# Amendment # 2 Update to the Houston-Galveston Area Council (H-GAC) Multi-Basin Clean Rivers Program FY 2020/2021 QAPP

## *Prepared by the H-GAC in Cooperation with the Texas Commission on Environmental Quality (TCEQ)*

## Effective: Immediately upon approval by all parties

**Questions concerning this QAPP should be directed to:**
**Jean Wright, Houston-Galveston Area Council (H-GAC)**
**CRP Quality Assurance Officer**
**P.O. Box 22777**
**Houston, Texas 77227-2777**
**(713) 499-6660**
**jean.wright@h-gac.com**

## Justification

This document details the changes made to H-GAC's multi-basin Quality Assurance Project Plan to update Appendix B for fiscal year 2021. This document also updates personnel changes, updates versions of referenced documentation, adds clarifying language about frequency of blank collection, and addresses any other changes made to the quality program since the last amendment.

## Summary of Changes

| Section/Figure/Table | Page | Change | Justification |
|---|---|---|---|
| Section A1 | 2 | Replaced Sharon Coleman with Dana Squires as CRP Lead Quality Assurance Specialist<br><br>Replace Sarah Eagle, CRP Work Leader with Rebecca DuPont, CRP Work Lead<br><br>Removed Quality Assurance Manager Signature block. | Personnel changes at TCEQ<br><br>The Quality Assurance Manager is not required by the QMP to sign amendments for projects not funded by EPA. |
| Section A3 | 13 | Replaced Sharon Coleman with Dana Squires as CRP Lead Quality Assurance Specialist | Personnel changes at TCEQ |
| Section A4 | 14 | Replaced Peter Bohls with Sarah Kirkland as CRP Data Manager, DM&A Team<br><br>Replaced Sharon Coleman with Dana Squires as CRP Lead Quality Assurance Specialist<br><br>Replace Sarah Eagle, CRP Work Leader with Rebecca DuPont, CRP Work Lead | Personnel changes at TCEQ |
| Figure A4.1 | 21 | Replaced Peter Bohls with Sarah Kirkland as CRP Data Manager, DM&A Team<br><br>Replaced Sharon Coleman with Dana Squires as CRP Lead Quality Assurance Specialist<br><br>Replace Sarah Eagle, CRP Work Leader with Rebecca DuPont, CRP Work Lead | Personnel changes at TCEQ |

| | | | |
|---|---|---|---|
| A8 Special Training / Certification | 34 | Changed referenced version of TNI Standard from 2009 version to 2016 version. | The 2016 TNI ELS Standard was adopted on June 18, 2018. The implementation date was set as January 31, 2020 by vote of the NELAP Accreditation Council on January 7, 2019. |
| Section A9 | 38 | Changed referenced version of TNI Standard from 2009 version to 2016 version. | The 2016 TNI ELS Standard was adopted on June 18, 2018. The implementation date was set as January 31, 2020 by vote of the NELAP Accreditation Council on January 7, 2019. |
| Appendix A | | That bacteria spreadsheet for:<br>Table A7-2 HCPCS<br>Table A7-3 HHD<br>Table A7-7 EIH<br>were changed. The entero AWRL was changed to 10*** per the May 2020 SHELL update. | The entire workbook for each local partner is provided but the spreadsheet TAB is colored and the change is highlighted in each workbook. |
| Appendix B | | Updated sample design rationale for FY2021 | Describes changes to monitoring design for FY2021 based on the FY2020 Coordinated Monitoring Meetings |
| Appendix B | | Updated Table B1.1 | Describes changes to monitoring design for FY2021 based on the FY2020 Coordinated Monitoring Meetings |
| Appendix C | | Updated maps of monitoring stations | Describes changes to monitoring design for FY2021 based on the FY2020 Coordinated Monitoring Meetings |
| Appendix D& E | | Replace field sheet/COC for HHD | HHD updated field sheets/COC to prefill forms with complete and up-to-date information. |

