviewed by Authority Staff. Halff Associates was capable only to complete a portion of the field condition assessment survey of the EF-2A pipeline. The majority of the pipeline is in too poor of a condition to risk inserting a camera. The engineer was required to prepare an emergency bypass plan, the plan was approved by the General Manager in July 2014 and was constructed in December 2014.

Contract No.: 14-38

Engineer: Halff Associates, Inc.

Scope: Final Design for the replacement of lift station LS_1E and the abandonment of approximately 4,000 LF of 45-inch diameter unlined reinforced concrete pipe. Included in the scope is to tie the new lift station to the emergency by-pass plan that was built in December 2014.

Contract Amount: Basic Services: not to exceed \$571,793
Special Services: not to exceed \$ 50,000

Funding Source: CRWS 2013 Series Bonds

Current Status: A first amendment to the engineering services agreement for the final design was approved by the Board of Directors in April 2016. The 95 percent plans and specifications have been reviewed by Authority staff. This project is scheduled to be advertised for construction in July.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		8/27/2014	8/2016	
Land Rights			7/2016	
Construction Administration	8/2016		7/2017	
Construction	8/2016		7/2017	

Elm Fork Interceptor, Segment EF-2B

Contract No.: 16-05
File No.: 3110.2029

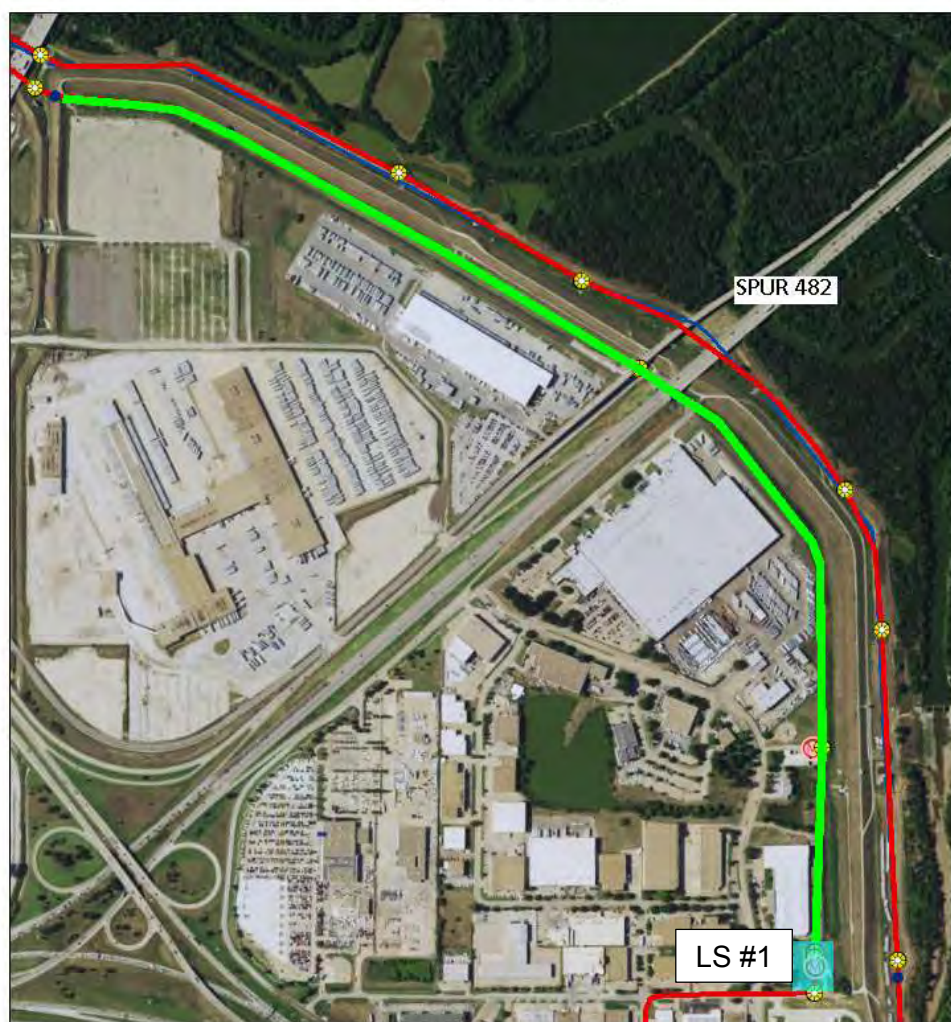
Engineer, Planning
and Development: Marco A. Ramirez, P.E. (MAR)

Contact Information: ramirezm@trinityra.org Phone: 817-493-5100

Location: This project is located in the city of Irving. It begins at the Authority's Lift Station No. 1 (LS-1E) and continues north past Loop 12.

Downstream Node: Lift Station LS-1E
Upstream Node: North Loop 12 (No TRA node)

EF-2B, Overall Map



October 8, 2015

1:10,689

- | | |
|---|-------------------------------|
| Water Pipes | Meter Station, In-Plant Meter |
| Valve | Other |
| Junction Box | Other line Types |
| Lift Station | Gravity Line |
| Siphon Box | LS #1 |
| Manhole; Offset Manhole; POE-Offset Manhole | 1 st Phase |

0 0.075 0.15 0.3 mi
0 0.125 0.25 0.5 km

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community

CRWS

Name: **Elm Fork Interceptor, Segment EF-2B**

Engineer: Halff Associates, Inc.

Scope: Final design for the rehabilitation and/or replacement of approximately 8,500 linear feet (LF) of existing 45- to 60-inch diameter unlined reinforced concrete pipe from Lift Station No. 1 to just west of State Highway Loop 12. The scope also includes the rehabilitation or replacement of three different manholes and the new construction of approximately eight to ten new manholes.

Description: Segment EF-2B experienced several pipe failures in 2015. The pipeline consists of approximately 8,500 LF of 45-inch unlined reinforced concrete pipe. The majority of the current flows will be transferred over after the 108-inch pipeline on the EF-2, Phase 1 project is placed in service.

Contract Amount:	Basic Services:	not to exceed \$540,000
	Special Services:	not to exceed \$100,000

Funding Source: CRWS 2013 Series Bond

Current Status: The plans and specifications have been completed. This project will be advertised for construction in July 2016. The construction contract will be awarded in August and construction will start in September.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		12/2/2015	8/2016	
Land Rights			6/2016	
Construction Administration	8/2016		7/2017	
Construction	8/2016		7/2017	

Elm Fork Relief Interceptor, Segment EF-3

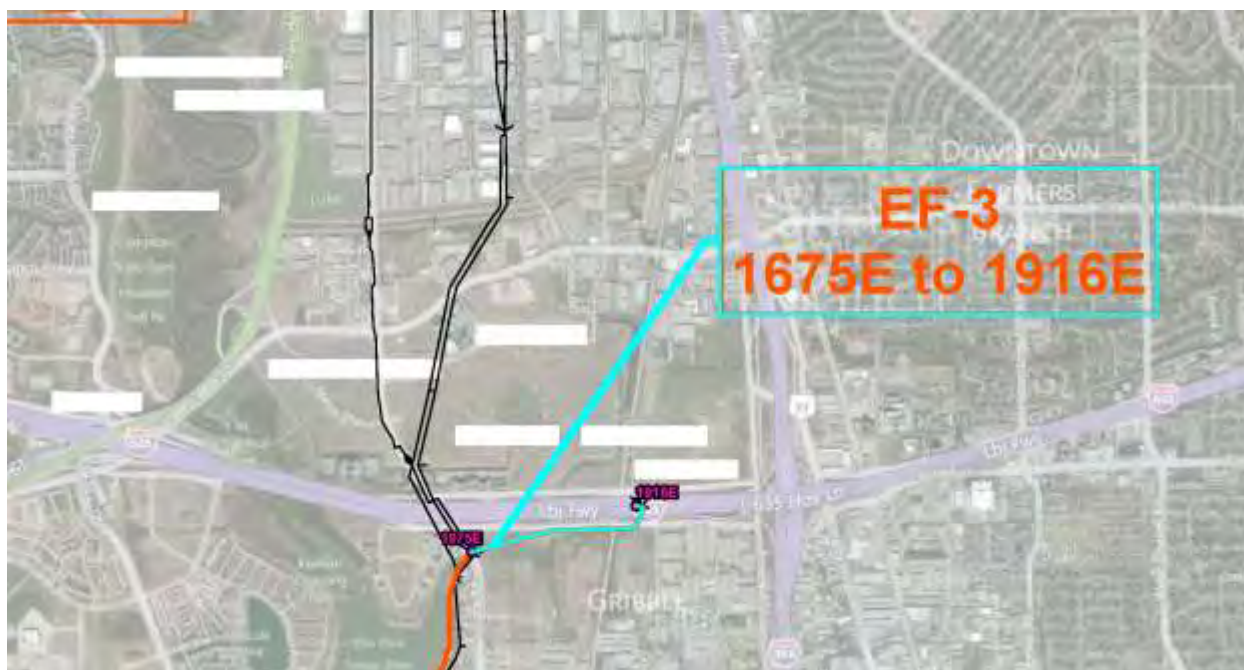
Contract No.: 08-42, 10-12-A1-08-42, 12-12-A2-08-42
File No.: 3135.300

Engineer, Planning
and Development: James W. McDonald, P.E. (JWM)

Contact Information: mcdonaldj@trinityra.org Phone: 817-493-5100

Location: Located in Farmers Branch, parallel to and crossing 635 LBJ Frwy,
between Luna Rd and Interstate Highway 35E.

Downstream Node: 1675E
Upstream Node: Farmers Branch Junction Box upstream of
TRA meter site MS13.0E



Name: **Elm Fork Relief Interceptor, Segment EF-3**

Engineer: RJN Group, Inc.

Scope: Preliminary Design, Environmental Assessment, and Final Design

Description: Install approximately 4,200 linear feet of 48-inch relief interceptor in parallel new easement to replace existing 45-inch pipe.

Contract Amount: Basic Services: not to exceed \$342,850
Special Services: not to exceed \$ 78,000

Funding Source: CRWS Series 2007 Bonds

Current Status: Condition assessment report of the existing 45-inch pipeline and MS 13.0E was completed in December 2014. Replacement of the 45-inch pipeline is recommended as the most cost effective solution. Final design is complete. Temporary construction easements and permits are being acquired from the City of Dallas and USACE.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design		8/2008		1/2012
Final Design		2/2012		5/2016
Land Rights			7/2016	
Construction Administration	8/2016		10/2018	
Construction	8/2016		10/2017	

Elm Fork Relief Interceptor, Segment EF-7

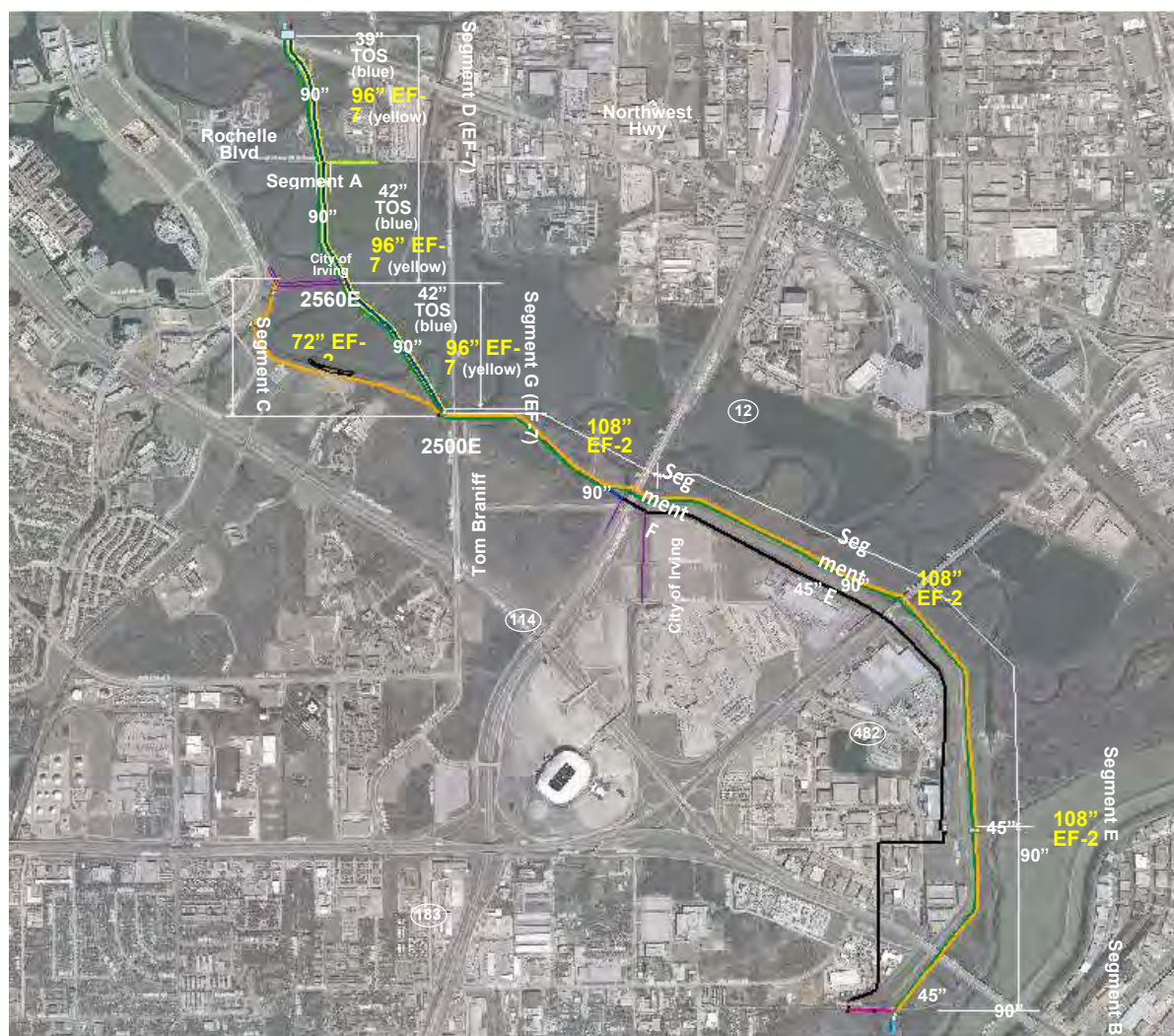
Contract No.: 16-24
File No.: 3142.202

Engineer, Planning
and Development: James W. McDonald, P.E. (JWM)

Contact Information: mcdonaldj@trinityra.org Phone: 817-493-5100

Location: Located in the cities of Irving and Dallas.

Downstream Node: 2500E
Upstream Node: 2700E



Name: **Elm Fork Relief Interceptor, Segment EF-7**

Engineer: Stantec, Inc.

Scope: Final Design

Description: A relief pipeline for the CRWS Elm Fork Interceptor System. EF-2 and EF-7 were previously combined as a single construction project. Due to delay in land rights acquisitions and the need for a meter station redesign, EF- 2 was separated into Phase 1 and Phase 2. Additional hydraulic modeling then determined that EF-2 Phase 2 could be eliminated by connecting the Irving siphon to the existing 90-inch and proposed EF-7 96-inch interceptor. EF-7 begins at junction box JB-2500E and proceeds north, crossing and then paralleling the east side of the Elm Fork River to the existing JB 2700E north of Northwest Highway. EF-7 includes 6,700 linear feet of 96-inch pipeline and will now include design of meter stations 8.0E and 10.0E.

