

# **Amendment # 4 Update to the San Antonio River Authority Clean Rivers Program FY 2020/2021 QAPP**

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

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**Effective: Immediately upon approval by all parties**

Questions concerning this QAPP should be directed to:

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## Justification

This document details the changes made to the basin-wide Quality Assurance Project Plan to update Appendix B and C for fiscal year 2021.

Address change in the role of Laboratory Manager at the San Antonio River Authority Regional Environmental Laboratory.

## Summary of Changes

Section/Figure/Table	Page	Change	Justification
Amendment 3 Section A1	4	Replace Shannon Tollison with Zachary Jendrusch as SARA-REL Laboratory Manager	Personnel changes at SARA
Amendment 3 Section A3 Distribution List	9	Replace Shannon Tollison with Zachary Jendrusch as SARA-REL Laboratory Manager	Personnel changes at SARA
Amendment 3 Section A4	12	Replace Shannon Tollison with Zachary Jendrusch as SARA-REL Laboratory Manager	Personnel changes at SARA
Amendment 3 Figure A4.1	17	Replace Shannon Tollison with Zachary Jendrusch as SARA-REL Laboratory Manager	Personnel changes at SARA
Amendment 3 Appendix B	38	Replace Table B1.2 FY2021 Monitoring Schedule <ul style="list-style-type: none"> <li>• Station 12825 - add 4 events to the Chlorophyll/Pheophytin analysis line</li> <li>• Station 12829 - add 4 events to the Chlorophyll/Pheophytin analysis line</li> <li>• Station 21631 - add 4 events to the Chlorophyll/Pheophytin analysis line</li> <li>• Station 18447 add 4 events to the Chlorophyll/Pheophytin analysis line</li> <li>• Add 2 monitoring events for station 18407</li> <li>• Station 12883 - add 6 flow measurements that were not included</li> </ul>	Address omissions in the monitoring schedule and addition of site 18407 to the monitoring schedule.

Section/Figure/Table	Page	Change	Justification
		due to oversight	
Appendix C Figure C1.2	43	Replace Figure C1.2 to address addition of site 18407	BCRAGD request to add the site to the monitoring schedule

# Detail of Changes

## A1 Approval Page

Texas Commission on Environmental Quality  
Water Quality Planning Division

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Rebecca DuPont Work Leader                      Date  
Clean Rivers Program

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Rebecca DuPont                                      Date  
Acting Quality Assurance Specialist  
Clean Rivers Program

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Jenna Wadman, Project Manager                      Date  
Clean Rivers Program

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Cathy Anderson, Team Leader                      Date  
Data Management and Analysis

### Monitoring Division

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Dana Squires    Date  
Lead CRP Quality Assurance Specialist

**San Antonio River Authority**

\_\_\_\_\_  
Charles J. Lorea, IV    Date  
San Antonio River Authority Project Manager

\_\_\_\_\_  
Patricia M. Carvajal    Date  
San Antonio River Authority Quality Assurance  
Officer

**San Antonio River Authority Regional Environmental Laboratory**

\_\_\_\_\_  
Zachary Jendrusch    Date  
Laboratory Manager

\_\_\_\_\_  
Jeanette Hernandez    Date  
Laboratory Quality Assurance Officer





Sub-tier participants (e.g., subcontractors, subparticipants, or other units of government) will sign the QAPP, indicating the organization's awareness of, and commitment to requirements contained in this quality assurance project plan and any amendments or added appendices of this plan. Signatures in section A1 will eliminate the need for adherence letters to be maintained. If adherence letters are preferred, the San Antonio River Authority will secure written documentation from each sub-tier project participant (e.g., subcontractors, subparticipants, or other units of government) stating the organization's awareness of and commitment to requirements contained in this quality assurance project plan and any amendments or added appendices of this plan. The San Antonio River Authority will maintain this documentation as part of the project's quality assurance records and will ensure the documentation is available for review.



## **A3 Distribution List**

**Texas Commission on Environmental Quality**  
**P.O. Box 13087**  
**Austin, Texas 78711-3087**

Jenna Wadman Project Manager  
Clean Rivers Program  
MC-234  
(512) 239-5626

Dana Squires  
Lead CRP Quality Assurance Specialist  
MC-165  
(512) 239-0011

Cathy Anderson  
Team Leader, Data Management and Analysis  
MC-234  
(512) 239-1805

**San Antonio River Authority**  
**600 E. Euclid**  
**San Antonio, Texas 78212**

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Charles J. Lorea, IV, Project Manager  
(210)302-3674

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(210)302-3672

Karen Sablan, Sr. Aquatic Biologist  
(210)302-3673

Jeanette Hernandez, Quality Assurance  
Specialist (210)302-3283

Chris Vaughn, Aquatic Biologist  
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Michelle Garza, Environmental Data Specialist II  
(CRP Data Manager) (210) 302-3289

**San Antonio River Authority Regional Environmental Laboratory**  
**600 E. Euclid**  
**San Antonio, Texas 78212**

Zachary Jendrusch, Laboratory Manager  
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Jeanette Hernandez, Quality Assurance Officer  
(210)302-3283

**Bandera County River Authority & Groundwater District  
P.O. Box 177  
Bandera, Texas 78003**

David Mauk, General Manager  
(830)796-7260

Levi Sparks, Aquatic Ecologist/Water Quality Scientist  
(830)796-7260

**DHL Laboratory  
2300 Double Creek Drive  
Round Rock, Texas 78664**

John DuPont, Laboratory Manager  
(512)388-8229

Sherri Herschmann, Laboratory Quality Assurance Officer  
(512)388-8229

**GBRA Laboratory  
933 East Court Street  
Seguin, Texas 78155**

Kylie Gudgell, Laboratory Manager  
(830)463-7160

Michelle Robertson, Quality Assurance Officer  
(830)463-7160

**City of Boerne  
Public Works Department  
402 E. Blanco Rd  
Boerne, Texas 78006**

Ryan Bass, Capital Projects Administrator  
(830)248-1538

The San Antonio River Authority 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, subparticipants, or other units of government. The San Antonio River Authority 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.

