Amendment #1
Update to the Trinity River Authority Clean Rivers Program FY 2020/2021 QAPP

Prepared by the Basin Planning Agency in Cooperation with the Texas Commission on Environmental Quality (TCEQ)

Effective: Immediately upon approval by all parties

Questions concerning this amendment should be directed to:
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Justification

This document details the changes made to the basin-wide Quality Assurance Project Plan to add language detailing at-depth water chemistry sampling for Tarrant Regional Water District (TRWD) lakes.

Summary of Changes

Section	Sub-section/ Figure/ Table	Page in Basin-Wide QAPP	Change	Justification	Page in this Amendment
Section B2 Sampling Methods	Field Sampling Procedures	43	Add language to the Field Sampling Procedures sub-section to detail TRWD's at-depth monitoring and how it differs from the SWQM Procedures.	TRWD has been collecting at-depth water quality sampling in reservoirs since before their involvement with the TRA Clean Rivers Program. This amendment adds detail to describe the actual sampling being conducted.	3
Appendix B Sampling Process Design and Monitoring Schedule (plan)	Changes from the FY 2019 Monitoring Schedule	116	Add language to the Tarrant Regional Water District bullet for at-depth water quality sampling.	TRWD has been collecting at-depth water quality sampling in reservoirs since before their involvement with the TRA Clean Rivers Program. This amendment adds detail to describe the actual sampling being conducted.	4
Appendix B Sampling Process Design and Monitoring Schedule (plan)	Table B1.1 Sample Design and Schedule, FY 2020: Tarrant Regional Water District – In Basin And Tarrant Regional Water District – Out of Basin	130-136	Add language to the Comment field of the Monitoring Schedule to indicate that water quality samples may be collected from multiple depths at each of the reservoir sites.	TRWD has been collecting at-depth water quality sampling in reservoirs since before their involvement with the TRA Clean Rivers Program. This amendment adds detail to describe the actual sampling being conducted.	5-12

Detail of Changes

Details of the changes listed above are shown on the following pages. These pages are intended as direct replacements for existing pages in the QAPP. Changes are noted in red text

Replaces Page 43 of the FY 2020-2021 Basin-Wide QAPP

B1 Sampling Process Design

See Appendix B for sampling process design information and monitoring tables associated with data collected under this QAPP.

B2 Sampling Methods

Field Sampling Procedures

Field sampling will be conducted in accordance with the latest versions of the TCEQ *Surface Water Quality Monitoring Procedures Volume 1: Physical and Chemical Monitoring Methods for Water, Sediment, and Tissue, 2012 (RG-415)* and *Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data, 2014 (RG-416)*, collectively referred to as "SWQM Procedures" with an exception for vertical profiles in rivers and streams, and for at-depth water chemistry samples for TRWD. Vertical profiles will not be collected in rivers and streams by TRA or WBPAs under this QAPP. In addition to surface samples, TRWD collects middle and bottom depth water chemistry samples in reservoirs all year at sites near water supply intakes. TRWD also collects surface, middle, and bottom depth water chemistry samples at all other sites throughout the reservoirs from April to November. The number of middle and bottom depth water chemistry samples and their locations within the water column will be determined by TRWD field staff and depend on the depth of the site at the time of sampling. Updates to SWQM Procedures are posted to the Surface Water Quality Monitoring Procedures website (https://www.tceq.texas.gov/waterquality/monitoring/swqm_guides.html), and shall be incorporated into the TRA's procedures, QAPP, SOPs, etc., within 60 days of any final published update. Additional aspects outlined in Section B below reflect specific requirements for sampling under CRP and/or provide additional clarification.

Sample Containers

WBPAs may obtain sample containers in two ways: they can purchase them from contract labs and/or they may receive them from TRA. TRA maintains certificates from sample container manufacturers for those sample containers that TRA has purchased from CRWS or an outside vendor. The sample containers that TRA has purchased are stored at TRA. Certificates from sample container manufacturers are also maintained by the CRWS lab or the WBPA contract lab. Records of cleaning and confirmation of cleanliness for labs that provide reusable sample containers are maintained by that lab. Details for sample containers used by each WBPA are listed below.