# Detail of Changes

## A1 Approval Page

### Texas Commission on Environmental Quality

### *Water Quality Planning Division*

Electronically Approved 9/1/2020

Rebecca DuPont, CRP Work Lead Date
Clean Rivers Program

Electronically Approved 9/8/2020

Kelly Rodibaugh Date
Project Quality Assurance Specialist
Clean Rivers Program

Electronically Approved 9/8/2020

Kelly Rodibaugh, Project Manager Date
Clean Rivers Program

Electronically Approved 9/1/2020

Cathy Anderson, Team Leader Date
Data Management and Analysis

### Monitoring Division

Electronically Approved 9/1/2020

Dana Squires Date
Lead CRP Quality Assurance Specialist
Laboratory and Quality Assurance Section

## *Houston-Galveston Area Council (H-GAC)*

| | |
|---|---|
| Electronically Approved 9/1/2020 | Electronically Approved 9/1/2020 |
| Todd Running Date | Jean Wright Date |
| H-GAC Project Manager | H-GAC Quality Assurance Officer |

## *Harris County Pollution Control Services (HCPCS)*

Electronically Approved 9/2/2020

Michael Cantu Date
HCPCS CRP Project Manager

Electronically Approved 9/2/2020

Bryan Kosler Date
HCPCS Field Quality Assurance Officer

Electronically Approved 9/2/2020

Michael Cantu Date
HCPCS Laboratory Manager

Electronically Approved 9/1/2020

Ericka Jackson Date
HCPCS Quality Assurance Officer

## *City of Houston, Houston Health Department (HHD)*

Electronically Approved 9/1/2020

Daisy James Date
CRP Project Manager

Electronically Approved 9/1/2020

Nguyen Ly Date
HHD Field Quality Assurance Officer

Electronically Approved 9/1/2020

Roger Sealy Date
HHD BLS Lab Manager

Electronically Approved 9/1/2020

Kimyattia Smith Date
HHD BLS Lab Quality Assurance Officer

## *City of Houston, Drinking Water Operations (DWO)*

Electronically Approved 9/1/2020

Shubha Thakur Date
CRP Project Manager & DWO Laboratory Director

Electronically Approved 9/1/2020

Harold Longbaugh Date
DWO Laboratory Manager

Electronically Approved 9/1/2020

Narendara Joshi Date
DWO Laboratory Quality Assurance Officer

Electronically Approved by S. Thakur for D. Takie 9/2/2020

Desta Takie Date
DWO Field Quality Assurance Officer

## *San Jacinto River Authority (SJRA)*

Electronically Approved 9/1/2020

Shane Simpson Date
SJRA CRP Project Manager and
Field Quality Assurance Officer

## *Environmental Institute of Houston, University of Houston – Clear Lake (EIH)*

Electronically Approved 9/1/2020

Dr. George Guillen Date
EIH CRP Project Manager

Electronically Approved 9/1/2020

Jenny Oakley Date
EIH Quality Assurance Officer

## *Texas Research Institute for Environmental Studies (TRIES)*

Electronically Approved 9/1/2020

Dr. Chad Hargrave Date
TRIES CRP Project Manager

Electronically Approved 9/3/2020

Ashley Morgan-Olvera Date
TRIES CRP Quality Assurance Officer

Electronically Approved 9/1/2020

Dr. Rachelle Smith Date
TRIES Laboratory Manager & Quality Assurance Officer

## *Eastex Environmental Laboratory, Inc. (Coldspring, TX)*

Electronically Approved 9/1/2020

Natalia Bondar Date
Eastex Lab Technical Director

Electronically Approved 9/1/2020

Tiffany Guerrero Date
Eastex Lab Quality Assurance Officer

# A3 Distribution List

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

Kelly Rodibaugh, Project Manager
Clean Rivers Program
MC-234
(512) 239-1739

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

Houston-Galveston Area Council
3555 Timmons Lane, Suite 120
Houston, Texas 77027

Todd Running, Project Manager
(713) 993-4549

Jean Wright, Quality Assurance Officer
(713) 499-6660

The H-GAC 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 H-GAC 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. Sub-Tier participants & Laboratories to receive copies of the QAPP include:

- Harris County Pollution Control Services & Laboratory
- City of Houston, Houston Health Department & Laboratory
- City of Houston, Drinking Water Operations & Laboratory
- Environmental Institute of Houston, University of Houston-Clear Lake
- San Jacinto River Authority
- Texas Research Institute for Environmental Studies & Laboratory
- Eastex Environmental Laboratory

# A4 Project Task/Organization

## Description of Responsibilities

9//2020

### *TCEQ*

***Rebecca DuPont***

***CRP Work Lead***

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***

***Lead CRP 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 approval of CRP QAPPs. Prepares and distributes annual audit plans. Conducts monitoring systems audits of Planning Agencies. 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 QAPP records and audit records for the CRP.

