

**Amendment # 1  
to the Sulphur River Basin Authority  
Clean Rivers Program FY 2006/2007 QAPP**

**Prepared by the Sulphur River Basin Authority  
In Cooperation with the  
Texas Commission on Environmental Quality (TCEQ)**

Questions concerning this QAPP should be directed to:

**Nancy Rose  
Sulphur River Basin Authority  
911 N Bishop Street  
Wake Village, Texas 75501  
Phone # 903-223-7887  
FAX #903-223-7988  
nrsrba@cableone.net**

Effective: September 2006 to August 2007

**Justification:** The amendments to the 2006/2007 SRBA QAPP are numerous and reflect the departure of Mr. Mike Burke from the SRBA and his replacement with Nancy Rose. The amendment also reflects the personnel changes made by the TCEQ. In addition, there are the normal changes associated with Appendix B as the site selection changes during the second year of the contract. All sections of the QAPP that contain Mike Burke's name are being amended to reference Nancy Rose, and the site descriptions and monitoring tables are being amended to reflect the monitoring schedule for FY 2007.

**Detail of Changes:**

Cover Sheet: Mike Burke's name is being replaced by the new SRBA project manager, Nancy Rose, along with the correct email address for Nancy Rose.

A1, Approval Page: Patricia Wise's name has been replaced by Jennifer Delk as TCEQ project manager. Mike Burke's name has been replaced by Nancy Rose as SRBA project manager.

A3, Distribution List: Patricia Wise's name has been replaced by Jennifer Delk as TCEQ project manager. Mike Burke's name has been replaced by Nancy Rose as SRBA project manager. Mike Buttram's telephone number has been updated.

A4, Project/Task and Organization: Patricia Wise's name has been replaced by Jennifer Delk as TCEQ project manager. Mike Burke's name has been replaced by Nancy Rose as SRBA project manager.

A4, Figure I: Patricia Wise's name has been replaced by Jennifer Delk as TCEQ project manager. Mike Burke's name has been replaced by Nancy Rose as SRBA project manager. The duties of the data manager, Patti Harman, have been updated to reflect that she is not responsible for the website. Paul Price Associates, Inc. has been replaced with HDR Engineering, Inc to reflect changes in the names of the contractor for tasks 2, 4, and 5.

A5, Problem Definition and Background: The amendments reflect the changes in the systematic monitoring from FY 2006 to FY 2007. References to the systemic monitoring for the tributaries of segment 302 (Lake Wright Patman) and segment 303b (White Oak Creek) have been deleted, and a discussion of the systematic monitoring on segment 305 (North Sulphur River) has been included.

A5, Figure 3: The systematic sites studied in FY 2006 have been removed from Figure 3 and the four systematic sites to be studied in FY 2007 are included.

Appendix B, "Sampling Process Design and Monitoring Schedule (Plan), Sample Design Rationale: All references to the systematic sites studied in FY 2006 have been removed and a discussion of the systematic sites for FY 2007 is included.

Table B1.1 All references to the systematic sites studied in FY 2006 have been removed, and the table has been updated with the parameters for the FY 2007 systematic monitoring plan.

**Distribution:** QAPP Amendments will be distributed to all personnel on the distribution list maintained by the Planning Agency.

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

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Nancy Rose, SRBA Project Manager Date

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Mike Buttram, SRBA QAO Date

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Jennifer Delk, CRP Project Manager Date

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Sharon Coleman, Acting CRP Lead QAS Date

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Laurie Curra, CRP Project QAS Date

**Sulphur River Basin Surface Water Quality Monitoring Plan  
Quality Assurance Project Plan**

**Sulphur River Basin Authority  
911 N. Bishop, Suite C-104  
Wake Village, Texas 75501**

**Clean Rivers Program  
Monitoring Operations Division  
Texas Commission on Environmental Quality  
P.O. Box 13087, MC 165  
Austin, Texas 78711-3087**

**Effective Period: September 2005 to August 2007**

**Questions concerning this quality assurance project plan should be directed to:**

**Nancy Rose  
Sulphur River Basin Authority  
911 N Bishop Street  
Wake Village, Texas 75501  
Phone # 903-223-7887  
FAX #903-223-7988  
nrsrba@cableone.net**

## **A1 APPROVAL PAGE**

### **TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

#### **Monitoring Operations Division**

---

Steve Spaw, Director                      Date  
Monitoring Operations Division

---

Patrick Roques, Manager                      Date  
Water Quality Monitoring & Assessment Section

---

Laurie Curra                                      Date  
Program Manager, Clean Rivers Program

---

Jennifer Delk                                      Date  
Project Manager, Clean Rivers Program

#### **Compliance Support Division**

---

Jose A. Franco, Director                      Date  
Compliance Support Division

---

Stephen Stubbs                                      Date  
TCEQ Quality Assurance Manager

---

Sharon Coleman                                      Date  
Acting CRP Quality Assurance Specialist  
Quality Assurance Section

### **SULPHUR RIVER BASIN AUTHORITY**

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Nancy Rose                                      Date  
SRBA Project Manager

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Mike Buttram                                      Date  
SRBA Quality Assurance Officer

The SRBA will secure written documentation from each sub-tier project participant (e.g., subcontractors, other units of government, laboratories) 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 SRBA will maintain this documentation as part of the project's quality assurance records, and will be available for review. (See sample letter in Attachment 1 of this document.)