## **A4 PROJECT/TASK ORGANIZATION**

### **Description of Responsibilities**

#### ***TCEQ***

##### ***Rebecca DuPont***

###### ***CRP Work Leader***

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 Quality Management Plan. Enforces corrective action, as required, where QA protocols are not met. Ensures CRP personnel are fully trained.

##### ***Dana Squires***

###### ***CRP Lead Quality Assurance Specialist***

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. Serves on planning team for CRP special projects. Coordinates the review and approval of CRP QAPPs. Prepares and distributes annual audit plans. Conducts monitoring systems audits of Planning Agencies. Concurs with and monitors implementation of 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 QAPPs and audit records for the CRP.

##### ***Jenna Wadman***

###### ***CRP Project Manager***

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). Assists CRP Lead QA Specialist in conducting San Antonio River Authority audits. Verifies QAPPs are being followed by contractors and that projects are producing data of known quality. Coordinates project planning with the San Antonio River Authority 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) Team***

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.

##### ***Sarah Kirkland***

###### ***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, 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).

***Rebecca DuPont***

***Acting CRP Project Quality Assurance Specialist***

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 and reviews QAPPs in coordination with other CRP staff. Coordinates documentation and implementation of corrective action for the CRP.

***SAN ANTONIO RIVER AUTHORITY***

***Charles J. Lorea, IV***

***San Antonio River Authority Project Manager***

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 QAPPs are followed by San Antonio River Authority 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.

***Patricia M. Carvajal***

***San Antonio River Authority Quality Assurance Officer***

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 QAS to resolve QA-related issues. Notifies the San Antonio River Authority 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. 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 is properly trained and that training records are maintained.

***Michelle Garza***

***San Antonio River Authority Data Manager***

Responsible for compiling, reviewing, and processing laboratory and field data for submission to TCEQ in accordance with the most recent approved Data Management Reference Guide, CRP Guidance, and Quality Assurance Project Plans. Ensures event and result data files, BLOB files, data summary, and readme files are in the required formats. Reviews data sets for outliers and ensures such values are verified. Ensures results comply with the limit of quantitation (LOQ) and ambient water quality limits (AWRL) identified in the Quality Assurance Project Plan, and reviews test data for reasonableness. Reconciles data sets to the monitoring schedule and identifies results and events that are not reportable or missing. Collaborates with Quality Assurance, Project Manager, TCEQ staff, and field and lab staff, to address, resolve, and document data-related findings. Manages and prepares data correction requests. Ensures data is made available on the Authority's website.

## ***San Antonio River Authority Regional Environmental Laboratory***

### ***Zachary Jendrusch***

#### ***San Antonio River Authority Lab Supervisor***

Responsible for overall performance, administration, and reporting of analyses performed by SARA's Environmental Laboratory Services. 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 this 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. Additionally, the lab director will review and verify all laboratory data for integrity and continuity, reasonableness and conformance to project requirements, and then validated against the data quality objectives listed in Appendix A of this QAPP. Ensures that internal assessments are performed in accordance with laboratory accreditation requirements.

### ***Jeanette Hernandez***

#### ***SARA Quality Assurance Officer***

Maintains operating procedures that are in compliance with this QAPP, amendments and appendices. Responsible for the overall quality control and quality assurance of analyses performed by SARA's Regional Environmental Laboratory. Assists with monitoring systems audits for CRP projects.

## ***Bandera County River Authority & Groundwater District***

### ***David Mauk***

#### ***General Manager***

Coordinates basin planning activities with the San Antonio River Authority. Ensures SARA CRP project manager and/or QA Specialists are notified of deficiencies and corrective actions, and that issues are resolved. Ensures that field staff is properly trained and that training records are maintained.

### ***Levi Sparks***

#### ***Aquatic Ecologist/Water Quality Scientist***

Responsible for conducting routine monitoring in support of this QAPP. Responsible for implementing and monitoring CRP requirements in, QAPPs and QAPP amendments and appendices. Responsible for coordinating with the SARA QA staff to resolve QA-related issues. Notifies the SARA QA Staff of particular circumstances which may adversely affect the quality of data. Coordinates and monitors deficiencies and corrective action. Coordinates the research and review of technical QA material and data related to water quality monitoring system design and analytical techniques.

## **DHL Laboratory**

**John DuPont**

### **Laboratory Director**

Responsible for overall performance, administration, and reporting of analyses performed by DHL's Laboratory. 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 this 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. Additionally, the lab director ensures that all laboratory data is reviewed and verified for integrity and continuity, reasonableness and conformance to project requirements, and then validated against the data quality objectives listed in Appendix A of this QAPP.

**Sherri Herschmann**

### **Quality Assurance Officer**

Maintains operating procedures that are in compliance with this QAPP, amendments and appendices. Responsible for the overall quality control and quality assurance of analyses performed by DHL's Laboratory. Ensures that internal assessments are performed in accordance with laboratory accreditation requirements.

## **GBRA Laboratory**

**Kylie Gudgell**

### **Laboratory Director**

Responsible for overall performance, administration, and reporting of analyses performed by GBRA's Laboratory. 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 this 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. Additionally, the lab director ensures that all laboratory data is reviewed and verified for integrity and continuity, reasonableness and conformance to project requirements, and then validated against the data quality objectives listed in Appendix A of this QAPP.

**Michelle Robertson**

### **Quality Assurance Officer**

Maintains operating procedures that are in compliance with this QAPP, amendments and appendices. Responsible for the overall quality control and quality assurance of analyses performed by GBRA's Laboratory. Ensures that internal assessments are performed in accordance with laboratory accreditation requirements.