***Kelly Rodibaugh***

***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 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) 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, December 2018 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).

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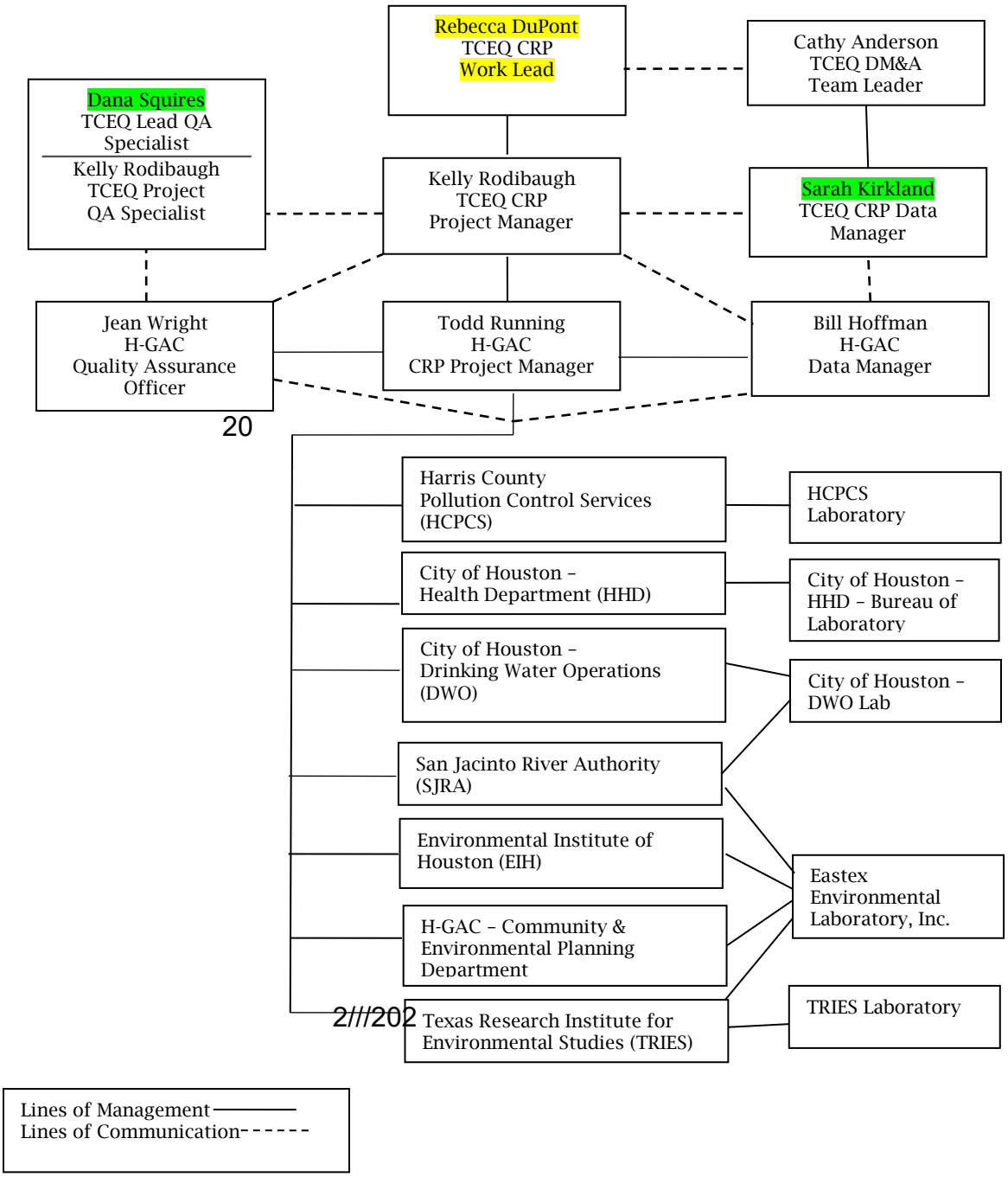
# Project Organization Chart

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



period (March 15- October 15). Although data may be collected during varying regimes of weather and flow, the data sets will not be biased toward unusual conditions of flow, runoff, or season. The goal for meeting maximum representation of the water body will be tempered by funding availability.

