Amendment #1
Update to the Nueces River Authority Clean Rivers Program FY 2024/2025 QAPP

Prepared by the Nueces River Authority in Cooperation with the Texas Commission on Environmental Quality (TCEQ)

Effective: Immediately upon approval by all parties

Questions concerning this QAPP Amendment should be directed to:

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Justification

This document details the changes made to the basin wide QAPP to update language regarding limits of quantitation (LOQs) in sections A7 and B5, and updates to Appendix B for fiscal year 2025. NRA is transitioning to a new lab for conventional and bacteria measurements. The City of Corpus Christi Water Utilities Lab (WUL) will be utilized for bacteria analysis for coastal, lower Nueces, and Valley locations and replaced with San Antonio River Authority-Regional Environmental Lab (SARA REL) for analysis of the upper and middle basin and Valley sampling locations. NRA will utilize WUL for bacteriological samples to meet holding time requirements. The amendment will include updates to the laboratory personnel associated with laboratory changes. NRA is adding metals monitoring to Station 13096 Petronila Creek due to public request and associated industrial developments. NRA seeks to lower Choke Canyon monthly monitoring at Stations 13019, 13020, 17389, and 22328 to quarterly.

Red font = change by TCEQ CRP Project QA Specialist
Green highlight = change by Nueces River Authority
~~Strikethrough font~~ = deletion of text from previous QAPP document (highlighted green for change by Nueces River Authority/red text for change by TCEQ CRP Project QA specialist)

Summary of Changes

Section	Sub-section/ Figure/Table	Page(s) in Basin-wide QAPP	Change	Justification	Affected Entity	Page(s) in this Amendment
A1	Approval Page	Pg. 2	Added “Air” to Monitoring Division and replaced Jason Natho with Loren Walker as Lead CRP Quality Assurance Specialist. Removed “acting” label. Added “Lawrence” to Grant Bassett.	To reflect organizational changes in TCEQ QA	TCEQ	Pg. 9
A1	Approval Page	Pg. 3	Replaced Marisa Balarin-Juarez with Lorie Flores. Replaced Jessica Wright as Quality Assurance Officer with Courtney Taylor as Quality Assurance Officer and Field Supervisor.	To adjust language used in current CRP QAPPs that does not align with current positions.	NRA	Pg. 10

Section	Sub-section/ Figure/Table	Page(s) in Basin-wide QAPP	Change	Justification	Affected Entity	Page(s) in this Amendment
			Replaced Courtney Taylor as Data Specialist with Wesley Harris.			
A1	Approval Page	Pg. 9	Modified language concerning BCRAGD personnel. Added Watershed Protection Coordinator/Field Supervisor to Clint Carter's QAO role.	To adjust language used in current CRP QAPPs that does not align with current personnel.	BCRAGD	Pg. 16
A3	Distribution List	Pg. 13	Modified language concerning TCEQ and WUL personnel. Replaced Jason Natho with Loren Walker, removed 'Acting' label (TCEQ). Replaced NRA's Marisa Balarin-Juarez with Lorie Flores, Jessica Wright with Courtney Taylor, and Courtney Taylor with Wesley Harris.	To adjust language used in current CRP QAPPs that does not align with current personnel.	TCEQ, NRA	Pg. 17
A3	Distribution List	Pg.14	Modified language concerning BCRADG Personnel. Fixing Clint's position titles	To adjust language used in current CRP QAPPs that does not align with current personnel titles	BCRAGD	Pg.18
A4	Project/Task	Pg. 15 & 16	Replaced Jason Natho with Loren Walker as Lead CRP Quality Assurance Specialist. Removed "acting" label. Added "Lawrence" to Grant Bassett.	To reflect organizational changes in TCEQ QA	TCEQ	Pg. 19 & 20
A4	Project/Task	Pg. 16–19	Modified language concerning roles within the organizations.	To adjust language used in current CRP QAPPs that does not align with current roles	NRA, SARA REL	Pg. 20–23

Section	Sub-section/ Figure/Table	Page(s) in Basin-wide QAPP	Change	Justification	Affected Entity	Page(s) in this Amendment
				and positions.		
A4	Figure A4.1 Organization Chart	Pg. 20	Updated Organization Chart to correct Names and Positions.	To adjust language used in current CRP QAPPs that does not align with current personnel.	TCEQ, NRA	Pg. 26
A6	Project/Task Description	Pg. 28	Modified language concerning the number of metal locations.	To adjust language used in current CRP QAPPs that does not have the correct number of metal sampling events in a year.	NRA	Pg. 27
A7	Ambient Water Reporting Limits (AWRLs)	Pg. 29	Modified language concerning allowable LOQs.	To adjust language used in current CRP QAPPs that does not align with TCEQ CRP's stance on allowable LOQs.	SARA REL, NRA, WUL, Energy, LCRA-ELS	Pg. 27
A8	Special Training/ Certification	Pg. 30–31	Modified language to reference NRA's and BCRAGD's special Training.	To adjust language used in current CRP QAPPs to reference Special Training logs.	NRA, BCRAGD	Pg. 28
Table A9.1	Project Documents and Records	Pg. 31	Modified Retention Records and Locations	To adjust language used in current CRP QAPPs to the correct organization and retention years.	NRA, SARA REL	Pg. 28–29
A9	Electronic Data	Pg. 32	Modified language to reference Appendix F	To adjust language used in current CRP QAPPs to address the data checklist in Appendix F	NRA	Pg. 29
B1	Sampling Process Design	Pg. 33	Modified language and adding SARA REL.	To adjust language used in current CRP	NRA, SARA REL, WUL	Pg. 29–30

Section	Sub-section/ Figure/Table	Page(s) in Basin-wide QAPP	Change	Justification	Affected Entity	Page(s) in this Amendment
				QAPPs to correct organization.		
B2	Sampling Containers	Pg. 34	Modified language to match container number	Changes made to table B2.2 for bottle numbering will affect the Sample Containers paragraph and it needed the language adjusted.	NRA, WUL, Energy Lab	Pg. 30
Table B2.2	Sample Containers	Pg. 34	Modified language to the correct lab and container size.	To adjust language used in current CRP QAPPs to reflect correct sample containers.	SARA REL	Pg. 30–31
B3	Sample Handling and Custody	Pg. 36	Sample handling will include either hand delivery of samples or FedEx Ground shipping to SARA REL.	Meet holding times for Nitrate & Nitrite analysis within 48-hours of sample collection.	NRA	Pg. 31–32
B5	Quality Control or Acceptability Requirements, Deficiencies, and Corrective Actions	Pg. 40–42	Modified language concerning allowable LOQs and Matrix Spike. The Laboratory QAO will discuss the disposition of failure with the NRA Project Manager.	To adjust language used in current CRP QAPPs that does not align with TCEQ CRP's stance on allowable LOQs.	SARA REL, NRA, WUL	Pg. 33
B10	Data Management	Pg. 43–44	Updated language to reflect current process of validation our field notes and writings among accurate data entry procedures.	Updated language used in the current CRP QAPP to correct NRA process of informing TCEQ	NRA	Pg. 34–37–35
C1	Corrective Action Process for Deficiencies	Pg. 46	Modify tasks assigned to NRA PM and split equally amongst all personnel.	Updated language used in the current CRP QAPP to correct NRA process of informing TCEQ.	NRA	Pg. 37–38

Section	Sub-section/ Figure/Table	Page(s) in Basin-wide QAPP	Change	Justification	Affected Entity	Page(s) in this Amendment
Appendix A Table A7.1	Measurement Performance Specifications for NRA, Conventional Parameters in Water	Pg. 56	Updated Table A7.1 to reflect LOQ values and all methods except for Chlorophyll-a and Pheophytin (spectrophotometric acid method). Ammonia and Total Phosphorus included method changes with the change in lab. LOQ values were lowered for Total Alkalinity, Total Nonfilterable Residue (Total Suspended Solids or TSS) and Total Organic Carbon. LOQ values met AWRL requirements for the remaining analyses.	Updated language used in the current CRP QAPP to the LOQ and Methods that will now be used.	SARA REL, NRA, TCEQ, WUL	Pg. 39
Appendix A Table A7.2	Measurement Performance Specifications for BCRAGD	Pg. 57	Corrected LOQ errors for Nitrite, Nitrate, and Phosphorus	To correct errors in LOQ for those parameters	SARA REL	Pg. 40
Appendix A Table A7.5	Measurement Performance Specifications for NRA, Conventional Parameters in Water	Pg. 60	Updated Table A7.5 to reflect correct Lab Organization. Added footnote for WUL.	Updated language used in the current CRP QAPP and added SARA REL	SARA REL, NRA, TCEQ	Pg. 41
Appendix B	Task 3 Work Plan & Sampling Process Design and Monitoring Schedule (Plan)	Pg. 65–69	Updated language to reflect current Work Plan and updated fiscal year throughout from 2024 to 2025.	Updated language used in the current CRP QAPP to reflect FY 25 sample design.	NRA	Pg. 42–45
Appendix B Table B1.1	Sampling Design and Schedule, FY 2025	Pg. 70–77	22330 Nueces River at Chalk Bluff: moved to x2 a year; 22331 Nueces River at CR 414:	Updated Table B1.1 to reflect modifications to sampling design for the	NRA, TCEQ, LCRA-ELS, Energy, WUL	Pg. 46–53

Section	Sub-section/ Figure/Table	Page(s) in Basin-wide QAPP	Change	Justification	Affected Entity	Page(s) in this Amendment
			Moved to x2 a year; 13426 Redfish Bay: Field Only; Choke canyon 13020, 13019, 17389, 22328: moved to x4 a year; 13096 Petronila Creek above Tidal: Metals added x2 a year.	new fiscal year (2025).		
Appendix E	Chain of Custody	Pg. 88	Updated LCRA-ELS and added Energy and SARA REL Chain of Custody form.	TCEQ Technical Systems Audit WTR-24-03-06 (11 July 2024) Corrective Action completion.	LCRA-ELS, Energy, SARA REL, NRA	Pg. 54–56
Appendix F	Data Checklist & Summary Shells	New Page	Added NRA's Clean Rivers Program SWQMIS Data Checklist	SWQMIS Data Checklist verifies and signs off that all data and field sheets within CRP's quarter is quality assured data.	NRA	Pg. 57
Attachment 2	NRA's Clean Rivers Program Special Training	New Page	Added Special Training form completed by all staff working under CRP at NRA.	TCEQ Technical Systems Audit WTR-24-03-01 (11 July 2024) Corrective Action and to ensure FY 24-25 QAPP specifications.	NRA	Pg. 58
Attachment 3	BCRAGD's Clean Rivers Program Special Training	New Page	Added Special Training form completed by all staff working under CRP at BCRAGD.	TCEQ Technical Systems Audit WTR-24-03-01 (11 July 2024) Corrective Action and to ensure FY 24-25 QAPP specifications.	BCRAGD	Pg. 59
Attachment 4	Calibration Log Form	New Page	There was no calibration form in QAPP and it was outdated. Added form per recommendation from TCEQ Audit.	TCEQ Technical Systems Audit WTR-24-03 (11 July 2024) Corrective Action for WTR-24-03-03.	NRA	Pg. 60

Distribution

This QAPP amendment will be distributed by the Nueces River Authority via email to all personnel on the distribution list (section A3 of the QAPP).

These changes will be incorporated into the QAPP document and TCEQ and the Nueces River Authority will acknowledge and accept these changes by approving the final amendment draft electronically via email.

(Replaces Pages 2–9 of the FY 2024–2025 CRP QAPP)

A1 Approval Page

Texas Commission on Environmental Quality

Water Quality Planning Division

Electronically Approved 03/07/2025

Sarah Whitley, Team Leader Date
Water Quality Standards and Clean Rivers Program

Electronically Approved 03/07/2025

Kiran Freeman, Project Manager Date
Clean Rivers Program

Electronically Approved 03/07/2025

Lawrence Grant Bassett, Date
Project Quality Assurance Specialist
Clean Rivers Program

Electronically Approved 03/07/2025

Cathy Anderson, Team Leader Date
Data Management and Analysis

Air Monitoring Division

Electronically Approved 03/07/2025

Loren Walker ~~Jason Natho~~ Date
~~acting~~ Lead CRP Quality Assurance Specialist

Nueces River Authority (NRA)

Electronically Approved 02/25/2025

~~Marisa Balarin-Juarez~~ Date
~~NRA Director of Wastewater and Water Quality~~
Lorie Flores
NRA Director of Resource Protection and Water Quality

Electronically Approved 02/25/2025

Jessica Wright Date
NRA Project Manager

Electronically Approved 02/25/2025

Courtney Taylor ~~Jessica Wright~~ Date
NRA Quality Assurance Officer and Field Supervisor

Electronically Approved 02/25/2025

Wesley Harris ~~Courtney Taylor~~ Date
NRA Data Specialist

City of Corpus Christi Water Utilities Laboratory (WUL)

Electronically Approved	03/06/2025	Electronically Approved	03/06/2025
Michael McCall	Date	LaDona Parr	Date
WUL Lab Manager		WUL Lab Quality Assurance Officer	

Texas A&M University – Corpus Christi (TAMU-CC)

Department of Physical and Environmental Sciences (PENS)

Electronically Approved 02/25/2025	Electronically Approved 02/25/2025
Hao Yu Date	Richard Coffin Date
PENS Lab Research Associate	PENS Lab Quality Assurance Officer

San Antonio River Authority Regional Environment Laboratory (SARA REL)

Electronically Approved	02/25/2025	Electronically Approved	02/25/2025
Zachary Jendrusch	Date	Jeanette Hernandez	Date
SARA REL Lab Supervisor		SARA REL Lab Quality Assurance Officer	

Lower Colorado River Authority Environmental Laboratory Services (LCRA-ELS)

Electronically Approved	02/28/2025
Dale Jurecka LCRA-ELS Lab Manager	Date

Electronically Approved	02/26/2025
Angel Mata LCRA-ELS Lab Quality Assurance Officer	Date

Energy Laboratories, Inc. (Energy Lab)

Electronically Approved	02/25/2025	Electronically Approved on Leigh Ann's behalf by Cindy Rohrer	03/06/2025
Cindy Rohrer Laboratory Manager	Date	Leigh Ann Wise Laboratory Quality Assurance Officer	Date

Bandera County River Authority and Groundwater District (BCRAGD)

Electronically Approved 02/26/2025

David Mauk Date
BCRAGD General Manager

Electronically Approved 02/26/2025

Clint Carter Date
BCRAGD Watershed Protection Coordinator / Field Supervisor & Quality Assurance Officer

Electronically Approved 02/26/2025

Shelby Sckittone Date
BCRAGD Natural Resource Specialist

Detail of Changes

(Replaces pages 13–14 of the FY 2024–2025 CRP QAPP)

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LaDona Parr, Lab Quality Assurance Officer
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The Nueces River Authority (NRA) will provide copies of this project plan and any amendments or appendices of this plan to each person on this list and to each sub-tier project participant, e.g., subcontractors, sub participants, or other units of government. The NRA will document distribution of the plan and any amendments and appendices, maintain this documentation as part of the project's quality assurance records, and ensure the documentation is available for review.