## **City of Boerne**

**Ryan Bass**

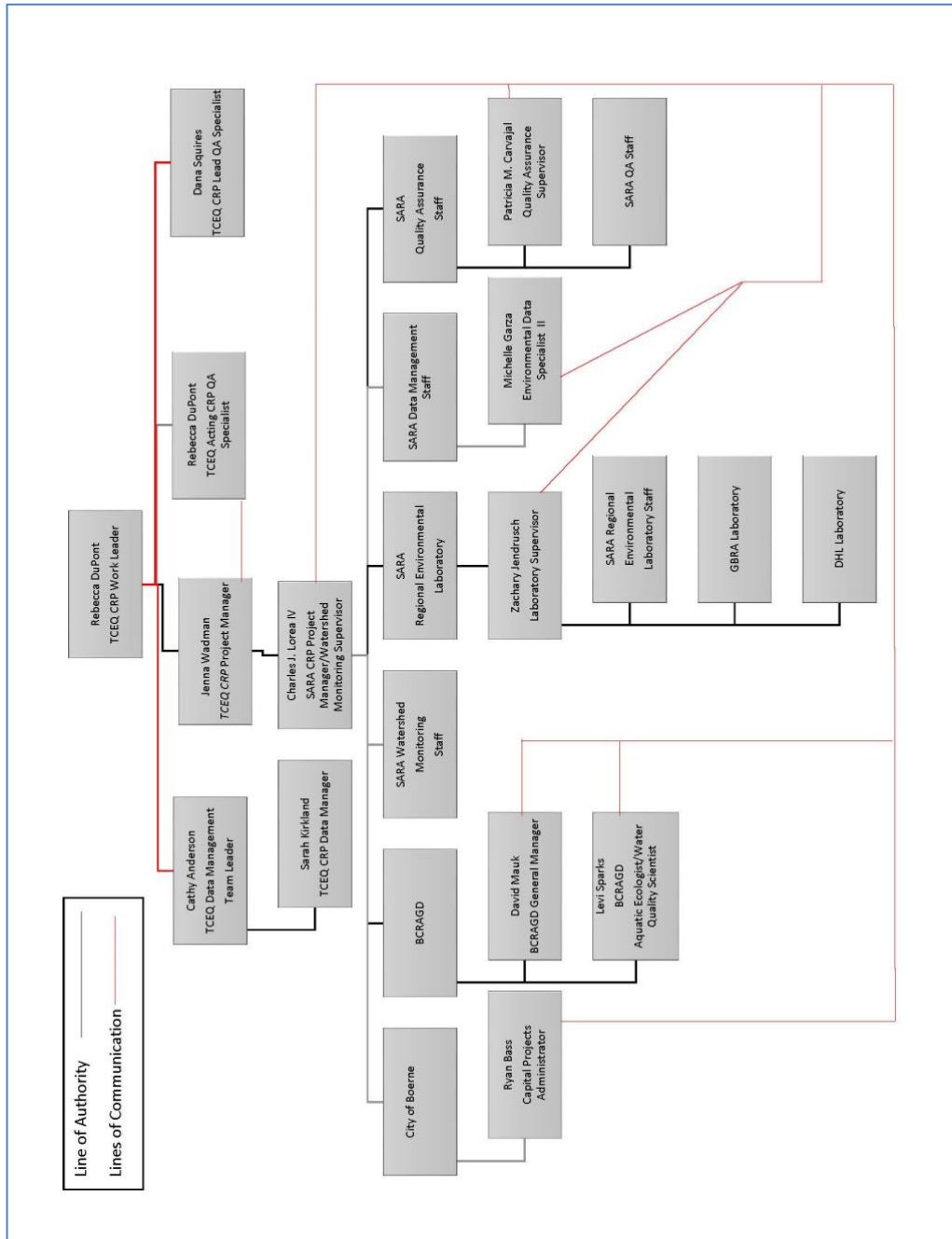
### **Capital Projects Administrator**

Coordinates basin planning activities with the San Antonio River Authority. Ensures SARA CRP project manager and/or QA Specialists are notified of deficiencies and corrective actions, and that issues are resolved. Responsible for implementing and monitoring CRP requirements in, QAPPs and QAPP amendments and appendices. Responsible for conducting monitoring in support of this QAPP, Notifies the SARA QA Staff of particular circumstances which may adversely affect the quality of data. Coordinates and monitors deficiencies and corrective action. Coordinates the research and review of technical QA material and data related to water quality monitoring system design and analytical techniques.



# Project Organization Chart

## Figure A4.1. Organization Chart - Lines of Communication



## Monitoring Sites for FY 2021

The sample design for SWQM is shown in Table B1.1 below.