### **A3 DISTRIBUTION LIST**

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

Jennifer Delk, Project Manager  
Clean Rivers Program  
MC-165  
(512) 239-4712

Sharon Coleman  
Acting CRP Lead Quality Assurance Specialist  
MC-176  
(512) 239-6340

David Manis  
Manager, Monitoring Data Management and Analysis Section  
MC-165  
(512) 239-5853

**Sulphur River Basin Authority**  
**911 N. Bishop, Suite C-104**  
**Wake Village, Texas 75501**

Nancy Rose, Project Manager  
(903) 223-7887

Mike Buttram, Quality Assurance Officer  
(903) 832-5565 Ext 3280

The SRBA 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, other units of government, laboratories. The SRBA will document distribution of the plan and any amendments and appendices, maintain this documentation as part of the project's quality assurance records, and will be available for review.

## **A4 PROJECT/TASK ORGANIZATION**

### **Description of Responsibilities**

#### **TCEQ**

##### **Laurie Curra CRP Program Manager**

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

##### **Sharon Coleman Acting CRP Lead Quality Assurance Specialist**

Participates in the development, approval, implementation, and maintenance of written quality assurance 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.

##### **Jennifer Delk CRP Project Manager**

Responsible for the development, implementation, and maintenance of CRP contracts. Tracks deliverables. Participates in the development, approval, implementation, and maintenance of written quality assurance standards (e.g., Program Guidance, SOPs, QAPPs, QMP). Assists CRP Lead QA Specialist in conducting SRBA audits. Verifies QAPPs are being followed by contractors and that projects are producing data of known quality. Coordinates project planning with the SRBA 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.

**Eric Reese**  
**CRP Data Manager**

Responsible for coordination and tracking of CRP data sets from initial submittal through CRP Project Manager review and approval. Performs automated data validation routines and coordinates error correction. Provides quality assured data sets to TCEQ Information Resources in compatible formats for uploading to the statewide database. Generates reports to assist CRP Project Managers' data review. Provides training and guidance to CRP and Planning Agencies on technical data issues. Reviews and approves data-related portions of program QMP and project-specific QAPPs. Develops and maintains Standard Operating Procedures for CRP data management.

**Laurie Curra**  
**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 quality assurance standards (e.g., Program Guidance, SOPs, QAPPs, QMP). Serves on planning team for CRP special projects. Coordinates documentation and implementation of corrective action for the CRP.

**SRBA**

**Nancy Rose**  
**SRBA 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 SRBA participants and that projects are producing data of known quality. Ensures that subcontractors are qualified to perform contracted work. Ensures CRP project managers and/or QA Specialists are notified of deficiencies and nonconformances, and that issues are resolved. Responsible for validating that data collected are acceptable for reporting to the TCEQ.

**Mike Buttram**  
**SRBA 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 quality assurance records. Responsible for coordinating with the TCEQ QAS to resolve QA-related issues. Notifies the SRBA Project Manager of particular circumstances which may adversely affect the quality of data. Coordinates and monitors deficiencies, nonconformances 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



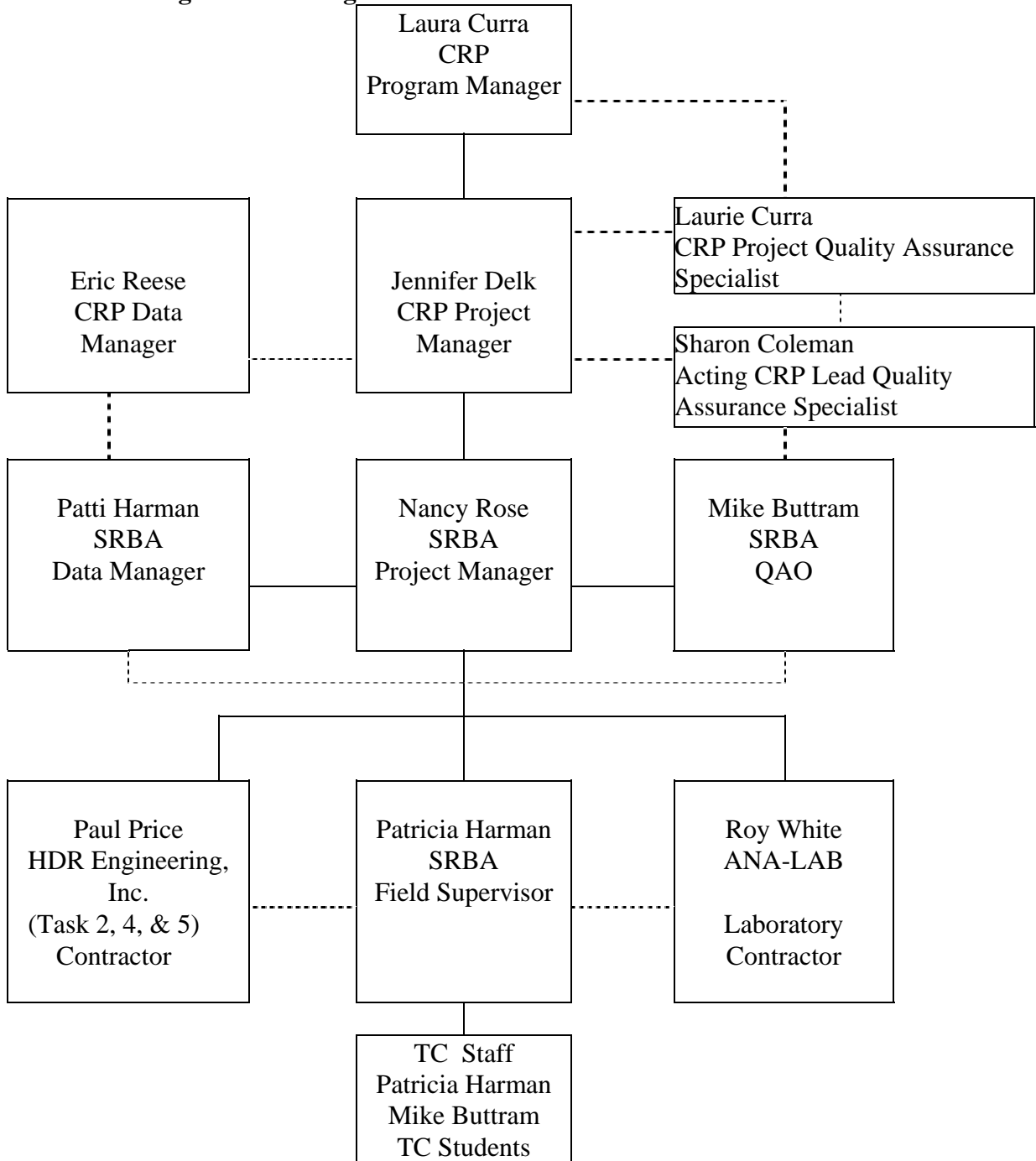
and analytical techniques. Conducts monitoring systems audits on project participants to determine compliance with project and program specifications, issues written reports, and follows through on findings. Ensures that field staff is properly trained and that training records are maintained.