### Comparability

Confidence in the comparability of routine data sets for this project and for water quality assessments is based on the commitment of project staff to use only approved sampling and analysis methods and QA/QC protocols in accordance with quality system requirements as described in this QAPP and in TCEQ guidance. Comparability is also guaranteed by reporting data in standard units, by using accepted rules for rounding figures, and by reporting data in a standard format as specified in the Data Management Plan in Section B10.

### Completeness

The completeness of the data describes how much of the data are available for use compared to the total potential data. Ideally, 100% of the data should be available. However, the possibility of unavailable data due to accidents, insufficient sample volume, broken or lost samples, etc. is to be expected. Therefore, it will be a general goal of the project(s) that 90% data completion is achieved.

## A8 Special Training/Certification

Before new field personnel independently conduct field work, the local partner designated trainer (See table A8.1 below) 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.

Local partners, contractors and subcontractors must ensure that laboratories analyzing samples under this QAPP meet the requirements contained in The NELAC Institute Standard (~~2009~~2016) Volume 1, Module 2, Section 4.5.5 (concerning Subcontracting of Environmental Tests).

**Table A8.1 The Designated Trainer for each Local Partner.**

| Local Partner Agency | Designated Trainer |
|---|---|
| Houston-Galveston Area Council | Jean Wright |
| Harris County Pollution Control Services | Bryan Kosler |
| City of Houston – Houston Health Department | Lisa Montemayor |
| City of Houston – Drinking Water Operations | Desta Takie |
| San Jacinto River Authority | Jean Wright |
| Environmental Institute of Houston | Jenny Oakley |
| Texas Research Institute for Environmental Studies | ~~Kaitlen Gary~~<br>Ashley Morgan-Olvera |

## A9 Documents and Records

The documents and records that describe, specify, report, or certify activities are listed. The list below is limited to documents and records that may be requested for review during a monitoring systems audit.

## Table A9.1a Project Documents and Records – H-GAC

| Document/Record | Location | Retention (yrs) | Format |
|---|---|---|---|
| QAPPs, amendments and appendices | H-GAC | ≥7 | Paper & electronic |
| Field SOPs | H-GAC | ≥7 | Paper & electronic |
| Laboratory Quality Manuals | Eastex Lab | ≥7 | Paper & electronic |
| Laboratory SOPs | Eastex Lab | ≥7 | Paper & electronic |
| QAPP distribution documentation | H-GAC / Eastex Lab | ≥7 | Paper |
| Field staff training records | H-GAC | ≥7 | Paper |
| Field equipment calibration/maintenance logs | H-GAC | ≥7 | Paper |
| Field instrument printouts | H-GAC | ≥7 | Paper & electronic |
| Field notebooks or data sheets | H-GAC | ≥7 | Paper |
| Chain of custody records | H-GAC / Eastex Lab | ≥7 | Paper & electronic |
| Laboratory calibration records | Eastex Lab | ≥7 | Paper |
| Laboratory instrument printouts | Eastex Lab | ≥7 | Paper |
| Laboratory data reports/results | Eastex Lab | ≥7 | Electronic |
| Laboratory equipment maintenance logs | Eastex Lab | ≥7 | Paper |
| Corrective Action Documentation | H-GAC / Eastex Lab | ≥7 | Paper & electronic |