(Replaces pages 15–20 of the FY 2024–2025 CRP QAPP)

A4 Project/Task Organization

Description of Responsibilities

TCEQ

Sarah Whitley Team Leader, Water Quality Standards and Clean Rivers Program

Responsible for Texas Commission on Environmental Quality (TCEQ) activities supporting the development and implementation of the Texas Clean Rivers Program (CRP). Responsible for verifying that the TCEQ Quality Management Plan (QMP) is followed by CRP staff. Supervises TCEQ CRP staff. Reviews and responds to any deficiencies, corrective actions, or findings related to the area of responsibility. Oversees the development of Quality Assurance (QA) guidance for the CRP. Reviews and approves all QA audits, corrective actions, reports, work plans, contracts, QAPPs, and TCEQ QMP. Enforces corrective action, as required, where QA protocols are not met. Ensures CRP personnel are fully trained.

~~Jason Natho~~ Loren Walker, ~~Acting~~ CRP Lead Quality Assurance Specialist (QAS)

Participates in the development, approval, implementation, and maintenance of written QA standards (e.g., Program Guidance, SOPs, QAPPs, QMP). Assists program and project manager in developing and implementing quality system. Reviews and approves CRP QAPPs, QAPP amendments, and QAPP special appendices. Prepares and distributes annual audit plans. Conducts monitoring systems audits of Planning Agencies. Concurs with corrective actions. Conveys QA problems to appropriate management. Recommends that work be stopped in order to safeguard programmatic objectives, worker safety, public health, or environmental protection. Ensures maintenance of audit records for the CRP.

Kiran Freeman, CRP Project Manager (PM)

Responsible for the development, implementation, and maintenance of CRP contracts. Tracks, reviews, and approves deliverables. Participates in the development, approval, implementation, and maintenance of written QA standards (e.g., Program Guidance, SOPs, QAPPs, QMP). Coordinates the review and approval of CRP QAPPs in coordination with the CRP Project Quality Assurance Specialist. Ensures maintenance of QAPPs. Assists CRP Lead QA Specialist in conducting Basin Planning Agency audits. Verifies QAPPs are being followed by contractors and that projects are producing data of known quality. Coordinates project planning with the Basin Planning Agency Project Manager. Reviews and approves data and reports produced by contractors. Notifies QA Specialists of circumstances which may adversely affect the quality of data derived from the collection and analysis of samples. Develops, enforces, and monitors corrective action measures to ensure contractors meet deadlines and scheduled commitments.

Cathy Anderson, Team Leader, Data Management and Analysis (DM&A)

Participates in the development, approval, implementation, and maintenance of written QA standards (e.g., Program Guidance, SOPs, QAPPs, QMP). Ensures DM&A staff perform data management-related tasks.

Scott Delgado, CRP Data Manager, DM&A Team

Responsible for coordination and tracking of CRP data sets from initial submittal through CRP Project Manager review and approval. Ensures that data are reported following instructions in the Data Management Reference Guide, July 2019 or most current version (DMRG). Runs automated data validation checks in the Surface Water Quality Management Information System (SWQMIS) and coordinates data verification and error correction with CRP Project Managers. Generates SWQMIS summary reports to assist CRP Project Managers' data review. Identifies data anomalies and inconsistencies. Provides training and guidance to CRP and Planning Agencies on technical data issues to ensure that data are submitted according to documented procedures. Reviews QAPPs for valid stream monitoring stations. Checks validity of parameter codes, submitting entity code(s), collecting entity code(s), and monitoring type code(s). Develops and maintains data management-related SOPs for CRP data management. Coordinates and processes data correction requests. Participates in the development, implementation, and maintenance of written QA standards (e.g., Program Guidance, SOPs, QAPPs, QMP).

Lawrence Grant Bassett, CRP Project QAS

Serves as liaison between CRP management and TCEQ QA management. Participates in the development, approval, implementation, and maintenance of written QA standards (e.g., Program Guidance, SOPs, QAPPs, QMP). Serves on planning team for CRP special projects. Reviews and approves CRP QAPPs in coordination with other CRP staff. Coordinates documentation and monitors implementation of corrective actions for the CRP.

NRA

Lorie Flores ~~Marisa Balarin-Juarez~~
Director of Resource Protection ~~Wastewater~~ and Water Quality ~~Programs~~

Manages overall performance, administration, and deadlines. Responsible for supervision of field personnel involved in generating analytical data for the project. Ensures that field personnel have adequate training and a thorough knowledge of the QAPP, TCEQ's *Surface Water Quality Monitoring Procedures, Volumes 1 and 2*, and scientific principles of water quality. Ensure the project manager has all necessary equipment and supervises maintenance and upkeep of all equipment. Always ensures safety as top priority. Provides training as needed to meet project requirements or staff interests that support project goals. Responsible for monitoring upcoming deadlines. Outlines steps to obtain monitoring goals to meet project milestones and disseminates information accordingly to water quality staff. Ensures proper completion of all reimbursement requests and other administrational forms, such as the Financial Status Reports in a timely manner to TCEQ CRP Project Manager. Works with NRA and CRP Project Managers to clearly define project budget requirements. Approves laboratory invoices for payment.

Jessica Wright
~~Field Supervisor~~/ Project Manager / ~~QAO~~

~~Coordinates field sampling and data collection activities Supervises field personnel in conducting sampling events. Ensures that all field personnel are properly trained and equipped to conduct the necessary monitoring. Ensures that all sampling procedures are followed according to the QAPP. Ensures that personnel, supplies, and equipment are available at all appropriate times. Supervises field and laboratory data entry to the NRA database. Uses photos and background knowledge of the site location to cross-validate field and laboratory results.~~

Responsible for implementing and monitoring CRP requirements in contracts, QAPPs, and QAPP amendments and appendices. Coordinates basin planning activities and work of basin partners. Ensures monitoring systems audits are conducted to ensure QAPP is followed by NRA and sub-participants and that projects are producing data of known quality. Ensures that subparticipants are qualified to perform contracted work. Ensures CRP project managers and/or QA Specialists are notified of deficiencies and corrective actions, and that issues are resolved. Responsible for validating that data collected are acceptable for reporting to the TCEQ.

Responsible for coordinating the implementation of the QA program. Responsible for writing and maintaining the QAPP and monitoring its implementation. Responsible for maintaining records of QAPP distribution, including appendices and amendments. Responsible for maintaining written records of sub-tier commitment to requirements specified in this QAPP. Responsible for identifying, receiving, and maintaining project QA records. Responsible for coordinating with the TCEQ CRP PM to resolve QA-related issues. ~~Notifies the NRA Director of Wastewater and Water Quality Programs of particular circumstances which may adversely affect the quality of data. Coordinates and monitors deficiencies and corrective action. Coordinates and maintains records of data verification and validation. Coordinates the research and review of technical QA material and data related to water quality monitoring system design and analytical techniques. Conducts monitoring systems audits on project participants to determine compliance with project and program specifications, issues written reports, and follows through on findings. Ensures that field staff are properly trained and that training records are maintained.~~

/2025

Courtney Taylor
~~Data Specialist~~ Quality Assurance Officer and Field Supervisor
Responsible for ensuring that field data are properly reviewed and verified. ~~Responsible for the transfer of basin quality-assured water quality data to the TCEQ in a format compatible with SWQMIS. Maintains quality-assured data on Nueces River Authority internet sites.~~ Verifies results make sense with field observations and scientific background. Double-checks all written values were written in the correct units and rounding. Reviews data entered into NRA database and informs NRA Project Manager of any needed corrections. ~~Helps field supervisor coordinate bottle drop off and pickup with TAMU-CC PENS laboratory.~~ Works with NRA Project Manager to establish schedule of sampling and coordinates bottle drop off/pickup with all laboratories.

Conducts field sampling and data collection activities following procedures outlined in the QAPP. Responsible for completing sample documentation including labeling samples and ensuring the correct sites are identified. ~~Works with the laboratory to obtain the appropriate amount of bottles required for sampling.~~ Retains copies of all Chain of Custody forms. ~~Ensures WUL billing matches analyses requested and correct project charge code.~~ Verifies lab billing matches analyses requested. Responsible for ensuring all instrument calibration data is complete. ~~Enters data into NRA database and informs NRA Project Manager and QAO of any needed corrections.~~

Notifies the NRA Project Manager of particular circumstances which may adversely affect the quality of data. Coordinates and monitors deficiencies and corrective action. Coordinates and maintains records of data verification and validation. Coordinates the research and review of technical QA material and data related to water quality monitoring system design and analytical techniques. Ensures that field staff are properly trained and that training records are maintained.

Coordinates with NRA PM and Data Specialist on all field sampling and data collection activities. Supervises field personnel in conducting sampling events. Ensures that all sampling procedures are followed according to the QAPP. Ensures that personnel, supplies, and equipment are available at all appropriate times. Supervises field and laboratory data entry to the NRA database. Uses photos and background knowledge of the site location to cross-validate field and laboratory results. Coordinates sampling with laboratories to meet holding times and personnel schedules.

Wesley Harris
Data Specialist
Responsible for ensuring that field data are properly reviewed and verified. Responsible for the transfer of basin quality-assured water quality data to the TCEQ in a format compatible with SWQMIS. Maintains quality-assured data on Nueces River Authority internet sites. Verifies results make sense with field observations and scientific background. Double-checks all written values were written in the correct units and rounding. Reviews data entered into NRA database and informs NRA Project Manager of any needed corrections. Helps Field Supervisor coordinate bottle drop off and pickup with TAMU-CC PENS laboratory. Ensures all data on Chain of Custody is completed on the field sheet and all blank or missing data is reported to NRA QAO and PM. Completes USGS

rainfall and flow data entries in the office with matching station and date. Works with NRA QAO to make sure that rainfall and flow make sense according to sampling field notes.

Responsible for completing sample documentation including labeling samples and ensuring the correct sites are identified. Works with the laboratory to obtain the appropriate amount of bottles required for sampling. Retains copies of all Chain of Custody forms. Ensures WUL billing matches analyses requested and correct project charge code. Responsible for ensuring all instrument calibration data is complete. Enters data into NRA database and informs NRA Project Manager and QAO of any needed corrections.

WUL

Michael McCall
Lab Manager
Responsible for the overall performance, administration, and reporting of analyses performed by the WUL. Responsible for supervision of laboratory personnel involved in generating analytical data for the project. Ensures that laboratory personnel have adequate training and a thorough knowledge of the QAPP and related SOPs. Responsible for oversight of all laboratory operations ensuring that all QA/QC requirements are met, documentation is complete and adequately maintained, and results are reported accurately. Enforces corrective action, as required.

LaDona Parr
Lab QAO
Responsible for the overall quality control and quality assurance of analyses performed by the WUL. Monitors the implementation of the QAPP within the laboratory to ensure complete compliance with QA data quality objectives, as defined by the contract and in the QAPP. Conducts in-house audits to ensure compliance with written SOPs and to identify potential problems. Responsible for supervising and verifying all aspects of the QA/QC in the laboratory.

TAMU-CC PENS

Hao Yu
Lab Research Associate
Responsible for the overall performance, administration, and reporting of analyses performed by PENS. Responsible for supervision of laboratory and field personnel involved in generating analytical data for the project. Ensures that laboratory and field personnel have adequate training and a thorough knowledge of the QAPP and related SOPs. Responsible for oversight of all laboratory operations ensuring that all QA/QC requirements are met, documentation is complete and adequately maintained, and results are reported accurately. Enforces corrective action, as required.

Richard Coffin
Lab QAO
Responsible for the overall quality control and quality assurance of analyses performed by PENS. Monitors the implementation of the QAPP within the laboratory to ensure complete compliance with QA data quality objectives, as defined by the contract and in the QAPP. Conducts in-house audits to ensure compliance with written SOPs and to identify potential problems. Responsible for supervising and verifying all aspects of the QA/QC in the laboratory.

SARA REL

Zachary Jendrusch
Lab Supervisor

Responsible for overall performance, administration, and reporting of analyses performed by SARA REL. Responsible for supervision of laboratory personnel involved in generating analytical data for the project. Ensures that laboratory personnel have adequate training and a thorough knowledge of the QAPP and related SOPs. Responsible for oversight of all laboratory operations ensuring that all QA/QC requirements are met, documentation is complete and adequately maintained, and results are reported accurately. Enforces corrective action, as required. Additionally, the lab supervisor will review and verify all field and laboratory data for integrity and continuity, reasonableness, and conformance to project requirements, and then validated against the data quality objectives listed in Appendix A.

Jeanette Hernandez
Lab QAO

Maintains operating procedures in compliance with the QAPP, amendments and appendices. Responsible for the overall quality control and quality assurance of analyses performed by SARA REL. Monitors the implementation of the QAPP within the laboratory to ensure compliance with QA data quality objectives, as defined in the QAPP. Assists with monitoring systems audits for CRP projects. Conducts in-house audits to ensure compliance with written SOPs and to identify potential problems. Responsible for supervising and verifying all aspects of the QA/QC in the laboratory.