**Patricia Harman**  
**SRBA Data Manager**

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 the SWQM portion of the TRACS database.

The project organization is outlined in Figure I.

**Figure 1**  
**PROJECT ORGANIZATION CHART**  
**Figure A4.1. Organization Chart - Lines of Communication**



Lines of Communication-----

Lines of Organization-----

## **A5 PROBLEM DEFINITION/BACKGROUND**

In 1991, the Texas Legislature passed the Texas Clean River Act (Senate Bill 818) in response to growing concerns that water resource issues were not being pursued in an integrated, systematic manner. The act requires that ongoing water quality assessments be conducted for each river basin in Texas, an approach that integrates water quality issues within the watershed. The CRP legislation mandates that “each river authority (or local governing entity) shall submit quality-assured data collected in the river basin to the commission.” “Quality-assured data” in the context of the legislation means “data that comply with commission rules for surface water quality monitoring programs, including rules governing the methods under which water samples are collected and analyzed and data from those samples are assessed and maintained.” This QAPP addresses the program developed between the SRBA and the TCEQ to carry out the activities mandated by the legislation. The QAPP was developed and will be implemented in accordance with provisions of the *Quality Management Plan for the Clean Rivers Program* (most recent version).

The purpose of this QAPP is to clearly delineate SRBA QA policy, management structure, and procedures which will be used to implement the QA requirements necessary to verify and validate the surface water quality data collected. The QAPP is reviewed by the TCEQ to help ensure that data generated for the purposes described above are scientifically valid and legally defensible. This process will ensure that data collected under this QAPP and submitted to the statewide database have been collected and managed in a way that guarantees its reliability and therefore can be used in water quality assessments and other programs deemed appropriate by the TCEQ. Project results will be used to support the achievement of Clean Rivers Program objectives as contained in the Clean Rivers *Program Guidance and Reference Guide* FY 2006 -2007.

In 2004 the SRBA conducted a review of five years of water quality data to characterize water quality in the Sulphur River Basin. A considerable body of information has been collected since that time. The following is a discussion of each segment covered in this QAPP and their current status.

### Wright Patman Lake, WPL (Segment 0302 and 303)

The 2004 Texas 303(d) List (May 13, 2005) details the water quality standards that WPL did not meet in 2004. Areas of the lake are listed as partially supporting and not supporting “general use” due to high pH. Other portions of WLP are listed as partially supporting or not supporting “aquatic life use” due to depressed dissolved oxygen. The specific locations and criterion are listed below:

1600 acres in upper mid-lake depressed dissolved oxygen

1600 acres in upper mid-lake high pH

200 acres in the northwestern tip of lake depressed dissolved oxygen

200 acres in the northwestern tip of lake high pH

2300 acres in arm, west of dam high pH

300 acres at International Paper intake depressed dissolved oxygen

400 acres, south dam depressed dissolved oxygen

4000 acres in upper portion of lake depressed dissolved oxygen

4000 acres mid-lake high pH

500 acres in the northeast corner of lake high pH

WPL has been placed in Category 5c that requires additional data be collected before a TMDL is scheduled.

See Figure 2 for the location of the three sites on WPL.

Days Creek, (Segment 0304)

Days Creek is not listed on the 303(d) List. It has a "contact recreation concern" due to bacteria based on limited data. Days Creek was the subject of a special study by TCEQ during FY 2005. The study focused on the extent and impact of hydrocarbon contamination. The results of this study are currently under review. See Figure 2 for the location of the fixed/routine site on Days Creek.

North Sulphur River, (Segment 0305)

North Sulphur River drains the most northwestern part of the Sulphur River Basin. Its ecoregion is northern blackland prairie (33a). The ecology of this area is substantially different from the rest of the basin, and it represents the headwaters of the Sulphur River. No TCEQ sites are currently established in this portion of the basin. SRBA has selected this region to focus its FY 2007 systematic monitoring. See Figure 3 for the location of the sites on the basin map.