## Table A9.1b Project Documents and Records – HCPCS

| Document/Record | Location | Retention (yrs) | Format |
|---|---|---|---|
| QAPPs, amendments and appendices | HCPCS / H-GAC | 7 | Paper |
| Field SOPs | HCPCS | 7 | Paper |
| Laboratory Quality Manuals | HCPCS Laboratory | 7 | Paper &/or electronic |
| Laboratory SOPs | HCPCS Laboratory | 7 | Paper &/or electronic |
| QAPP distribution documentation | HCPCS / H-GAC | 7 | Paper |
| Field staff training records | HCPCS | 7 | Paper |
| Field equipment calibration/maintenance logs | HCPCS | 7 | Paper |
| Field instrument printouts | HCPCS | 7 | Paper &/or electronic |
| Field notebooks or data sheets | HCPCS | 7 | Paper |
| Chain of custody records | HCPCS Laboratory | 7 | Paper |
| Laboratory calibration records 9/2/2020 | HCPCS Laboratory | 7 | Paper |
| Laboratory instrument printouts | HCPCS Laboratory | 7 | Paper |
| Laboratory data reports/results | HCPCS Laboratory | 7 | Paper &/or electronic |
| Laboratory equipment maintenance logs | HCPCS Laboratory | 7 | Paper |
| Corrective Action Documentation | HCPCS / HCPCS Laboratory / H-GAC | 7 | Paper 9/2/202 |

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## Table A9.1c Project Documents and Records – Houston - HHD

| Document/Record | Location | Retention (yrs) | Format |
|---|---|---|---|
| QAPPs, amendments and appendices | HHD / H-GAC | ≥7 | Paper &/or electronic |
| Field SOPs | HHD | ≥7 | Paper &/or electronic |
| Laboratory Quality Manuals | HHD-BLS | ≥7 | Paper &/or electronic |
| Laboratory SOPs | HHD-BLS | ≥7 | Paper &/or electronic |
| QAPP distribution documentation | HHD / HHD-BLS / H-GAC | ≥7 | Paper |
| Field staff training records | HHD | ≥7 | Paper &/or electronic |
| Field equipment calibration/ maintenance logs | HHD | ≥7 | Paper |
| Field instrument printouts | HHD | ≥7 | Paper &/or electronic |
| Field notebooks or data sheets | HHD / H-GAC | ≥7 | Paper |
| Chain of custody records | HHD / HHD-BLS / H-GAC | ≥7 | Paper |
| Laboratory calibration records | HHD-BLS | ≥7 | Paper &/or electronic |
| Laboratory instrument printouts | HHD-BLS | ≥7 | Paper &/or electronic |
| Laboratory data reports/results | HHD-BLS | ≥7 | Paper &/or electronic |
| Laboratory equipment maintenance logs | HHD-BLS | ≥7 | Paper |
| Corrective Action Documentation | HHD / HHD-BLS / H-GAC | ≥7 | Paper &/or electronic |

## Table A9.1d Project Documents and Records – Houston - DWO

| Document/Record | Location | Retention (yrs) | Format |
|---|---|---|---|
| QAPPs, amendments and appendices | DWO / DWO Lab / H-GAC | ≥7 | Paper |
| Field SOPs | DWO | ≥7 | Paper |
| Laboratory Quality Manuals | DWO Lab | ≥7 | Paper &/or electronic |
| Laboratory SOPs | DWO Lab | ≥7 | Paper &/or electronic |
| QAPP distribution documentation | DWO / DWO Lab / H-GAC | ≥7 | Paper |
| Field staff training records | DWO | ≥7 | Paper |
| Field equipment calibration/ maintenance logs | DWO | ≥7 | Paper |
| Field instrument printouts | N/A | | |
| Field notebooks or data sheets | DWO / H-GAC | ≥7 | Paper &/or electronic |
| Chain of custody records | DWO / H-GAC | ≥7 | Paper |
| Laboratory calibration records | DWO Lab | ≥7 | Paper &/or electronic |
| Laboratory instrument printouts | DWO Lab | ≥7 | Paper &/or electronic |
| Laboratory data reports/results | DWO Lab | ≥7 | Paper &/or electronic |
| Laboratory equipment maintenance logs | DWO Lab | ≥7 | Paper |
| Corrective Action Documentation | DWO / DWO Lab / H-GAC | ≥7 | Paper &/or electronic |