LCRA-ELS

Dale Jurecka
Lab Manager

Responsible for the overall performance, administration, and reporting of analyses performed by LCRA-ELS. Responsible for supervision of laboratory and field personnel involved in generating analytical data for the project. Ensures that laboratory and field personnel have adequate training and a thorough knowledge of the QAPP and related SOPs. Responsible for oversight of all laboratory operations ensuring that all QA/QC requirements are met, documentation is complete and adequately maintained, and results are reported accurately. Enforces corrective action, as required. Supplies field personnel with cooler, field blank, equipment blank, dissolved and total metals blank bottles, and sampling bottles.

Angel Mata
Lab QAO

Responsible for the overall quality control and quality assurance of analyses performed by LCRA-ELS. Monitors the implementation of the QAPP within the laboratory to ensure complete compliance with QA data quality objectives, as defined by the contract and in the QAPP. Conducts in-house audits to ensure compliance with written SOPs and to identify potential problems. Responsible for supervising and verifying all aspects of the QA/QC in the laboratory.

Energy Laboratories, Inc. (Billings, MT)

Cindy Rohrer
Lab Manager

Responsible for the overall performance, administration, and reporting of analyses performed by Energy Laboratories, Inc (Energy Lab). Responsible for supervision of laboratory and field personnel involved in generating analytical data for the project. Ensures that laboratory personnel have adequate training and a thorough knowledge of the QAPP and related SOPs. Responsible for oversight of all laboratory operations ensuring that all QA/QC requirements are met, documentation is complete and adequately maintained, and results are reported accurately. Enforces corrective action, as required. Supplies field personnel with cooler, field blank, equipment blank, mercury blank, dissolved and total metals blank bottles, and sampling bottles.

Leigh Ann Wise
Lab QAO
Responsible for the overall quality control and quality assurance of analyses performed by Energy Lab. Monitors the implementation of the QAPP within the laboratory to ensure complete compliance with QA data quality objectives, as defined by the contract and in the QAPP. Ensures methods performed meet Texas Surface Water Quality Monitoring Program's Ambient Water Reporting Limits (AWRLs). Conducts in-house audits to ensure compliance with written SOPs and to identify potential problems. Responsible for supervising and verifying all aspects of the QA/QC in the laboratory. Verifies chain of custody requirements are met.

BCRAGD

David Mauk
General Manager
Manages overall performance, administration, and reporting of analyses performed by BCRAGD field staff. Responsible for supervision of field personnel involved in generating analytical data for the project. Ensures that field personnel have adequate training and a thorough knowledge of the QAPP and related SOPs. Responsible for oversight of all field operations ensuring that all QA/QC requirements are met, documentation is complete and adequately maintained, and results are reported accurately. Additionally, the general manager will review and verify all field work and laboratory calibrations for integrity and continuity, reasonableness and conformance to project requirements.

Clint Carter
QAO
Maintains operating procedures in compliance with the QAPP, amendments and appendices. Responsible for the overall quality control and quality assurance of analyses performed by BCRAGD's field staff. Assists with monitoring systems audits for CRP projects. Reviews and verifies all field and laboratory data for integrity and continuity, reasonableness and conformance to project requirements, and then validated against the data quality objectives.

Responsible for coordinating the implementation of the QA program. Responsible for identifying, receiving, and maintaining project quality assurance records. Notifies the NRA QAO of particular circumstances which may adversely affect the quality of data. Coordinates and monitors deficiencies, nonconformance and corrective action. Coordinates and maintains records of data verification and validation. Coordinates their search and review of technical QA material and data related to water quality monitoring system design and analytical techniques.

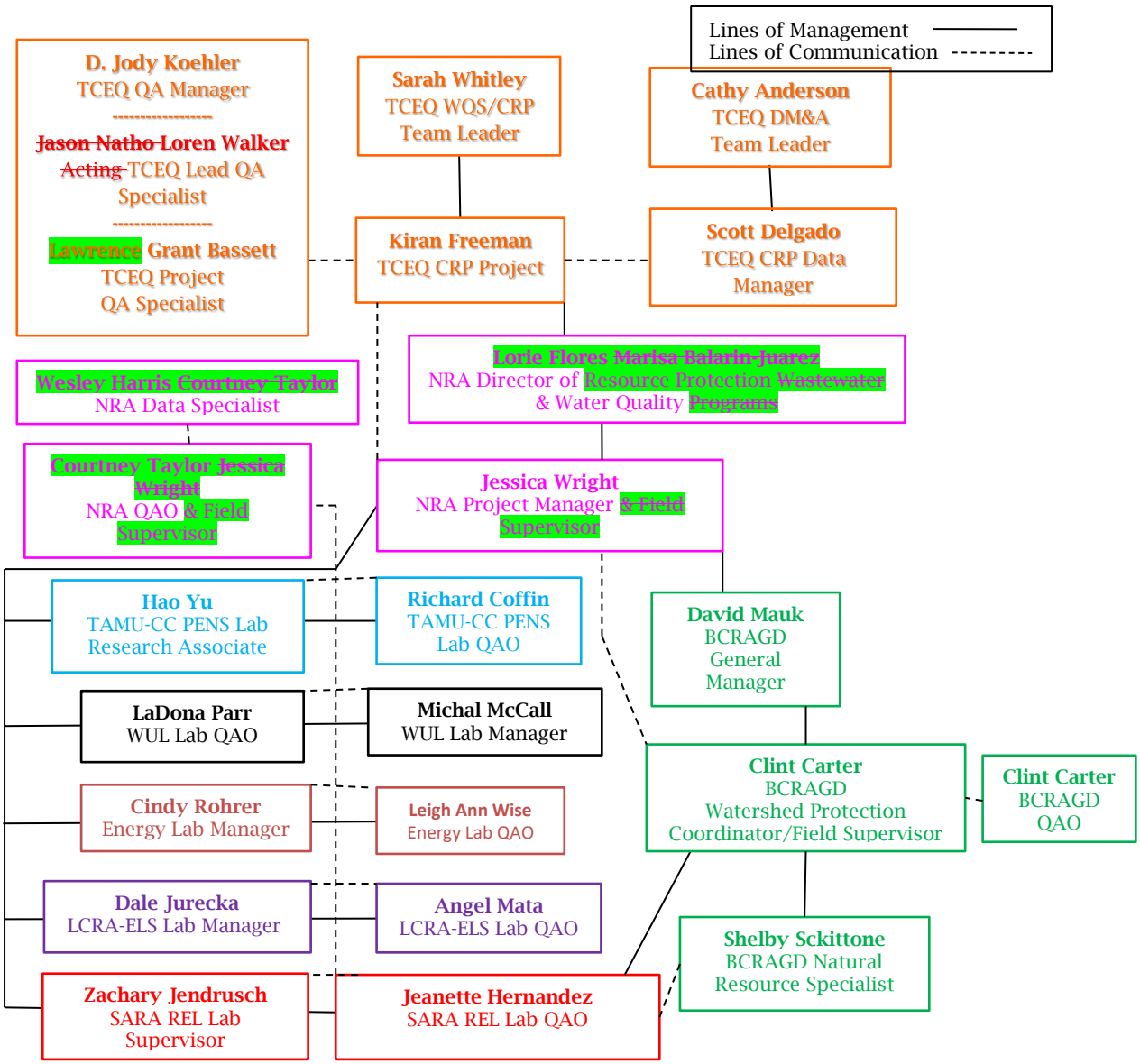
Clint Carter
Watershed Protection Coordinator / Field Supervisor
Coordinates field sampling and data collection activities and supervises the field personnel in conducting sampling events. Ensures that all field personnel are properly trained and equipped to conduct the necessary monitoring and that all sampling procedures are followed according to the QAPP. Ensures that personnel, supplies, and equipment are available at all appropriate times. Responsible for overseeing the Natural Resource Specialist in completing sample documentation including labeling samples and ensuring the correct sites are identified. Ensures that samples are sent properly to lab for analysis. Responsible for recording all reagents into the reagent log and labeling all reagent bottles in accordance with the Nueces River Authority QAPP and the BCRAGD SOP for CRP. Conducts all pre- and post-calibrations and maintains all sampling equipment.

Shelby Sckittone
Natural Resource Specialist
Conducts field sampling and data collection activities following procedures outlined in the QAPP. Responsible for completing sample documentation including labeling samples and ensuring the correct sites are identified. Ensures that samples are sent properly to lab for analysis.

(Replaces page 20 of the FY 2024–2025 CRP QAPP)

Project Organization Chart

Figure A4.1. Organization Chart - Lines of Communication



(Replaces pages 28 of the FY 2024–2025 CRP QAPP)

A6 Project/Task Description

NRA will monitor a minimum of 10 bay and tidal sites quarterly for conventional, bacteria, and field parameters. NRA will also monitor 2 bay and tidal locations on a semi-annual basis for conventional, bacteria, and field parameters. NRA will monitor a minimum of 33 river and lake sites quarterly for conventional, bacteria, flow (where applicable), and field parameters. NRA will also monitor 2 river locations on a quarterly basis for Chlorophyll-*a*, TDS, bacteria, and field parameters. NRA will also monitor one river site for bacteria and field parameters only and one river site for field parameters only. NRA will also conduct 24-hour dissolved oxygen monitoring at 3 sites given sufficient water. NRA will monitor metals in water at ~~3~~ 9 locations on a twice per year frequency.

Bandera County River Authority and Groundwater District (BCRAGD) will conduct routine quarterly monitoring, collecting field, conventional, bacteria and, where applicable, flow data at 5 river stations in basin 21.

See Appendix B for sampling design and monitoring pertaining to this QAPP. See Appendix B for the project-related work plan tasks and schedule of deliverables for a description of work defined in this QAPP.

(Replaces page 29 of the FY 2024–2025 CRP QAPP)

A7 Quality Objectives and Criteria

Ambient Water Reporting Limits (AWRLs)

For surface water to be evaluated for compliance with Texas Surface Water Quality Standards ("TSWQS") and screening levels, data must be reported at or below specified reporting limits. To ensure data are collected at or below these reporting limits, required ambient water reporting limits ("AWRL") have been established. A full listing of AWRLs can be found at https://www.tceq.texas.gov/assets/public/waterquality/crp/QA/awrlmaster.pdf .

The limit of quantitation (LOQ) is the minimum reporting limit, concentration, or quantity of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence by the laboratory analyzing the sample. Analytical results shall be reported down to the laboratory's LOQ (i.e., the laboratory's LOQ for a given parameter is its reporting limit) as specified in Appendix A.

The following requirements must be met in order to report results to the CRP:

- The laboratory's LOQ for each analyte must be set at or below the AWRL.
- Once the LOQ is established in the QAPP, that is the reporting limit for that parameter until such time as the laboratory amends the QAPP and lists an updated LOQ.
- The laboratory must demonstrate its ability to quantitate at its LOQ for each analyte by running an LOQ check sample for each analytical batch of CRP samples analyzed.
- ~~When reporting data, no results~~ Under reasonable circumstances (e.g., the use of a subcontracted lab), data may be reported above or below the LOQ stated in this QAPP, so long as the LOQ remains at or below the AWRL stated in this QAPP.
- Measurement performance specifications for LOQ check samples are found in Appendix A.

Laboratory Measurement Quality Control Requirements and Acceptability Criteria are provided in Section B5.

(Replaces A8 language on pages 30–31 and does not replace or modify the A9 information on page 31, which remains unaffected in the FY 2024–2025 CRP QAPP)

A8 Special Training/Certification

Before new field personnel independently conduct field work, NRA's Field Supervisor trains him/her in proper instrument calibration, field sampling techniques, and field analysis procedures. The QA officer (or designee) will document the successful field demonstration. The QA Officer (or designee) will retain documentation of training and the successful field demonstration in the employee's personnel file (or other designated location) and ensure that the documentation will be available during monitoring systems audits. BCRAGD's Field Supervisor must ensure that new field personnel are trained in accordance with NRA's Special Training (Attachment 2)~~/Certification procedures~~. NRA Field Supervisor will keep a record of trainings completed. BCRAGD will forward a record of training as needed (Attachment 3).

Contractors and subcontractors must ensure that laboratories analyzing samples under this QAPP meet the requirements contained in The NELAC Institute Standard (2016) Volume 1, Module 2, Section 4.5 (concerning Subcontracting of Environmental Tests).

(Replaces Table A9.1 on page 31 and does not replace or modify the A9 information on page 31, which remains unaffected in the FY 2024–2025 CRP QAPP)

A9 Documents and Records

Table A9.1 Project Documents and Records

Document/Record	Location	Retention (yrs)	Format
QAPPs, amendments and appendices	NRA, BCRAGD	7*	Paper, electronic
Field SOPs	NRA, BCRAGD	7*	Paper, electronic
Laboratory Quality Manuals	SARA REL, TAMU-CC PENS, LCRA-ELS, Energy, WUL	5	Paper, electronic
Laboratory SOPs	SARA REL, TAMU-CC PENS, LCRA-ELS, Energy, WUL	5	Paper, electronic
QAPP distribution documentation	NRA, BCRAGD	7*	Paper, electronic
Field staff training records	NRA, BCRAGD	7*	Paper, electronic
Field equipment calibration/maintenance logs	NRA, BCRAGD	7*	Paper
Field instrument printouts	NRA, BCRAGD	7*	Electronic
Field notebooks or data sheets	NRA, BCRAGD	7*	Paper
Chain of custody records	NRA, BCRAGD, SARA REL, TAMU-CC PENS, LCRA-ELS, Energy, WUL	7*	Paper, Electronic

Laboratory calibration records	SARA REL, TAMU-CC PENS, LCRA-ELS, Energy, WUL	5	Paper
Laboratory instrument printouts	SARA REL, TAMU-CC PENS, LCRA-ELS, Energy, WUL	5	Paper, electronic
Laboratory data reports/results	SARA REL, TAMU-CC PENS, LCRA-ELS, Energy, WUL	5	Paper, electronic
	NRA, BCRAGD	7*	Paper, electronic
Laboratory equipment maintenance logs	SARA REL, TAMU-CC PENS, LCRA-ELS, Energy, WUL	5	Paper, electronic
Corrective Action Documentation	SARA REL, TAMU-CC PENS, LCRA-ELS, Energy, WUL	5	Paper, electronic
	NRA, BCRAGD	7*	Paper, electronic

*NRA and BCRAGD stores all documentation including electronic and paper documents at least 7 years.