- LLP purchases all their own sample containers new with the exception of amber chlorophyll bottles (glass) which are washed in the laboratory dishwasher and tested for detergent residue after. Sample containers used for bacteriological samples are purchased sterilized and have 1% sodium thiosulfate added. The sample containers for metals are new, certified plastic bottles. Plastic containers are used for conventional parameters.
- The City of Arlington receives all their sample containers from TRA who purchases them from the CRWS laboratory with the exception of metals bottles. Sample containers used for bacteriological samples are purchased sterilized and have 1% sodium thiosulfate added. The sample containers for metals are new, certified plastic bottles. Amber plastic bottles are used for chlorophyll-a samples. Cubitainers are used for conventional parameters. Metals bottles are new, certified plastic bottles and purchased from an outside vendor. .
- The City of Fort Worth receives sample containers from their lab. Sample containers used for bacteriological samples are purchased sterilized and have 1% sodium thiosulfate added.
- NTMWD uses new, certified-clean plastic containers for TOC and metals and new, sterilized 100 mL bottles with sodium thiosulfate for bacteria. All other parameters collected by NTMWD are in reusable plastic containers that have been cleaned to standards specified in NTMWD Labware Cleaning Procedures 36-084. Amber plastic bottles are used for chlorophyll-a samples.
- TRWD receives all sample containers from their contract lab. All containers are purchased certified Level 1 precleaned. Sample containers used for bacteriological samples are purchased sterilized and have 1% sodium thiosulfate added.
- The City of Dallas – Dallas Water Utilities RESWS SWTT receives metals sample containers from TRA which are new, certified plastic bottles and purchased from an outside vendor.
- The City of Dallas – Dallas Water Utilities RESWS WETT receives bacteriological sample containers from their contract lab which are purchased sterilized and have 1% sodium thiosulfate added.
- DFW International Airport EAD receives all of their sample containers prepreserved from their contract lab. Sample containers used for bacteriological samples are purchased sterilized and have 1% sodium thiosulfate added. Total petroleum hydrocarbon sample containers are glass vials. The sample containers for metals are new, certified plastic bottles. Sample containers for conventional parameters

Replaces Page 116 of the FY 2020-2021 Basin-Wide QAPP

Appendix B Sampling Process Design and Monitoring Schedule (plan)

Sample Design Rationale FY 2020

The sample design is based on the legislative intent of CRP. Under the legislation, the Basin Planning Agencies have been tasked with providing data to characterize water quality conditions in support of the Texas Water Quality Integrated Report, and to identify significant long-term water quality trends. Based on Steering Committee input, achievable water quality objectives and priorities and the identification of water quality issues are used to develop work plans which are in accord with available resources. As part of the Steering Committee process, the TRA coordinates closely with the TCEQ and other participants to ensure a comprehensive water monitoring strategy within the watershed.

Changes from the FY 2019 Monitoring Schedule

The following changes were made for the FY 2020 Monitoring Schedule as a result of the FY 2019 Coordinated Monitoring Meeting.

- City of Arlington – no changes.
- City of Dallas-Dallas Water Utilities RESWS SWTT– no changes.
- DFW Airport EAD – no changes.
- City of Dallas - Dallas Water Utilities RESWS WETT – no changes.
- City of Fort Worth – no changes.
- City of Grand Prairie – no changes.
- City of Irving – no changes.
- Lake Livingston Project
    - Remove 24 hour Dissolved Oxygen monitoring at 10914, 14007, and 14014. Adequate data is now available to address concerns.
    - Add monthly bacteria monitoring at 16998. This site is routine.
- North Texas Municipal Water District – no changes.
- Tarrant Regional Water District ~~– no changes.~~
    - No changes to monitoring stations or frequencies. The Comment field has been updated to note that at-depth samples are collected at reservoir stations as described in the Field Sample Procedures of Section B2. The Comment field has also been updated to identify which sites are located near water supply intakes.
- Trinity River Authority
    - Aquatic Life Monitoring (monitoring type "BS") at sites 20440 and 22097 has been removed. Sampling conducted at these sites in FY 2019.
    - A site on Big Bear Creek (station 22096 at Parr Park) has been added for Aquatic Life Monitoring in FY2020.
    - A site on Segment 0825 Denton Creek below Grapevine Lake (station 11034) has been added for quarterly monitoring of *E. coli*, flow, and field parameters. Currently anticipate sampling for 5 years to collect the full set of data needed for assessment (FY 2020 through FY 2024).
    - A site in AU 0805_01 (site # 10924) has been added for quarterly monitoring of *E. coli*, conventionals, flow, and field parameters. Currently anticipate sampling for 3 years to address nutrient concerns (FY 2020 through FY 2022).
    - Sites upstream of the WWTPs on Red Oak Creek (Segment 0805A station 10842) and Ten Mile Creek (unclassified Segment in 0805 station 21287) have been added for quarterly monitoring of *E. coli*, conventionals, flow, and field. These streams are not currently assessed.
    - Station 10815 in Segment 0841O (Mountain Creek downstream of Mountain Creek Lake) and station 17681 in Segment 0841W (Mountain Creek downstream of Joe Pool Lake) have been added for diurnal monitoring 5 times a year for two years (FY 2020 and FY 2021) to address dissolved oxygen concerns identified by the Integrated Report. These sites will be removed in FY 2022.
    - Other notes: These are intended as a record of intent for future monitoring schedule updates and do not apply to the current monitoring schedule. This information is included here as a matter of record.
        - 10756 will remain on the monitoring schedule until further notice. It is providing data that is useful for the Watershed Characterization and future Watershed Protection Plan for Rowlett Creek.
        - 13686 was added in FY 2017 for quarterly monitoring of conventionals, *E. coli*, flow, and