Figure 2

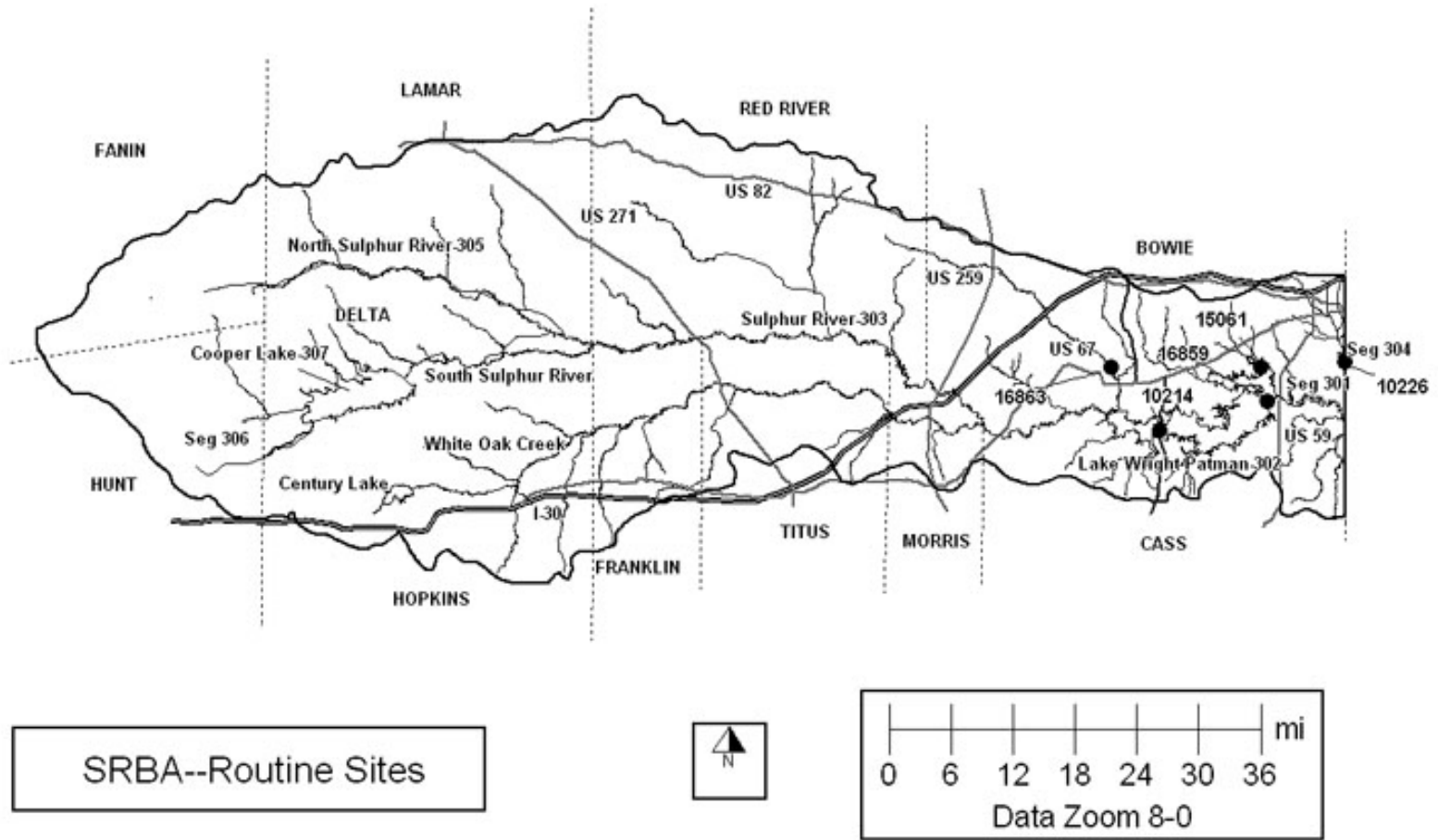
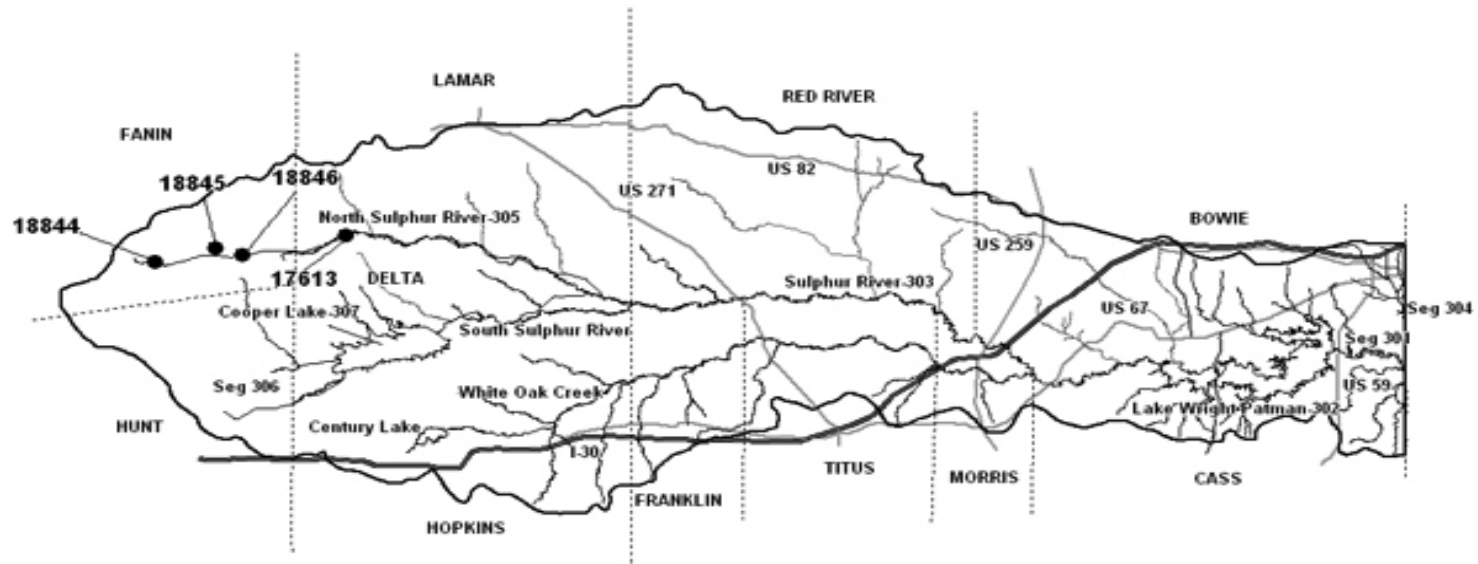