(Replaces specific text on page 32 of the FY 2024–2025 CRP QAPP)

Electronic Data

Data will be submitted electronically to the TCEQ in the Event/Result file format described in the most current version of the DMRG, which can be found at: https://www.tceq.texas.gov/waterquality/data-management/dmrg_index.html. A completed Data Review Checklist and Data Summary (see Appendix F) will be included with each data submittal. NRA will include record of the Clean Rivers Program SWQMIS Data Checklist as the front page to the field and lab reports (Appendix F).

NRA receives data from all laboratories and sub-tier participants over email in ".pdf" format. Upon receiving electronic laboratory results, NRA makes a physical copy and stores the data with the field data sheets. Data is submitted 3 times a year electronically to the TCEQ in the Event/Result file format described in the most current version of the DMRG, which can be found at:
https://www.tceq.texas.gov/waterquality/data-management/dmrg_index.html

(Replaces Section B1 on page 33 of the FY 2024–2025 CRP QAPP)

B1 Sampling Process Design

Sampling under this QAPP is conducted by NRA and BCRAGD. NRA uses the SARA REL~~CC WUL~~ for conventional parameters including bacteria (only *E. coli*), Chlorophyll-a and Pheophytin. NRA also uses WUL for bacteria (Enterococcus and *E. coli*) samples and TAMU-CC PENS for chlorophyll-*a* and pheophytin analysis when needed due to hold time constraints. BCRAGD uses the SARA REL for all routine chemical analysis including bacteria.

LCRA-ELS and Energy Labs will ship pre-cleaned bottles to NRA staff shortly before samples are collected and include HNO_3 preservative to be added in field for dissolved metals analysis. NRA will collect dissolved and total metals at each metals monitoring station. Dissolved metals in water samples are field filtered and placed in a re-sealable plastic bag along with the unfiltered total metals in water sample. Samples are shipped to LCRA-ELS for analysis. In order to meet project LOQs, NRA will collect Dissolved Cadmium and Total Mercury during the warmer months and ship samples to Energy Lab.

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

(Replaces the Sample Containers subsection and Table B2.2 on page 34 of the FY 2024–2025 CRP QAPP)

B2 Sampling Methods

Sample Containers

~~Sample containers 1 – 2, and 4 – 7 are supplied by the laboratories conducting the analyses and are shipped to NRA directly. Sample containers 8 – 11 are supplied by SARA REL and are shipped to BCRAGD directly. Sample containers with preservative arrive pre-acidified with sulfuric acid (containers 2 and 4) or preloaded with sodium thiosulfate (containers 5 and 11). Containers 6 and 7 are supplied by LCRA-ELS and Energy Lab; the samples are field filtered by NRA staff. Acidification of metals in water samples will be performed by LCRA-ELS and Energy Lab in the lab. Certificates from sample container manufacturers are maintained in a notebook by the laboratory. NRA purchased Container 3 and maintains all manufacturer certificates in a notebook.~~

~~*Table B2.2 Sample Containers*~~

~~NRA Sampling Containers~~		
~~**Container #**~~	~~**Bottle Description**~~	~~**Lab**~~
~~1~~	~~1000mL Polyethylene bottle~~	~~WUL~~
~~2~~	~~500mL Polyethylene bottle, preserved in lab~~	~~WUL~~
~~3~~	~~500mL Brown polyethylene bottle~~	~~TAMU-CC PENS~~
~~4~~	~~500mL Glass bottle, preserved in the lab~~	~~WUL~~
~~5~~	~~290mL IDEXX bottle~~	~~WUL~~
~~6~~	~~250mL Polyethylene bottle, HNO3 pre-cleaned & preserved in lab~~	~~LCRA-ELS, Energy Lab~~
~~7~~	~~250mL Glass or Teflon bottle, HNO3 pre-cleaned & preserved in lab~~	~~LCRA-ELS, Energy Lab~~
~~**BCRAGD Sampling Containers**~~		
~~8~~	~~4000mL Cubitainer~~	~~SARA REL~~
~~9~~	~~1000mL Cubitainer, preserved in the field~~	~~SARA REL~~
~~10~~	~~2000mL Brown polyethylene bottle~~	~~SARA REL~~
~~11~~	~~300mL Whirlpack~~	~~SARA REL~~

Sample containers are new, supplied by the laboratories conducting the analyses and are shipped to NRA or BCRAGD or picked up directly. Sample container 2 is preserved upon arrival at site with sulfuric acid. Container 4 and 12 are preloaded with sodium thiosulfate. Container 7 is field filtered by NRA staff. Acidification of metals in water samples will be performed by LCRA-ELS and Energy Lab in the lab. Certificates from sample container manufacturers are maintained in a notebook by the laboratory.

Table B2.2 Sample Containers

NRA Sampling Containers		
Container #	**Bottle Description**	**Lab**
1	1000mL unpreserved Polyethylene bottle	SARA REL
2	1000 mL Cubitainer, preserved in field by NRA	SARA REL
3	500 mL Brown polyethylene bottle	TAMU-CC PENS
4	290 mL IDEXX bottle with Sodium Thiosulfate	SARA REL
5	250 mL High Density Polyethylene Bottle	SARA REL

6	250 mL Glass or Teflon bottle (no preservation for total metal analysis)	LCRA-ELS, Energy Lab
7	250 mL Glass or Teflon bottle, HNO_3 (preserved in field for dissolved metals analysis)	LCRA-ELS, Energy Lab
8	3000 mL Amber polypropylene	SARA REL
BCRAGD Sampling Containers		
9	4000mL Cubitainer	SARA REL
10	1000mL Cubitainer, preserved in the field	SARA REL
11	3000 mL amber polypropylene bottle	SARA REL
12	300mL Whirlpack with Sodium Thiosulfate	SARA REL

(Replaces Sample Handling subsection of Section B3 on page 36 of the FY 2024–2025 CRP QAPP)

B3 Sample Handling and Custody

Sample Handling

At each site visited, sample containers are placed in a re-sealable plastic bag and are immediately placed on ice in an ice chest. Chain of custody (COC) forms are filled out noting the station ID, date, and time and corresponding analysis to be completed by laboratory personnel. Samples to WUL and TAMU-CC PENS are delivered immediately to the respective lab after sampling. ~~Upon delivery, lab personnel receive the samples and note the temperature of the samples, time, date, and provide a signature on the COC form. Copies of the signed COC forms are made and stored with field data sheets and lab data results at Nueces River Authority.~~ Samples going to SARA REL that have a 48-hour holding times (i.e. Nitrate/Nitrite bottle in Container 6 of Table B2.2) may be shipped the same day of sample collection to SARA REL via FedEx Ground service on ice within 0°C and 6°C in a cooler along with the COC in a zip lock bag with the samples. Samples may also be driven up to SARA REL by NRA the following morning after sample collection. NRA will determine whether to hand-deliver samples or deliver via FedEx Ground according to the method that allows for most laboratory analysis time to meet holding times.

~~\~~The remaining bottles to SARA REL will be hand delivered and kept within 0°C and 6°C on ice within a cooler within the same week that the samples were collected, ensuring holding times are met. Upon delivery, lab personnel receive the samples and note the temperature of the samples, time, date, and provide a signature on the COCs. Copies of the signed COCs are made and stored with field data sheets and lab data results at Nueces River Authority. If unforeseen circumstances prevent NRA from hand delivering the other samples, samples will be shipped to SARA REL via FedEx Ground on ice within 0°C and 6°C in a cooler along with the COC in a zip lock bag with the samples. Records of shipped samples will be retained by NRA and shipment tracking information sent to SARA REL. NRA will reach out to TCEQ PM in the event of an issue of sample delivery. Upon delivery, lab personnel receive the samples and note the temperature of the samples, time, date, and provide a signature on the COC form. Copies of the signed COC forms are made and stored with field data sheets and lab data results at Nueces River Authority.

For metals in water sampling, NRA will collect a dissolved metals in water and a total metals in water sample at each metals monitoring station. Dissolved metals in water samples are field filtered and placed in a re-sealable plastic bag along with the unfiltered total metals in water sample. Samples are then placed in an ice chest (no ice is required) with the COC sealed in a waterproof storage bag inside the cooler. The cooler is then sealed with duct tape and a signed and dated chain of custody seal for shipment to LCRA-ELS and Energy Lab. Samples are then shipped to LCRA-ELS and Energy Lab for analysis. Upon delivery, lab personnel receive the samples and note the temperature of the samples, time, date, and provide a signature on the COC form.

Samples obtained by BCRAGD are immediately placed on ice in an ice chest for transport back to BCRAGD offices. Chain of custody (COC) forms provided by the SARA REL are filled out noting the station ID, date, and time and corresponding analysis to be completed by laboratory personnel. The ice chest with the COC forms

are then sealed for transport to SARA REL by courier. Upon delivery, lab personnel receive the samples and note the temperature of the samples, time, date, and provide a signature on the COC form.

(Replaces specific text on pages 41-42 of the FY 2024–2025 CRP QAPP)

B5 Quality Control or Acceptability Requirements, Deficiencies, and Corrective Actions

Sampling QC excursions are evaluated by the NRA Project Manager~~/QAO~~, in consultation with the NRA QAO. In that differences in sample results are used to assess the entire sampling process, including environmental variability, the arbitrary rejection of results based on pre-determined limits is not practical. Therefore, the professional judgment of the NRA Project Manager~~/QAO~~ and QAO will be relied upon in evaluating results.

Field blanks for trace elements and trace organics are scrutinized very closely. Field blanks are associated with batches of field samples. In the event of a field blank failure, any target analytes in the ambient sample associated with the field blank should be qualified as not meeting project QC requirements. Notations of blank contamination are noted in the data summaries that accompany data deliverables. Equipment blanks for metals analysis are also scrutinized very closely.

Laboratory measurement quality control failures are evaluated by the laboratory staff. The disposition of such failures and the nature and disposition of the failure is reported to the Laboratory QAO~~/PM~~. The Laboratory QAO will discuss the failure with the NRA Project Manager. If applicable, the NRA PM will include this information in a CAP and submit with the Progress Report to the TCEQ CRP PM.

The definition of and process for handling deficiencies and corrective action are defined in Section C1.

Additionally, in accordance with CRP requirements and the TNI Standard (Volume 1, Module 2, Section 4.5, Subcontracting of Environmental Tests) when a laboratory that is a signatory of this QAPP finds it necessary and/or advantageous to subcontract analyses, the laboratory that is the signatory on this QAPP must ensure that the subcontracting laboratory is NELAP-accredited (when required) and understands and follows the QA/QC requirements included in this QAPP. This includes confirming that the sub-contracting laboratory has LOQs at or below TCEQ AWRLs ~~utilize the same reporting limits as the signatory laboratory~~ and performs all required quality control analysis outlined in this QAPP. The signatory laboratory is also responsible for quality assurance of the data prior to delivering it to the NRA, including review of all applicable QC samples related to CRP data. As stated in section 4.5.5 of the TNI Standard, the laboratory performing the subcontracted work shall be indicated in the final report and the signatory laboratory shall make a copy of the subcontractor's report available to the client (NRA) when requested.

Matrix spike

Matrix spike recoveries are compared to the same acceptance criteria established for the associated LCS recoveries, rather than the matrix spike recoveries published in the mandated test method. The EPA 1993 methods (i.e. ammonia-nitrogen, ion chromatography, TKN) that establish matrix spike recovery acceptance criteria are based on recoveries from drinking water that has very low interferences and variability and do not represent the matrices sampled in the CRP. If the matrix spike results are outside laboratory-established criteria, there will be a review of all other associated quality control data in that batch. If all of quality control data in the associated batch passes, it will be the decision of SARA REL QAO or NRA PM to report the data for the analyte that failed in the parent sample to TCEQ or to determine that the result from the parent sample associated with that failed matrix spike is considered to have excessive analytical variability and does not meet project QC requirements. Depending on the similarities in composition of the samples in the batch, NRA may consider excluding all of the results in the batch related to the analyte that failed recovery.

(Replaces certain text on pages 43–44 of the FY 2024–2025 CRP QAPP)

B10 Data Management

Data Management Process

NRA's field data sheets are used to record field and acquired data (streamflow and precipitation information) from each monitoring station for each sampling event. Laboratory data results from LCRA-ELS, Energy Lab, WUL, TAMU-CC PENS, and SARA REL is sent to NRA via email following each sampling event.

BCRAGD submits field data and SARA REL lab results to NRA electronically via email.

NRA staff transcribes data and uploads photographs from each sampling event (NRA and BCRAGD) to NRA's online data entry forms called DataIn Scripts. Data is input into the database based on the source or type of data. There is an online form for 24-hour dissolved oxygen data, routine CRP data analyzed by WUL, LCRA-ELS, Energy Lab, SARA REL and TAMU-CC PENS, ~~routine CRP data analyzed by SARA REL~~, and one for profile measurements. Each input form includes the field parameters. There is an additional input form for adding pictures. The data is stored in NRA's temporary database. The data are extracted from this database and formatted for submittal to TCEQ.

The forms are designed to limit the amount of information that has to be typed in order to reduce typographical errors. The forms contain: a drop-down list of stations associated with each input type; input fields associated with the event record include the tag number, date, time, depth, source codes, program code, comment, and quarter. The quarter field is only used in NRA's temporary database. The forms also include the results records information via input fields for all field parameters and lab parameters. Where applicable, outliers are flagged via an associated input field. The information entered into the database is printed and double-checked against the field data sheets and lab results pages by the NRA Field Supervisor. Data entry errors are corrected by NRA QAO and initialed as corrected on database printed sheet. NRA PM consolidates all field, lab results, and finalized database input paperwork, error free.