Replaces Pages 130 to 136 of the FY 2020-2021 Basin-Wide QAPP

Site Description	Site ID	Latitude	Longitude	Waterbody ID	Region	SE	CE	MT	24-hr DO	Metals Water	Conventional	Bacteria	Flow	Field	Comment
TARRANT REGIONAL WATER DISTRICT - IN BASIN															
TEHUACANA CREEK 20 METERS DOWNSTREAM OF SH 75 SOUTHEAST OF STREETMAN	10705	31.848511	-96.28997	0804F	09	TR	TD	RT		2	2	2	2	2	TRWD Tribs
WEST FORK TRINITY RIVER 54 METERS DOWNSTREAM OF BEACH STREET IN FORT WORTH	10938	32.752251	-97.288864	0806	04	TR	TD	RT		4	4	4	4	4	4th Street/Beach Street Dam
WEST FORK TRINITY RIVER IMMEDIATELY DOWNSTREAM OF 4TH STREET EAST OF FORT WORTH	17368	32.762909	-97.311752	0806	04	TR	TD	RT		4	4	4		4	4th Street/Beach Street Dam
LAKE WORTH 546 METERS SOUTH AND 319 METERS EAST OF INTERSECTION OF QUEBEC STREET AND CAHOBA DRIVE MID LAKE NEAR DAM	10942	32.792557	-97.420326	0807	04	TR	TD	BS	2						TRWD Diurnal
LAKE WORTH 546 METERS SOUTH AND 319 METERS EAST OF INTERSECTION OF QUEBEC STREET AND CAHOBA DRIVE MID LAKE NEAR DAM	10942	32.792557	-97.420326	0807	04	TR	TD	RT		5	5	4		5	TRWD Routine Intake Conventionals, Metals in Water, and Bacteria also collected below surface depth (0.3m) at this site.
LAKE WORTH MID CHANNEL 35 M DOWNSTREAM OF MOUTH OF WEST FORK OF THE TRINITY RIVER	15163	32.848886	-97.47565	0807	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
LAKE WORTH AT MOUTH OF SILVER CREEK 957 METERS SOUTH AND 1.08 KM WEST OF INTERSECTION OF SILVER CREEK ROAD AND HERON DRIVE	15166	32.800804	-97.480804	0807	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
LAKE WORTH MID CHANNEL SOUTH OF SH 199 472 METERS SOUTH AND 298 METERS WEST OF INTERSECTION OF WATERCRESS DRIVE AND SH 199	15167	32.818138	-97.452477	0807	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals, and Bacteria also collected below surface depth (0.3m) at this site.
EAGLE MOUNTAIN RESERVOIR 250 METERS NORTH OF EAST EDGE OF DAM	10944	32.876389	-97.460831	0809	04	TR	TD	BS	2						TRWD Diurnal
EAGLE MOUNTAIN RESERVOIR 250 METERS NORTH OF EAST EDGE OF DAM	10944	32.876389	-97.460831	0809	04	TR	TD	RT		5	5	4		5	TRWD Routine Intake Conventionals, Metals in Water, and Bacteria also collected below surface depth (0.3m) at this site.