Figure 3



Sulphur River Basin



## **Appendix B Sampling Process Design and Monitoring Schedule (plan)**

### **Sample Design Rationale**

The sample design is based on the legislative intent of the Clean Rivers Program. Under the legislation, the Basin Planning Agencies have been tasked with providing data to characterize water quality conditions in support of the 305(b) assessment, 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 SRBA coordinates closely with the TCEQ and other participants to ensure a comprehensive water monitoring strategy within the watershed.

In 2004 the SRBA conducted a review of five years of water quality data to characterize water quality in the Sulphur River Basin. A considerable body of information has been collected since that time. The following is a discussion of each segment covered in this QAPP, and reviews their current status.

#### Wright Patman Lake, WPL (Segment 0302 and 303)

The 2004 Texas 303(d) List (May 13, 2005) details the water quality standards that WPL did not meet in 2004. Areas of the lake are listed as partially supporting and not supporting "general use" due to high pH. Other portions of WPL are listed as partially supporting or not supporting "aquatic life use" due to depressed dissolved oxygen. The specific locations and criterion are listed below:

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WPL has been placed in Category 5c that requires additional data be collected before a TMDL is scheduled. See Figure 2 for the location of the three sites on WPL.

#### Days Creek, (Segment 0304)

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#### North Sulphur River, (Segment 0305)

North Sulphur River drains the most northwestern part of the Sulphur River Basin. Its ecoregion is northern blackland prairie (33a). The ecology of this area is substantially different from the rest of the basin, and it represents the headwaters of the Sulphur River. No TCEQ sites are currently established in this portion of the basin. SRBA has selected this region to focus its FY 2007 systematic monitoring. See Figure 3 for the

location of the sites on the basin map.

The SRBA monitoring program in FY 2007 is part of a multi-year, strategic plan. The multi-year plan has two primary objectives.

- Characterize major water bodies on an ongoing basis to determine if the water quality is suitable for designated water uses. A fixed/routine monitoring program is used to fulfill this objective.
- Screen significant tributaries periodically to determine if there are previously unidentified, localized water quality problems or if tributary inflows may be adversely affecting the quality of major water bodies. An intensive/systematic monitoring program is used to fulfill this objective.

The routine monitoring for FY 2007 involves the study of five routine sites. The site on Days Creek has been studied by the TCEQ for a number of years. It is located a long way from the Tyler office. The SRBA has selected this site to support the TCEQ in its overall monitoring effort where resources have been stretched thin. This site is located downstream from the Texarkana Regional Wastewater Treatment Plant and carries all of the runoff from Texarkana including that from industry and two superfund sites. Three routine sites on Wright Patman Lake have been adopted by SRBA for study. The SRBA will conduct DIEL studies and collect field data and conventional water chemistry at these sites. This data is considered very important because of the listing of Wright Patman Lake on the 303(d) List for low levels of dissolved oxygen and pH considerations. Wright Patman Lake is a flood control lake and is the source of most of the area drinking water. The fifth routine monitoring site is located on Anderson Creek above WPL. This site was selected as a routine site this year because it is quite long and drains a substantial part of the middle portion of the Sulphur River Basin and the flow is directly into WPL. The stream has a minimal number of point sources and is under consideration as a reference stream. The stream monitoring includes field data, conventional water chemistry, habitat assessment, *E. coli* counts, nekton and benthic collections, and DIEL studies. The routine sites are located on the map, Figure 2, and detailed in Table B1.1

The systematic monitoring program continues a basin wide study of the Sulphur River watershed. After completing a study of the main stem of the Sulphur River and White Oak Creek in 1999, Wright Patman Lake tributaries in FY 2000, the Days Creek watershed in FY 2001, the middle Sulphur Basin in FY 2002, the upper Sulphur Basin in FY 2003, the White Oak Creek tributaries in FY 2004, Days Creek and Akin Creek in 2005 and other tributaries of Lake Wright Patman in 2006, the systematic monitoring program will focus on tributaries of North Sulphur River during FY 2007. Three sites have been selected on the North Sulphur River. These sites have substantially different stream habits with bottoms varying from sand to limestone. Two of the sites are on channeled portions of the river and the third and furthest upstream is more natural. The fourth systematic site is on Davis Creek, a tributary to North Sulphur River. The stream monitoring includes field data, conventional water chemistry, habitat assessment, *E. coli* counts, nekton and benthic collections, and DIEL studies. The systematic sites are located on the map, Figure 3, and road maps are included in Figures 4, 5, 6, and 7.