## Table A9.1e Project Documents and Records – SJRA – Lake Conroe samples only

| Document/Record | Location | Retention (yrs) | Format |
|---|---|---|---|
| QAPPs, amendments and appendices | SJRA / DWO Lab / H-GAC | ≥7 | Paper |
| Field SOPs | SJRA | ≥7 | Paper |
| Laboratory Quality Manuals | DWO Lab | ≥7 | Paper &/or electronic |
| Laboratory SOPs | DWO Lab | ≥7 | Paper &/or electronic |
| QAPP distribution documentation | SJRA / DWO Lab / H-GAC | ≥7 | Paper |
| Field staff training records | SJRA | ≥7 | Paper |
| Field equipment calibration/ maintenance logs | SJRA | ≥7 | Paper |
| Field instrument printouts | SJRA | ≥7 | Paper |
| Field notebooks or data sheets | SJRA | ≥7 | Paper &/or electronic |
| Data sonde files | SJRA | ≥7 | Electronic |
| Chain of custody records | SJRA / DWO Lab / H-GAC | ≥7 | Paper |
| Laboratory calibration records | DWO Lab | ≥7 | Paper &/or electronic |
| Laboratory instrument printouts | DWO Lab | ≥7 | Paper &/or electronic |
| Laboratory data reports/results | DWO Lab | ≥7 | Paper &/or electronic |
| Laboratory equipment maintenance logs | DWO Lab | ≥7 | Paper |
| Corrective Action Documentation | SJRA / DWO Lab / H-GAC | ≥7 | Paper &/or electronic |

## Table A9.1f Project Documents and Records – SJRA – The Woodlands samples only

| Document/Record | Location | Retention (yrs) | Format |
|---|---|---|---|
| QAPPs, amendments and appendices | SJRA / H-GAC | ≥7 | Paper |
| Field SOPs | SJRA | ≥7 | Paper |
| Laboratory Quality Manuals | Eastex Lab | ≥7 | Paper &/or electronic |
| Laboratory SOPs | Eastex Lab | ≥7 | Paper &/or electronic |
| QAPP distribution documentation | SJRA / Eastex Lab / H-GAC | ≥7 | Paper |
| Field staff training records | SJRA | ≥7 | Paper |
| Field equipment calibration/ maintenance logs | SJRA | ≥7 | Paper |
| Field instrument printouts | SJRA | ≥7 | Paper &/or electronic |
| Field notebooks or data sheets | SJRA | ≥7 | Paper &/or electronic |
| Chain of custody records | SJRA / Eastex Lab / H-GAC | ≥7 | Paper |
| Laboratory calibration records | Eastex Lab | ≥7 | Paper |
| Laboratory instrument printouts | Eastex Lab | ≥7 | Paper |
| Laboratory data reports/results | Eastex Lab | ≥7 | Paper |
| Laboratory equipment maintenance logs | Eastex Lab | ≥7 | Paper |
| Corrective Action Documentation | SJRA / Eastex Lab / H-GAC | ≥7 | Paper &/or electronic |

## Table A9.1g Project Documents and Records – EIH

| Document/Record | Location | Retention (yrs) | Format |
|---|---|---|---|
| QAPPs, amendments and appendices | EIH / Eastex Lab / H-GAC | 7 | Paper |
| Field SOPs | EIH | 7 | Paper |
| Laboratory Quality Manuals | Eastex Lab | 7 | Paper &/or electronic |
| Laboratory SOPs | Eastex Lab | 7 | Paper &/or electronic |
| QAPP distribution documentation | EIH / Eastex Lab / H-GAC | 7 | Paper |
| Field staff training records | EIH | 7 | Paper |
| Field equipment calibration/ maintenance logs | EIH | 7 | Paper &/or electronic |
| Field instrument printouts | EIH | 7 | Paper |
| Field notebooks or data sheets | EIH | 7 | Paper &/or electronic |
| Chain of custody records | EIH / Eastex Lab / H-GAC | 7 | Paper &/or electronic |
| Laboratory calibration records | Eastex Lab | 7 | Paper |
| Laboratory instrument printouts | Eastex Lab | 7 | Paper |
| Laboratory data reports/results | Eastex Lab | 7 | Electronic |
| Laboratory equipment maintenance logs | Eastex Lab | 7 | Paper |
| Corrective Action Documentation | EIH / Eastex Lab / H-GAC | 7 | Paper |