Contract Amount:	Basic Services:	not to exceed \$1,300,000
	Special Services:	not to exceed \$ 130,000

Funding Source: CRWS 2015 Extended Commercial Paper

Current Status: Stantec, Inc. purchased the KBR Infrastructure division in December 2015. Final design of the new EF-7 scope was awarded at the April Board of Directors meeting on 4/27/2016.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		4/2016	5/2017	
Land Rights			5/2017	
Construction Administration	6/2017		12/2019	
Construction	6/2017		12/2018	

Elm Fork Relief Interceptor System, Segment EF-R1/R2

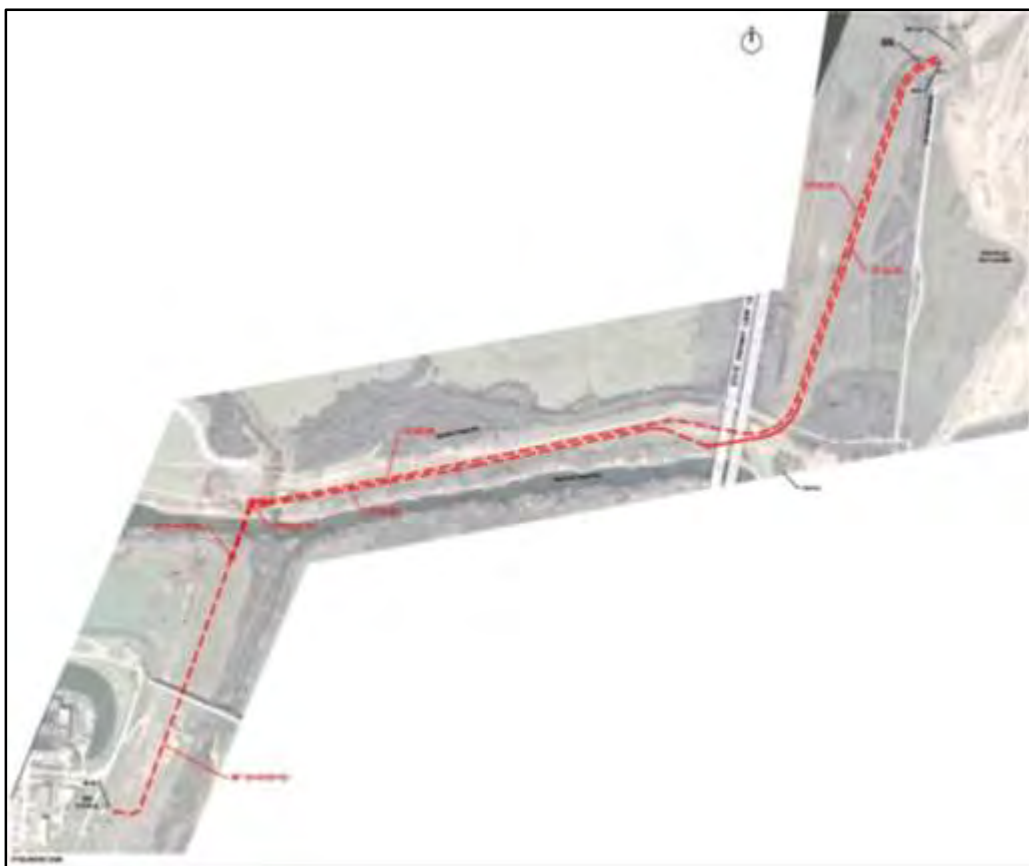
Contract No.: 15-32
File No.: 3135.320

Engineer, Planning
and Development: James W. McDonald, P.E. (JWM)

Contact Information: mcdonaldj@trinityra.org Phone: 817-493-5100

Location: Located in the cities of Irving and Grand Prairie, EF-R1/R2 begins at the CRWS treatment plant influent Junction Box 1D located just outside the levee, then extends north across the Trinity River, turns east to cross under Loop 12 and ends at Old Singleton Blvd/Twin Wells Golf Course.

Downstream Node: JB-1D at CRWS plant
Upstream Node: 1340E



Name: **Elm Fork Relief Interceptor System, Segment EF-R1/R2**

Engineer: CH2M Hill Engineers, Inc.

Scope: Construction Administration

Description: Rehabilitation of 11,400 linear feet (LF) of parallel 72-inch EF-R1 and EF-R2 interceptors, construction of a new siphon crossing of the West Fork Trinity River, installation of 2,300 LF of a new 96-inch EF-R1/EF-R2 interceptor, and replacement of meter station MS_2.0E

Contract Amount: Basic Services: not to exceed \$1,125,000
Special Services: not to exceed \$ 107,000

Funding Source: CRWS Series 2012-1 Bonds

Current Status: Notice to proceed was provided to Oscar Renda Contracting (Southland) on September 28, 2015. Construction is approximately 15 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		2/2010		5/2015
Land Rights				5/2015
Construction Administration		6/2015	10/2018	
Construction		6/2015	10/2017	

EF-R3

Rehabilitation of Elm Fork Relief Interceptor Segment 1C

Contract No.: 12-31
File No.: 3135.330

Engineer, Planning
and Development: James W. McDonald, P.E. (JWM)

Contact Information: mcdonaldj@trinityra.org Phone: 817-493-5100

Location: Located in Farmers Branch, Dallas, and Irving; west of Luna Road
between Highway 635 LBJ and Northwest Highway.

Downstream Node: 1600E/2700E
Upstream Node: 1675E



Name: **EF-R3 – Rehabilitation of Elm Fork Relief Interceptor Section 1C**

Engineer: JQ Infrastructure

Scope: Final Design

Description: Rehabilitation of 13,100 linear feet of 66-inch reinforced concrete gravity pipe.

Contract Amount: Basic Services: not to exceed \$673,800
Special Services: not to exceed \$ 40,000

Funding Source: CRWS Series 2010A Bonds

Current Status: Updated capacity analysis concluded that the existing capacity is sufficient and that rehabilitation of the existing 66-inch pipeline would be the most cost effective solution. Final design of the rehabilitation method is 95 percent complete. Temporary construction easements and permits are being acquired.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		10/2012	7/2016	
Land Rights			8/2016	
Construction Administration	10/2016		12/2018	
Construction	10/2016		12/2017	

JT-R1 Pipeline Replacement

Contract No.: 15-09
File No.: 3145.131

Engineer, Planning
and Development: James W. McDonald, P.E. (JWM)

Contact Information: mcdonaldj@trinityra.org Phone: 817-493-5100

Location: Located in Grand Prairie, from approximately the northwest bank of Mountain Creek Lake (southwest of Navy-owned property) to SE 14th St.

Downstream Node: 120J
Upstream Node: LS_4J



Name: **JT-R1 Pipeline Replacement**

Description: Replace existing facilities with 5,400 linear feet of 24-inch diameter gravity interceptor to address issues of poor condition and inadequate capacity. Removes an aerial creek crossing, Lift Station No. 4, and forcemain from service

Contract No.: 15-09

Engineer: Espey Consultants, Inc., dba RPS

Scope: Construction Administration

Contract Amount: Basic Services: not to exceed \$195,500
Special Services: not to exceed \$ 40,000

Funding Source: CRWS Series 2011A-1 Bonds

Current Status: Contractor Notice to Proceed was May 11, 2015. Construction is approximately 50 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		8/2011		1/2015
Land Rights				
Construction Administration		2/2015	12/2017	
Construction		2/2015	12/2016	

Jefferson Tunnel Relief Interceptor, 09JT-1

Contract No.: 15-53
File No.: 3110.2010

Engineer, Planning
and Development: Kelly A. Davis, P.E. (KAD)

Contact Information: davisk@trinityra.org Phone: 817-493-5100

Location: City of Grand Prairie

Downstream Node: 2600J
Upstream Node: 560J

Downstream Node 2600J is located in McFalls Park east of S. Carrier Parkway just north of the intersection of Virginia Drive and West Phillips Court in Grand Prairie. Upstream Node 560J is located near the Lockheed Martin facility approximately 800 feet west of State Highway 161 (President George Bush Turnpike) in Grand Prairie.



Name: **Jefferson Tunnel Relief Interceptor, 09JT-1**

Description: Installation of approximately 6,625 linear feet of 21- to 24-inch pipe to provide relief to the existing 24-inch reinforced concrete and PVC pipeline.

This project is necessary since the existing sewer interceptor does not have the hydraulic capacity to convey projected 2060 wastewater flows, and sections of pipe and manholes are corroded or damaged.

Engineer: Criado & Associates, Inc.

Scope: Condition Assessment, Preliminary Design, and Environmental Assessment

Contract Amount:	Basic Services:	not to exceed \$225,000
	Special Services:	not to exceed \$ 25,000

Funding Source: CRWS Series 2013 Bonds

Current Status: The project is currently in the condition assessment phase.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design		10/2015	11/2016	
Final Design	2/2017			
Land Rights	2/2018			
Construction Administration	2/2019			
Construction	2/2019			

Lift Stations 5 and 5A Rehabilitation

Contract No.: 14-19

File No.: 3110.905

Engineer, Planning
and Development:

James W. McDonald, P.E. (JWM)

Contact Information:

mcdonaldj@trinityra.org

Phone: 817-493-5100

Location:

Located in the city of Grand Prairie, Lift Station 5 is south of the Webb Lynn Road and Ragland intersection, near Joe Pool Lake. Lift Station 5A is located off of Arlington Webb-Britton Road and Ragland intersection, near Lloyd Park.



Name: **Lift Stations 5 and 5A Rehabilitation**

Engineer: HDR Engineering, Inc.

Scope: Construction Administration

Description: Lift Station 5 – Replace existing lift station with a new submersible pump lift station, including emergency generator with quick connect capability. The existing lift station will be demolished below grade. Improvements will be made to the existing pavement, fence, and gates.

Lift Station 5A – Addition of onsite emergency generator with quick connect capability and improvements to the existing magnetic flow meters on twin 30-inch force mains.

Contract Amount:	Basic Services:	not to exceed \$515,032
	Special Services	not to exceed \$ 50,000

Funding Source: CRWS Series 2011-A1 Bonds

Current Status: Construction is approximately 85 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				
Land Rights				
Construction Administration		4/2014	12/2017	
Construction		4/2014	12/2016	

Mountain Creek Fish Creek Interceptor MC-3, Phases I & II

Contract No.: 10-01, 14-37, 16-02
File No.: 3172.422, 3172.422A, 3172.422B

Engineer, Planning
and Development: Kelly A. Davis, P.E. (KAD)

Contact Information: davisk@trinityra.org Phone: 817-493-5100

Location: Northeast of State Highway (SH) 360 & Interstate 20, the MC-3 interceptor parallels North Fish Creek in the cities of Arlington and Grand Prairie. Phase I begins on the west side of SH 360 and continues behind the new Paragon Mall. Phase II terminates just west of Great Southwest Parkway.
Upstream Node: 1110M Downstream Node: 976M



Name: **Mountain Creek Fish Creek Interceptor, Segment MC-3**

Description: MC-3, Phase I includes approximately 3,500 linear feet (LF) of 36- and 42-inch gravity interceptor and replacement of meter station 7.0M. MC-3, Phase II includes 4,540 LF of 36-inch pipeline, 670 LF 24-inch pipeline by slipline rehabilitation, and 840 LF of 12-inch sewer lateral pipelines connecting to the city of Grand Prairie. All 12- and 24-inch pipelines will become the responsibility of the City of Grand Prairie.

Contract No.: 10-01 **COMPLETED**

Engineer: Brown & Gay Engineers, Inc.

Scope: Final Design (Phase I & II)

Contract Amount: Basic Services: not to exceed \$629,514
Special Services: not to exceed \$ 46,000

Funding Source: CRWS Series 2009 Bonds

Contract No.: 14-37

Engineer: Brown & Gay Engineers, Inc.

Scope: Construction Administration (Phase I)

Contract Amount: Basic Services: not to exceed \$267,000
Special Services: not to exceed \$ 30,000

Funding Source: CRWS Series 2010A Bonds

Current Status: Construction is 90 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		12/2009		7/2014
Land Rights				7/2014
Construction Administration		8/2014	4/2017	
Construction		8/2014	6/2016	

Contract No.: 16-02

Engineer: Brown & Gay Engineers, Inc.

Scope: Construction Administration (Phase II)

Contract Amount: Basic Services: not to exceed \$270,000
Special Services: not to exceed \$ 25,000

Funding Source: CRWS Series 2010A Bonds

Current Status: Construction is approximately 5 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		12/2009		11/2015
Land Rights				11/2015
Construction Administration		12/2015	11/2018	
Construction		12/2015	11/2017	

Mountain Creek Interceptor MC-5 and MC-6, Phase 2A

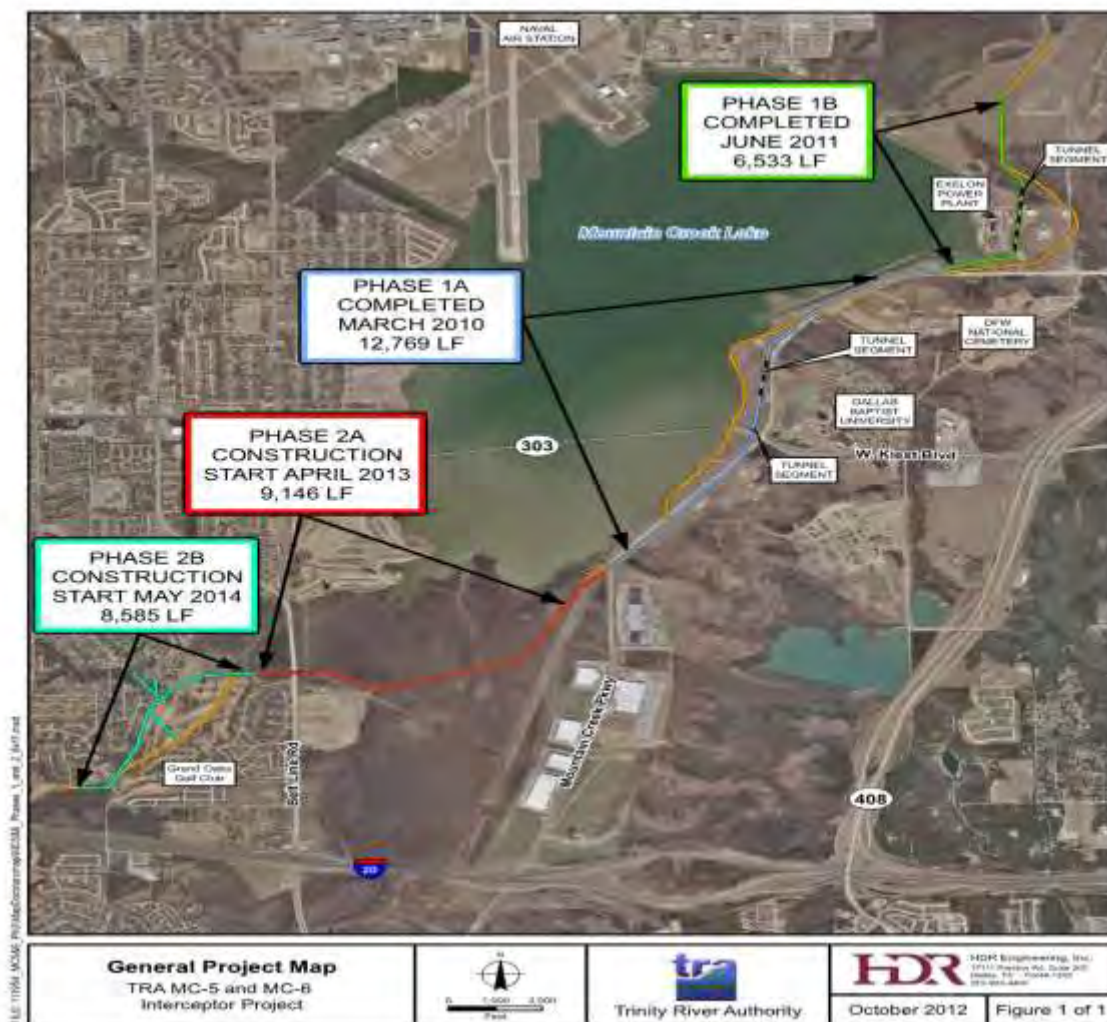
Contract No.: 13-42
File No.: 3172.419A

Engineer, Planning
and Development: James W. McDonald, P.E. (JWM)

Contact Information: mcdonaldj@trinityra.org Phone: 817-493-5100

Location: In the cities of Dallas and Grand Prairie beginning just west of Mountain Creek Parkway, south of Mountain Creek Lake, to just west of the Grand Oaks Golf Course.