**Table B1.2 Sample Design and Schedule, FY 2021**

Site Description	Station ID	Waterbody ID	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal Water	Chlorophyll/ Pheophytin	BOD	Conv	Bacteria	Flow	Field	Comments
<b>Segment 1901 Lower San Antonio River   Map</b>																	
SAN ANTONIO RIVER AT US 77 ON REFUGIO-VICTORIA COUNTY LINE   <a href="#">Map</a>	<a href="#">12789</a>	1901	SA	SA	RT					3			6	6	6	6	
SAN ANTONIO RIVER BRIDGE ON US 77-A AND 183 SOUTHEAST OF GOLIAD   <a href="#">Map</a>	<a href="#">12791</a>	1901	SA	SA	RT					3	6		6	52	52	6	River Recreation Bacteria Station
SAN ANTONIO RIVER AT SOUTHERN PACIFIC RR BRIDGE IN GOLIAD   <a href="#">Map</a>	<a href="#">12792</a>	1901	SA	SA	BS	2	2		2						2	2	Biologicals collected approximately 150 M upstream of 12792
SAN ANTONIO RIVER AT SH 239 WEST OF CHARCO   <a href="#">Map</a>	<a href="#">12793</a>	1901	SA	SA	RT						6		6	6			No Flow Possible Safety Issue
SAN ANTONIO RIVER AT SH 72 NEAR RUNGE   <a href="#">Map</a>	<a href="#">12794</a>	1901	SA	SA	RT					3	6	6	6	52	52	6	BOD will be analyzed. River Recreation Bacteria Station
SAN ANTONIO RIVER AT SH 80 SW OF HELENA   <a href="#">Map</a>	<a href="#">12795</a>	1901	SA	SA	RT						6		6	6			No Flow Possible Safety Issue
SAN ANTONIO RIVER AT CONQUISTA CROSSING 2.4 KM DOWNSTREAM OF FM 791 SW OF FALLS CITY   <a href="#">Map</a>	<a href="#">16580</a>	1901	SA	SA	BS	2	2		2								BS samples will be collected along with RT events
SAN ANTONIO RIVER AT CONQUISTA CROSSING 2.4 KM DOWNSTREAM OF FM 791 SW OF FALLS CITY   <a href="#">Map</a>	<a href="#">16580</a>	1901	SA	SA	RT						6	6	6	6	6	6	BOD will be analyzed. Flow will be collected from USGS gage station 08183500, San Antonio River nr Falls City, TX
SAN ANTONIO RIVER AT NORTH RIVERDALE RD 15 KM WEST OF GOLIAD TEXAS   <a href="#">Map</a>	<a href="#">17859</a>	1901	SA	SA	RT						6		6	6	6	6	
SAN ANTONIO RIVER IMMEDIATELY UPSTREAM OF US 181 0.5 KM SOUTHEAST OF FALLS CITY TEXAS   <a href="#">Map</a>	<a href="#">17862</a>	1901	SA	SA	RT						6		6	6			No Flow Possible Safety Issue
ESCONDIDO CREEK AT KARNES CR 331   <a href="#">Map</a>	<a href="#">18402</a>	1901A	SA	SA	RT						6		6	6	6	6	
CABEZA CREEK AT FM 2043 1.6 KM UPSTREAM OF THE SAN ANTONIO RIVER CONFLUENCE 10.0 KM WEST OF GOLIAD TX   <a href="#">Map</a>	<a href="#">16992</a>	1901B	SA	SA	RT									3	3	3	
ECLETO CREEK AT FM 81 424 METERS EAST AND 103 METERS NORTH TO THE INTERSECTION OF KARNES CR 334 AND FM 81   <a href="#">Map</a>	<a href="#">20539</a>	1901F	SA	SA	BS	2											BS samples will be collected along with RT events

Site Description	Station ID	Waterbody ID	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal Water	Chlorophyll/ Pheophytin	BOD	Conv	Bacteria	Flow	Field	Comments
ECLETO CREEK AT FM 81 424 METERS EAST AND 103 METERS NORTH TO THE INTERSECTION OF KARNES CR 334 AND FM 81   <a href="#">Map</a>	<a href="#">20539</a>	1901F	SA	SA	RT					3	6		6	6	6	6	
<b>Segment 1902 Lower Cibolo Creek   <a href="#">Map</a></b>																	
SANTA CLARA CREEK ON CR 315 SANTA CLARA RD NORTHWEST OF NEW BERLIN 2.19 KM 1.34 MI UPSTREAM OF THE CONFLUENCE WITH CIBOLO CREEK   <a href="#">Map</a>	<a href="#">12784</a>	1902	SA	SA	RT						6		6	6	6	6	
CIBOLO CREEK AT FM 81 EAST OF PANNA MARIA   <a href="#">Map</a>	<a href="#">12797</a>	1902	SA	SA	RT						6		6	6	6	6	
CIBOLO CREEK AT FM 539   <a href="#">Map</a>	<a href="#">12805</a>	1902	SA	SA	RT					3	6		6	6	6	6	
CIBOLO CREEK AT COUNTY ROAD 337 SE OF LA VERNIA   <a href="#">Map</a>	<a href="#">12806</a>	1902	SA	SA	RT					3			6	6	6	6	
CIBOLO CREEK AT SCULL CROSSING   <a href="#">Map</a>	<a href="#">14197</a>	1902	SA	SA	BS	2	2		2								BS samples will be collected along with RT events
CIBOLO CREEK AT SCULL CROSSING   <a href="#">Map</a>	<a href="#">14197</a>	1902	SA	SA	RT						6		6	6	6	6	
CIBOLO CREEK AT CR389 NEAR CESTOWA TEXAS   <a href="#">Map</a>	<a href="#">14211</a>	1902	SA	SA	BS			2									
CIBOLO CREEK AT CR389 NEAR CESTOWA TEXAS   <a href="#">Map</a>	<a href="#">14211</a>	1902	SA	SA	RT						6	6	6	52	52	6	BOD will be analyzed. River Recreation Bacteria Station
CIBOLO CREEK AT FM 2724 3.9 KILOMETERS NORTHEAST OF PANNA MARIA   <a href="#">Map</a>	<a href="#">20777</a>	1902	SA	SA	RT					3			6	6	6	6	
Cibolo Creek at FM 541 West of Kosciusko	12802	1902	SA	SA	BS	2	2		2						2	2	Add this station
MARTINEZ CREEK ON NORTH GABLE ROAD SOUTH OF ZUEHL   <a href="#">Map</a>	<a href="#">12741</a>	1902A	SA	SA	BS	1											BS samples will be collected along with RT events
MARTINEZ CREEK ON NORTH GABLE ROAD SOUTH OF ZUEHL   <a href="#">Map</a>	<a href="#">12741</a>	1902A	SA	SA	RT					3			6	6	6	6	
SALATRILLO CREEK AT AUTUMN RUN   <a href="#">Map</a>	<a href="#">14202</a>	1902B	SA	SA	RT						6		6	6	6	6	
SAN ANTONIO RIVER AUTHORITY'S SALATRILLO WWTP 249 METERS DWSTRN FROM SCHAEFER RD   <a href="#">Map</a>	<a href="#">14923</a>	1902B	SA	SA	RT								6	6	6	6	
CLIFTON BRANCH AT OLD FLORESVILLE ROAD/WILSON COUNTY ROAD 401 2.7 KILOMETERS WEST OF STOCKDALE   <a href="#">Map</a>	<a href="#">20776</a>	1902C	SA	SA	RT								6	6	6	6	