The data will be supplied to the TCEQ Project Manager as ASCII pipe-delimited text files in the Event/Result file formats as described in the most current version of the DMRG. The data files are then forwarded to the TCEQ Data Manager.

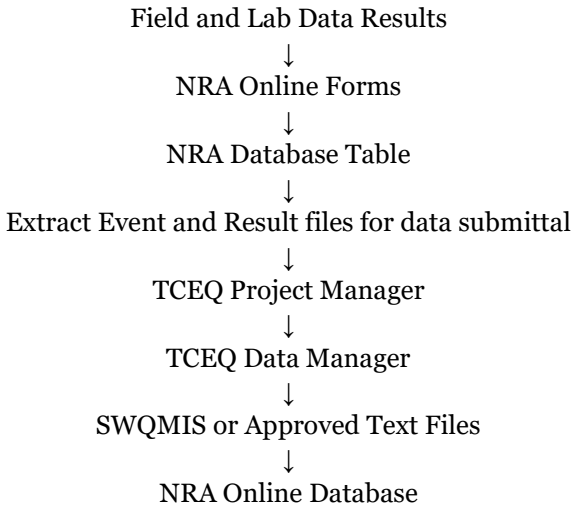
After approval by TCEQ and inclusion in SWQMIS, the data are entered into NRA's CRP database table that is available online. There are two loading procedures:

- Procedure 1: Once a month, non-NRA data are downloaded from SWQMIS via the "CRP Data Tool" (https://www80.tceq.texas.gov/SwqmisWeb/public/crpweb.faces) website for all segments within NRA's area of responsibility. The event and result files are formatted for upload into NRA's database. A script is run that loads these data into NRA's database. This allows not only new data to be inserted, but data that has been modified in the SWQMIS database to be updated in the NRA's database.

- Procedure 2: NRA data are loaded using the event and result files that were used for the data submittal after they have been approved. NRA's data are loaded separately to preserve NRA's tag assignment to the profile data.

Errors discovered in these records after inclusion in SWQMIS are manually corrected in NRA databases by the NRA QAO/PM. Notification of discovered errors is provided to TCEQ PM by NRA PM.

The following flow chart summarizes the data path.



Data Dictionary

Terminology and field descriptions are included in the 2019 DMRG, or most recent version.

Name of Entity	Tag Prefix	Submitting Entity	Collecting Entity
Nueces River Authority	O	NR	NR
Bandera County River Authority and Groundwater District	O	NR	BA

Data Errors and Loss

Time of lab analysis is compared to holding times for all parameters by WUL, TAMU-CC PENS, BCRAGD, SARA REL, LCRA-ELS, and NRA. In the event that a holding time is not met, the accompanying narrative is reviewed for an explanation and/or validity of the reported data. This information is entered into the comment field of the event table and the data exceeding the holding times is excluded from the reported data set, if applicable.

To detect and correct errors prior to submission to TCEQ, the scripts that convert the data entered in the online forms check the entered value against the parameter codes minimum and maximum accepted values. In the event that the data are outside the range, the script returns an error message instructing the user to either re-enter the data or to verify the value and place a “1” in an associated box that is equivalent to the

"Remark" field of the results table. Date and time entries must also be in valid formats for the scripts to process the data. A report of the records that were added to the table is displayed which can be used to review the data against the field and laboratory data sheets.

Record Keeping and Data Storage

All hardcopy field and lab data sheets are stored in files associated with the quarter in which the sampling occurred. The database is located on a Windows NT server housed in San Antonio, Texas. The CRP database consists of three tables: *parameters*, which contains storet information; *swqm*, which contains information on all sampling stations within NRA's area of responsibility; and *results*, which contains all the sampling event and result information and data.

The NRA Database Manager backs up the CRP database, web pages, and scripts monthly, on or about the first of each month. The database tables are exported to sql and csv files. Listings of the current month's updated records for the individual segments, the web pages and scripts are also copied. These files are copied to a secure cloud server online.

Data Handling, Hardware, and Software Requirements

SERVER HARDWARE #1:	Dell Server
SERVER DATABASE SOFTWARE #1:	Microsoft-IIS/6.0 - MySQL build 5.0.51a
SERVER SOFTWARE #1:	Windows NT SDFMAXVCUS0303 5.2 build 3790
SERVER_PROTOCOL #1:	HTTP/1.1
SERVER HARDWARE #2:	Altec Custom Build
SERVER BACKUPSOFTWARE SOFTWARE #2:	Manual / Norton Ghost 10
SERVER SOFTWARE #2:	Windows XP Professional
SERVER_PROTOCOL #2:	HTTP/1.1
PROGRAMMING LANGUAGE SUPPORT:	PERL, JAVASCRIPT, HTML, XHTML, PHP, SQL, BASH SHELL SCRIPTNG, JAVA, ACTIVE PERL, FLASH and ACTIVEX
DATABASE SUPPLEMENTAL SOFTWARE APPLICATIONS:	SECURE SHELL, SECURE FTP, WS_FTP(LE), Notepad, MS WORD, OUTLOOK Express, WINZIP9.0, Roxio Easy CD Creater 5 and MS OUTLOOK.
DATABASE SUPPLEMENTAL GRAPICS SOFTWARE APPLICATIONS:	FLASH MX, JASC Paint Shop Pro XI and JASC Animation Shop.
MIDDLEWARE	DBI,/DBD, CGI/FastCGI, Active X Controls, Mozilla, MSIE, Netscape, and Opera.
DATABASE PRINTER SUPPLEMENTAL HARDWARE/SOFTWARE:	HP Color Laser Jet 4500DN, HP Office Jet 7410 All-In-One and Xerox Workcentre 7232.

Information Resource Management Requirements

Data will be managed in accordance with the TCEQ DMRG (most recent revision), and applicable Basin Planning Agency information resource management policies.

GPS equipment may be used as a component of the information required by the Station Location (SLOC) request process for creating the

certified positional data that will ultimately be entered into SWQMIS database. Positional data obtained by CRP grantees using a GPS will follow the TCEQ's OPP 8.11 policy regarding the collection and management of positional data. Positional data may be acquired with a GPS and verified with photo interpolation using a certified source, such as Google Earth or Google Maps. The verified coordinates and map interface can then be used to develop a new SLOC.

(Replaces certain text on pages 46 of the FY 2024–2025 CRP QAPP)

C1 Assessments and Response Actions

The following table presents the types of assessments and response actions for data collection activities applicable to the QAPP.

Table C1.1 Assessments and Response Requirements

Assessment Activity	Approximate Schedule	Responsible Party	Scope	Response Requirements
Status Monitoring Oversight, etc.	Continuous	NRA	Monitoring of the project status and records to ensure requirements are being fulfilled	Report to TCEQ in Quarterly Report
Monitoring Systems Audit of Basin Planning Agency	Dates to be determined by TCEQ CRP	TCEQ	Field sampling, handling and measurement; facility review; and data management as they relate to CRP	30 days to provide corrective actions response to the TCEQ
Monitoring Systems Audit of Program Subparticipants	Once per biennium	NRA	Field sampling, handling and measurement; facility review; and data management as they relate to CRP	30 days to respond in writing to the NRA. PA will report problems to TCEQ in Progress Report.
Laboratory Assessment	Dates to be determined by TCEQ	TCEQ Laboratory Assessor	Analytical and quality control procedures employed at the laboratory and the contract laboratory	30 days to provide corrective actions response to the TCEQ

Corrective Action Process for Deficiencies

Deficiencies are any deviation from the QAPP, SWQM Procedures, or other applicable guidance. Deficiencies may invalidate resulting data and

require corrective action. Repeated deficiencies should initiate a CAP. Corrective action for deficiencies may include samples to be discarded and re-collected. Deficiencies are documented in logbooks, field data sheets, etc. by field or laboratory staff, are communicated to the NRA PM (or other appropriate staff) and should be subject to periodic review so their responses can be uniform, and their frequency tracked. It is the responsibility of the NRA PM &/–QAO to ensure that the actions and resolutions to the problems are documented and that records are maintained in accordance with this QAPP. In addition, these actions and resolutions will be conveyed to the CRP PM both verbally and in writing in quarterly progress reports and by completion of a CAP.

Appendix A: Measurement Performance Specifications (Tables A7.1-8)

(Replaced Table A7.1 on page 56 of the FY 2024–2025 CRP QAPP)

TABLE A7.1 Measurement Performance Specifications for NRA

Conventional Parameters in Water

Parameter	Units	Matrix	Method	Parameter Code	AWRL	LOQ	LOQ Check Sample (% Rec.)	Precision (RPD of LCS/LCS)	Bias (% Rec. of LCS)	Lab
Alkalinity, Total (mg/L as $CaCO_3$)	mg/L	water	SM2320B	00410	20	10.0 ~~20~~	NA	20	NA	SARA REL~~WUL~~
Residue, Total Nonfiltrable (Total Suspended Solids or TSS)	mg/L	water	SM2540D	00530	5.0	1.0 ~~NA~~	NA	NA	NA	SARA REL~~WUL~~
Nitrogen, **Ammonia**, Total (mg/L as N)	mg/L	water	SM 4500 NH3D~~EPA350.1 Rev. 2.0 (1993)~~	00610	0.1	0.10	70–-130	20	80–120	SARA REL~~WUL~~
Nitrite Nitrogen, Total (mg/L as N)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00615	0.05	0.05	70–130	20	80–120	SARA REL~~WUL~~
Nitrate Nitrogen, Total (mg/L as N)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00620	0.05	0.05	70–130	20	80–120	SARA REL~~WUL~~
Nitrogen, Kjeldahl, Total (mg/L as N)	mg/L	water	EPA 351.2	00625	0.2	0.2	70–130	20	80–120	SARA REL~~WUL~~
Phosphorus, Total, wet method (mg/L as P)	mg/L	water	EPA365.3~~EPA 365.1~~	00665	0.06	0.02 ~~0.06~~	70–130	20	80–120	SARA REL~~WUL~~
Carbon, Total Organic, NPOC (TOC) (mg/L)	mg/L	water	SM5310 C	00680	2	1.0 ~~0.3~~	NA	NA	NA	SARA REL~~WUL~~
Chloride (mg/L as Cl)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00940	5	5.0 ~~0.3~~	70–130	20	80–120	SARA REL~~WUL~~
Sulfate (mg/L as SO_4)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00945	5	5.0 ~~0.1~~	70–130	20	80–120	SARA REL~~WUL~~
Residue, Total Filtrable (Total Dissolved Solids or TDS) (Dried at 180°C)	mg/L	water	SM2540C	70300	10	10.0 ~~2.5~~	NA	20	80–120	SARA REL~~WUL~~
Chlorophyll-a, fluorometric method	µg/L	water	EPA 445.0	70953	3	2	NA	20	80–120	TAMU-CC PENS
Pheophytin-a, fluorometric method	µg/L	water	EPA 445.0	32213	3	2	NA	NA	NA	TAMU-CC PENS
Chlorophyll-a, spectrophotometric acid method	µg/L	water	SM 10200H	32211	3	1	NA	20	80–120	SARA REL
Pheophytin-a, spectrophotometric acid method	µg/L	water	SM 10200H	32218	3	1	NA	NA	NA	SARA REL

Notes:

United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020

American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2022.

TCEQ SOP, V1 - TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods, 2012 (RG-415).

TCEQ SOP, V2 - TCEQ Surface Water Quality Monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data, 2014 (RG-416)

PENS will be used for coastal sites and other sites where there could be potential hold time constraint, instead of SARA REL.

(Updated Table A7.2 on page 57 of the FY 2024–2025 CRP QAPP)

TABLE A7.2 Measurement Performance Specifications for BCRAGD

Conventional Parameters in Water

Parameter	Units	Matrix	Method	Parameter Code	AWRL	LOQ	LOQ Check Sample (% Recovery)	Precision (RPD of LCS/LCSD)	Bias (% Recovery of LCS)	Lab
Alkalinity, Total	mg/L	water	SM2320B	00410	20	10	NA	20	NA	SARA REL
Residue, Total Nonfiltrable	mg/L	water	SM2540D	00530	5	1	NA	NA	NA	SARA REL
Nitrogen, **Ammonia**, Total (mg/L as N)	mg/L	water	SM4500-NH3 D	00610	0.1	0.1	70-130	20	80-120	SARA REL
Nitrite Nitrogen, Total (mg/L as N)	mg/L	water	EPA 300.0	00615	0.05	0.05 ~~0.1~~	70-130	20	80-120	SARA REL
Nitrate Nitrogen, Total (mg/L as N)	mg/L	water	EPA 300.0	00620	0.05	0.05 ~~0.1~~	70-130	20	80-120	SARA REL
Nitrogen, Kjeldahl, Total (mg/L as N)	mg/L	water	EPA 351.2	00625	0.2	0.2	70-130	20	80-120	SARA REL
Phosphorus, Total, wet method (mg/L as P)	mg/L	water	EPA365.3	00665	0.06	0.02 ~~0~~	70-130	20	80-120	SARA REL
Carbon, Total Organic, NPOC (TOC) (mg/L)	mg/L	water	SM5310 C	00680	2	1	NA	NA	NA	SARA REL
Chloride (mg/L as Cl)	mg/L	water	EPA 300.0	00940	5	5	70-130	20	80-120	SARA REL
Sulfate (mg/L as SO4)	mg/L	water	EPA 300.0	00945	5	5	70-130	20	80-120	SARA REL
Chlorophyll-a, spectrophotometric acid method	µg/L	water	SM10200-H	32211	3	1	NA	20	80-120	SARA REL
Pheophytin-a, spectrophotometric acid method	µg/L	water	SM10200-H	32218	3	1	NA	NA	NA	SARA REL
Residue, Total Filtrable	mg/L	water	SM2540C	70300	10	10	NA	20	80-120	SARA REL
Turbidity, Lab Nephelometric Turbidity Units	NTU	water	EPA 180.1	82079	0.5	0.5	NA	NA	NA	SARA REL

United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020

American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2022.