## Table A9.1h Project Documents and Records - TRIES

| Document/Record | Location | Retention (yrs) | Format |
|---|---|---|---|
| QAPPs, amendments and appendices | TRIES / Eastex Lab / H-GAC | 7 | Paper &/or electronic |
| Field SOPs | TRIES | 7 | Paper &/or electronic |
| Laboratory Quality Manuals | TRIES Lab / Eastex Lab | 7 | Paper &/or electronic |
| Laboratory SOPs | TRIES Lab / Eastex Lab | 7 | Paper &/or electronic |
| QAPP distribution documentation | TRIES / TRIES Lab / Eastex Lab / H-GAC | 7 | Paper |
| Field staff training records | TRIES | 7 | Paper |
| Field equipment calibration/maintenance logs | TRIES | 7 | Paper |
| Field instrument printouts | TRIES | 7 | Paper &/or electronic |
| Field notebooks or data sheets | TRIES | 7 | Paper &/or electronic |
| Chain of custody records | TRIES / TRIES Lab / Eastex Lab / H-GAC | 7 | Paper &/or electronic |
| Laboratory calibration records | TRIES Lab / Eastex Lab | 7 | Paper |
| Laboratory instrument printouts | TRIES Lab / Eastex Lab | 7 | Paper |
| Laboratory data reports/results | TRIES Lab | 7 | Paper &/or electronic |
| Laboratory equipment maintenance logs | TRIES Lab / Eastex Lab | 7 | Paper |
| Corrective Action Documentation | TRIES / TRIES Lab / Eastex Lab / H-GAC | 7 | Paper &/or electronic |

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### Laboratory Test Reports

Test/data reports from the laboratory must document the test results clearly and accurately. Routine data reports should be consistent with the TNI Standard (2016), Volume 1, Module 2, Section 5.10 and include the information necessary for the interpretation and validation of data. The requirements for reporting data and the procedures are provided.

Eastex is the contract lab for the analysis of all parameters in samples collected by H-GAC, EIH, and SJRA in the Lake Woodlands watershed. Eastex also analyzes TKN and chlorophyll *a* in samples collected by HCPCS, DWO, HHD, and SJRA. Eastex Lab submits 'data packets' to the H-GAC Data Manager on a monthly basis. Data are reformatted by H-GAC as needed and combined with additional field and lab data during SAS processing and reviewed with the final datasets. For FY 2020-2021, Eastex will submit data in electronic format only. Formal lab reports (hard copy) will be available upon request. Eastex Lab reports include the following information.

**TABLE A7.2a Measurement Performance Specifications for Harris County Pollution Control Services (HCPCS)**

**Field Parameters**

| Parameter | Units | Matrix | Method | Parameter Code | Lab |
|---|---|---|---|---|---|
| **TEMPERATURE, WATER (DEGREES CENTIGRADE)*** | DEG C | water | SM 2550 B and TCEQ SOP V1 | 00010 | Field |
| **TRANSPARENCY, SECCHI DISC (METERS)*** | meters | water | TCEQ SOP V1 | 00078 | Field |
| **SPECIFIC CONDUCTANCE,FIELD (US/CM @ 25C)*** | us/cm | water | EPA 120.1 and TCEQ SOP, V1 | 00094 | Field |
| **OXYGEN, DISSOLVED (MG/L)*** | mg/L | water | SM 4500-O G and TCEQ SOP V1 | 00300 | Field |
| **PH (STANDARD UNITS)*** | s.u | water | EPA 150.1 and TCEQ SOP V1 | 00400 | Field |
| SALINITY - PARTS PER THOUSAND | PPT | water | SM 2520 and TCEQ SOP V1 | 00480 | Field |
| DAYS SINCE PRECIPITATION EVENT (DAYS) | days | other | TCEQ SOP V1 | 72053 | Field |
| DEPTH OF BOTTOM OF WATER BODY AT SAMPLE SITE* | meters | water | TCEQ SOP V2 | 82903 | Field |
| WIND INTENSITY (1=CALM,2=SLIGHT,3=MOD.,4=STRONG) | NU | other | NA | 89965 | Field |
| PRESENT WEATHER (1=CLEAR,2=PTCLDY,3=CLDY,4=RAIN,5=OTHER) | NU | other | NA | 89966 | Field |
| WATER SURFACE(1=CALM,2=RIPPLE,3=WAVE,4=WHITECAP) | NU | water | NA | 89968 | Field |
| TIDE STAGE 1=LOW,2=FALLING,3=SLACK,4=RISING,5=HI | NU | water | NA | 89972 | Field |
| WATER ODOR (1=SEWAGE, 2=OILY/CHEMICAL, 3=ROTTEN EGGS, 4=MUSKY, 5=FISHY, 6=NONE, 7=OTHER (WRITE IN COMMENTS)) | NU | water | NA | 89971 | Field |
| WATER COLOR 1=BRWN 2=RED 3=GRN 4=BLCK 5=CLR 6=OT | NU | water | NA | 89969 | Field |
| TURBIDITY, OBSERVED (1=LOW, 2=MEDIUM, 3=HIGH) | NU | water | NA | 88842 | Field |