Downstream Node: 330M
Upstream Node: 390M



Name: **Mountain Creek Interceptor MC-5 and MC-6, Phase 2A**

Engineer: HDR Engineering, Inc.

Scope: Construction Administration

Description: Construction administration services for Phase 2A of the MC-5 & 6 project consists of approximately 2,500 linear feet (LF) of 96-inch and 6,400 LF of 90-inch diameter gravity flow pipeline, and replacement of Meter Station 5.1M that serves Grand Prairie. A test section of approximately 1,000 LF of 96-inch of reinforced concrete pipe with high density polyethylene (HDPE) liner will be installed and evaluated for its corrosion resistant liner performance.

Contract Amount: Basic Services: not to exceed \$456,030
Special Services: not to exceed \$ 80,000

Funding Source: CRWS Series 2010 Bonds

Current Status: Construction is approximately 98 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				
Land Rights				
Construction Administration		10/2013	8/2017	
Construction		10/2013	8/2016	

Mountain Creek Interceptor MC-5 and MC-6, Phase 2B

Contract No.: 15-31
File No.: 3172.419B

Engineer, Planning
and Development: James W. McDonald, P.E. (JWM)

Contact Information: mcdonaldj@trinityra.org Phone: 817-493-5100

Location: In the cities of Dallas and Grand Prairie beginning just west of Mountain Creek Parkway, south of Mountain Creek Lake, to just west of the Grand Oaks Golf Course.

Downstream Node: 330M
Upstream Node: 460M

Due to delays from acquiring easement through the golf course, Phase 2 was split into Phase 2A and 2B. Phase 2A is that area downstream of the golf course, Phase 2B crosses the course.



Name: **Mountain Creek Interceptor MC-5 and MC-6, Phase 2B**

Description: Phase 2B of the MC-5 & 6 Project consists of approximately 8,585 linear feet of 90- and 84-inch diameter gravity flow pipeline and three lateral lines/points-of-entry that serve Grand Prairie.

Contract No.: 15-31

Engineer: HDR Engineering, Inc.

Scope: Construction Administration

Contract Amount: Basic Services: not to exceed \$380,700
Special Services: not to exceed \$ 60,000

Funding Source: CRWS Series 2011A-1 Bonds

Current Status: Notice to proceed was issued August 31, 2015. Construction is approximately 75 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				5/2015
Land Rights				5/2015
Construction Administration		6/2015	9/2017	
Construction		6/2015	9/2016	

Mountain Creek Interceptor MC-7 and MC-8, Phases I & II

Contract No.: 05-37, 08-12-A1-05-37, 16-19-A3-05-37
File No.: 3172.420

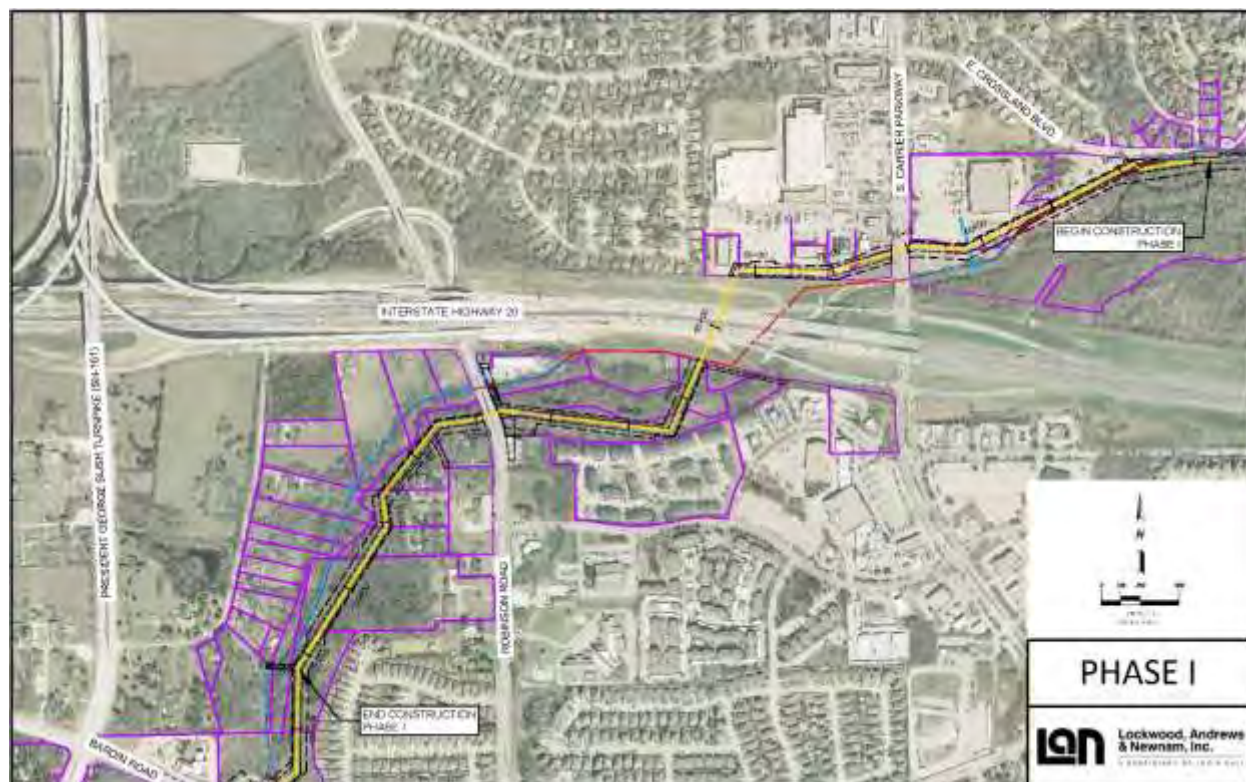
Engineer, Planning
and Development: Kelly A. Davis, P.E. (KAD)

Contact Information: davisk@trinityra.org Phone: 817-493-5100

Location: Located in the cities of Arlington and Grand Prairie, MC 7 & 8 project begins in the Fish Creek Forest Preserve, approximately 120 feet east of Verde Woods, and parallels the Fish Creek to its upstream end just west of Great Southwest Parkway.

Downstream Node: 460M
Upstream Node: 1270M

Mountain Creek Interceptor MC-7 and MC-8, Phase I



Mountain Creek Interceptor MC-7 and MC-8, Phase II

Name: **Mountain Creek Interceptor MC-7 and MC-8, Phases I & II**

Engineer: Lockwood, Andrews & Newnam, Inc. (LAN)

Scope: Final Design, Environmental Assessment, and Permitting

Description: MC-7 & 8 project will consist of approximately 16,700 linear feet (LF) of 72- to 78-inch diameter gravity flow pipeline and eight lateral lines points-of-entry (POE) (including the Our Lane POE) that serve Grand Prairie.

Contract Amount: Basic Services: not to exceed \$1,607,934
Special Services: not to exceed \$ 108,000

Funding Source: CRWS Series 2013 Bonds

Current Status: Design is 99 percent complete.

- Upcoming TxDOT improvements to IH-20 frontage roads resulted in the division of MC-7 and MC-8 into two construction projects, MC-7&8 Phases I and II. The February 2016 Board approved a Third Amendment to the contract to support additional construction bid services and design revisions required as a result of the project being split into two bid packages. The Phase I segment follows Fish Creek from Robinson Road to Carrier Parkway and includes all work within Interstate Highway 20 (I-20) rights-of-way. It is projected to advertise, bid and award for construction by August 2016 in order to avoid conflict with TxDOT construction activities.
- Due to TxDOT's accelerated construction schedule of Lakeridge Parkway and revised roadway alignment, modifications to the interceptor alignment and revisions to the connections of POE lines were required.
- Land Rights is in the process of acquiring 35 parcels; approximately 90 percent of the necessary parcels have been obtained. The anticipated completion of land rights and issuance of site certificate is July 2016.
- Improvements include an 8-inch gravity sewer collector to serve three homes currently on septic tanks, since construction of the proposed interceptor will impact existing service. The 2012 February Board approved an Interlocal Agreement to cost share with the City of Grand Prairie for construction of this collection line.
- Texas Historical Commission required an archeological survey of eight test trenches/cut banks along the pipeline alignment, south of I- 20. The survey revealed no archeological findings, thus the site is clear.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design		12/2005		6/2006
First Amendment		2/2008		10/2010
Second Amendment		2/2011		5/2014
Third Amendment		2/2016		
MC-7&8, Phase I				
Final Design			7/2016	
Land Rights			7/2016	
Construction Administration	8/2016		2/2019	
Construction	8/2016		2/2018	
MC-7&8, Phase II				
Final Design			12/2016	
Land Rights			7/2016	
Construction Administration	8/2017		8/2020	
Construction	8/2017		8/2019	

Mountain Creek Interceptor, Segment 30MC-1

Contract No.: 13-21
File No.: 3173.400

Engineer, Planning
and Development: Marco A. Ramirez, P.E. (MAR)

Contact Information: ramirezm@trinityra.org Phone: 817-493-5100

Location: Located in the city of Grand Prairie and parallels Loop 12 on its eastern side. The project begins at Interstate Highway 30, confluence with the West Fork Interceptor and extends south to West Jefferson Blvd.

	<u>30MC-1</u>	<u>MC-1 (CAC-2)</u>
Downstream Node:	5105W	1040W
Upstream Node:	60M	3300M



Name: **Mountain Creek Interceptor, Segment 30MC-1**

Engineer: Carollo Engineers, Inc.

Scope: Final Design of approximately 7,000 linear feet of 78-inch diameter pipeline. The scope also includes construction advertisement phase.

Description: The 54-inch interceptor was built in 1957 and was plugged in 1998 when MC-1 was put into service. A condition assessment was completed in September 2012 for both MC-1 and 30MC-1 and it determined that the existing 54- and 78-inch pipelines are in deteriorated condition. Segment 30MC-1 had numerous pipe segments with exposed corroded structural reinforcement and it had reached the end of its service life.

Contract Amount: Basic Services: not to exceed \$1,454,824
Special Services: not to exceed \$ 150,000

Funding Source: CRWS 2011A-1 Series Bonds

Current Status: The 95 percent completed plans and specifications have been reviewed by the Authority staff. Land Rights is working on acquiring the permanent and temporary easement required. The site certificate is anticipated to be completed in late-2016.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		4/2013	10/2016	
Land Rights			10/2016	
Construction Administration	10/2016		6/2018	
Construction	10/2016		6/2018	

East Mountain Creek Interceptor (from NELV to MC-5)

Contract No.: 13-28; 16-28
File No.: 3172.200

Engineer, Planning
and Development: James W. McDonald (JWM)

Email address: mcdonaldj@trinityra.org Phone: 817-493-5100

Location: Located in the city of Dallas, the project begins approximately 1.4 miles north of the Mountain Creek Parkway and Interstate 20 intersection and ends approximately 1500-feet south of the Eagle Ford Drive and Farm to Market 1382 intersection.

Downstream Node: 330M
Upstream Node: 2290M



Name: **East Mountain Creek Interceptor (from NELV to MC-5)**

Description: The East Mountain Creek project will relieve an approximately 22,000-foot section of existing 24- through 48-inch pipeline with a new 36- and 60-inch diameter pipeline. Approximately one mile of the pipeline will be relocated onto United States Army Corp of Engineers owned and maintained property requiring extensive coordination and additional environmental services. This project also includes improvements to meter station 5.3M (measuring Grand Prairie flow).

Contract No.: 13-28 **COMPLETED**

Engineer: TranSystems, Inc.

Scope: Final Design

Contract Amount: Basic Services: not to exceed \$719,900
Special Services: not to exceed \$ 30,000

Funding Source: CRWS Series 2010A Bonds

Current Status: COMPLETED

Contract No.: 16-28

Engineer: TranSystems, Inc.

Scope: Construction Administration

Contract Amount: Basic Services: not to exceed \$405,000
Special Services: not to exceed \$ 45,000

Funding Source: CRWS 2015 Extended Commercial Paper

Current Status: Construction contract was awarded at Board of Directors meeting on June 22, 2016.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design		12/2008		3/2010
Final Design		6/2013		5/2016
Land Rights				5/2016
Construction Administration	6/2016		2/2019	
Construction	6/2016		2/2018	

Northeast Lakeview Force Main Air Relief Valve Replacement

Contract No.: 16-08

File No.: 3110.2115

Title: Marco A. Ramirez, P.E. (MAR)

Contact Information: ramirezma@trinityra.org Phone: 817-493-5100

Location: Located almost entirely in Cedar Hill State Park, the Northeast Lakeview Force main was constructed in 2007 and is a part of the Central Regional Wastewater System. The force main begins at Lift Station No. 7, just south of Mansfield Road, is approximately 30,000 feet long and ends into a 24-inch gravity line along FM-1382.

Downstream Node: Lift Station No. 7
Upstream Node: 5700M



Name: **Northeast Lakeview Force Main Air Relief Valve Replacement**

Engineer: Brenda Perkins & Associates, LLP

Scope: Develop design drawings and specifications for the repair and/or replacement of the air relief valves at ten locations. The design will include specifications and drawings for the removal and replacement of ductile iron tees using PVC pipe, bolted couplings, and stainless steel tapping saddles and sleeves. The new valve will be made of stainless steel and depending on its location it will be air release valve, combination valve, or vacuum relief valve. Odor control facilities will also be considered at specific locations.

Description: There are a total of ten air and vacuum valves along the force main that were constructed with ductile iron materials that have corroded due to exceedingly high levels of hydrogen sulfide. The Authority's Collection System Group has recommended that these ten existing air valves are candidates for a complete inspection and replacement.

Contract Amount: Basic Services: not to exceed \$51,880
Special Services: not to exceed \$10,000

Funding Source: NELV 2007 Series Bonds

Current Status: A technical memorandum has been completed and reviewed by Authority staff. The memorandum provided different options for the replacement of the air relief valves. A 95 percent submittal of the completed plans and specifications for the replacement of these valves, will be in August. The advertisement for construction is anticipated to be in October.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		1/2016	11/30/2016	
Land Rights			10/31/2016	
Construction Administration	12/2016		10/2017	
Construction	12/2016		10/2017	

West Fork Relief Improvements, Segments WF-6 and WF-14

Contract No.: 13-10
File No.: 3145.127

Engineer, Planning
and Development: James W. McDonald, P.E. (JWM)

Contact Information: mcdonaldj@trinityra.org Phone: 817-493-5100

Location: Cities of Arlington, Euless, and Fort Worth

Downstream Node: 740W
Upstream Node: 3151W

The project begins near the confluence of the West Fork of the Trinity River and Walker Branch at interceptor system Node 740W and ends at the Tarrant County Water Supply Project (TCWSP) water treatment plant which is approximately 1,000 feet east of Node 3151W.



Name: **West Fork Relief Improvements, Segments WF-6 and WF-14**

Description: Engineering services during construction of approximately 8,000 linear feet (LF) of 48-inch diameter pipelines, relocation of Meter Station MS14.0W, and 1,000 LF of 12-inch diameter TCWSP drain pipeline.

Contract No: 13-10

Engineer: Teague Nall and Perkins, Inc.