Site Description	Site ID	Latitude	Longitude	Waterbody ID	Region	SE	CE	MT	24-hr DO	Metals Water	Conventional	Bacteria	Flow	Field	Comment
TARRANT REGIONAL WATER DISTRICT - IN BASIN															
EAGLE MOUNTAIN RESERVOIR 1.5 KM W AND 308 METERS S OF INTERSECTION BETWEEN VILLAGE RD AND EAGLE MOUNTAIN PLANT ROAD NEAR TEXAS ELECTRIC	10952	32.904999	-97.489998	0809	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
EAGLE MOUNTAIN RESERVOIR 645 METERS WEST AND 485 METERS SOUTH OF INTERSECTION OF OAKWOOD LANE AND PEDEN ROAD NEAR COLE SUBDIVISION	10956	32.937222	-97.508888	0809	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
EAGLE MOUNTAIN RESERVOIR 112 METERS NORTH AND 818 METERS EAST OF INTERSECTION OF MILLER RD AND GANTT ROAD NEAR INDIAN CREEK COVE	10960	32.965279	-97.508057	0809	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
EAGLE MOUNTAIN RESERVOIR 187 METERS NORTH AND 788 METERS EAST OF INTERSECTION OF BRIAR ROAD AND LIBERTY SCHOOL ROAD NEAR NEWARK BEACH	10964	32.994446	-97.513336	0809	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
WALNUT CREEK AT FM 1542	10853	32.945606	-97.58297	0809A	04	TR	TD	RT			10	10	10	10	TRWD Tribs
ASH CREEK 56 METERS DOWNSTREAM OF SH 199 NORTHBOUND SERVICE ROAD	10854	32.887127	-97.537987	0809B	04	TR	TD	RT			10	10	10	10	TRWD Tribs
DOSIER CREEK AT FM 1220	10855	32.892914	-97.435539	0809C	04	TR	TD	RT			6	6		10	TRWD Tribs-Field for 6 events will consist of flow severity only
DERRETT CREEK AT CENTRAL AVENUE IN NEWARK EAST OF EAGLE MOUNTAIN LAKE APPROX 1.2KM UPSTREAM OF EAGLE MOUNTAIN LAKE	10858	33.003918	-97.490997	0809D	04	TR	TD	RT			6	6		10	TRWD Tribs-Field for 6 events will consist of flow severity only
WEST FORK TRINITY RIVER AT WISE CR 4757/VAN METER BRIDGE	10967	33.034752	-97.534157	0810	04	TR	TD	RT				4		4	West Fork E. Coli
WEST FORK TRINITY RIVER 30 METERS DOWNSTREAM OF FM 730 NE OF BOYD	10969	33.085747	-97.55835	0810	04	TR	TD	RT			10	10	10	10	TRWD Tribs
WEST FORK TRINITY RIVER 30 METERS DOWNSTREAM OF FM 730 NE OF BOYD	10969	33.085747	-97.55835	0810	04	TR	TD	RT				4	4	4	West Fork E. Coli

Site Description	Site ID	Latitude	Longitude	Waterbody ID	Region	SE	CE	MT	24-hr DO	Metals Water	Conventional	Bacteria	Flow	Field	Comment
TARRANT REGIONAL WATER DISTRICT - IN BASIN															
WEST FORK TRINITY RIVER 281 METERS DOWNSTREAM OF CONFLUENCE WITH MARTIN BRANCH 2.2 MI SE OF PARADISE	14246	33.15155	-97.655525	0810	04	TR	TD	RT				4		4	West Fork E. Coli
WEST FORT TRINITY RIVER IMMEDIATELY DOWNSTREAM OF US 380 1.8 MI SW OF BRIDGEPORT	14904	33.201962	-97.80278	0810	04	TR	TD	RT				4		4	West Fork E. Coli
WEST FORK TRINITY RIVER AT BOBO BRIDGE ON WISE CR 4668 SOUTH OF BOYD	17844	33.051849	-97.557846	0810	04	TR	TD	RT				4		4	West Fork E. Coli
WEST FORK TRINITY RIVER BELOW BRIDGEPORT RESERVOIR AT SH 114 APPROX 333 METERS SOUTH AND 647 METERS EAST OF THE INTERSECTION OF SH 114 AND INDUSTRIAL BOULEVARD IN WISE COUNTY	20840	33.191792	-97.743428	0810	04	TR	TD	RT				4		4	West Fork E. Coli
BIG SANDY CREEK 42 METERS DOWNSTREAM OF US 380 4.0 MI EAST OF BRIDGEPORT	15688	33.231667	-97.694672	0810A	04	TR	TD	RT				4	4	4	West Fork E. Coli
GARRETT/RUSH CREEK AT SH 114 NORTH OF EAGLE MOUNTAIN RESERVOIR NW OF BOYD	16767	33.105278	-97.655167	0810B	04	TR	TD	RT				4		4	West Fork E. Coli
MARTIN BRANCH CENTER CREEK AT FM 51 EAST OF PARADISE	17848	33.149624	-97.636108	0810C	04	TR	TD	RT				4		4	West Fork E. Coli
SALT CREEK AT SH 114 NORTH OF EAGLE MOUNTAIN RESERVOIR NW OF BOYD	16766	33.098415	-97.650002	0810D	04	TR	TD	RT				4		4	West Fork E. Coli
LAKE BRIDGEPORT 178 METERS WEST AND 187 METERS SOUTH OF NORTH EDGE OF DAM	10970	33.221668	-97.834	0811	04	TR	TD	BS	2						TRWD Diurnal
LAKE BRIDGEPORT 178 METERS WEST AND 187 METERS SOUTH OF NORTH EDGE OF DAM	10970	33.221668	-97.834	0811	04	TR	TD	RT		5	5	4		5	TRWD Routine Intake Conventionals, Metals in Water, and Bacteria also collected below surface depth (0.3m) at this site.
LAKE BRIDGEPORT AT NORTH END OF MAIN BODY OF RESERVOIR 10 METERS NORTH AND 1.21 KM WEST OF INTERSECTION OF VALLEY STREET AND FM 2952	15164	33.249001	-97.844673	0811	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.