## Site Selection Criteria

This data collection effort involves monitoring routine water quality, using procedures that are consistent with the TCEQ SWQM program, for the purpose of data entry into the statewide database maintained by the TCEQ. To this end, some general guidelines are followed when selecting sampling sites, as basically outlined below, and discussed thoroughly in the *TCEQ Surface Water Quality Monitoring Procedures, Volume 1* (RG-415). Overall consideration is given to accessibility and safety. All monitoring activities have been developed with coordination with the CRP Steering Committee and with the TCEQ

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 few sites are available for a stream segment, choose one that would best represent the water body, and not an unusual condition or contaminant source. 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. Routine 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 routine monitoring site that adequately characterizes the water body, and should be coordinated with the TCEQ or other qualified monitoring entities reporting routine data to TCEQ.
6. Routine 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 measurement during routine visits.

## Monitoring Sites for FY 2007

The sample design for surface water quality monitoring is shown in Table B1.1 below

**Table B1.1 Sample Design and Schedule, FY 2007**

Basin\_id: 03

Segment: 0302

Wright Patman Lake

Site Description	Station ID	Monitoring Resp (1)	Monitor (2)	Monitor Type (3)	24 HR DO	Aquatic Habitat	Benthics	Nekton	Conventional (4)	Bacteria (5)	Inst Flow	Field (6)
WRIGHT PATMAN LAKE AT SH 8	10214	SU	TC	DI	4							
WRIGHT PATMAN LAKE AT SH 8	10214	SU	TC	RT					4	6		6
WRIGHT PATMAN LAKE AT NORTH SHORE	15061	SU	TC	DI	4							
WRIGHT PATMAN LAKE AT NORTH SHORE	15061	SU	TC	RT					4	6		6
WRIGHT PATMAN LAKE ADJACENT TO IP INTAKE	16859	SU	TC	DI	4							
WRIGHT PATMAN LAKE ADJACENT TO IP INTAKE	16859	SU	TC	RT					4	6		6
ANDERSON CREEK AT BOWIE CR4126	16863	SU	TC	DI	2						2	
ANDERSON CREEK AT BOWIE CR4126	16863	SU	TC	RT		2			4	4	4	4
ANDERSON CREEK AT BOWIE CR4126	16863	SU	TC	BN			2	2				

(1) SU=Sulphur River Basin Authority

(2)TC=Texarkana College

(3)RT=Routine water sampling baseline, DI=DIEL sampling, IS=Intensive/Systematic. BN=Unable to meet biological vouchering requirements

(4)Conventionals = TSS, TDS, sulfate, chloride, chlorophyll-a, pheophytin, ammonia, nitrate-N, nitrite-N, and total phosphate-P

(5)E. coli

(6)Field = pH, DO, conductivity, temperature, Secchi depth, and observations

Basin\_id: 03  
 Segment: 0304  
 Days Creek

Site Description	Station ID	Monitoring Resp (1)	Monitor (2)	Monitor Type (3)	24 HR DO	Aquatic Habitat	Benthics	Nekton	Conventional (4)	Bacteria (5)	Inst Flow	Field (6)
DAYS CREEK AT STATELINE ROAD	10226	SU	TC	DI	2						2	
DAYS CREEK AT STATELINE ROAD	10226	SU	TC	RT		2			4	4	4	4
DAYS CREEK AT STATELINE ROAD	10226	SU	TC	BN			2	2				

(1) SU=Sulphur River Basin Authority

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(5)E. coli

(6)Field = pH, DO, conductivity, temperature, Secchi depth, and observations

Basin\_id: 03

Basin\_id: 03

Segment: 0305

North Sulphur River Creek

Site Description	Station ID	Monitoring Resp (1)	Monitor (2)	Monitor Type (3)	24 HR DO	Aquatic Habitat	Benthics	Nekton	Conventional (4)	Bacteria (5)	Inst Flow	Field (6)
NORTH SULPHUR RIVER NEW CHANNEL AT FM 38	17613	SU	TC	DI	2						2	
NORTH SULPHUR RIVER NEW CHANNEL AT FM 38	17613	SU	TC	RT		2			4	4	4	4
NORTH SULPHUR RIVER NEW CHANNEL AT FM 38	17613	SU	TC	BN			2	2				
NORTH SULPHUR AT FM 3735	18844	SU	TC	DI	2						2	
NORTH SULPHUR AT FM 3735	18844	SU	TC	RT		2			4	4	4	4
NORTH SULPHUR AT FM 3735	18844	SU	TC	BN			2	2				
DAVIS CREEK AT FM 2990	18845	SU	TC	DI	2						2	
DAVIS CREEK AT FM 2990	18845	SU	TC	RT		2			4	4	4	4
DAVIS CREEK AT FM 2990	18845	SU	TC	BN			2	2				
NORTH SULPHUR RIVER AT SH 34	18846	SU	TC	DI	2						2	
NORTH SULPHUR RIVER AT SH 34	18846	SU	TC	RT		2			4	4	4	4
NORTH SULPHUR RIVER AT SH 34	18846	SU	TC	BN			2	2				