Scope: Construction Administration

Contract Amount: Basic Services: not to exceed \$171,700
Special Services: not to exceed \$ 25,000

Funding Source: CRWS Series 2010A Bonds

Current Status: Substantial completion occurred in August 2015. The contractor is addressing punch list items regarding Kanji property restoration.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				
Land Rights				
Construction Administration		2/2013	7/2017	
Construction		2/2013	7/2016	

West Fork Pipeline Improvements, WF-10 and WF-13

Contract No.: 14-42
File No.: 3145.128

Engineer, Planning
and Development: James W. McDonald, P.E. (JWM)

Contact Information: mcdonaldj@trinityra.org Phone: 817-493-5100

Location: Along Cyclone Creek beginning in the city of Euless and ending in the city of Bedford.

	<u>WF-10 (Ph I)</u>	<u>WF-10 (Ph II)</u>	<u>WF-13</u>
Downstream Node:	6802W	3690W	3759W
Upstream Node:	3690W	MS15.0W	MS16.0W



Name: **West Fork Pipeline Improvements, Segments WF-10 and WF-13**

Description: Replacement of approximately 5,600 linear feet (LF) of 12-inch pipeline with 15- to 24-inch pipeline beginning at the confluence of Cyclone Creek and Hurricane Creek and ending north of Highway 183. WF-10 portion of the project includes: MS15.0W relocation, approximately 1,000 LF of new 24-inch pipeline, approximately 4,600 LF of new 16-inch pipeline, and rehabilitation of the existing 12-inch pipeline. WF-13 portion includes reconstruction of MS16.0W on Cyclone Creek. The WF-10 and WF-13 project was divided into two phases to accommodate TxDOT Highway 183 widening project and coordination with the City of Euless. Phase II construction preceded Phase I due to TxDOT Highway 183 construction, and was completed in June 2014.

Contract No.: 14-42

Engineer: Nathan D. Maier Consulting Engineers, Inc.

Scope: Construction Administration, Phase I

Contract Amount: Basic Services: not to exceed \$181,300
Special Services: not to exceed \$ 30,000

Funding Source: Series 2011 Bonds

Current Status: The project encountered a substantial change order to relocate an Explorer petroleum pipeline. Construction is approximately 90 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				
Land Rights				
Construction Administration		10/2014	8/2017	
Construction		10/2014	8/2016	

West Fork Interceptor System, WF-12

Contract No.: 12-21, 15-10
File No.: 3145.129

Engineer, Planning
and Development: Kelly A. Davis, P.E. (KAD)

Contact Information: davisk@trinityra.org Phone: 817-493-5100

Location: Cities of Arlington and Grand Prairie

Downstream Node: 1940W
Upstream Node: 2010W

Downstream Node 1940W is located in the Riverside Golf Club approximately 1,400 feet west of Post and Paddock Road and Riverside Parkway in Arlington. Upstream Node 2010W is located in the Riverside Golf Club approximately 2,400 feet west of Riverside Parkway and State Highway 360 in Grand Prairie.



Name: **West Fork Interceptor System, WF-12**

Description: Installation of approximately 2,400 linear feet of 27-inch pipe to replace an existing 24-inch vitrified clay pipe and replacement of meter station MS9.0W.

This project is necessary since the existing sewer interceptor does not have the hydraulic capacity for the projected 2060 wastewater flows, and sections of pipe and manholes are corroded or damaged. Also, the design of the existing meter station does not permit safe entry in accordance with TRA's current confined space entry procedures.

Contract No.: 12-21 **COMPLETED**

Engineer: BW2 Engineers, Inc.

Scope: Final Design and Construction Advertisement Phase

Contract Amount: Basic Services not to exceed \$105,000
Special Services not to exceed \$ 20,000

Funding Source: CRWS Series 2010 Bonds

Contract No.: 15-10

Engineer: BW2 Engineers, Inc.

Scope: Construction Administration

Contract Amount: Basic Services not to exceed \$77,115
Special Services not to exceed \$12,000

Funding Source: CRWS Series 2010A Bonds

Current Status: Construction is 90 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		6/2012		12/2014
Land Rights				12/2014
Construction Administration		3/2015	6/2017	
Construction		3/2015	6/2016	

West Fork Interceptor, WF-R1, Phase II

Contract No.: 13-41
File No.: 3145.135

Engineer, Planning
and Development: Kelly A. Davis, P.E. (KAD)

Contact Information: davisk@trinityra.org Phone: 817-493-5100

Location: Located in the cities of Euless and Fort Worth. WF-R1, Phase II begins just north of the TRE Railway in Fort Worth and ends just west of the intersection of Del Paso St. and Hwy 10 in Euless.

Downstream Node: 2350W
Upstream Node: 2570W



Name: **West Fork Interceptor, WF-R1, Phase II**

Engineer: Schrickel, Rollins & Associates, Inc.

Scope: Construction Administration services for Phase II.

Description: Rehabilitation and relocation of the existing Boyd Branch Interceptor pipeline. Construction for Phase I has been completed. Phase I included the downstream 10,700 linear feet (LF) of new 30- to 54-inch diameter relief pipeline, and the relocation of meter station 10.0W (measures Fort Worth flows). The upstream segment, Phase II, consists of the remaining 7,700 LF of existing pipeline rehabilitation and replacement of meter station 11.8W (measures Euless flows).

Contract Amount:	Basic Services:	not to exceed \$368,000
	Special Services:	not to exceed \$ 36,000

Funding Source: CRWS Series 2010A Bonds

Current Status: Construction is complete. Meter station (MS11.8W) is currently in the 90-day monitoring period.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design				
Land Rights				
Construction Administration		10/2013	6/2016	
Construction		10/2013		12/2015

West Fork Interceptor System, WFXIA2, WF-R3, Sulfur Branch Outfall, WF-R2 and WF-15 Rehabilitation Project

Contract No.: 07-29, 15-03
File No.: 3145.132

Engineer, Planning
and Development: Kelly A. Davis, P.E. (KAD)

Contact Information: davisk@trinityra.org Phone: 817-493-5100

Location: Cities of Fort Worth, Hurst, Euless, and Bedford

Downstream Node: 800W
Upstream Nodes: 3861W, 3490W, 3545W

Downstream Node 800W is located approximately 700 feet southwest of Trinity Blvd. and Raider Dr. in Fort Worth. Upstream Node 3861W is located south of W. Pipeline Rd., on the west side of Sulfur Branch Creek in Euless. Upstream Node 3490W is located north of W. Pipeline Rd., on the east side of Sulfur Branch Creek in Bedford. Upstream Node 3545W is located south of W. Pipeline Rd., 50 feet west of Monterrey Blvd. in Euless.



Name: **West Fork Interceptor System, WFXIA2, WF-R3, SBO, WF-R2, WF-15 Rehabilitation Project**

Description: Rehabilitation of approximately 14,500 linear feet (LF) of 10- to 36-inch pipe by cured-in-place liner or pipe bursting, replacement of approximately 350 LF of 12-inch pipe, replacement of approximately 1,000 LF of 33-inch pipe with 36-inch pipe, relocation and reconstruction of meter station MS 19.1W, and rehabilitation or replacement of approximately 26 manholes. Rehabilitation of approximately 2,700 LF of 10- to 12-inch pipe by cured-in-place liner or pipe bursting, replacement of approximately 350 LF of 12-inch pipe, and rehabilitation or replacement of approximately 16 manholes.

This project is necessary since portions of the existing sewer interceptors do not have the hydraulic capacity for the projected 2060 wastewater flows and sections of pipe and manholes are corroded or damaged.

Contract No.: 07-29

Engineer: URS/AECOM Corporation

Scope: Environmental Assessment, Preliminary Design Report, Final Design, Construction Advertisement Phase, and Construction Phase Services

Contract Amount: Basic Services not to exceed \$100,000*
Special Services not to exceed \$ 14,000
*Note: \$16,500 remains under Task IV for CA Services

Funding Source: CRWS Series 2007 Bonds

Current Status: Construction is 80 percent complete.

Contract No.: 15-03

Engineer: URS/AECOM Corporation

Scope: Construction Administration

Contract Amount: Basic Services: not to exceed \$425,680
Special Services: not to exceed \$ 45,000

Funding Source: CRWS Series 2011A-1 Bonds

Current Status: Construction is 80 percent complete.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design		10/2007		3/2012
Final Design				8/2014
Land Rights				10/2014
Construction Administration		12/2014	8/2017	
Construction		12/2014	10/2016	

10WF-1 West Fork Interceptor & CRWS Feed 2 Interceptor Rehabilitation

Contract No.: 14-45
File No.: 3145.200

Engineer, Planning
and Development: James W. McDonald, P.E. (JWM)

Contact Information: mcdonaldj@trinityra.org Phone: 817-493-5100

Location: The 10WF-1/CRWS Feed 2 project consists of two segments, both located within Grand Prairie. The WFIR-2 segment begins near the Belt Line Rd/Interstate 30 intersection and extends approximately 2,500 linear feet (LF) to the east. Feed 2 begins at Junction Box 1-C at the CRWS treatment plant and continues south to a new junction box located near Interstate 30.

WFIR-2:	Downstream Node: 5880W	Upstream Node: 1270W
CRWS Feed 2:	Downstream Node: JB-1C	Upstream Node: 5110W



Name: **10WF-1 West Fork Interceptor & CRWS Feed 2 Interceptor Rehabilitation**

Engineer: HDR, Inc.

Scope: Final Design

Description: WFIR-2 design includes the rehabilitation of approximately 2,800 linear (LF) of existing 66-inch unlined reinforced concrete pipe (RCP) that was originally constructed in 1975. CRWS Feed 2 design includes the rehabilitation of approximately 3,700 LF of 72-inch unlined RCP, rehabilitation of Junction Box 1C, and construction of a new junction box that will connect the proposed 30MC-1 pipeline.

Contract Amount: Basic Services: not to exceed \$833,000
Special Services: not to exceed \$ 90,000

Funding Source: CRWS Series 2010 Bonds

Current Status: Design is approximately 25 percent complete.

- WFIR-2 and CRWS Feed 2 will be advertised for construction separately. WFIR-2 and CRWS Feed 2 are anticipated to advertise for bids in July 2017 and September 2017 respectively.

Schedule:

	Anticipated Board	Board Approval	Estimated Completion	Actual Completion
Study				
Preliminary Design				
Final Design		10/2014	9/2017	
Land Rights				
Construction Administration	8/2017		2/2020	
Construction	8/2017		2/2019	

Trinity River Authority of Texas



Northern Region Office

DATE: June 24, 2016

FILE: 7002.102/7002.800

TO: CONTRACTING PARTIES
Tarrant County Water Supply Project

RE: Tarrant County Water Supply Project
Proposed FY 2017 Budget

This document shall serve to provide our Tarrant County Water Supply Project (TCWSP) contracting parties with the proposed FY 2017 TCWSP revenue and expenditure budget. The budget is developed for the Authority's December 1, 2016 through November 30, 2017 fiscal year. The budget reflects the anticipated operating and maintenance costs and debt service requirements to ensure the continuing ability to deliver high quality, efficient water service to our customers.

The FY 2017 budget is based on treating and transporting an average daily flow of 31.180 MGD. This utilizes projected flows provided by the contracting parties. Authority staff contacted customers whose projections did not reflect historical flows to ensure better accuracy.

Projected expenditures and required revenues for FY 2017 are shown in the table below. The major contributors to the expense increase are in process chemicals, raw water cost, and plant maintenance. To continue to manage debt service expense increases, Authority management continues to explore other financing options. Northern Region management is sensitive to the escalating costs related to water treatment and the impact to our contracting parties and their customers.

	FY 2016	FY 2017	% Change
Total O&M Budget	\$23,550,357	\$24,997,165	6.143%
Total Debt Service Expense	<u>\$13,220,422</u>	<u>\$12,014,322</u>	-9.123%
Total Expense	\$36,770,779	\$37,011,487	0.655%
Total Contracting Party Revenue Requirement*	\$36,433,446	\$37,246,321	2.231%

* Due to the 2016 bond refunding, collection toward debt service payments due in FY 2018 is reduced.

TCWSP revenue requirements are allocated to customers based on predicted flow information provided to the Authority. The projected flow of 31.180 MGD is 3.542% lower than FY 2016 projected flows.

Based on the revenue requirements for TCWSP, the cost per 1,000 gallons is listed below. The 3.542% reduction in FY 2017 flows accounts for the FY 2017 rate increase over what was projected for FY 2017 last year.

Unit	Cost/1,000 Gallons	
	Proposed FY 2017	Budgeted FY 2016
Net (cost to Contracting Parties)	\$3.273	\$3.080

Attached please find the following exhibits which will provide more detail concerning the FY 2017 revenue and expenditure budgets:

Exhibit A	-	Flow Allocations
Exhibit B	-	Budget Objectives
Exhibit C	-	Budget at a Glance
Exhibit D	-	FY 2016 and FY 2017 O&M Budget Comparisons
Exhibit E	-	Historical System Data
Exhibit F	-	Projected Future Cost of Service
Exhibit G	-	Proposed FY 2017 Budget

The proposed FY 2017 budget (Exhibit G) is presented for your review and consideration. It will be reviewed in our July meeting, and the Authority will request recommendation of the proposed FY 2017 budget for adoption by the TRA Board of Directors at our August contracting party meeting.

If there are any questions concerning the proposed Budget, please contact me at your convenience (huntj@trinityra.org).

Sincerely,



JULIA J. HUNT, P.E.
Assistant Regional Manager/Operations
Northern Region

JJH/rrr

Attachments

c: J. Kevin Ward, General Manager
Fiona M. Allen, P.E., Regional Manager, Northern Region
Patricia M. Cleveland, Assistant Regional Manager/Planning & Development, Northern Region
J. Sid McCain, Manager, Tarrant County Water Supply Project

EXHIBIT A
TARRANT COUNTY WATER SUPPLY PROJECT
FY 2017 FLOW ALLOCATIONS

CITY	FY 2016 FLOW (MGD)	FY 2016 % ALLOCATION	FY 2017 FLOW (MGD)	FY 2017 % ALLOCATION
BEDFORD	7.400	22.89%	6.800	21.81%
COLLEYVILLE	7.200	22.27%	6.800	21.81%
EULESS	6.000	18.56%	5.900	18.92%
GRAPEVINE	6.900	21.35%	7.000	22.45%
NORTH RICHLAND HILLS	4.825	14.93%	4.680	15.01%
TOTAL	32.325	100.00%	31.180	100.00%

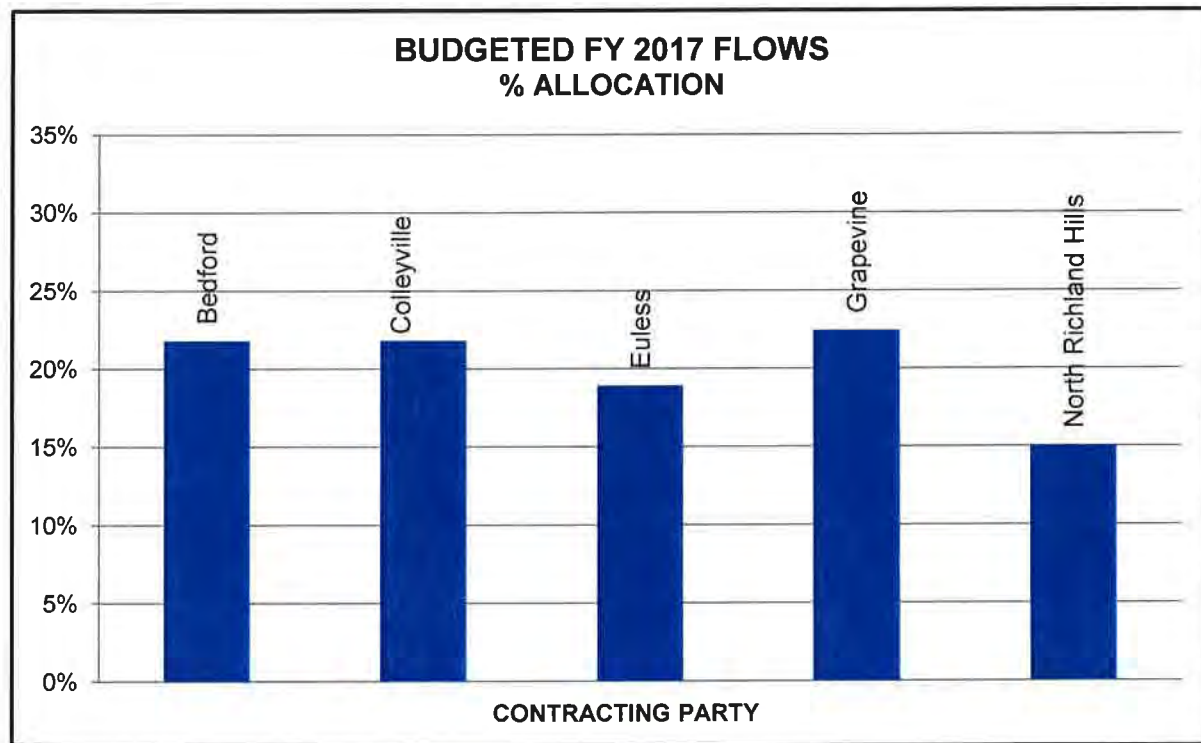


EXHIBIT B
TARRANT COUNTY WATER SUPPLY PROJECT
FY 2017

DESCRIPTION OF THE PROJECT

The Trinity River Authority's Tarrant County Water Supply Project was originally established in 1974 and provides regional treated water service to five Contracting Cities with a population numbering approximately 245,000. The facility is located on Trinity Boulevard at the boundary between the City of Fort Worth and the City of Euless. The Project consists of an 87 MGD water treatment plant, pipelines and appurtenances necessary to transport the raw water from Lake Arlington to the treatment plant, and pipelines and appurtenances necessary to pump the treated water to the Murphy Pump Station and Storage Site and to the Contracting Parties' distribution systems.