Site Description	Station ID	Waterbody ID	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal Water	Chlorophyll/Pheophytin	BOD	Conv	Bacteria	Flow	Field	Comments
<b>Segment 1903 Medina River Below Medina Diversion Lake   Map</b>																	
MEDINA RIVER AT FM 1937 NEAR LOSOYA   <a href="#">Map</a>	<a href="#">12811</a>	1903	SA	SA	RT						6		6	6	6	6	
MEDINA RIVER AT CASSIN CROSSING   <a href="#">Map</a>	<a href="#">12813</a>	1903	SA	SA	RT					3	6		6	6	6	6	
MEDINA RIVER APPROXIMATELY 500M DOWNSTREAM OF PLEASANTON ROAD	<a href="#">22225</a>	1903	SA	SA	RT									6	6	6	Flow to be determined from USGS #08181500
Medina River at Applewhite Road approximately 1.16 kilometers north of Neal Road at the southern boundary of the Toyota property CAMS ID 0769 USGS Site ID 08180850   <a href="#">Map</a>	<a href="#">12814</a>	1903	SA	SA	RT						6		6	6	6	6	
MEDINA RIVER AT CR 2615 APPROX .5 MI DOWNSTREAM OF DIVERSION DAM NEAR RIO MEDINA   <a href="#">Map</a>	<a href="#">12824</a>	1903	SA	SA	RT					3	6		6	6	6	6	
MEDINA RIVER AT CR 484   <a href="#">Map</a>	<a href="#">14200</a>	1903	SA	SA	BS	2	2		2								BS samples will be collected along with RT events
MEDINA RIVER AT CR 484   <a href="#">Map</a>	<a href="#">14200</a>	1903	SA	SA	RT					3	6		6	6	6	6	
CITY OF SAN ANTONIO DOS RIOS WWTP DISCHARGE INTO MEDINA RIVER PERMIT WQ0010137-033   <a href="#">Map</a>	<a href="#">16584</a>	1903	SA	SA	RT								6	6	6	6	
<b>Segment 1904 Medina Lake   Map</b>																	
MEDINA LAKE AT MEDINA LAKE DAM WEST OF SAN ANTONIO   <a href="#">Map</a>	<a href="#">12825</a>	1904	SA	BA	RT						4		4	4		4	
MEDINA LAKE NEAR RED COVE   <a href="#">Map</a>	<a href="#">12826</a>	1904	SA	BA	RT								4	4		4	
MEDINA LAKE AT MORMON BLUFF   <a href="#">Map</a>	<a href="#">12827</a>	1904	SA	BA	RT								4	4		4	
MEDINA LAKE BETWEEN CYPRESS AND SPETTEL COVES   <a href="#">Map</a>	<a href="#">12828</a>	1904	SA	BA	RT								4	4		4	
MEDINA LAKE MID LAKE NEAR HEADWATER   <a href="#">Map</a>	<a href="#">12829</a>	1904	SA	BA	RT						4		4	4		4	
<b>Segment 1905 Medina River Above Medina Lake   Map</b>																	
MEDINA RIVER AT OLD ENGLISH CROSSING ABOVE BANDERA FALLS   <a href="#">Map</a>	<a href="#">12830</a>	1905	SA	BA	RT								4	4	4	4	
MEDINA RIVER AT FM 470 WEST OF BANDERA   <a href="#">Map</a>	<a href="#">12832</a>	1905	SA	BA	RT								4	4	4	4	
MEDINA RIVER AT SH 173 1.9 MI UPSTREAM FROM BANDERA CREEK 5.6 MI DOWNSTREAM FROM INDIAN CREEK   <a href="#">Map</a>	<a href="#">13638</a>	1905	SA	BA	RT								4	4	4	4	

Site Description	Station ID	Waterbody ID	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal Water	Chlorophyll/ Pheophytin	BOD	Conv	Bacteria	Flow	Field	Comments
WEST PRONG MEDINA RIVER 11M UPSTREAM FROM COALKILN RD 3 KM WEST OF MEDINA AND IMMEDIATELY SOUTH OF SH337   <a href="#">Map</a>	<a href="#">15736</a>	1905	SA	BA	RT					4			4	4	4	4	
MEDINA RIVER AT PATTERSON AVENUE IN MOFFETT PARK MEDINA TEXAS   <a href="#">Map</a>	<a href="#">21125</a>	1905	SA	BA	RT								4	4	4	4	
"MEDINA RIVER AT NORTH SIDE OF MAYAN RANCH, WEST OF CITY OF BANDERA AND 2.16 KILOMETERS UPSTREAM OF SCHMIDTKE ROAD CROSSING"   <a href="#">Map</a>	<a href="#">21631</a>	1905	SA	SA	BS	2	2		2								BS samples will be collected along with RT events
"MEDINA RIVER AT NORTH SIDE OF MAYAN RANCH, WEST OF CITY OF BANDERA AND 2.16 KILOMETERS UPSTREAM OF SCHMIDTKE ROAD CROSSING"   <a href="#">Map</a>	<a href="#">21631</a>	1905	SA	BA	RT						4		4	4	4	4	
NORTH PRONG MEDINA RIVER AKA WALLACE CREEK IMMEDIATELY UPSTREAM OF SH 16   <a href="#">Map</a>	<a href="#">18447</a>	1905A	SA	BA	RT						4		4	4	4	4	
NORTH PRONG MEDINA RIVER AT FM 2107 APPROX 80 METERS NORTHEAST OF THE INTERSECTION OF BREWINGTON CREEK ROAD AND FM 2107 NORTHWEST OF MEDINA TEXAS   <a href="#">Map</a>	<a href="#">21126</a>	1905A	SA	BA	RT								4	4	4	4	
<b>Segment 1906 Lower Leon Creek   <a href="#">Map</a></b>																	
LEON CREEK 24 METERS DOWNSTREAM FROM APPLEWHITE ROAD IN SAN ANTONIO   <a href="#">Map</a>	<a href="#">12835</a>	1906	SA	SA	RT								6	6	6	6	
LEON CREEK AT QUINTANA ROAD IN SAN ANTONIO   <a href="#">Map</a>	<a href="#">12840</a>	1906	SA	SA	RT								6	6	6	6	
LEON CREEK UPSTREAM FROM LEON CREEK WWTP AND APPROX 980 METERS UPSTREAM OF THE CONFLUENCE WITH COMANCHE CREEK   <a href="#">Map</a>	<a href="#">14198</a>	1906	SA	SA	BS	2	2		2								BS samples will be collected along with RT events
LEON CREEK UPSTREAM FROM LEON CREEK WWTP AND APPROX 980 METERS UPSTREAM OF THE CONFLUENCE WITH COMANCHE CREEK   <a href="#">Map</a>	<a href="#">14198</a>	1906	SA	SA	RT						6		6	6	6	6	
<b>Segment 1907 Upper Leon Creek   <a href="#">Map</a></b>																	
LEON CREEK IN RAYMOND RUSSELL PARK AT LOW WATER BRIDGE   <a href="#">Map</a>	<a href="#">12851</a>	1907	SA	SA	RT						6		6	6	6	6	