TCEQ SOP, V1 - TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods, 2012 (RG-415).

TCEQ SOP, V2 - TCEQ Surface Water Quality Monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data, 2014 (RG-416)

(Updated Table A7.5 on page 60 of the FY 2024–2025 CRP QAPP)

TABLE A7.5 Measurement Performance Specifications for NRA

Bacteriological Parameters in Water

Parameter	Units	Matrix	Method	Parameter Code	AWRL	LOQ	Precision (RPD of LCS/LCSD)	Lab
E. coli, Colilert, IDEXX Method	MPN 100 mL	water	SM 9223-B*	31699	1	1	0.5	SARA REL, WUL
Enterococci, Enterolert, IDEXX	MPN 100 mL	water	Enterolert **	31701	10	1	0.5	WUL
E. coli, Colilert, IDEXX **Holding Time**	hr	water	NA	31704	NA	NA	NA	SARA REL, WUL

* ***E. coli* samples** analyzed by **SM 9223-B** should be ***processed within 8 hours*** when possible. When transport conditions necessitate delays in delivery longer than 6 hours, the holding time may be extended and samples must be processed as soon as possible and within 30 hours.
** ***Enterococcus*** samples should be **diluted 1:10** for all waters.

Notes:

WUL will be used for Enterococcus analysis due to hold time constraints and will also serve as a backup laboratory for other sites in the event of additional time constraints

WUL will be utilized for *E. coli* testing when samples cannot be delivered to the lab within the 8-hour hold time

References:

United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020

American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 24th Edition 2022.

TCEQ SOP, V1 - TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods, 2012 (RG-415).

TCEQ SOP, V2 - TCEQ Surface Water Quality Monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data, 2014 (RG-416)

(Replaces pages 65–69 of the FY 2024–2025 CRP QAPP)

Appendix B: Task 3 Work Plan & Sampling Process Design and Monitoring Schedule (Plan)

Objectives: Water quality monitoring will focus on the characterization of a variety of locations and conditions. This will include a combination of the following:

- planning and coordinating basin-wide monitoring;
- routine, regularly scheduled monitoring to collect long-term information and support statewide assessment of water quality; and
- systematic, regularly scheduled short-term monitoring to screen water bodies for issues.

Task Description: The NRA, working closely with TCEQ, conducts watershed monitoring to identify and evaluate surface water quality issues and to establish priorities for corrective action. Under this program, the Performing Party is responsible for the San Antonio – Nueces Coastal Basin, the Nueces River Basin, the Nueces – Rio Grande Coastal Basin, and the adjacent bays and estuaries.

The Performing Party will complete the following subtasks:

Monitoring Description – In FY 2024, the Performing Party will monitor a minimum of 10 bay and tidal sites quarterly for conventional, bacteria, and field parameters. The performing party will also monitor 2 bay and tidal locations on a semi-annual basis for conventional, bacteria, and field parameters. One quarterly bay and tidal station will have semi-annual metals monitoring. The performing party will monitor a minimum of 33 river and lake sites quarterly for conventional, bacteria, flow (where applicable), and field parameters. The performing party will also monitor 2 river locations on a quarterly basis for Chlorophyll-*a*, TDS, bacteria, and field parameters. Metals in water monitoring will be performed at 2 river sites on a semi-annual basis. The performing party will also monitor one river site for bacteria and field parameters only and one river site for field parameters only. The Performing Party will also conduct 24- hour dissolved oxygen monitoring at three sites given sufficient water.

In FY 2025, the NRA will monitor at a similar level of effort as in FY 2024. The actual number of sites, location, frequency, and parameters collected for FY 2025 will be based on priorities identified at the Basin Steering Committee and Coordinated Monitoring meetings and included in the amended Appendix B schedule of the QAPP.

All monitoring will be completed in accordance with the NRA QAPP, the TCEQ *Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods (RG-415)* and the TCEQ *Surface Water Quality Monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data (RG-416).*

Coordinated Monitoring Meeting – The NRA will hold an annual coordinated monitoring meeting as described in the FY2024–2025 CRP Guidance. Qualified monitoring organizations will be invited to attend the working meeting in which monitoring needs and purposes will be discussed segment by segment and station by station. Information from participants and stakeholders will be used to select stations and parameters that will enhance overall water quality monitoring coverage, eliminate duplication of effort, and address basin priorities. A summary of the changes to the monitoring schedule will be provided to the participants within two weeks of the meeting. Changes to the monitoring schedule will be entered into the statewide Coordinated Monitoring Schedule (http://cms.lcra.org) and communicated to meeting attendees. Changes to monitoring schedules that occur during the year will be entered into the Coordinated Monitoring Schedule and communicated to meeting attendees. All requirements related to meetings will be followed and required meetings will be conducted in-person or via TCEQ approved virtual format.

Monitoring Activities Report – Each Progress Report will include all types of monitoring and indicate the number of sampling events and the types of monitoring conducted in the month.

Deliverables and Due Dates:

September 1, 2024 through August 31, 2025

A. Conduct water quality monitoring, summarize activities, and submit with Progress Report – September 15 and December 15, 2024; March 15, June 15, and August 15, 2025
B. Coordinated Monitoring Meeting - between March 15 and April 30, 2025
C. Coordinated Monitoring Meeting Summary of Changes – within 2 weeks of the meeting
D. Email notification that Coordinated Monitoring Schedule updates are complete - May 31, 2025

Sample Design Rationale FY 2025

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 NRA coordinates closely with the TCEQ and other participants to ensure a comprehensive water monitoring strategy within the watershed.

BASIN 20

- **Segment 2001 - Mission River Tidal** – No monitoring changes.
- **Segment 2002 - Mission River Above Tidal** – No monitoring changes.
- **Segment 2003 - Aransas River Tidal** – No monitoring changes.
- **Segment 2003B - Chiltipin Creek Tidal** – No monitoring changes proposed but the tidal boundary was questioned. Will consult with TCEQ about the tidal segment.
- **Segment 2004 - Aransas River Above Tidal** – No monitoring changes.
- **Segment 2004A - Aransas Creek** – NRA will continue monitoring quarterly at Aransas Creek (Station 12941) for field and bacteria only. High bacteria possibly due to bat feces or leaking septic systems.
- **Segment 2004B - Poesta Creek** – No monitoring changes. High nitrate due to wastewater treatment plant effluent.

BASIN 21

- **Segment 2101 - Nueces River Tidal** – No monitoring changes. Potential Special Study segment due to fish kills and WWTP effluent issues. Potential Special Study segment due to fish kills and WWTP effluent issues. Proposed redirecting outfall from river to delta.
- **Segment 2102 - Nueces River Above Tidal** – No monitoring changes.
- **Segment 2103 - Lake Corpus Christi** – No monitoring changes.
- **Segment 2104 - Nueces River Above Frio River** – 2x metals resumed at Station 12972, QAPP revision already submitted.
- **Segment 2105 - Nueces River Above Holland Dam** – No monitoring changes.
- **Segment 2106 - Nueces River/Lower Frio River** – No monitoring changes. Illegal dumping downstream of Choke Canyon wastewater outfall.
- **Segment 2107 – Lower Atascosa River** – No monitoring changes. Keep monitoring 2x for metals in water.
- **Segment 2108 - San Miguel Creek** – 2x metals resumed at Station 12983, QAPP revision already submitted.

- **Segment 2109 - Leona River –** NRA will be sampling both stations (18418 and 12985) on a quarterly basis. Water comes out of the ground with low oxygen levels.
- **Segment 2110 - Lower Sabinal River** – No monitoring changes.
- **Segment 2111 - Upper Sabinal River** – No monitoring changes. Feral hog issues.
- **Segment 2112 - Upper Nueces River –** 2 New quarterly stations (22330 and 22331) and 1 former station 13005.
- **Segment 2113 - Upper Frio River** – No monitoring changes.
- **Segment 2114A -Commissioners Creek** – No monitoring changes.
- **Segment 2115 - Seco Creek** – No monitoring changes.
- **Segment 2116 - Choke Canyon Reservoir** –4 stations total 13019, 13020, 17389, and 22328 stations monitored on a monthly basis, 12x/year. 22328 has 24-hour D.O. monitored quarterly and the other three stations monitor 24-hour D.O. on a monthly basis, 12x/year.
- **Segment 2117 - Frio River Above Choke Canyon** – No monitoring changes.
- **Segment 2118 – Upper Atascosa River** – No monitoring changes. Keep monitoring 24-hour D.O. quarterly.

BASIN 22

- **Segment 2201 - Arroyo Colorado Tidal** – No monitoring changes.
- **Segment 2202 - Arroyo Colorado Above Tidal** – No monitoring changes.
- **Segment 2203 - Petronila Creek Tidal** – No monitoring changes.
- **Segment 2204 - Petronila Creek above Tidal –** No monitoring changes. Illegal dumping site. Recommend 13096 and 13094 have different assessment units. Add metals to sampling at Station 13096 twice a year.

BASIN 24

- **Segment 2462 - San Antonio/Hynes Bay** – No monitoring changes.
- **Segment 2463 - Mesquite Bay** – No monitoring changes.
- **Segment 2471 - Aransas Bay** – No monitoring changes.
- **Segment 2471A - Little Bay** - No monitoring changes.
- **Segment 2472 - Copano/Port/Mission Bay –** 2x metals resumed at Station 13405, QAPP revision already submitted.
- **Segment 2473 - St. Charles Bay** – No monitoring changes.
- **Segment 2481 - Corpus Christi Bay** – No monitoring changes.
- **Segment 2482 - Nueces Bay** – No monitoring changes.
- **Segment 2483 - Redfish Bay** – Field only No monitoring changes.
- **Segment 2483A - Conn Brown Harbor** – No monitoring changes. 2x metals resumed at Station 18848, QAPP revision already submitted.
- **Segment 2484 - Corpus Christi Inner Harbor** - No monitoring changes.
- **Segment 2485 - Oso Bay** – No monitoring changes.
- **Segment 2485A - Oso Creek** – No monitoring changes.
- **Segment 2491 - Laguna Madre** – No monitoring changes.
- **Segment 2491B - North Floodway** – No monitoring changes.
- **Segment 2491C - Hidalgo and Raymondville Drains –** No monitoring changes.
- **Segment 2492 - Baffin Bay/Alazan Bay/Cayo del Grullo/Laguna Salado** – No monitoring changes.
- **Segment 2492A - San Fernando Creek** – No monitoring changes.
- **Segment 2492B – Los Olmos Creek Tidal –** Recommend dissolved and total metals sampling.
- **Segment 2493 - South Bay** - No monitoring changes.
- **Segment 2494 - Brownsville Ship Channel** - No monitoring changes.
- **Segment 2494A - Port Isabel Fishing Harbor –** No monitoring changes.
- **Segment 2494C - San Martin Lake System –** No monitoring changes.

Site Selection Criteria

This data collection effort involves monitoring routine water quality using procedures that are consistent with the TCEQ SWQM program. Some general guidelines are followed when selecting sampling sites, as outlined below, and discussed thoroughly in SWQM Procedures, Volumes I and II. Overall consideration is given to accessibility and safety. All monitoring activities have been developed in coordination with the CRP Steering Committee and with the TCEQ. The site selection criteria specified are those the TCEQ would like considered to produce data which is complementary to that collected by the state and which may be used in assessments, etc.

1. Locate stream sites so that samples can be safely collected from the centroid of flow. Centroid is defined as the midpoint of that portion of stream width which contains 50 percent of the total flow. If multiple potential sites on a stream segment are appropriate for monitoring, choose one that would best represent the water body, and not a site that displays unusual conditions or contaminant source(s). Avoid backwater areas or eddies when selecting a stream site.

2. At a minimum for reservoirs, locate sites near the dam (reservoirs) and in the major arms. Larger reservoirs might also include stations in the middle and upper (riverine) areas. Select sites that best represent the water body by avoiding coves and back water areas. A single monitoring site is considered representative of 25 percent of the total reservoir acres, but not more than 5,120 acres.

3. Monitoring sites are selected to maximize stream coverage or basin coverage. Very long segments may require more stations. As a rule of thumb, stream segments between 25 and 50 miles long require two stations, and longer than 50 miles require three or more depending on the existence of areas with significantly different sources of contamination or potential water quality concerns. Major hydrological features, such as the confluence of a major tributary or an instream dam, may also limit the spatial extent of an assessment based on one station.

4. Because historical water quality data can be very useful in assessing use attainment or impairment, it may be best to use sites that are on current or past monitoring schedules.

5. All classified segments (including reservoirs) should have at least one Monitoring site that adequately characterizes the water body, and monitoring should be coordinated with the TCEQ or other qualified monitoring entities reporting routine data to TCEQ.

6. Monitoring sites may be selected to bracket sources of pollution, influence of tributaries, changes in land uses, and hydrological modifications.

7. Sites should be accessible. When possible, stream sites should have a USGS or IBWC stream flow gauge. If not, it should be possible to conduct flow measurements during routine visits.