Site Description	Site ID	Latitude	Longitude	Waterbody ID	Region	SE	CE	MT	24-hr DO	Metals Water	Conventional	Bacteria	Flow	Field	Comment
TARRANT REGIONAL WATER DISTRICT - IN BASIN															
LAKE BRIDGEPORT MAIN CHANNEL 0.8KM EAST OF RATTLESNAKE ISLAND 636 M N AND 180 M W OF INTERSECTION OF E BAY DR AND PRIVATE RD 1505	16762	33.18853	-97.846474	0811	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
WILLOW CREEK AT WISE COUNTY ROAD 2210 SOUTH OF RUNAWAY BAY	22057	33.114683	-97.865992	0811	04	TR	TD	RT			6	6	6	6	
BIG CREEK AT FM 1810 UPSTREAM OF LAKE BRIDGEPORT	16768	33.307804	-97.918999	0811A	03	TR	TD	RT			10	10		10	TRWD Tribs
BEANS CREEK AT FM 1156 5.2KM UPSTREAM OF BRIDGEPORT LAKE EAST OF WIZARD WELLS	16737	33.199898	-97.967606	0811B	03	TR	TD	RT			10	10		10	TRWD Tribs
WEST FORK TRINITY RIVER 30 METERS DOWNSTREAM OF SH 59 NORTHEAST OF JACKSBORO	10972	33.293251	-98.078674	0812	03	TR	TD	RT			10	10	10	10	TRWD Tribs
CHAMBERS CREEK AT FM 1126	10977	32.197498	-96.521385	0814	04	TR	TD	RT		10	10	10	10	10	TRWD Tribs
CHAMBERS CREEK AT ELLIS COUNTY ROAD 55 EAST OF ITALY	22058	32.164711	-96.761964	0814	04	TR	TD	RT		6	6	6	6	6	
CEDAR CREEK RESERVOIR 12 METERS NORTH AND 586 METERS EAST OF INTERSECTION OF ASHBY LANE AND BURLEY LOOP	16747	32.24361	-96.137222	0818	05	TR	TD	BS	2						TRWD Diurnal
CEDAR CREEK RESERVOIR 12 METERS NORTH AND 586 METERS EAST OF INTERSECTION OF ASHBY LANE AND BURLEY LOOP	16747	32.24361	-96.137222	0818	05	TR	TD	RT		10	10	4		10	TRWD Routine Intake Conventionals, Metals in Water, and Bacteria also collected below surface depth (0.3m) at this site.
CEDAR CREEK RESERVOIR 710 M W AND 1.01 M W OF INTERSECTION OF WOODLAWN WAY AND SUNSET BLVD AT CONFLUENCE OF CANEY CK AND CLEAR CK COVES	16748	32.201668	-96.068886	0818	05	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
CEDAR CREEK RESERVOIR 1.01 KM SOUTH AND 1.34 KM WEST OF INTERSECTION OF CAROLYNN ROAD AND OAKVIEW TRAIL	16749	32.227501	-96.095833	0818	05	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
CEDAR CREEK RESERVOIR 1.42 KM NORTH AND 1.37 KM EAST OF INTERSECTION OF NOB HILL ROAD AND SH 334	16753	32.338055	-96.181114	0818	05	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
CEDAR CREEK RESERVOIR NORTH MID LAKE 800 M NORTH AND 2.59 KM EAST OF INTERSECTION OF KAUFMAN CR 4042 AND KAUFMAN CR 4043	16772	32.376946	-96.191109	0818	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.