Site Description	Station ID	Waterbody ID	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal Water	Chlorophyll/ Pheophytin	BOD	Conv	Bacteria	Flow	Field	Comments
<b>Segment 1908 Upper Cibolo Creek   Map</b>																	
CIBOLO CREEK AT RIVER ROAD	20823	1908	SA	BC	RT								4	4		4	-
<b>Segment 1909 Medina Diversion Lake   Map</b>																	
MEDINA RIVER DOWNSTREAM MEDINA RESERVOIR IN MICO TX AT LOW WATER CROSSING   Map	<a href="#">14205</a>	<a href="#">1909</a>	SA	BA	RT								4	4	4	4	-
Medina Diversion Lake Near West bank 40m upstream of dam	18407	<a href="#">1909</a>	SA	BA	RT						2		2	2		2	
<b>Segment 1910 Salado Creek   Map</b>																	
SALADO CREEK AT SOUTHTON ROAD IN SAN ANTONIO   Map	<a href="#">12861</a>	1910	SA	SA	BS	2	2		2								BS samples will be collected along with RT events
SALADO CREEK AT SOUTHTON ROAD IN SAN ANTONIO   Map	<a href="#">12861</a>	1910	SA	SA	RT					3	6		6	6	6	6	
SALADO CREEK AT GEMBLER RD   Map	<a href="#">12870</a>	1910	SA	SA	BS	1	1	1	1								BS samples will be collected along with RT events
SALADO CREEK AT GEMBLER RD   Map	<a href="#">12870</a>	1910	SA	SA	RT						6		6	6	6	6	
SALADO CREEK AT RITTIMAN ROAD IN SAN ANTONIO   Map	<a href="#">12874</a>	1910	SA	SA	BS	2											BS samples will be collected along with RT events
SALADO CREEK AT RITTIMAN ROAD IN SAN ANTONIO   Map	<a href="#">12874</a>	1910	SA	SA	RT						6		6	6	6	6	
SALADO CREEK AT EISENHAUER ROAD IN SAN ANTONIO   Map	<a href="#">12875</a>	1910	SA	SA	BS	2											BS samples will be collected along with RT events
SALADO CREEK AT EISENHAUER ROAD IN SAN ANTONIO   Map	<a href="#">12875</a>	1910	SA	SA	RT						6		6	6	6	6	
SALADO CREEK AT COMANCHE PARK   Map	<a href="#">14929</a>	1910	SA	SA	BS	1	1	1	1								BS samples will be collected along with RT events
SALADO CREEK AT COMANCHE PARK   Map	<a href="#">14929</a>	1910	SA	SA	RT						6		6	6	6	6	
MENGER CREEK AT COLISEUM ROAD	<a href="#">12693</a>	1910A	SA	SA	RT								6	6	6	6	
WALZEM CREEK AT HOLBROOK ROAD   Map.	<a href="#">12698</a>	1910D	SA	SA	RT						6		6	6	6	6	
<b>Segment 1911 Upper San Antonio River   Map</b>																	
SAN ANTONIO RIVER AT FM 541 NEAR POTH   Map	<a href="#">12880</a>	1911	SA	SA	RT						6		6	6	6	6	For high flow events where instantaneous flow is not possible, flow information will be collected from USGS gage 08183500 SAR Falls City.
SAN ANTONIO RIVER AT SH 97 NEAR FLORESVILLE   Map	<a href="#">12881</a>	1911	SA	SA	RT					3	6		6	52	52	6	River Recreation Bacteria Station, BOD will be analyzed