(Replaces pages 70–77 of the FY 2024–2025 CRP QAPP)

Monitoring Sites for FY 2025

Table B1.1 Sample Design and Schedule, FY 2025

Site Description	Station ID	Waterbody ID	Region	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal	Organic	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish	Field	Comments
MISSION RIVER TIDAL NEAR SOUTH BANK IMMEDIATELY DOWNSTREAM OF THE FM 2678 BRIDGE BETWEEN REFUGIO AND BAYSIDE	12943	2001	14	NR	NR	RT							4			4			4	
MISSION RIVER IMMEDIATELY UPSTREAM OF US 77 BRIDGE AT REFUGIO	12944	2002	14	NR	NR	RT							4			4	4		4	
CHILTIPIN CREEK MID CHANNEL AT UNNAMED BRIDGE POSSIBLY AKA PLYMOUTH ROAD 2.11 KM DOWNSTREAM OF N END FM 631 NE OF SINTON	12930	2003A	14	NR	NR	RT					2		4			4	4		4	
ARANSAS RIVER TIDAL AT BOAT RAMP ON FM 629 TERMINUS SOUTH OF BONNIE VIEW	12947	2003	14	NR	NR	RT							4			4			4	
ARANSAS RIVER AT COUNTY ROAD EAST OF SKIDMORE	12952	2004	14	NR	NR	RT							4			4	4		4	
ARANSAS CREEK AT US 181 NORTH OF SKIDMORE IN BEE COUNTY	12941	2004A	14	NR	NR	RT										4	4		4	

Site Description	Station ID	Waterbody ID	Region	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal	Organic	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish	Field	Comments
POESTA CREEK, 77 M DOWNSTREAM OF SH 202	12937	2004B	14	NR	NR	RT							4			4	4		4	
NUECES RIVER AT BLUNTZER BRIDGE ON FM 666	12964	2102	14	NR	NR	RT							4			4	4		4	
NUECES RIVER AT LA FRUTA BRIDGE ON SH 359	12965	2102	14	NR	NR	RT							4			4	4		4	TDS, Chlorophyll-*a* / Pheophytin only
NUECES RIVER BELOW LAKE CORPUS CHRISTI AT HAZEL BAZEMORE PARK BOAT RAMP 4.5 KM UPSTREAM OF I-37	20936	2102	14	NR	NR	RT							4			4	4		4	
NUECES RIVER IMMEDIATELY UPSTREAM OF THE SALTWATER BARRIER DAM AT LABONTE PARK	21815	2102	14	NR	NR	RT							4			4	4		4	TDS, Chlorophyll-*a* / Pheophytin only
LAKE CORPUS CHRISTI MID-LAKE AT THE DAM 380 M NNW OF NORTHERN TIP OF DAM USGS SITE	12967	2103	14	NR	NR	RT							4			4			4	
LAKE CORPUS CHRISTI APPROX. 0.2 MI OFF WESTERN SHORE DIRECTLY WEST OF HIDEAWAY HILL	17384	2103	14	NR	NR	RT							4			4			4	

Site Description	Station ID	Waterbody ID	Region	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal	Organic	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish	Field	Comments
NUECES RIVER AT LIVE OAK CR 151 NEAR RIVER CREEK ACRES UPSTREAM OF LAKE CORPUS CHRISTI	17648	2103	14	NR	NR	RT							4			4	4		4	
NUECES RIVER AT FM 1042 BRIDGE 1.2 MILES NORTH OF SIMMONS	12972	2104	14	NR	NR	RT					2		4			4	4		4	
NUECES RIVER AT SH 16 SOUTH OF TILDEN	12973	2104	16	NR	NR	RT							4			4	4		4	
NUECES RIVER AT FM 624	12974	2104	16	NR	NR	RT											4		4	
NUECES RIVER BRIDGE ON FM 190 NORTH OF ASHERTON	12976	2105	16	NR	NR	BS	4										4		4	
FRIO RIVER AT SH 72 IN THREE RIVERS TX	12977	2106	14	NR	NR	RT							4			4	4		4	
NUECES RIVER BRIDGE ON US 281 SOUTH OF THREE RIVERS	12979	2106	14	NR	NR	RT							4			4	4		4	
ATASCOSA RIVER AT FM 99 BRIDGE WEST OF WHITSETT	12980	2107	14	NR	NR	RT					2		4			4	4		4	
ATASCOSA RIVER AT FM 541 4.75 KM UPSTREAM OF THE CONFLUENCE WITH LIVEOAK CREEK IN ATASCOSA COUNTY	20764	2107	13	NR	NR	RT	4						4			4	4		4	
SAN MIGUEL CREEK AT SH 16 NORTH OF TILDEN	12983	2108	16	NR	NR	RT					2		4			4	4		4	
LEONA RIVER AT FM 1581 SOUTHWEST OF PEARSALL	12985	2109	13	NR	NR	RT							4			4	4		4	
LEONA RIVER 370 M UPSTREAM OF FM 140	18418	2109	13	NR	NR	RT	4						4			4	4		4	

Site Description	Station ID	Waterbody ID	Region	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal	Organic	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish	Field	Comments
SABINAL RIVER BRIDGE AT US 90 WEST OF SABINAL	12993	2110	13	NR	NR	RT							4			4	4		4	
SABINAL RIVER AT FM 187 5.6 MI SOUTH OF VANDERPOOL	14939	2111	13	NR	BA	RT							4			4	4		4	
SABINAL RIVER AT RANCH ROAD 187 APPROX 10 KILOMETERS SOUTH OF UTOPIA AND 400 METERS UPSTREAM OF THE CONFLUENCE WITH ONION CREEK	21948	2111	13	NR	BA	RT							4			4	4		4	
UPPER SABINAL RIVER IMMEDIATELY UPSTREAM OF FM 187 APPROXIMATELY 140 METERS NORTHEAST OF THE ENTRANCE TO LOST MAPLES STATE NATURAL AREA	22306	2111	13	NR	BA	RT							4			4	4		4	
NUECES RIVER AT SH 55 SOUTH OF BARKSDALE	13005	2112	13	NR	NR	RT							4			4	4		4	
NUECES RIVER IMMEDIATELY DOWNSTREAM OF SH 55 SOUTHBOUND BRIDGE APPROXIMATELY 2.5 KM SOUTH OF LAGUNA	16704	2112	13	NR	NR	RT							4			4	4		4	
NUECES RIVER NEAR CHALK BLUFF CAMPGROUND APPOX 14.5 MILES NORTH OF	22330	2112	13	NR	NR	RT							2 4			2 4	2 4		2 4	

Site Description	Station ID	Waterbody ID	Region	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal	Organic	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish	Field	Comments
UVALDE TX OFF OF HIGHWAY 55																				
NUECES RIVER NEAR CR 414 BRIDGE CROSSING APPROX 1 MILE SOUTH OF MONTELL TX	22331	2112	13	NR	NR	RT							2 4			2 4	2 4		2 4	
HONDO CREEK MID CHANNEL IMMEDIATELY DOWNSTREAM OF SH 173 SOUTHEAST OF HONDO	18408	2114	13	NR	NR	RT							4			4			4	
COMMISSIONERS CREEK 5.7 KILOMETERS UPSTREAM OF HONDO CREEK AND 4 KILOMETERS EAST OF TARPLEY TEXAS AND SOUTH OF FM 470	22227	2114 A	13	NR	BA	RT							4			4	4		4	
SECO CREEK AT SH 470 APPROXIMATELY 10 MI WEST OF TARPLEY	13017	2115	13	NR	BA	RT							4			4	4		4	
CHOKE CANYON RESERVOIR NEAR THE DAM 422 M SOUTH AND 129 M EAST OF SPILLWAY CHANNEL USGS SITE AC	13019	2116	14	NR	NR	RT	1 2 4						4			4			4	
CHOKE CANYON RESERVOIR MID LAKE 15 M E OF LIVE OAK/MCMULLEN COUNTY LINE NEAR OLD HWY 99 1.25 KM NORTH	13020	2116	14	NR	NR	RT	1 2 4						4			4			4	

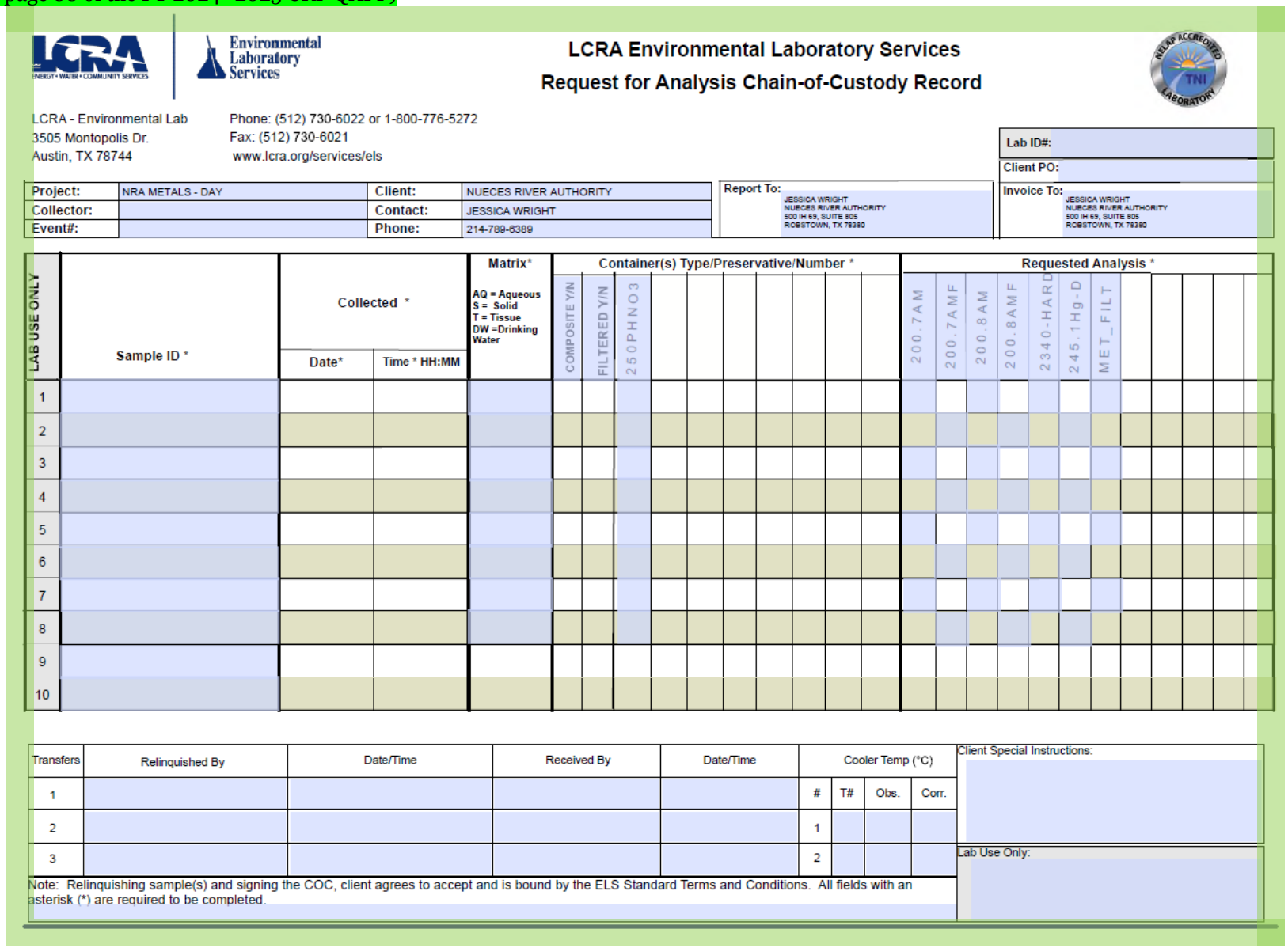
Site Description	Station ID	Waterbody ID	Region	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal	Organic	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish	Field	Comments
OF CC STATE PARK POINT																				
CHOKE CANYON RESERVOIR APPROX 0.45 KM SOUTHEAST OF FM 99 SOUTHERN MOST BRIDGE CROSSING THE FRIO RIVER ARM	17389	2116	16	NR	NR	RT	~~1~~ ~~2~~ ~~4~~				2		4			4			4	
CHOKE CANYON RESERVOIR APPROX 553 METERS UPSTREAM FROM THE FRIO RIVER & SAN MIGUEL CREEK CONFLUENCE	22328	2116	16	NR	NR	RT	~~1~~ ~~2~~ ~~4~~						4			4			4	
FRIO RIVER AT SH 16 IN TILDEN	13023	2117	16	NR	NR	RT					2		4			4	4		4	
Frio River at I35 north of Dilley	13024	2117	16	NR	NR	RT							4			4	4		4	
FRIO RIVER IMMEDIATELY UPSTREAM OF SH 97 NORTH OF FOWLERTON	18373	2117	16	NR	NR	RT							4			4	4		4	
ARROYO COLORADO AT US 77 IN SW HARLINGEN	13079	2202	15	NR	NR	RT							4			4	4		4	
PETRONILA CREEK AT FM 892 SE OF DRISCOLL	13094	2204	14	NR	NR	RT							4			4	4		4	
PETRONILA CREEK AT FM 665 EAST OF DRISCOLL	13096	2204	14	NR	NR	RT					2		4			4	4		4	

Site Description	Station ID	Waterbody ID	Region	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal	Organic	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish	Field	Comments
PETRONILA CREEK 181 METERS WEST AND 6 METERS SOUTH FROM THE INTERSECTION OF ALICE ROAD AND LOST CREEK ROAD	20806	2204	14	NR	NR	RT							4			4			4	
PORT BAY AT MIDDLE OF SH 188 WEST OF ROCKPORT	13405	2472	14	NR	NR	RT					2		2			2			2	
REDFISH BAY AT SH 361 AT 3RD BRIDGE BETWEEN ARANSAS PASS AND PORT ARANSAS	13426	2483	14	NR	NR	RT							4			4			4	
CONN BROWN HARBOR MID HARBOR 50 M NORTHEAST OF THE INTERSECTION OF HUFF ST AND EAST MADDOX AVE IN ARANSAS PASS	18848	2483 A	14	NR	NR	RT					2		2			2			2	
OSO BAY IMMEDIATELY OFFSHHORE AT TIP OF PENINSULA AT PADRE ISLAND DRIVE/SOUTHBOUND AT SH 358	13440	2485	14	NR	NR	RT							4			4			4	
OSO BAY 40 M UPSTREAM OF OCEAN DRIVE AND APPROXIMATELY 50 M WEST OF EASTERN LANDFALL OF BRIDG	13442	2485	14	NR	NR	RT							4			4			4	
OSO CREEK IMMEDIATELY DOWNSTREAM OF SH 286	13028	2485 A	14	NR	NR	RT							4			4			4	