Site Description	Site ID	Latitude	Longitude	Waterbody ID	Region	SE	CE	MT	24-hr DO	Metals Water	Conventional	Bacteria	Flow	Field	Comment
TARRANT REGIONAL WATER DISTRICT - IN BASIN															
CEDAR CREEK RESERVOIR 1.07 KM EAST AND 40 METERS NORTH OF THE INNER CIRCLE UPPER CHANNEL NEAR INTERSECTION OF HEATHER WOODS DRIVE AND LEISA PLACE IN THE CITY OF TOOL	21427	32.28922	-96.15267	0818	05	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
CEDAR CREEK AT FM 1836 NORTHEAST OF KEMP	21559	32.5036	-96.1128028	0818B	04	TR	TD	RT		6	6	6	6	10	TRWD Tribs-Field for 6 events will consist of flow severity only
KINGS CREEK AT SH34 UPSTREAM OF CEDAR CREEK RESERVOIR SOUTHWEST OF KAUFMAN 3.44 KM SOUTHWEST ON SH34 FROM US175	21000	32.556444	-96.338936	0818C	04	TR	TD	RT		6	6	6	6	10	TRWD Tribs-Field for 6 events will consist of flow severity only
LACY FORK CREEK 25 METERS UPSTREAM OF FM 90 5.9KM UPSTREAM OF CEDAR CREEK RESERVOIR	16777	32.424774	-96.109184	0818D	04	TR	TD	RT		6	6	6		10	TRWD Tribs-Field for 6 events will consist of flow severity only
PRAIRIE CREEK AT KAUFMAN CR 4006/RODEO ROAD 5.7 KM UPSTREAM OF CEDAR CREEK RESERVOIR WEST OF MABANK	16775	32.369438	-96.123589	0818E	04	TR	TD	RT		6	6	6		10	TRWD Tribs-Field for 6 events will consist of flow severity only
CLEAR CREEK AT US 175 4.3 KM UPSTREAM OF CEDAR CREEK RESERVOIR	16755	32.28854	-95.97271	0818F	05	TR	TD	RT		6	6	6		10	TRWD Tribs-Field for 6 events will consist of flow severity only
NORTH TWIN CREEK AT US 175 3.3KM UPSTREAM OF CEDAR CREEK RESERVOIR	16756	32.34296	-96.061699	0818G	05	TR	TD	RT		6	6	6		10	TRWD Tribs-Field for 6 events will consist of flow severity only
SOUTH TWIN CREEK AT US 175 5.0KM UPSTREAM OF CEDAR CREEK RESERVOIR	16757	32.322121	-96.028931	0818H	05	TR	TD	RT		6	6	6		10	TRWD Tribs-Field for 6 events will consist of flow severity only
CANEY CREEK AT US 175 8.4KM UPSTREAM OF CEDAR CREEK RESERVOIR NORTHWEST OF ATHENS	16758	32.239117	-95.901909	0818I	05	TR	TD	RT		6	6	6		10	TRWD Tribs-Field for 6 events will consist of flow severity only