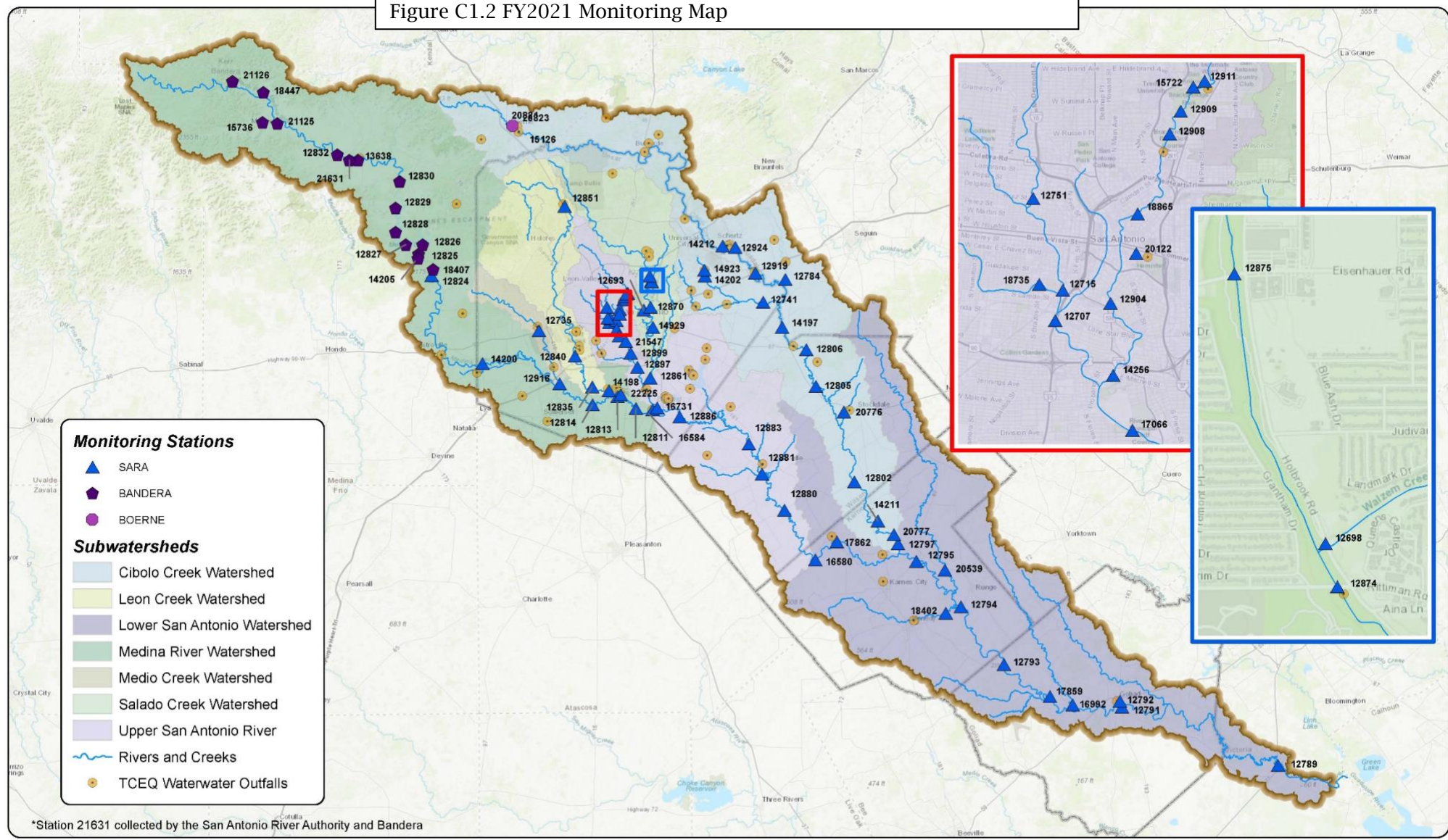
Site Description	Station ID	Waterbody ID	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal Water	Chlorophyll/Pheophytin	BOD	Conv	Bacteria	Flow	Field	Comments
SAN ANTONIO RIVER AT DIETZFIELD ROAD CR 117 NORTHWEST OF FLORESVILLE   <a href="#">Map</a>	<a href="#">12883</a>	1911	SA	SA	RT								6	6	6	6	Flow reported from USGS 8183200 SAR at Floresville
SAN ANTONIO RIVER MID CHANNEL 30 M DOWNSTREAM OF ST LOOP 1604 WEST OF ELMENDORF RT/CONTINUOUS MONITORING SITE CAMS 715   <a href="#">Map</a>	<a href="#">12886</a>	1911	SA	SA	RT					3	6	6	6	6	6	6	BOD will be analyzed
SAN ANTONIO RIVER AT IH 410 LOW WATER CROSSING CAMINO COAHUILATECHAN 0.25 KM BELOW THE BRIDGE IN SAN ANTONIO   <a href="#">Map</a>	<a href="#">12897</a>	1911	SA	SA	RT					3	6		6	52	52	6	River Recreation Bacteria Station
SAN ANTONIO RIVER AT LOW WATER CROSSING FOR PADRE RD NEAR END OF ASHLEY RD   <a href="#">Map</a>	<a href="#">12899</a>	1911	SA	SA	BS	1	1	1	1								BS samples will be collected along with RT events
SAN ANTONIO RIVER AT LOW WATER CROSSING FOR PADRE RD NEAR END OF ASHLEY RD   <a href="#">Map</a>	<a href="#">12899</a>	1911	SA	SA	RT						6		6	6	6	6	
SAN ANTONIO RIVER AT ALAMO ST IN SAN ANTONIO   <a href="#">Map</a>	<a href="#">12904</a>	1911	SA	SA	RT					3	6		6	6	6	6	
SAN ANTONIO RIVER AT WOODLAWN AVE IN SAN ANTONIO   <a href="#">Map</a>	<a href="#">12908</a>	1911	SA	SA	BS	1	1		1								BS samples will be collected along with RT events
SAN ANTONIO RIVER AT WOODLAWN AVE IN SAN ANTONIO   <a href="#">Map</a>	<a href="#">12908</a>	1911	SA	SA	RT						6		6	6	6	6	
SAN ANTONIO RIVER AT MULBERRY ST IN SAN ANTONIO   <a href="#">Map</a>	<a href="#">12909</a>	1911	SA	SA	BS	1	1		1								BS samples will be collected along with RT events
SAN ANTONIO RIVER AT MULBERRY ST IN SAN ANTONIO   <a href="#">Map</a>	<a href="#">12909</a>	1911	SA	SA	RT								6	6	6	6	
SAN ANTONIO RIVER AT JOSKES PAVILION	<a href="#">12911</a>	1911	SA	SA	RT						6		6	6	6	6	
SAN ANTONIO RIVER AT W. MITCHELL STREET IN DOWNTOWN SAN ANTONIO   <a href="#">Map</a>	<a href="#">14256</a>	1911	SA	SA	RT					3	6		6	52	52	6	River Recreation Bacteria Station
SAN ANTONIO ZOO OUTFALL NO 1 DISCHARGE CHANNEL 27 M DOWNSTREAM OF DISCHARGE CULVERT AT SOUTHEAST CORNER OF ZOO OUTSIDE ZOO PROPERTY   <a href="#">Map</a>	<a href="#">15722</a>	1911	SA	SA	RT									6	6	6	
SAN ANTONIO RIVER APPROX 835 METERS UPSTREAM OF THE MEDINA RIVER CONFLUENCE   <a href="#">Map</a>	<a href="#">16731</a>	1911	SA	SA	BS	2	2		2								BS samples will be collected along with RT events
SAN ANTONIO RIVER APPROX 835 METERS UPSTREAM OF THE MEDINA RIVER CONFLUENCE   <a href="#">Map</a>	<a href="#">16731</a>	1911	SA	SA	RT					3	6		6	6	6	6	