(1) SU=Sulphur River Basin Authority

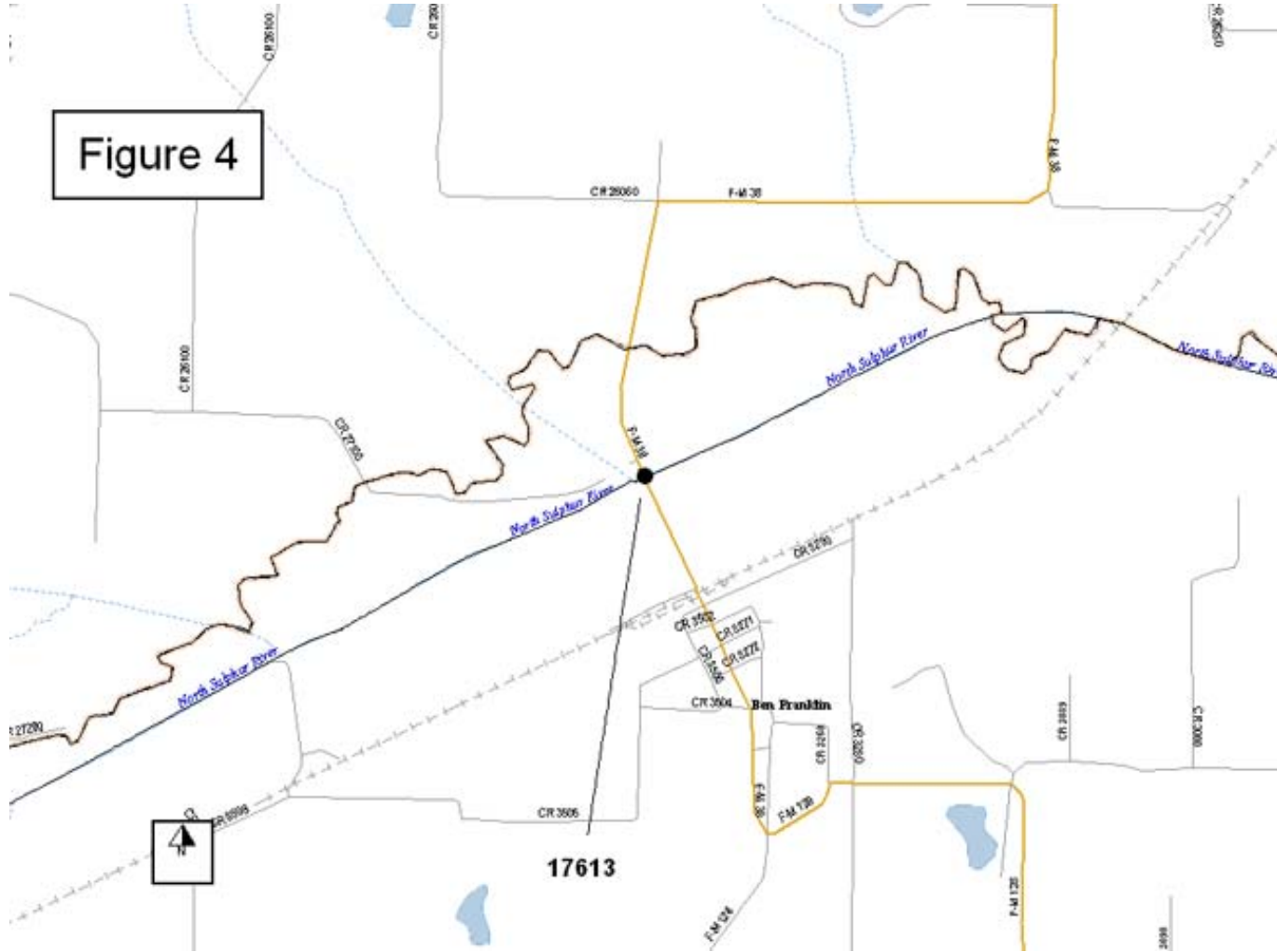
(2)TC=Texarkana College

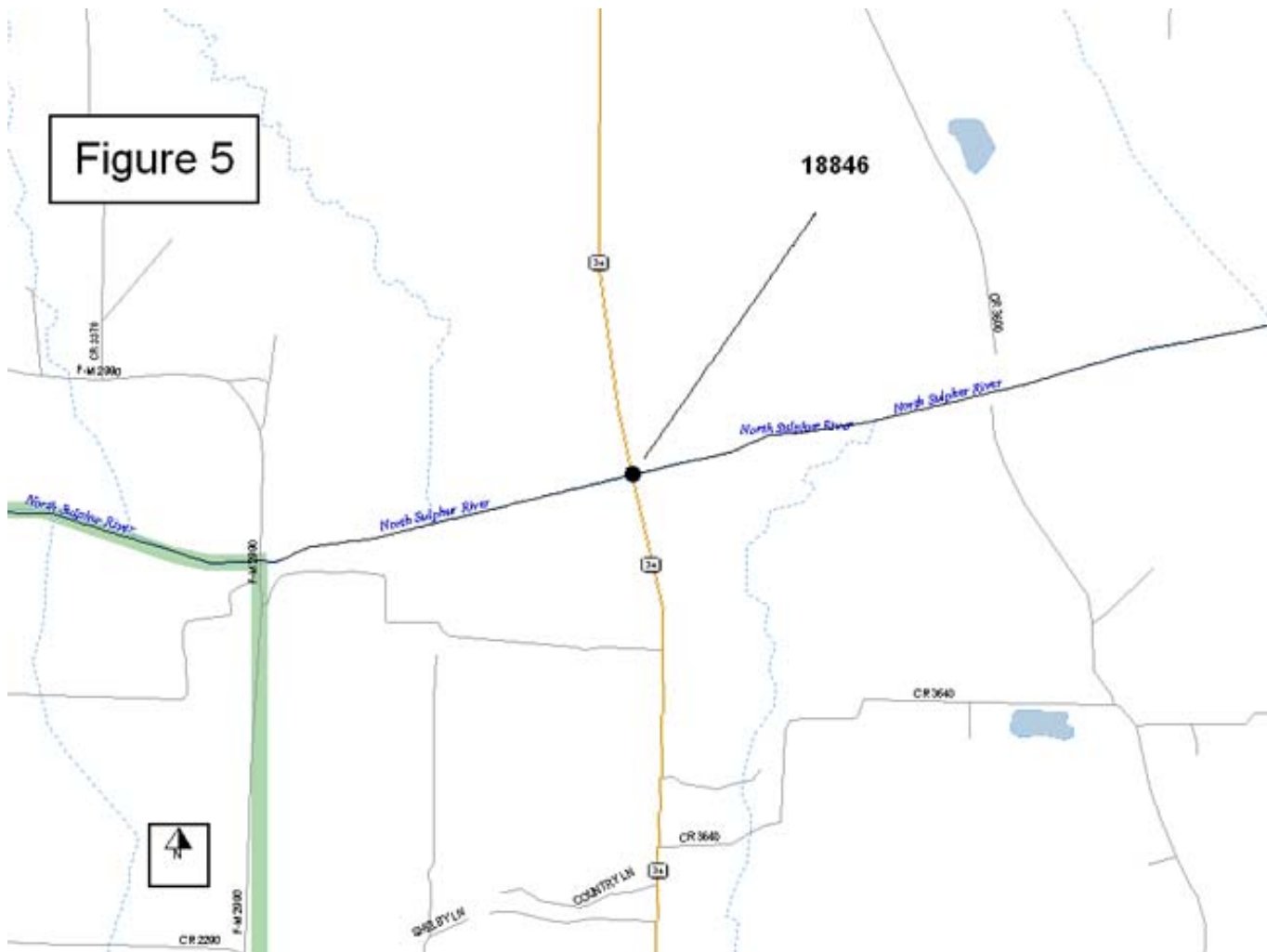
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(5)E. coli