Site Description	Site ID	Latitude	Longitude	Waterbody ID	Region	SE	CE	MT	24-hr DO	Metals Water	Conventional	Bacteria	Flow	Field	Comment
TARRANT REGIONAL WATER DISTRICT - IN BASIN															
LAKE ARLINGTON MID LAKE 177 METERS NORTH AND 865 METERS WEST OF INTERSECTION OF ARBOR VALLEY DRIVE AND PERKINS ROAD	11042	32.702778	-97.208336	0828	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
LAKE ARLINGTON USGS SITE FC 570 METERS EAST OF INTERSECTION OF KAY DRIVE AND KALTENBRUN ROAD	13897	32.678055	-97.229446	0828	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
LAKE ARLINGTON USGS SITE EC 254 METERS SOUTH AND 493 METERS EAST OF INTERSECTION OF CRAVENS ROAD AND WILBARGER STREET	13899	32.695278	-97.222778	0828	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
LK ARLINGTON USGS SITE AC ID 324304097113601 LOCATION MATCHES SITE MAP 518 M N AND 507 M W INTERSECT OF LK ARLINGTON BLVD AND GREEN OAK	13904	32.717777	-97.193336	0828	04	TR	TD	BS	2						TRWD Diurnal
LK ARLINGTON USGS SITE AC ID 324304097113601 LOCATION MATCHES SITE MAP 518 M N AND 507 M W INTERSECT OF LK ARLINGTON BLVD AND GREEN OAK	13904	32.717777	-97.193336	0828	04	TR	TD	RT		5	5	4		5	TRWD Routine Intake Conventionals, Metals in Water, and Bacteria also collected below surface depth (0.3m) at this site.
VILLAGE CREEK IMMEDIATELY DOWNSTREAM OF RENDON ROAD SW OF ARLINGTON	10786	32.603279	-97.264702	0828A	04	TR	TD	RT		10	10	10	10	10	TRWD Tribs
BENBROOK LAKE USGS SITE CR 92 METERS NORTH AND 1.27 KM EAST OF INTERSECTION OF PENINSULA ROAD AND PLOVER ROAD	13832	32.607777	-97.464165	0830	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
BENBROOK LAKE EAST END OF DAM 285 METERS SOUTH AND 332 METERS WEST OF INTERSECTION OF PECAN VALLEY DRIVE AND LAKESIDE DRIVE	15151	32.649471	-97.451225	0830	04	TR	TD	BS	2						TRWD Diurnal
BENBROOK LAKE EAST END OF DAM 285 METERS SOUTH AND 332 METERS WEST OF INTERSECTION OF PECAN VALLEY DRIVE AND LAKESIDE DRIVE	15151	32.649471	-97.451225	0830	04	TR	TD	RT		5	5	4		5	TRWD Routine Intake Conventionals, Metals in Water, and Bacteria also collected below surface depth (0.3m) at this site.
BENBROOK LAKE 1.36 KM NORTH AND 223 METERS WEST OF INTERSECTION OF ST FRANCIS VILLAGE RD AND ST ANTHONY DR EAST SIDE IN MAIN CHANNEL	15156	32.628113	-97.456642	0830	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.

Site Description	Site ID	Latitude	Longitude	Waterbody ID	Region	SE	CE	MT	24-hr DO	Metals Water	Conventional	Bacteria	Flow	Field	Comment
TARRANT REGIONAL WATER DISTRICT - IN BASIN															
BENBROOK LAKE EAST OF BOAT RAMP AT HOLIDAY PARK IN MAIN CHANNEL 1.21 KM N AND 58 M E OF INTERSECTION OF PENINSULA RD AND BEAR CREEK DR	15158	32.618168	-97.488525	0830	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
ROCK CREEK AT FM 1187 3.7KM UPSTREAM OF BENBROOK LAKE	16725	32.569553	-97.449356	0830A	04	TR	TD	RT			10			10	TRWD Tribs
BEAR CREEK AT FM 1187 NEAR BENBROOK	13624	32.593933	-97.513367	0830B	04	TR	TD	RT			10		10	10	TRWD Tribs
CLEAR FORK TRINITY RIVER AT KELLY ROAD 8.7KM UPSTREAM OF US 377 SOUTH OF ALEDO	16414	32.653404	-97.586647	0831	04	TR	TD	RT			10		10	10	TRWD Tribs
RICHLAND-CHAMBERS RESERVOIR RICHLAND CREEK ARM MID LAKE 2.24 KM SOUTH AND 276 METERS EAST OF INTERSECTION OF PETTY RD AND SE 2230 RD	11068	31.973555	-96.256134	0836	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
RICHLAND-CHAMBERS RESERVOIR AT NORTH END OF DAM 332 METERS SOUTH AND 555 METERS WEST OF INTERSECTION OF US 287 AND RR 488	15168	31.96875	-96.096642	0836	09	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
RICHLAND-CHAMBERS RESERVOIR 1.95 KM NORTH AND 2.26 KM WEST OF INTERSECTION OF SE 3190 ROAD AND OLD HIGHWAY 287	15169	31.974388	-96.191505	0836	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
RICHLAND-CHAMBERS RESERVOIR CHAMBERS CREEK ARM NEAR TCWCID 1 PUMP STATION 570 M S AND 1.16 KM W OF INTERSECT OF SE 3240 AND SE 3250	15170	32.041168	-96.207497	0836	04	TR	TD	BS	2						TRWD Diurnal
RICHLAND-CHAMBERS RESERVOIR CHAMBERS CREEK ARM NEAR TCWCID 1 PUMP STATION 570 M S AND 1.16 KM W OF INTERSECT OF SE 3240 AND SE 3250	15170	32.041168	-96.207497	0836	04	TR	TD	RT		10	10	4		10	TRWD Routine Intake Conventionals, Metals in Water, and Bacteria also collected below surface depth (0.3m) at this site.
RICHLAND-CHAMBERS RESERVOIR IN UPPER END OF RICHLAND CREEK ARM 2.01 KM S AND 150 METERS E OF INTERSECTION OF NAVARRO SLAB AND SE 1095	15172	31.935972	-96.354721	0836	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.
RICHLAND-CHAMBERS RESERVOIR UPPER END OF CHAMBERS CREEK ARM 2.52 KM NORTH AND 329 METERS WEST OF INTERSECTION OF WICHITA TRL AND FM 637	15199	32.077473	-96.340698	0836	04	TR	TD	RT			5	4		5	TRWD Routine Conventionals and Bacteria also collected below surface depth (0.3m) at this site.