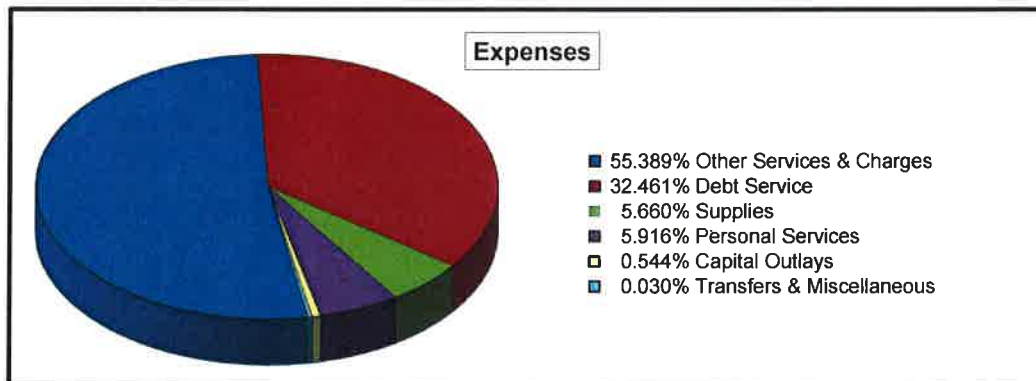
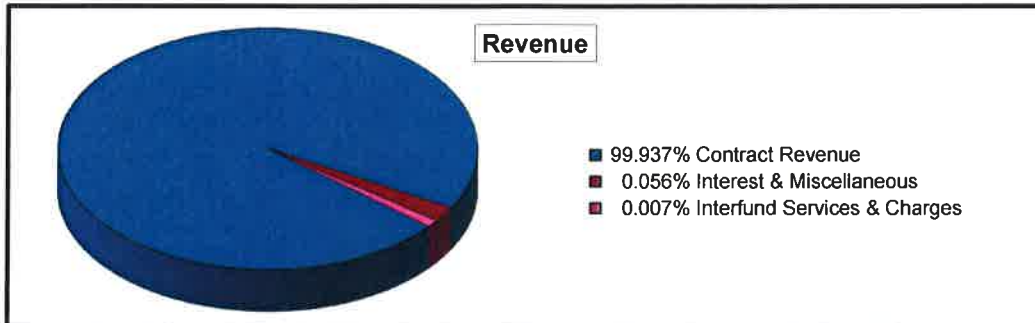
GOALS AND OBJECTIVES

The Authority's objectives are reflected in the recommended FY 2017 Annual Operating Budget for Tarrant County Water Supply Project. The major goals and objectives are:

- Operate and adequately protect the Tarrant County Water Supply Project's capital investments by proper maintenance, which includes the raw water intake, pumping stations and booster pump, approximately 9 miles of raw transmission pipelines, an 87 MGD water treatment plant with ozone disinfection facilities, treated water pump stations, treated water transmission pipelines, 3 distribution booster pump stations, Murphy Pump Station and Storage, including 15 metering control stations.
- Provide water treatment and distribution services for a projected average daily flow delivery of 31.180 MGD for the five System Contracting Parties.
- Continue to stay abreast of and use water conservation practices as a long-term tool for water supply.
- Continue operating as efficiently as possible and minimize costs while delivering the highest quality treated water and meeting all regulatory requirements.
- Address operations and maintenance issues, improvements in water treatment quality, capital improvements, and efficiency and management of electrical power consumption according to the master plan developed in 2016.
- Promote and partner with other utilities to educate the public sector regarding issues facing utilities and likely future trends.
- Continue to participate in Lake Arlington watershed protection programs.
- Continue to closely monitor raw water quality and characteristics, adjusting operational procedures when needed, and optimize use of control methodologies for responding to periodic taste and odor, and manganese impacts arising from water quality characteristics of System raw water at Lake Arlington.
- Continue to monitor the Project's metering and SCADA system, and provide current delivery information to cities as needed.

EXHIBIT C
FISCAL YEAR 2017 BUDGET AT A GLANCE
TARRANT COUNTY WATER SUPPLY PROJECT
PROPOSED OPERATION AND MAINTENANCE BUDGET

Revenue	\$37,269,821
Expenses	\$37,011,487
Variance	\$258,334



FISCAL YEAR 2017
FUND SUMMARY

Revenue Summary

Contract Revenue	\$37,246,321
Interest and Miscellaneous Income	\$21,000
Operating Transfers	\$0
Inter-Fund Services and Charges	<u>\$2,500</u>
Total Sources of Funds	\$37,269,821

Expenditure Summary

Personal Services	\$2,189,773
Supplies	\$2,095,005
Other Services and Charges	\$20,500,219
Capital Outlays	\$201,168
Transfers and Miscellaneous	\$11,000
Debt Service	<u>\$12,014,322</u>
Total Application of Funds	\$37,011,487

**EXHIBIT D
TARRANT COUNTY WATER SUPPLY PROJECT
EXPENDITURES
FISCAL YEAR 2017**

BUDGET CATEGORY	FY 2016	FY 2017	% CHANGE
PERSONAL SERVICES	\$2,077,000	\$2,189,773	5.430%
SUPPLIES	\$2,033,091	\$2,095,005	3.045%
OTHER SERVICES & CHARGES	\$19,268,916	\$20,500,219	6.390%
CAPITAL OUTLAYS	\$161,000	\$201,168	24.949%
TRANSFERS & MISCELLANEOUS	\$10,350	\$11,000	6.280%
DEBT SERVICE	\$13,220,422	\$12,014,322	-9.123%
TOTAL	\$36,770,779	\$37,011,487	0.655%

TOTAL EXPENDITURES: \$37,011,487

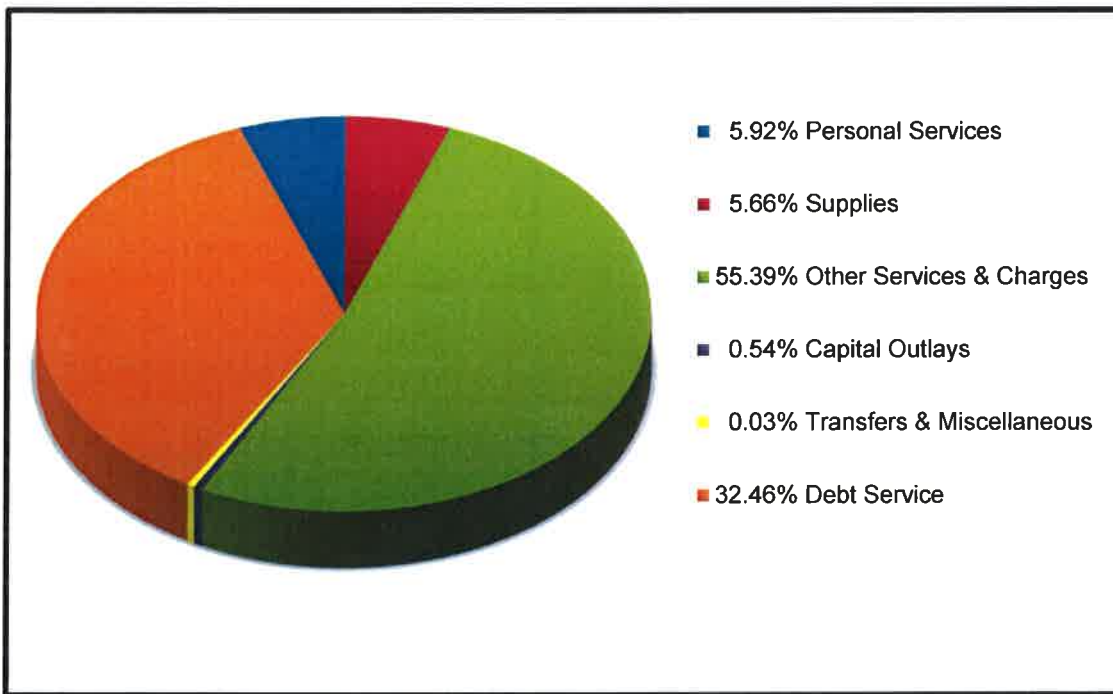


EXHIBIT E
TARRANT COUNTY WATER SUPPLY PROJECT
CURRENT AND HISTORICAL SYSTEM FINANCIAL AND FLOW DATA

FISCAL YEAR	ACTUAL DAILY FLOWS MGD	O&M/DEBT SERVICE/1000 GAL	RAW WATER COST/1000 GAL	ACTUAL COST/1000 GAL
2007	28.452	\$1.588	\$0.846	\$2.378
2008	32.246	\$1.483	\$0.613	\$2.086
2009	27.758	\$1.745	\$0.796	\$2.398
2010	31.219	\$1.601	\$0.711	\$2.312
2011	36.267	\$1.635	\$0.692	\$2.162
2012	32.718	\$1.655	\$0.866	\$2.526
2013	29.858	\$1.588	\$0.907	\$2.507
2014	30.356	\$1.850	\$1.109	\$2.959
2015	34.100	\$1.797	\$1.112	\$2.909
2016**	32.325	\$1.811	\$1.269	\$3.080
2017**	31.180	\$1.900	\$1.373	\$3.273

**Projected Values - Flows provided by Customer Cities, Raw Water cost by Tarrant Regional Water District

NOTE: O&M plus debt service cost per 1000 gallons does not include raw water cost. Raw water cost reflects unit cost based on payments made during the year indicated, rather than predicted, revised or actual rates. Minor variations in Actual Cost/1000 Gallons due to rounding.

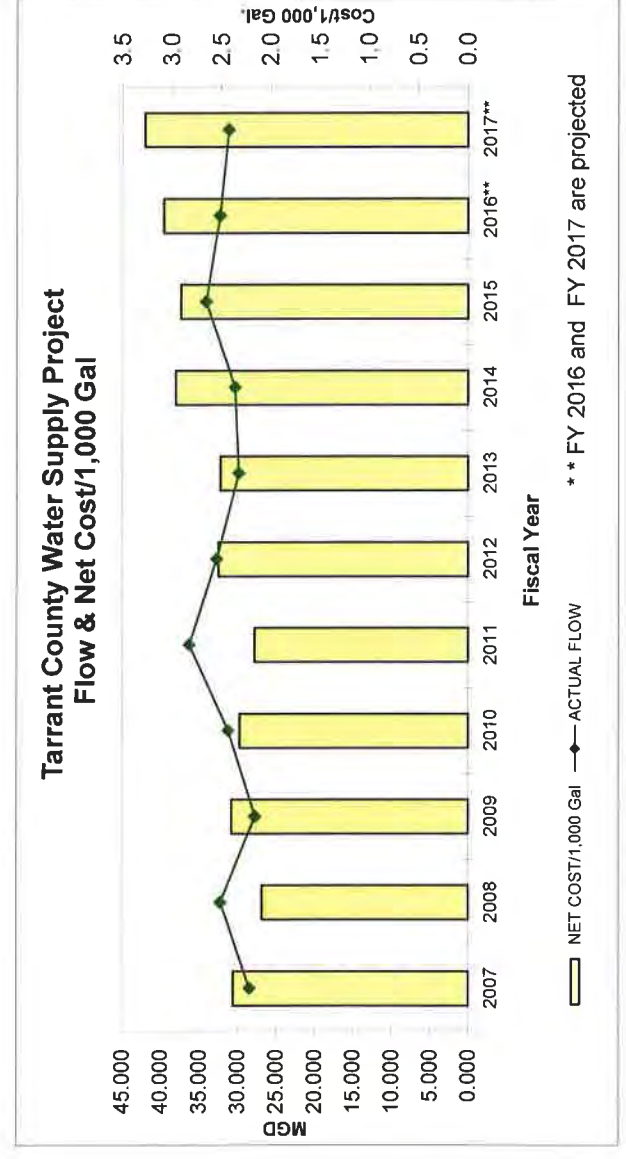


EXHIBIT F
TARRANT COUNTY WATER SUPPLY PROJECT

PROJECTED FUTURE COST OF SERVICE FLOWS BASED ON HISTORICAL DATA AND TRENDS		
FISCAL YEAR ENDING NOV 30	PROJECTED FLOW IN MGD	COST PER 1000 GAL
2017	31.180	\$3.273
2018	31.355	\$3.474
2019	31.530	\$3.650
2020	31.707	\$3.741
2021	31.884	\$3.877

NOTES:

- FY 2017 budgeted flow was provided by the Customer Cities.
- FY 2018-2021 projected flows are based on historical trending.
- Projected cost computations for FY 2017-2021 include the 2016 bond refunding.
- \$38,235,000 for refunding series bond issuance 2016.
- \$20,285,000 for proposed series bond issuance 2017.
- \$9,065,00 for proposed series bond issuance 2018.
- \$760,000 for proposed series bond issuance 2019.
- \$10,910,000 for proposed series bond issuance 2020.