Site Description	Station ID	Waterbody ID	Region	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal	Organic	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish	Field	Comments
SOUTH OF CORPUS CHRISTI																				
OSO CREEK IMMEDIATELY DOWNSTREAM OF FM 763 SOUTHWEST OF CORPUS CHRISTI	13029	2485 A	14	NR	NR	RT							4			4			4	
HIDALGO MAIN FLOODWATER CHANNEL AT FM 1420 1.65 KM SOUTH OF INTERSECTION WITH FM 490 EAST OF RAYMONDVILLE	22003	2491 C	15	NR	NR	RT							4			4	4		4	
RAYMONDVILLE DRAIN AT WILLACY COUNTY ROAD 445 800 METERS NORTH OF INTERSECTION WITH FM 3142 EAST OF RAYMONDVILLE	22004	2491 C	15	NR	NR	RT							4			4	4		4	
LOS OLMOS CREEK IMMEDIATELY UPSTREAM OF US 77 SOUTH OF RIVIERA	13034	2492	14	NR	NR	RT							4			4			4	
SAN FERNANDO CREEK AT US 77 AT KINGSVILLE	13033	2492 A	14	NR	NR	RT							4			4	4		4	
SAN MARTIN LAKE MID ESTUARY 2.04 KM EAST AND 0.80 KM NORTH OF THE HWY 48 BRIDGE NORTHEAST OF BROWNSVILLE	22170	2494 C	15	NR	NR	RT							4			4			4	

Appendix E: Chain of Custody Forms

(Replaces page 88 of the FY 2024–2025 CRP QAPP)



LCRA Environmental Laboratory Services

Environmental Laboratory Services

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

NELAP ACCREDITED TNI LABORATORY

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 730-6022 or 1-800-776-5272
Fax: (512) 730-6021
www.lcra.org/services/els

Project:	NRA METALS - DAY	Client:	NUECES RIVER AUTHORITY	Report To:	JESSICA WRIGHT NUECES RIVER AUTHORITY 500 IH 69, SUITE 905 ROBSTOWN, TX 78380
Collector:		Contact:	JESSICA WRIGHT	Invoice To:	JESSICA WRIGHT NUECES RIVER AUTHORITY 500 IH 69, SUITE 905 ROBSTOWN, TX 78380
Event#:		Phone:	214-789-6389	Lab ID#:	
				Client PO:	

LAB USE ONLY	Sample ID *	Collected *		Matrix*	Container(s) Type/Preservative/Number *										Requested Analysis *											
		Date*	Time * HH:MM	AQ = Aqueous S = Solid T = Tissue DW =Drinking Water	COMPOSITE Y/N	FILTERED Y/N	250PHNO3								200.7AM	200.7AMF	200.8AM	200.8AMF	2340-HARD	245.1Hg-D	MET_FILT					
1																										
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										

Transfers	Relinquished By	Date/Time	Received By	Date/Time	Cooler Temp (°C)				Client Special Instructions:
					#	T#	Obs.	Corr.	
1									
2					1				
3					2				Lab Use Only:

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

ENERGY LABORATORIES

www.energylab.com

Chain of Custody (COC) & Analytical Request Record

Lab Workorder #:

Project Information

Laboratory Use

Client:	Nueces River Authority	*Quote:*	16795 v.1 *	*Critical Hold Time:*	28 Days
Project:	Not Indicated	*BO#:*	183888	*# of Samples:*	10
Purchase Order:		*EE#:*	59464	*Matrix:*	Aqueous
Contact/Phone:	Jessica Wright (214)789-6389	*Turn-Around Time:*	Standard		

Comments:

Contact ELI prior to RUSH sample submittal for charges, availability & scheduling. Samples submitted may be subcontracted to other laboratories to complete the test(s) requested; this will be clearly noted on the analytical report.

Analysis Requested * Schedule(s) and tests will be taken and priced from the current quote version.

	Sample Identification	Collection Date/Time	# of Containers	Matrix	RUSH TAT	Mercury, Total (E245.1)	Metals by ICP/ICPMS, Dissolved (E200.7_8)
	Hold Time (Days)					28	180
1	17389		2	W		X	X
2	13405		2	W		X	X
3	18848		2	W		X	X
4	12930		2	W		X	X
5	12980		2	W		X	X
6	12983		2	W		X	X
7	13023		2	W		X	X
8	12972		2	W		X	X
9	Field Blank		2	W		X	X
10	Trip Blank		1	W		X	
11							

Custody Record MUST be signed

Lab provided preservatives were used ☐ Yes ☐ No

Sampler Name (if different than Relinquished by):

Sampler Phone:

Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature

Date Printed: 05/15/2024 EE: BL - 59464 COC: Page 1 of 1

Print Save As...

SAN ANTONIO RIVER AUTHORITY

Regional Environmental Laboratory
CHAIN OF CUSTODY

600 E. Euclid
San Antonio, TX 78212
Phone: (210) 302-3649
FAX (210) 302-3694

Report To: | Phone #: | Collector's Name:
Address: | FAX #: | Field Comments:
City, State, ZIP: | E-mail:

Rush Analysis (Additional Fees Apply) ☐3-7 days Report Delivery: ☐Mail ☐Fax ☐E-mail Method of Shipment: ☐Hand Delivered ☐Mailed ☐Ice

Sample # Lab Use Only	Sample Location	1. Collection Method	2. Sample Type	3. Matrix	4. Composite Start Date/Time	Collection Date/Time	Requested Analyses						5. Container Type	6. Type of Preservation	Container Lot Number (Microbiology Only)	Lab Use ONLY: Therm. ID: C01-____ Receipt Temp. (°C) Observed/Corrected ___/___ pH <2 Y or N pH Paper: ____

Relinquished by: Date/Time: Received by: Date/Time:
Relinquished by: Date/Time: Received by: Date/Time:
Relinquished by: Date/Time: Received by: Date/Time:
Relinquished by: Date/Time: Received by: Date/Time:

Lab Comments: NA - Not Applicable

1. **Collection Method:** G - Grab C - Composite
2. **Sample Type:** EF – Effluent, IF – Influent, SW – Surfacewater, ST – Stormwater, GW – Groundwater, , QC – Quality Control, O – Other (Specify in Comments)
3. **Matrix:** NPW – Non-Potable Water, SE – Sediment, SO – Soil, O – Other (Specify in Comments)
4. Composite Samples require Composite Start Date/Time and Collection Date/Time
5. **Container Type:** GC – Gallon Cubitainer, QC Quart Cubitainer, AB – Amber Glass Bottle, CB – Clear Glass Bottle, PB-Plastic Bottle, AP-Amber Plastic, WP-Whirl-pak
6. **Type of Preservation:** U – Unpreserved (No Chemical Preservation), S – Sulfuric Acid, H – Hydrochloric Acid, N – Nitric Acid, P – Phosphoric Acid, O – Other (Specify in Comments)

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Appendix F: Data Review Checklist and Summary Shells

(Added page 89 to the FY 2024–2025 CRP QAPP)

Clean Rivers Program
SWQMIS Data Checklist

The Surface Water Quality Management Information System (SWQMIS) data checklist shall be performed by NRA Quality Assurance Officer (QAO) and Project Manager (PM), tasked with entering data into the SWIQMIS for the Clean Rivers Program and similar projects. This process involves verifying that all data has been properly reviewed and validated before it is uploaded into the SWQMIS. Also, a corresponding data summary and data review checklist is sent to the Texas Commission on Environmental Quality (TCEQ) PM.

Project: _____ Data Set Name: _____ TCEQ PM: _____ TCEQ Data Manager: _____

QAO Initials		Date	PM Initials
_____	Ensure that all stations mentioned in the dataset are accurately listed in the QAPP.	_____	_____
_____	All parameter codes are listed in the QAPP.	_____	_____
_____	Confirm that the sonde, used for data collection, has passed both post- and pre-calibrations for all accepted data points to maintain data integrity.	_____	_____
_____	Review and address all flags associated with sample analysis results, ensuring they are thoroughly identified and documented in the data summary.	_____	_____
_____	Confirm that all data is in the correct format (e.g., units, significant figures) as specified in the project's QAPP.	_____	_____

PM Initials

_____	At least 10% of the data in the set has been reviewed against the Field and Laboratory data sheets	_____

By signing this checklist, NRA acknowledges that the QAO has sufficiently fulfilled the data requirements associated with the Clean Rivers Program and NRA PM can upload acceptable data into the SWQMIS test-page.

NRA QAO Name: _____ Date: _____

NRA PM Name: _____ Date: _____

Effective April 2024

(Added page 95 to the FY 2024–2025 CRP QAPP)

ATTACHMENT 2 NRA's Clean Rivers Program Special Training

Clean Rivers Program
Special Training Requirements

Specialized training shall be performed by new NRA employees tasked with participating in the Clean Rivers Program and similar projects. Training must be implemented prior to participation, and may include one or more of the following categories:

- Instrument Calibration & Maintenance
- Instantaneous Water Quality Parameters
- Sample Collection & Handling
- Field Measurements
- FlowTracker Operations
- Instrument Calibration & Maintenance
- QAPP and amendments
- CAP process

All training events shall be conducted by NRA's Field Supervisor in the field and/or laboratory setting, as appropriate.

Employee Initials	Date	Field Supervisor Initials
_____can adequately perform instrument calibration and maintenance according to established procedures and can accurately perform calculations associated with calibration control limits.	_____	_____
_____understands instantaneous water quality parameters associated with the sonde instrument probes to collect and record data according to established procedures.	_____	_____
_____has read the approved sample collection and handling procedures including metals and can locate and assemble the necessary equipment to collect and transport samples properly.	_____	_____
_____is familiar with all field measurement protocols including riverine, reservoir, and biological sampling methods in accordance with established procedures.	_____	_____
_____is familiar with the FlowTracker and has performed stream discharge measurements in accordance with established procedures and can record parameters successfully.	_____	_____
_____has been provided and/or issued appropriate safety PPE: Nitrile gloves, hip boots/ waders, PFD.	_____	_____
_____is familiar with the QAPP and its associated amendments and attachments	_____	_____
_____is familiar with the CAP process	_____	_____

By signing this checklist, NRA acknowledges that the staff member has sufficiently fulfilled the training requirements associated with the Clean Rivers Program and is now capable in conducting and/or assisting with the collection of water quality samples, field parameters, discharge measurements, and instrument calibrations.

Employee Name: _____ Date: _____

Supervisor Name: _____ Date: _____

Effective April 2024

(Added page 96 to the FY 2024–2025 CRP QAPP)

ATTACHMENT 3 BCRAGD's Clean Rivers Program Special Training

Clean Rivers Program
Special Training Requirements

Specialized training shall be performed by new BCRAGD employees tasked with participating in the Clean Rivers Program and similar projects. Training must be implemented prior to participation, and may include one or more of the following categories:

- Instrument Calibration & Maintenance
- Instantaneous Water Quality Parameters
- Sample Collection & Handling
- Field Measurements
- FlowTracker Operations

All training events shall be conducted by BCRAGD's Field Supervisor in the field and/or laboratory setting, as appropriate.

Employee Initials	Date	Field Supervisor Initials
_____can adequately perform instrument calibration and maintenance according to established procedures and can accurately perform calculations associated with calibration control limits.	_____	_____
_____understands instantaneous water quality parameters associated with the sonde instrument probes to collect and record data according to established procedures.	_____	_____
_____has read the approved sample collection and handling procedures and can locate and assemble the necessary equipment to collect and transport samples properly.	_____	_____
_____is familiar with all field measurement protocols including riverine, reservoir, and biological sampling methods in accordance with established procedures.	_____	_____
_____is familiar with the FlowTracker and has performed stream discharge measurements in accordance with established procedures and can record parameters successfully.	_____	_____
_____has been provided and/or issued appropriate safety PPE: Latex gloves, protective eyewear, hip boots/waders, PFD.	_____	_____

By signing this checklist, BCRAGD acknowledges that the staff member has sufficiently fulfilled the training requirements associated with the Clean Rivers Program and is now capable in conducting and/or assisting with the collection of water quality samples, field parameters, discharge measurements, and instrument calibrations.

Employee Name: _____ Date: _____

Supervisor Name: _____ Date: _____

Effective January 2024

(Added page 97 to the FY 2024–2025 CRP QAPP)

ATTACHMENT 4 Calibration Log Form

Date: Time: Employee name:

Battery Voltage: Sonde Type and Serial No.:

Calibration

Function	Temp. of Standard	Value of Standard	Initial Reading	Calibrated to	Comments
Specific conductance—Air (For Series 4,4a, & 5)		0			
Specific conductance					
pH calibrated (~7)					
pH slope (~ 4/10)					
Dissolved oxygen (% sat)		100%			
Dissolved oxygen (mg/L) optional					

Barometric-Pressure Options	Barometric-Pressure Formulas
Altitude (A)=_____feet above msl	Barometric pressure _____ inches _____ mm
Barometer	Barometric pressure (inches)_____ x 25.4 = BP _____mm
From local source correction (CBP)	BP _____ mm = CBP _____mm – 2.5 (altitude ____/100)
Estimated from altitude only	BP _____ mm= 760 mm – 2.5 (altitude ____/100)

Post-Calibration Check

Date: Time: Employee Name:

Battery Voltage: Sonde Type and Serial No.

Function	Temp. of Standard	Value of Standard	Initial Reading	Pass Post-Cal?	Comments
Specific conductance				☐Yes ☐No	
pH calibrated (~7)				☐Yes ☐No	
pH slope (~ 4/10)				☐Yes ☐No	
Dissolved oxygen (% sat)		100%		☐Yes ☐No	
Location of Deployment, Run, or Special Study:		Date/Time Deployed:		Date/Time Retrieved:	
Use (circle one):	24-hr	Continuous		Grab	

MAINTENANCE
(Refer to Chapter 8 for maintenance requirements)

Sensor	Date	Initials	Maintenance Completed
pH			
DO			
Specific Cond.			

Perform temperature check along with regular maintenance. The laboratory thermometer must be checked against NIST traceable thermometer annually.

Annual NIST traceable check	Date:	NIST Temp:	Lab Thermometer Temp:	Correction Factor:
Maintenance temperature check	Date:	Sonde Temp:	Lab Thermometer Temp:	

Factory maintenance/repair notes:

TCEQ-20116 (Rev. 03/01/2012)