Site Description	Site ID	Latitude	Longitude	Waterbody ID	Region	SE	CE	MT	24-hr DO	Metals Water	Conventional	Bacteria	Flow	Field	Comment
TARRANT REGIONAL WATER DISTRICT - IN BASIN															
RICHLAND CREEK AT SW 0030 RD UPSTREAM OF RICHLAND-CHAMBERS RESERVOIR	16721	31.967112	-96.475029	0836	04	TR	TD	RT		10	10	10		10	TRWD Tribs
POST OAK CREEK 109 METERS DOWNSTREAM OF POWELL PIKE EAST OF CORSICANA	17847	32.097092	-96.408447	0836D	04	TR	TD	RT		10	10	10	10	10	TRWD Tribs
TARRANT REGIONAL WATER DISTRICT - OUT OF BASIN															
LAKE PALESTINE IN BLACKBURN BAY APPROX 550 METERS EAST AND 340 METERS NORTH OF THE INTERSECTION OF ANDERSON COUNTY ROAD 3009 AND PRIVATE ROAD 7010	22056	32.067267	-95.439144	0605	05	TR	TD	RT		5	5	5		5	Out of Basin Intake Conventionals, Metals in Water, and Bacteria also collected below surface depth (0.3m) at this site.

Distribution

QAPP Amendments and Revisions to Appendices will be distributed to all personnel on the distribution list maintained by the Planning Agency.

These changes will be incorporated into the QAPP document and TCEQ and the Trinity River Authority will acknowledge and accept these changes by signing this amendment.

Texas Commission on Environmental Quality

Water Quality Planning Division

Electronically Approved 1/14/2020

_____

Sarah Eagle, Work Leader Date
Clean Rivers Program

Electronically Approved 1/14/2020

_____

Micalah Spenrath, Project Manager Date
Clean Rivers Program

Electronically Approved 1/14/2020

_____

Kelly Rodibaugh Date
Project Quality Assurance Specialist
Clean Rivers Program

Electronically Approved 1/14/2020

_____

Cathy Anderson, Team Leader Date
Data Management and Analysis

Monitoring Division

Electronically Approved 1/14/2020

_____

Sharon Coleman Date
TCEQ Quality Assurance Manager
Acting CRP Lead Quality Assurance Specialist

Trinity River Authority

Electronically Approved 1/14/2020

_____

Angela Kilpatrick Date
TRA Project Manager

Electronically Approved 1/14/2020

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Hong Wu Date
TRA QA Officer

Electronically Approved 1/14/2020

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Carion Taylor Date
TRA Data Manager

Tarrant Regional Water District

Electronically Approved 1/14/2020

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Mark Ernst Date
TRWD Project Manager

Electronically Approved 1/14/2020

_____

Jennifer Owens Date
TRWD QA Officer

Sub-tier participants (e.g., subcontractors, subparticipants, or other units of government) will sign the QAPP, indicating the organization's awareness of, and commitment to requirements contained in this quality assurance project plan and any amendments or added appendices of this plan. Signatures in section A1 will eliminate the need for adherence letters to be maintained.