Trinity River Authority of Texas

Fiscal Year 2017 Budget

Exhibit G

OPERATING FUNDS

Tarrant County Water Supply Project

	<u>2015 Actual</u>	<u>2016 Budget</u>	<u>2016 YTD as of 06/09/2016</u>	<u>2016 Projected</u>	<u>2017 Budget</u>
Revenue					
**** Cont. Rev. - Bedford-Cash	7,326,261.29	8,339,615.00	3,174,096.00	8,339,615.00	8,123,422.00
**** Cont. Rev. - Colleyville-Cash	7,531,399.18	8,113,728.00	2,924,439.00	8,113,728.00	8,123,422.00
**** Cont. Rev. - Euless-Cash	5,293,589.87	6,762,048.00	2,708,859.00	6,762,048.00	7,047,004.00
**** Cont. Rev. - Grapevine-Cash	7,264,010.32	7,778,541.00	3,318,446.00	7,778,541.00	8,361,800.00
**** Cont. Rev. - North Rich Hills-Cash	4,839,125.57	5,439,514.00	2,220,816.00	5,439,514.00	5,590,673.00
Contract Revenue Total:	32,254,386.23	36,433,446.00	14,346,656.00	36,433,446.00	37,246,321.00
INTERFUND SERVICES & CHARGES	5,389.91	8,000.00	1,301.42	3,801.00	2,500.00
Professional Services Total:	5,389.91	8,000.00	1,301.42	3,801.00	2,500.00
INTEREST INCOME	38,400.57	21,000.00	42,865.21	40,000.00	21,000.00
SALE OF CAPITAL ASSETS	4,960.00	0.00	0.00	0.00	0.00
MISCELLANEOUS INCOME	9,109.13	0.00	425.41	500.00	0.00
Miscellaneous Income Total:	52,469.70	21,000.00	43,290.62	40,500.00	21,000.00

Tarrant County Water Supply Project - 242600, 242700	Revenue	Grand Total:	32,312,245.84	36,462,446.00	14,391,248.04	36,477,747.00	37,269,821.00
---	----------------	---------------------	----------------------	----------------------	----------------------	----------------------	----------------------

Trinity River Authority of Texas

Fiscal Year 2017 Budget

OPERATING FUNDS

Tarrant County Water Supply Project

	<u>2015 Actual</u>	<u>2016 Budget</u>	<u>2016 YTD as of 06/09/2016</u>	<u>2016 Projected</u>	<u>2017 Budget</u>
O&M Expense/Debt Service					
SALARIES	1,346,535.20	1,465,554.00	677,064.21	1,465,554.00	1,523,063.00
PAYROLL TAXES-FICA	97,822.14	111,281.00	49,378.62	111,281.00	115,626.00
EMPLOYEE BENEFIT - HEALTH/LIFE	328,612.74	324,008.00	178,369.52	323,561.00	366,732.00
EMPLOYEE BENEFIT - PENSION	123,544.52	161,186.00	69,931.99	161,186.00	166,806.00
UNEMPLOYMENT COMPENSATION	6,642.13	3,000.00	3,253.58	0.00	3,000.00
EMPLOYEE RECOGNITION	14,014.14	11,971.00	10,441.98	11,971.00	14,546.00
Personal Services Total:	1,917,170.87	2,077,000.00	988,439.90	2,073,553.00	2,189,773.00
OFFICE SUPPLIES	6,848.82	7,800.00	4,973.27	8,700.00	8,400.00
DUES AND SUBSCRIPTIONS	-4,956.91	9,919.00	6,634.00	9,919.00	9,684.00
FEES O/T DUES AND SUBSCRIPTIONS	2,685.99	4,350.00	1,754.30	4,350.00	5,290.00
MAINT AND OPER SUPPLIES	55,281.40	47,850.00	19,709.42	47,450.00	47,450.00
LAB SUPPLIES	30,797.67	49,895.00	23,349.86	57,433.00	58,375.00
PROCESS CHEMICALS AND SUPPLIES	1,245,975.64	1,654,439.00	437,757.60	1,654,439.00	1,786,469.00
FUEL, OIL, AND LUBRICANTS	19,637.42	35,217.00	6,724.55	22,762.00	22,387.00
INSTRUMENTATION MAINT & SUPPLIES	38,724.88	109,900.00	50,137.07	109,900.00	108,900.00
COMPUTER MAINTENANCE AND SUPPLIES	41,922.40	113,721.00	7,554.67	94,500.00	48,050.00
Supplies Total:	1,436,917.31	2,033,091.00	558,594.74	2,009,453.00	2,095,005.00
AUDITING	12,428.56	15,000.00	11,571.43	15,000.00	15,000.00
ENGINEERING	15,829.60	174,667.00	17,334.78	174,667.00	146,633.00
LEGAL SERVICES	0.00	1,000.00	0.00	1,000.00	1,000.00
OUTSIDE SERVICES	128,110.37	107,290.00	113,461.20	156,300.00	142,000.00
OTHER PROFESSIONAL SERVICES	38,430.01	61,381.00	23,356.47	63,018.00	67,705.00
INFORMATION TECHNOLOGY SERVICES	126,700.00	209,180.00	87,150.00	209,180.00	311,640.00
PLANNING AND ENVIRONMENTAL SERVICES	62,956.00	73,047.00	30,450.00	73,047.00	83,599.00
COLLECTION SYSTEM GROUP SERVICES	0.00	4,000.00	1,675.00	4,000.00	4,000.00
TELEPHONE AND TELEMETRY	14,481.99	17,401.00	7,762.37	16,775.00	15,275.00
POSTAGE	1,478.76	1,400.00	569.89	1,400.00	1,400.00
PRINTING AND BINDING	473.22	980.00	36.95	980.00	980.00
INSURANCE	125,110.00	105,530.00	110,245.41	105,530.00	136,801.00
TRAVEL	8,417.28	7,009.00	2,070.75	7,009.00	14,184.00
LAUNDRY, UNIF, AND IND. EQUIPMENT	10,858.89	17,847.00	8,235.33	17,847.00	17,689.00
TRAINING	11,102.54	28,070.00	7,133.30	20,570.00	18,955.00
UTILITIES	2,114.01	4,170.00	1,135.44	4,170.00	4,170.00
WATER	12,361,492.00	15,013,118.00	7,672,224.00	15,013,118.00	15,626,362.00
POWER	1,598,514.00	1,940,630.00	562,702.19	1,940,630.00	2,106,763.00
R&M IMPROVEMENTS O/T BUILDINGS	214,538.41	134,000.00	108,195.48	166,000.00	191,000.00
REPAIRS AND MAINTENANCE-EQUIPMENT	85,817.68	48,250.00	35,400.44	50,600.00	50,500.00
REPAIRS AND MAINTENANCE - PLANT	563,563.82	349,450.00	196,167.78	335,450.00	504,450.00
REPAIRS AND MAINTENANCE - VEHICLES	2,865.53	7,100.00	1,970.83	7,100.00	7,100.00
REPAIRS AND MAINTENANCE - ELECTRICAL	33,940.21	108,050.00	34,767.88	121,050.00	111,050.00
RENT - MACHINERY & EQUIPMENT	13,714.68	13,760.00	25,728.86	31,760.00	13,760.00
INTERFUND SERVICES AND CHARGES	278,544.70	335,096.00	110,475.54	335,096.00	395,953.00
ADMINISTRATIVE OVERHEAD	470,080.00	491,490.00	204,800.00	491,490.00	512,250.00
Services and Charges Total:	16,181,562.26	19,268,916.00	9,374,621.32	19,362,787.00	20,500,219.00
MACHINERY & EQUIPMENT	65,029.20	161,000.00	0.00	161,000.00	201,168.00
Capital Outlays Total:	65,029.20	161,000.00	0.00	161,000.00	201,168.00
DEBT RELATED FEES	8,750.00	10,350.00	750.00	10,350.00	11,000.00

Trinity River Authority of Texas

Fiscal Year 2017 Budget

OPERATING FUNDS

Tarrant County Water Supply Project

		<u>2015 Actual</u>	<u>2016 Budget</u>	<u>2016 YTD as of 06/09/2016</u>	<u>2016 Projected</u>	<u>2017 Budget</u>
Transfers & Misc	Total:	8,750.00	10,350.00	750.00	10,350.00	11,000.00
O&M Expense	Grand Total:	19,609,429.64	23,550,357.00	10,922,405.96	23,617,143.00	24,997,165.00
BOND PRINCIPAL PAYMENTS - I&S		6,960,000.00	7,315,000.00	7,315,000.00	7,315,000.00	6,945,000.00
INTEREST ON LONG-TERM DEBT - I&S		6,256,416.49	5,905,422.00	1,379,662.50	5,905,422.00	5,069,322.00
Debt Service	Total:	13,216,416.49	13,220,422.00	8,694,662.50	13,220,422.00	12,014,322.00
Debt Service	Grand Total:	13,216,416.49	13,220,422.00	8,694,662.50	13,220,422.00	12,014,322.00
Tarrant County Water Supply Project - 242600, 242700	O&M Expense/Debt Service	32,825,846.13	36,770,779.00	19,617,068.46	36,837,565.00	37,011,487.00

Trinity River Authority of Texas



Northern Region Office

DATE: June 28, 2016

FILE: 3110.102/3110.800

TO: MEMBER, ADVISORY COMMITTEE
CENTRAL REGIONAL WASTEWATER SYSTEM

RE: Central Regional Wastewater System
Proposed FY 2017 Budget

This document shall serve to provide our Central Regional Wastewater System (CRWS) contracting parties with the proposed FY 2017 CRWS revenue and expenditure budget. The budget is developed for the Authority's December 1, 2016 through November 30, 2017 fiscal year. The budget reflects the anticipated operating and maintenance costs and debt service requirements to ensure the continuing ability to deliver high quality, efficient wastewater service to our customers.

The FY 2017 budget is based on transporting and treating an average daily flow of 131.912 MGD. This utilizes projected flows provided by the contracting parties.

Authority management continues to explore financing options and will delay all but those critical capital projects to be included in each fiscal year. The schedule for construction to convert the CRWS biosolids treatment process to thermal hydrolysis and anaerobic digestion has been delayed one year. Delaying construction of this project adjusted the spenddown schedule of the extended commercial paper and thereby reduced the debt service in FY 2017. Please note that there will be a 20.69% increase in debt service in FY 2018 to fund construction of the biosolids improvements project.

Projected expenditures and required revenues for FY 2017 are shown in the table below. The major contributors to the expense increase are higher costs for debt service, biosolids disposal, engineering costs previously funded utilizing bond funds, process chemicals, pipeline maintenance, building maintenance, and information technology improvements.

	FY 2016	FY 2017	% Change
O&M Expenses	\$ 42,402,647	\$ 47,763,597	12.64%
Debt Service Expense	\$ 68,977,473	\$ 71,974,831	4.35%
Total Expenses	\$111,380,120	\$119,738,428	7.50%
Total Contracting Party Revenue Requirement*	\$110,791,053	\$120,713,954	8.96%

*Total revenue differs from total expenditures due to collection toward debt service payments due in FY 2018. Projected revenues in the following categories have been applied to offset expenses: water reuse, professional services, other operating income, and operating overhead.

CRWS revenue requirements are allocated to customers based on predicted flow information provided to the Authority. The projected flow of 131.912 MGD is 3.71% higher than FY 2016 projected flows.

June 28, 2016
3110.102/3110.800
MEMBER, ADVISORY COMMITTEE
Page 2

Based on the revenue requirements for CRWS, the cost per 1,000 gallons is listed below. The FY 2017 proposed rate below is 7.83% lower than what was provided at the February 10, 2016 Advisory meeting. The decrease is due to reduced debt service in FY 2017 caused by the one year delay in Phase 3B of the biosolids construction.

Unit	Cost/1,000 Gallons	
	Proposed FY 2017	Budgeted FY 2016
Net (cost to Contracting Parties)	\$2.507	\$2.380

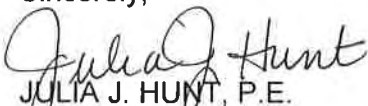
Attached please find the following exhibits which will provide more detail concerning the FY 2017 revenue and expenditure budgets:

Exhibit A	-	Flow Allocations
Exhibit B	-	Budget Objectives
Exhibit C	-	Budget at a Glance
Exhibit D	-	FY 2016 and FY 2017 O&M Budget Comparisons
Exhibit E	-	Historical System Data
Exhibit F	-	Projected Future Cost of Service
Exhibit G	-	Proposed FY 2017 Overstrength Surcharge Rate
Exhibit H	-	Proposed FY 2017 Budget

The proposed FY 2017 budget (Exhibit H) is presented for your review and consideration. It will be reviewed in our July meeting and the Authority will request recommendation of the proposed FY 2017 budget for adoption by the TRA Board of Directors at our August contracting party meeting.

If there are any questions concerning the proposed Budget, please contact me at your convenience (huntj@trinityra.org).

Sincerely,



JULIA J. HUNT, P.E.
Assistant Regional Manager/Operations
Northern Region

JJH/rrr

Attachments

c: J. Kevin Ward, General Manager
Fiona M. Allen, P.E., Regional Manager, Northern Region
Patricia M. Cleveland, Assistant Regional Manager/Planning & Development, Northern Region
William L. Tatum, Manager, Central Regional Wastewater System

EXHIBIT A
CENTRAL REGIONAL WASTEWATER SYSTEM
FY 2017 FLOW ALLOCATIONS

CONTRACTING PARTY	FY 2016 FLOW (MGD)	FY 2016 % ALLOCATION	FY 2017 FLOW (MGD)	FY 2017 % ALLOCATION
ADDISON	1.530	1.20%	1.600	1.21%
ARLINGTON	34.439	27.08%	36.279	27.50%
BEDFORD	4.200	3.30%	4.300	3.26%
CARROLLTON	10.000	7.86%	10.500	7.96%
CEDAR HILL	0.610	0.48%	0.600	0.45%
COLLEYVILLE	2.600	2.04%	2.500	1.90%
COPPELL	3.400	2.67%	4.800	3.64%
DFW AIRPORT	1.300	1.02%	1.300	0.99%
DALLAS	6.400	5.03%	6.700	5.08%
DUNCANVILLE	0.081	0.06%	0.120	0.09%
EULESS	3.417	2.69%	3.420	2.59%
FARMERS BRANCH	3.250	2.56%	3.250	2.46%
FORT WORTH	4.106	3.23%	3.957	3.00%
GRAND PRAIRIE	15.250	11.99%	15.000	11.37%
GRAPEVINE	1.450	1.14%	1.700	1.29%
HURST	0.302	0.24%	0.300	0.24%
IRVING	23.500	18.48%	24.000	18.19%
KELLER	2.800	2.20%	2.850	2.16%
MANSFIELD	5.843	4.60%	5.950	4.51%
N RICHLAND HILLS	0.715	0.56%	0.711	0.54%
SOUTHLAKE	2.000	1.57%	2.075	1.57%
TOTAL	127.193	100.000%	131.912	100.00%

BUDGETED FY 2016 FLOWS
% ALLOCATION

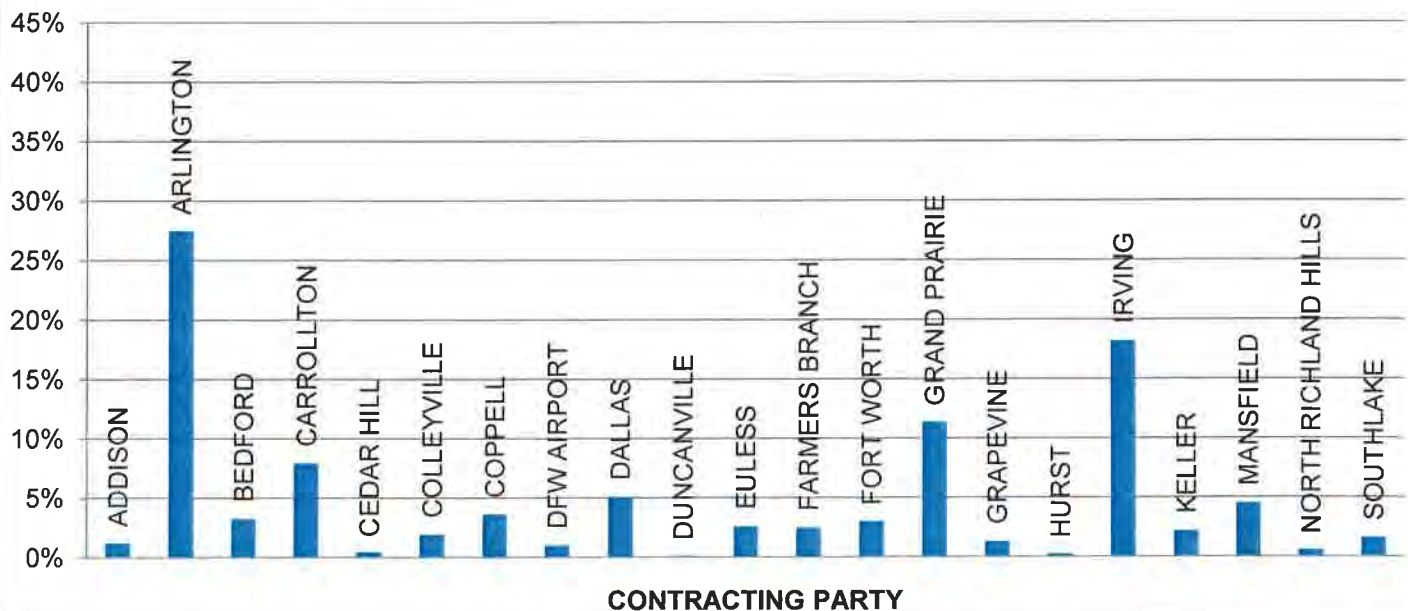


EXHIBIT B
CENTRAL REGIONAL WASTEWATER SYSTEM
FY 2017

DESCRIPTION OF THE PROJECT

The Trinity River Authority's Central Regional Wastewater System is a large regional wastewater system located on 495 acres adjacent to the West Fork of the Trinity River and is currently serving approximately 1.45 million customers in Dallas, Tarrant, Ellis, Johnson and Denton counties of north central Texas. The service area encompasses all or portions of 20 cities in the Dallas/Fort Worth metroplex, as well as the Dallas/Fort Worth International Airport. The Central Regional Wastewater System treatment plant is an advanced secondary facility currently permitted to treat 162 million gallons per day (MGD). This System also consists of an extensive regional network of interceptors, pipelines, lift stations, meter stations, and facilities for the delivery of treated effluent for golf course irrigation and lake level management under the first major urban reuse program in Texas.