(6)Field = pH, DO, conductivity, temperature, Secchi depth, and observations





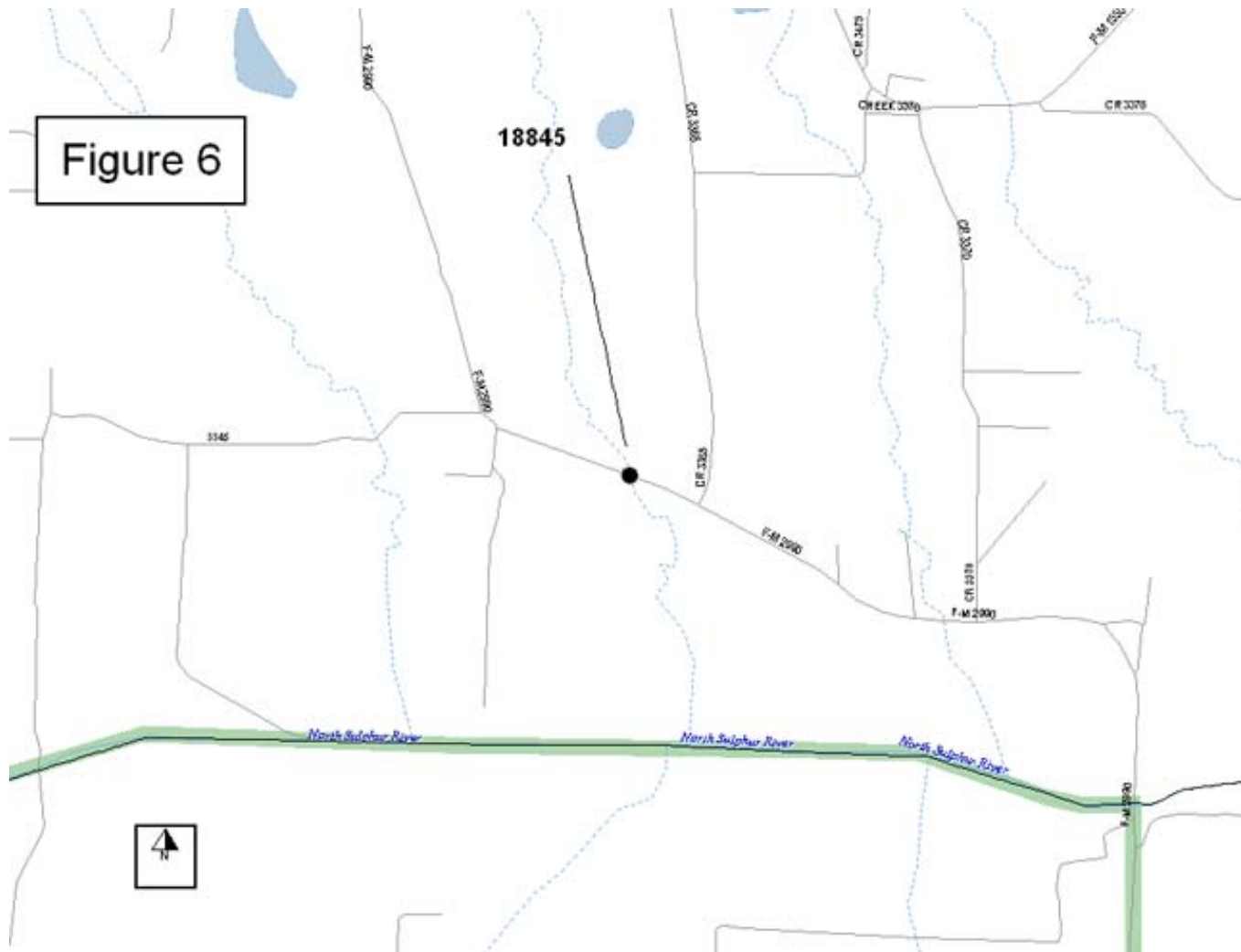


Figure 7