Site Description	Station ID	Waterbody ID	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal Water	Chlorophyll/ Pheophytin	BOD	Conv	Bacteria	Flow	Field	Comments
SAN ANTONIO RIVER AT MISSION ROAD IMMEDIATELY UPSTREAM OF RIVERSIDE MUNICIPAL GOLF COURSE 1.65 KM DOWNSTREAM OF SAN ANTONIO RIVER/SAN PEDRO CREEK CONFLUENCE IN SAN ANTONIO TX   <a href="#">Map</a>	<a href="#">17066</a>	1911	SA	SA	RT								6	52	52	6	River Recreation Bacteria Station
SAN ANTONIO RIVER 57 METERS UPSTREAM OF LEXINGTON STREET BRIDGE AND APPROXIMATELY 1.3 KILOMETERS DOWNSTREAM OF IH 35   <a href="#">Map</a>	<a href="#">18865</a>	1911	SA	SA	BS	1											BS Sample to be collected with RT sample. No Flow Possible - Barge Traffic
SAN ANTONIO RIVER 57 METERS UPSTREAM OF LEXINGTON STREET BRIDGE AND APPROXIMATELY 1.3 KILOMETERS DOWNSTREAM OF IH 35   <a href="#">Map</a>	<a href="#">18865</a>	1911	SA	SA	RT						6		6	6		6	No Flow Possible - Barge Traffic
SAN ANTONIO RIVER LOOP 111 METERS DOWNSTREAM OF MARKET STREET AT LITTLE RHEIN STEAKHOUSE IN SAN ANTONIO   <a href="#">Map</a>	<a href="#">20122</a>	1911	SA	SA	RT						6		6	6		6	No Flow Possible - Barge Traffic
SAN ANTONIO RIVER AT VFW BOULEVARD   <a href="#">Map</a>	<a href="#">21547</a>	1911	SA	SA	BS	1	1	1	1								BS samples will be collected along with RT events
SAN ANTONIO RIVER AT VFW BOULEVARD   <a href="#">Map</a>	<a href="#">21547</a>	1911	SA	SA	RT								6	6	6	6	
APACHE CREEK AT BRAZOS STREET APPROXIMATELY 0.7 KM UPSTREAM OF THE CONFLUENCE WITH ALAZAN CREEK   <a href="#">Map</a>	<a href="#">18735</a>	1911B	SA	SA	BS	2											
APACHE CREEK AT BRAZOS STREET APPROXIMATELY 0.7 KM UPSTREAM OF THE CONFLUENCE WITH ALAZAN CREEK   <a href="#">Map</a>	<a href="#">18735</a>	1911B	SA	SA	RT						6		6	6	6	6	
ALAZAN CREEK AT TAMPICO ST IN SAN ANTONIO   <a href="#">Map</a>	<a href="#">12715</a>	1911C	SA	SA	RT						6		6	6	6	6	
SAN PEDRO CREEK AT FURNISH ST IN SAN ANTONIO PERMIT 0000968 UNION STOCK YARDS   <a href="#">Map</a>	<a href="#">12707</a>	1911D	SA	SA	RT					3			6	6	6	6	
MARTINEZ CREEK AT RUIZ STREET IN SAN ANTONIO   <a href="#">Map</a>	<a href="#">12751</a>	1911I	SA	SA	RT								6	6	6	6	
<b>Segment 1912 Medio Creek   <a href="#">Map</a></b>																	
MEDIO CREEK AT HIDDEN VALLEY CAMPGROUND   <a href="#">Map</a>	<a href="#">12916</a>	1912	SA	SA	BS	2	2		2								BS samples will be collected along with RT events
MEDIO CREEK AT HIDDEN VALLEY CAMPGROUND   <a href="#">Map</a>	<a href="#">12916</a>	1912	SA	SA	RT					3	6		6	6	6	6	



Site Description	Station ID	Waterbody ID	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal Water	Chlorophyll/ Pheophytin	BOD	Conv	Bacteria	Flow	Field	Comments
MEDIO CREEK AT US 90 WEST   <a href="#">Map</a>	<a href="#">12735</a>	1912A	SA	SA	RT						6		6	6	6	6	
<b>Segment 1913 Mid Cibolo Creek   <a href="#">Map</a></b>																	
CIBOLO CREEK 40 METERS DOWNSTREAM FROM IH 10/US 90 ON EAST BANK   <a href="#">Map</a>	<a href="#">12919</a>	1913	SA	SA	RT					3	6		6	6	6	6	
CIBOLO CREEK AT SCHAEFFER RD 3 MI EAST OF RANDOLPH AIR FORCE BASE   <a href="#">Map</a>	<a href="#">12924</a>	1913	SA	SA	RT						6		6	6	6	6	
CIBOLO CREEK UPSTREAM CIBOLO CREEK MUNICIPAL AUTHORITY'S WWTP PERMIT 0011269-001 OFF RIVER ROAD   <a href="#">Map</a>	<a href="#">14212</a>	1913	SA	SA	RT						6		6	6	6	6	

Figure C1.2 FY2021 Monitoring Map



**Disclaimer:**  
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