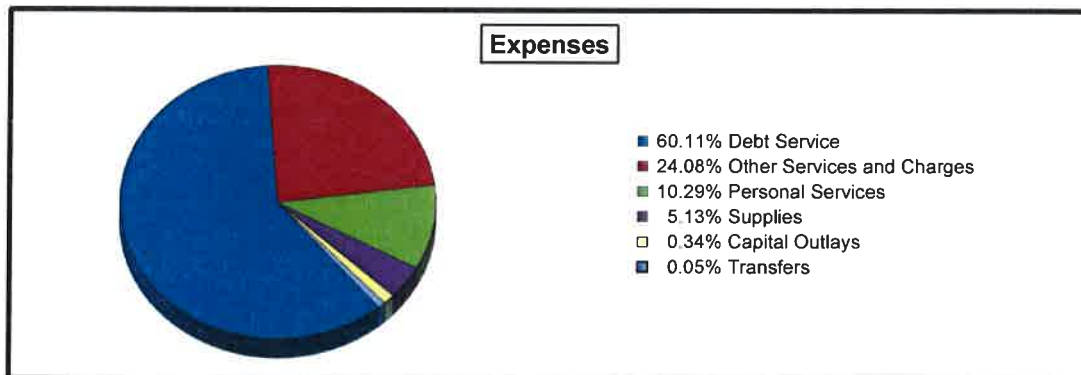
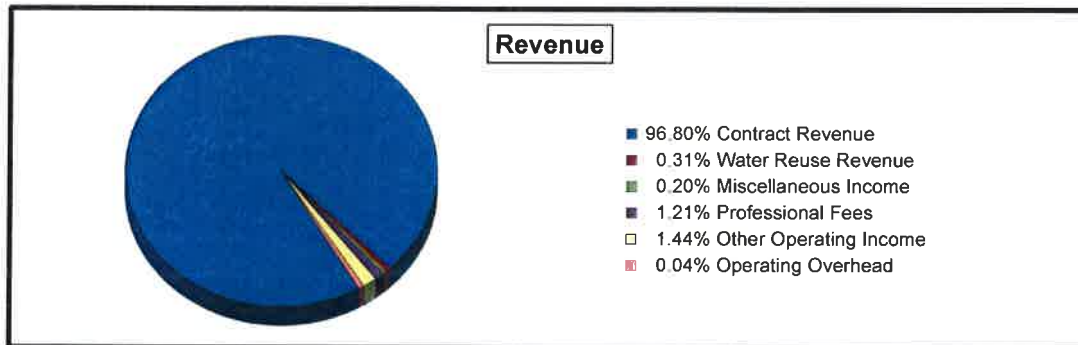
GOALS AND OBJECTIVES FOR FY 2017

The Authority's objectives are reflected in the recommended Annual Operating Budget for Central Regional Wastewater System FY 2017. The major goals and objectives are:

- Operate and adequately protect the Central System's capital investments by proper maintenance, which includes a 162 MGD treatment plant, approximately 211 miles of interceptors, five lift stations, 125 metering stations, an analytical laboratory, and the DCURD outfall project.
- Provide wastewater transportation and treatment services for a projected flow contribution of 131.912 MGD for the twenty-one System Contracting Parties.
- Continue operating at efficient levels and minimize costs while enhancing treatment capacity and meeting all regulatory requirements.
- Continue Authority efforts to reduce overall wet-weather flow impacts to the System by installing new pipelines for capacity, rehabilitating existing collection system infrastructure and plant facilities as identified in both previous, and the most recent, I/I Management plan, five-year capital improvement plan and the Odor Control and Corrosion Management Master Plan.
- Operate and maintain odor control facilities consistent with the Odor Control Abatement Master Plan and implement additional odor improvements as needed.
- Provide Contracting Parties laboratory testing and pretreatment program capabilities and services on a revenue-supported basis.
- Continue to administer a biosolids management disposal program that will meet the TCEQ and Texas Health and Safety Code preferred policies of source reduction, treatment to reduce pathogens, and odor control of the biosolids disposal process.
- Collection System Group will continue to provide interceptor system maintenance including optimizing flow monitoring, pipeline surveillance and inspection of the System's existing pipelines.
- Respond in a timely fashion to Customer Entities' requests for assistance.

EXHIBIT C
FISCAL YEAR 2017 BUDGET AT A GLANCE
CENTRAL REGIONAL WASTEWATER SYSTEM
PRELIMINARY OPERATION AND MAINTENANCE BUDGET

Revenue	\$124,702,868
Expenses	<u>\$119,738,428</u>
Variance (Retained for 2018 Debt Requirements)	<u><u>\$4,964,440</u></u>



FISCAL YEAR 2017
FUND SUMMARY

Revenue Summary

Contract Revenue	\$120,713,954
Water Reuse Revenue	\$383,216
Professional Services	\$1,501,474
Other Operating Income	\$1,800,000
Operating Overhead	\$50,000
Miscellaneous Income	<u>\$254,224</u>

Total Sources of Funds

\$124,702,868

Expenditure Summary

Personal Services	\$12,318,082
Supplies	\$6,142,635
Other Services and Charges	\$28,839,049
Capital Outlays	\$404,081
Transfers and Miscellaneous	\$59,750
Debt Service	<u>\$71,974,831</u>

Total Application of Funds

\$119,738,428

EXHIBIT D
CENTRAL REGIONAL WASTEWATER SYSTEM
EXPENDITURES
FISCAL YEAR 2017

	<u>FY 2016</u>	<u>FY 2017</u>	<u>% Change</u>
Personal Services	\$11,904,074	\$12,318,082	3.48%
Supplies	\$5,843,179	\$6,142,635	5.12%
Other Services and Charges	\$24,325,479	\$28,839,049	18.55%
Capital Outlays	\$301,065	\$404,081	34.22%
Transfers & Miscellaneous	\$28,850	\$59,750	107.11%
Debt Service	\$68,977,473	\$71,974,831	4.35%
Total	\$111,380,120	\$119,738,428	7.50%

Total Expenditures: \$119,738,428

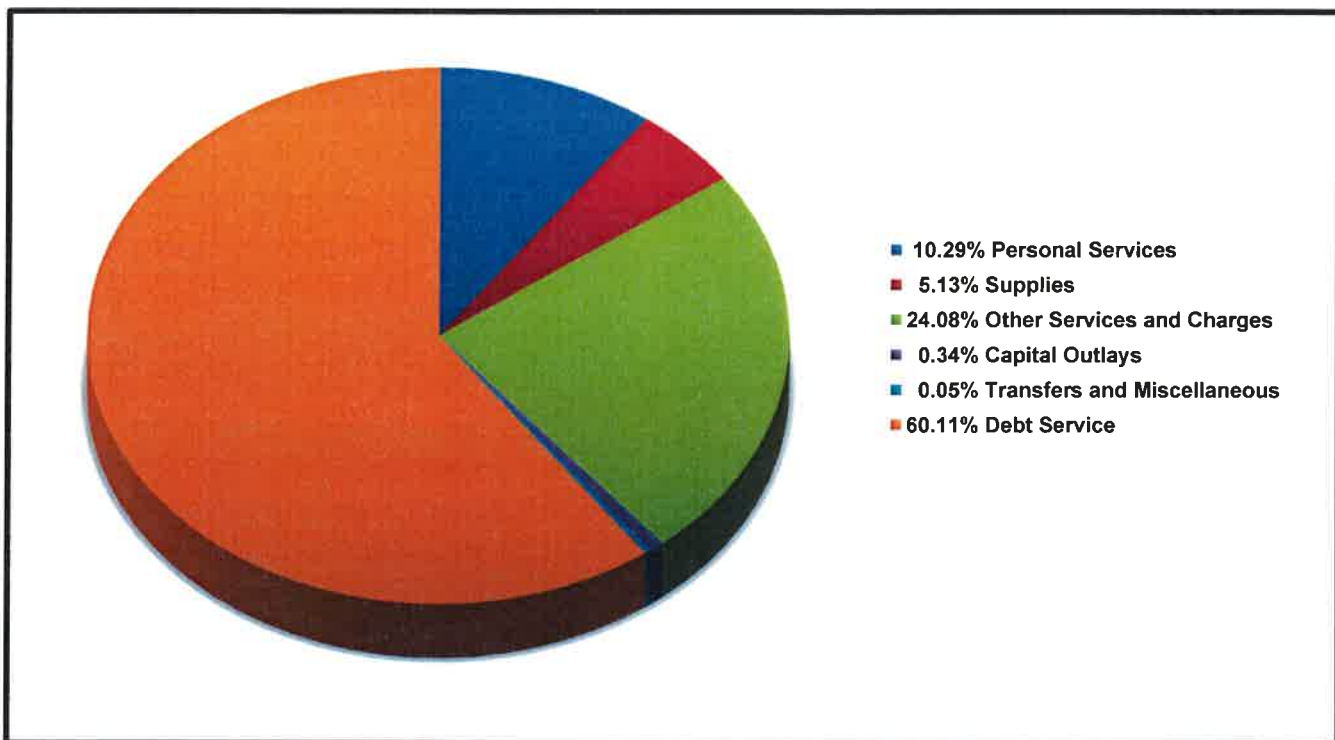


EXHIBIT E
CENTRAL REGIONAL WASTEWATER SYSTEM
CURRENT AND HISTORICAL SYSTEM FINANCIAL AND FLOW DATA

FISCAL YEAR	BUDGETED EXPENDITURES	BUDGETED REVENUE **	ACTUAL REVENUE **	PROJECTED FLOW	ACTUAL FLOW	PROJECTED NET COST/1,000 GAL.	ACTUAL COST/1,000 GAL.
2007	\$70,271,510	\$67,216,660	\$64,977,617	149.49 MGD	140.21 MGD	\$1.232	\$1.270
2008	\$70,937,150	\$68,126,080	\$65,270,790	145.93 MGD	131.98 MGD	\$1.276	\$1.355
2009	\$80,749,390	\$77,690,920	\$73,340,799	143.88 MGD	130.63 MGD	\$1.479	\$1.538
2010	\$82,258,730	\$79,021,690	\$76,679,265	141.42 MGD	131.41 MGD	\$1.479	\$1.599
2011	\$88,110,400	\$83,476,789	\$80,654,445	140.32 MGD	124.15 MGD	\$1.630	\$1.780
2012	\$87,930,080	\$85,256,379	\$85,274,664	140.20 MGD	126.54 MGD	\$1.662	\$1.846
2013	\$91,070,420	\$90,154,430	\$88,306,683	137.18 MGD	124.72 MGD	\$1.801	\$1.940
2014	\$104,457,842	\$104,449,274	\$100,982,591	134.74 MGD	123.17 MGD	\$2.124	\$2.246
2015	\$108,167,844	\$106,893,695	\$106,845,820	131.55 MGD	143.86 MGD	\$2.226	\$2.035
2016	\$111,380,120	\$110,791,053	*	127.19 MGD	*	\$2.380	*
2017	\$119,738,428	\$120,713,954	*	131.91 MGD	*	\$2.507	*

*Unknown at this time

** Contracting Party revenue only

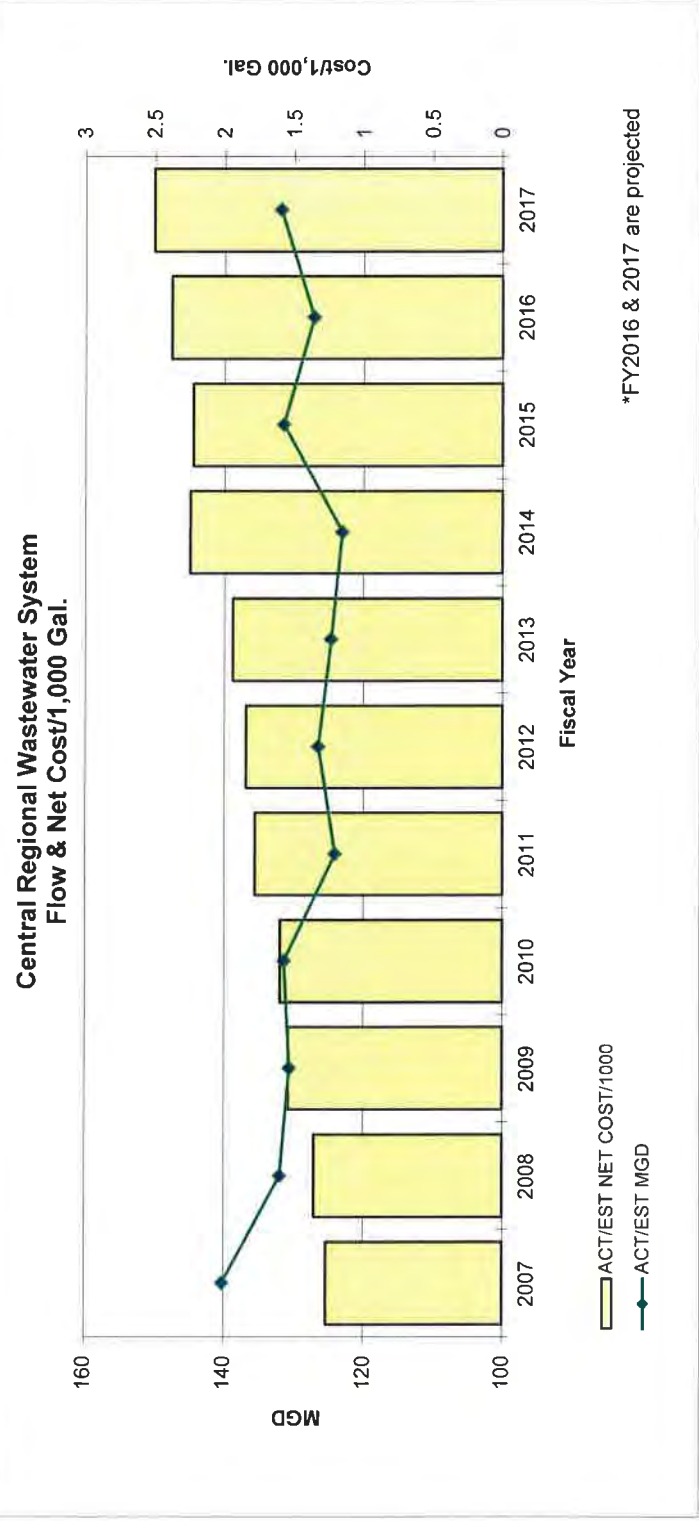


EXHIBIT F
CENTRAL REGIONAL WASTEWATER SYSTEM

PROJECTED FUTURE COST OF SERVICE FLOWS BASED ON HISTORICAL DATA AND TRENDS		
FISCAL YEAR ENDING NOV. 30	PROJECTED FLOW (MGD)	COST PER 1,000 GAL
2017	131.912	\$2.507
2018	133.000	\$2.862
2019	133.000	\$3.152
2020	133.000	\$3.351
2021	133.000	\$3.545

NOTES:

- Flow projections for FY 2017 are based on contracting party projections

The following proposed series will refund Extended Commercial Paper:

- \$200,065,000 for proposed series bond issuance 2017
- \$198,565,000 for proposed series bond issuance 2018
- \$114,030,000 for proposed series bond issuance 2019
- \$105,455,000 for proposed series bond issuance 2020
- \$104,425,000 for proposed series bond issuance 2021

EXHIBIT G

CENTRAL REGIONAL WASTEWATER SYSTEM PROPOSED FY 2017 OVERSTRENGTH SURCHARGE RATE

$$\text{SURCHARGE} = (Q) (8.34) [a(\text{BOD}-250) + b(\text{TSS}-250)]$$

WHERE:

- Q** = Flow of wastewater in million gallons per month
- 8.34** = Weight in pounds of one gallon of water
- 250** = Normal limits of Biochemical Oxygen Demand (BOD) in domestic wastewater expressed in milligrams per liter (mg/l)
- 250** = Normal limits of Total Suspended Solids (TSS) in domestic wastewater expressed in milligrams per liter (mg/l)
- a** = Unit cost of treatment per pound of BOD. Current rate is \$0.06978; proposed rate is \$0.08664.*
- b** = Unit cost of treatment per pound of TSS. Current rate is \$0.08421; proposed rate is \$0.09457.*

*Proposed to become effective on December 1, 2016.

Trinity River Authority of Texas

Fiscal Year 2017 Budget

Exhibit H

OPERATING FUNDS

Central Regional Wastewater System

	<u>2015 Actual</u>	<u>2016 Budget</u>	<u>2016 YTD as of 06/24/2016</u>	<u>2016 Projected</u>	<u>2017 Budget</u>
Revenue					
**** Cont. Rev. - Addison-Cash	1,313,701.34	1,329,493.00	886,336.00	1,329,493.00	1,460,639.00
**** Cont. Rev. - Arlington-Cash	28,097,789.06	30,002,217.00	20,001,480.00	30,002,217.00	33,196,341.00
**** Cont. Rev. - Bedford-Cash	3,253,279.44	3,656,105.00	2,437,408.00	3,656,105.00	3,935,275.00
**** Cont. Rev. - Carrollton-Cash	8,314,767.36	8,708,176.00	5,805,448.00	8,708,176.00	9,608,831.00
**** Cont. Rev. - Cedar Hill-Cash	402,654.74	531,797.00	354,528.00	531,797.00	543,213.00
**** Cont. Rev. - Colleyville-Cash	2,117,942.37	2,260,137.00	1,506,760.00	2,260,137.00	2,293,565.00
**** Cont. Rev. - Coppell-Cash	3,612,144.89	2,958,122.00	1,972,080.00	2,958,122.00	4,393,987.00
**** Cont. Rev. - D/FW Apt Brd-Cash	1,162,038.03	1,130,069.00	753,376.00	1,130,069.00	1,195,068.00
**** Cont. Rev. - Dallas-Cash	5,319,956.81	5,572,790.00	3,715,192.00	5,572,790.00	6,132,269.00
**** Cont. Rev. - Duncanville-Cash	110,009.19	66,474.00	44,312.00	66,474.00	108,642.00
**** Cont. Rev. - Euless-Cash	2,752,365.04	2,980,279.00	1,986,856.00	2,980,279.00	3,126,491.00
**** Cont. Rev. - Farmers Branch-Cash	2,890,143.65	2,836,251.00	1,890,840.00	2,836,251.00	2,969,563.00
**** Cont. Rev. - Fort Worth-Cash	2,596,429.64	3,578,551.00	2,385,704.00	3,578,551.00	3,621,418.00
**** Cont. Rev. - Grand Prairie-Cash	14,073,088.39	13,283,847.00	8,855,904.00	13,283,847.00	13,725,176.00
**** Cont. Rev. - Grapevine-Cash	1,108,636.12	1,263,018.00	842,008.00	1,263,018.00	1,557,210.00
**** Cont. Rev. - Hurst-Cash	252,059.89	265,899.00	177,272.00	265,899.00	289,713.00
**** Cont. Rev. - Irving-Cash	20,248,339.21	20,474,187.00	13,649,456.00	20,474,187.00	21,957,868.00
**** Cont. Rev. - Keller-Cash	2,289,899.39	2,437,403.00	1,624,936.00	2,437,403.00	2,607,421.00
**** Cont. Rev. - Mansfield-Cash	4,634,267.39	5,096,389.00	3,397,592.00	5,096,389.00	5,444,199.00
**** Cont. Rev. - North Rich Hills-Cash	578,883.85	620,430.00	413,624.00	620,430.00	651,855.00
**** Cont. Rev. - Southlake-Cash	1,717,424.54	1,739,419.00	1,159,616.00	1,739,419.00	1,895,210.00
Contract Revenue Total:	106,845,820.34	110,791,053.00	73,860,728.00	110,791,053.00	120,713,954.00
OPERATING OVERHEAD - DWRP Rev	277,480.48	237,349.00	125,900.00	219,023.00	31,720.00
COMMODITY/STANDBY CHARGES	175,000.00	175,000.00	116,664.00	175,000.00	175,000.00
COMMODITY/STANDBY CHARGES - DWRP Rev	213,852.70	186,625.00	25,828.02	186,626.00	176,496.00
INTEREST INCOME	0.00	0.00	27.96	50.00	0.00
Water Reuse Revenue Total:	666,333.18	598,974.00	268,419.98	580,699.00	383,216.00
INTERFUND SERVICES & CHARGES	907,658.96	740,000.00	395,006.75	871,375.00	917,629.00
OPERATING OVERHEAD	64,443.00	25,869.00	12,930.00	25,869.00	33,845.00
PROFESSIONAL FEES	604,428.78	600,000.00	224,787.68	500,000.00	550,000.00
Professional Services Total:	1,576,530.74	1,365,869.00	632,724.43	1,397,244.00	1,501,474.00
OVERSTRENGTH SURCHARGES	1,968,752.52	1,500,000.00	326,272.71	1,200,000.00	1,800,000.00
Other Operating Income Total:	1,968,752.52	1,500,000.00	326,272.71	1,200,000.00	1,800,000.00
PRETREATMENT REVENUES	63,415.50	40,000.00	29,131.00	50,000.00	50,000.00
Operating Overhead Total:	63,415.50	40,000.00	29,131.00	50,000.00	50,000.00
CAPITAL GAINS - I&S	-16,577.25	0.00	0.00	0.00	0.00
INTEREST INCOME	344,548.85	222,600.00	264,684.73	240,000.00	222,600.00
RENTAL INCOME - OFFICE FACILITIES	31,624.00	31,624.00	15,810.00	31,624.00	31,624.00
SALE OF CAPITAL ASSETS	23,458.00	0.00	3,848.00	0.00	0.00
MISCELLANEOUS INCOME	39,800.64	0.00	13,270.67	9,540.00	0.00
Miscellaneous Income Total:	422,854.24	254,224.00	297,613.40	281,164.00	254,224.00

Central Regional Wastewater System -	Revenue	Grand Total:	111,543,706.52	114,550,120.00	75,414,889.52	114,300,160.00	124,702,868.00
--------------------------------------	---------	--------------	----------------	----------------	---------------	----------------	----------------

Trinity River Authority of Texas

Fiscal Year 2017 Budget

OPERATING FUNDS

Central Regional Wastewater System

	<u>2015 Actual</u>	<u>2016 Budget</u>	<u>2016 YTD as of 06/24/2016</u>	<u>2016 Projected</u>	<u>2017 Budget</u>
O&M Expense/Debt Service					
SALARIES	7,855,482.53	8,477,146.00	4,018,438.67	8,356,513.00	8,743,345.00
PAYROLL TAXES-FICA	586,162.17	638,898.00	298,838.63	638,894.00	663,807.00
EMPLOYEE BENEFIT - HEALTH/LIFE	1,660,354.69	1,703,477.00	897,388.36	1,728,202.00	1,786,329.00
EMPLOYEE BENEFIT - PENSION	819,581.09	940,550.00	402,702.81	971,584.00	974,996.00
UNEMPLOYMENT COMPENSATION	7,073.12	25,000.00	0.00	25,000.00	25,000.00
EMPLOYEE RECOGNITION	100,000.87	111,383.00	84,873.75	106,431.00	113,035.00
EMPLOYEE BENEFIT - EDUCATION	922.00	7,620.00	88.50	7,620.00	11,570.00
Personal Services Total:	11,029,576.47	11,904,074.00	5,702,330.72	11,834,244.00	12,318,082.00
OFFICE SUPPLIES	42,739.11	41,248.00	28,260.17	45,703.00	66,583.00
DUES AND SUBSCRIPTIONS	90,000.00	107,724.00	72,385.69	107,724.00	125,515.00
FEES O/T DUES AND SUBSCRIPTIONS	122,045.00	122,077.00	65,373.98	121,977.00	125,289.00
MAINT AND OPER SUPPLIES	230,479.68	190,500.00	84,606.76	190,500.00	209,900.00
LAB SUPPLIES	436,376.74	404,699.00	225,564.21	460,448.00	433,150.00
PROCESS CHEMICALS AND SUPPLIES	4,683,359.48	4,587,983.00	2,185,414.26	4,730,058.00	4,790,996.00
FUEL, OIL, AND LUBRICANTS	141,812.22	234,700.00	99,946.42	234,700.00	225,017.00
INSTRUMENTATION MAINT & SUPPLIES	4,085.39	160.00	0.00	0.00	0.00
COMPUTER MAINTENANCE AND SUPPLIES	117,038.99	154,088.00	50,770.24	158,529.00	166,185.00
Supplies Total:	5,867,936.61	5,843,179.00	2,812,321.73	6,049,639.00	6,142,635.00
AUDITING	31,485.71	38,000.00	29,314.29	38,000.00	38,000.00
ENGINEERING	452,052.41	1,342,947.00	342,751.96	1,408,580.00	1,578,004.00
LEGAL SERVICES	12,720.00	22,000.00	13,161.00	22,000.00	22,000.00
OUTSIDE SERVICES	678,436.48	677,231.00	397,138.26	817,701.00	659,450.00
OTHER PROFESSIONAL SERVICES	355,899.76	311,848.00	197,281.98	311,883.00	383,271.00
INFORMATION TECHNOLOGY SERVICES	785,830.00	906,130.00	453,060.00	906,130.00	1,179,046.00
PLANNING AND ENVIRONMENTAL SERVICES	387,860.00	451,542.00	225,780.00	451,542.00	507,996.00
COLLECTION SYSTEM GROUP SERVICES	4,024,047.00	3,813,586.00	1,906,800.00	3,813,586.00	4,302,386.00
TELEPHONE AND TELEMTRY	96,616.10	87,054.00	35,848.85	87,851.00	93,281.00
POSTAGE	14,909.63	19,100.00	10,810.78	19,100.00	16,000.00
PRINTING AND BINDING	3,981.29	3,050.00	1,132.00	3,050.00	3,150.00
INSURANCE	381,112.00	240,695.00	284,831.37	241,172.00	384,953.00
TRAVEL	32,853.96	30,764.00	15,456.72	31,158.00	37,053.00
LAUNDRY, UNIF, AND IND. EQUIPMENT	85,004.24	63,194.00	50,925.14	74,819.00	81,400.00
TRAINING	64,771.78	86,510.00	33,037.87	55,512.00	60,439.00
UTILITIES	60,234.94	80,000.00	30,383.45	80,000.00	81,500.00
POWER	4,616,800.93	4,379,412.00	2,054,080.21	4,379,412.00	4,203,264.00
R&M IMPROVEMENTS O/T BUILDINGS	3,808,741.89	408,500.00	2,946,409.25	5,134,500.00	1,008,500.00
REPAIRS AND MAINTENANCE-EQUIPMENT	145,954.15	223,350.00	90,510.05	373,350.00	446,450.00
REPAIRS AND MAINTENANCE - PLANT	1,702,135.13	1,738,655.00	780,435.65	1,738,655.00	1,653,000.00
REPAIRS AND MAINTENANCE - VEHICLES	33,915.15	41,500.00	13,978.86	41,500.00	41,500.00
REPAIRS AND MAINTENANCE - ELECTRICAL	547,297.70	633,400.00	282,777.27	633,400.00	563,600.00
SLUDGE DISPOSAL	5,921,681.00	5,830,251.00	3,932,845.60	7,760,000.00	8,484,878.00
RENT - MACHINERY & EQUIPMENT	74,045.59	72,350.00	42,292.77	72,367.00	77,718.00
INTERFUND SERVICES AND CHARGES	92,550.39	30,000.00	5,576.89	30,000.00	30,000.00
ADMINISTRATIVE OVERHEAD	2,599,720.00	2,794,410.00	1,397,190.00	2,794,410.00	2,902,210.00
Services and Charges Total:	27,010,657.23	24,325,479.00	15,573,810.22	31,309,678.00	28,839,049.00
MACHINERY & EQUIPMENT	553,574.82	301,065.00	142,279.30	301,064.00	404,081.00
Capital Outlays Total:	553,574.82	301,065.00	142,279.30	301,064.00	404,081.00

Trinity River Authority of Texas

Fiscal Year 2017 Budget

OPERATING FUNDS

Central Regional Wastewater System - 110600, 112600, 110700, 110701

	<u>2015 Actual</u>	<u>2016 Budget</u>	<u>2016 YTD as of 06/24/2016</u>	<u>2016 Projected</u>	<u>2017 Budget</u>
DEBT RELATED FEES	41,250.00	28,850.00	14,750.00	28,850.00	59,750.00
DEBT ISSUANCE COSTS	4,392.49	0.00	0.00	0.00	0.00
Transfers & Misc Total:	45,642.49	28,850.00	14,750.00	28,850.00	59,750.00
O&M Expense Grand Total:	44,507,387.62	42,402,647.00	24,245,491.97	49,523,475.00	47,763,597.00
BOND PRINCIPAL PAYMENTS - I&S	37,720,000.00	37,075,000.00	0.00	37,075,000.00	39,535,000.00
INTEREST ON LONG-TERM DEBT - I&S	29,044,265.40	31,902,473.00	4,714,211.53	31,902,473.00	32,439,831.00
Debt Service Total:	66,764,265.40	68,977,473.00	4,714,211.53	68,977,473.00	71,974,831.00
Debt Service Grand Total:	66,764,265.40	68,977,473.00	4,714,211.53	68,977,473.00	71,974,831.00

Central Regional Wastewater System - 110600, 112600, 110700, 110701	O&M Expense/Debt Service	Grand Total:	111,271,653.02	111,380,120.00	28,959,703.50	118,500,948.00	119,738,428.00
---	--------------------------	--------------	----------------	----------------	---------------	----------------	----------------