* Reporting to be consistent with SWQM guidance and based on measurement capability.
** To be routinely reported when collecting data from perennial pools.

References:
United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 23rd Edition, 2017.
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).

**TABLE A7.2b Measurement Performance Specifications for Harris County Pollution Control (HCPCS)**

**Conventional Parameters in Water**

| Parameter | Units | Matrix | Method | Parameter Code | TCEQ AWRL | LOQ | LOQ Check Sample %Rec | Precision (RPD) | Bias %Rec. of LCS | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| RESIDUE, TOTAL NONFILTRABLE (MG/L) | mg/L | water | SM 2540D | 00530 | 5 | 4 | NA | NA | NA | HCPCS |
| **NITROGEN, AMMONIA, TOTAL (MG/L AS N)** | mg/L | water | SM 4500 NH3-D | 00610 | 0.1 | 0.1 | 70-130 | 20 | 85-115 | HCPCS |
| **NITROGEN, KJELDAHL, TOTAL (MG/L AS N)** | mg/L | water | EPA 351.2 | 00625 | 0.2 | 0.2 | 70-130 | 20 | 80-120 | Eastex |
| NITRITE PLUS NITRATE, TOTAL ONE LAB DETERMINED VALUE (MG/L AS N) | mg/L | water | SM 4500-NO3 E | 00630 | 0.05 | 0.04 | 70-130 | 20 | 85-115 | HCPCS |
| **PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)** | mg/L | water | SM 4500-P E | 00665 | 0.06 | 0.02 | 70-130 | 20 | 85-115 | HCPCS |
| CHLOROPHYLL-A UG/L SPECTROPHOTOMETRIC ACID. METH | ug/L | water | EPA 446.0 | 32211 | 3 | 3 | NA | 20 | 80-120 | Eastex |

References:

United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 23rd Edition, 2017.
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).

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**TABLE A7.2c Measurement Performance Specifications for Harris County Pollution Control Services (HCPCS)**

**Bacteriological Parameters in Water**

| Parameter | Units | Matrix | Method | Parameter Code | TCEQ AWRL | LOQ | LOQ Check Sample %Rec | Log Difference of Duplicates | Bias %Rec. of LCS | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| **ENTEROCOCCI, ENTEROLERT, IDEXX, (MPN/100 ML)** | MPN/100 mL | water | ASTM D-6503 | 31701 | 10*** | 10 | NA | 0.50* | NA | HCPCS |

* This value is not expressed as a relative percent difference. It represents the maximum allowable difference between the logarithm of the result of a sample and the logarithm of the duplicate result. See Section B5.

***Enterococcus samples should be diluted 1:10 for all waters.

References:

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

U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136

American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 23rd Edition, 2017.

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).

**TABLE A7.3a Measurement Performance Specifications for City of Houston, Health Department (HHD)**

**Field Parameters**

| Parameter | Units | Matrix | Method | Parameter Code | Lab |
|---|---|---|---|---|---|
| **TEMPERATURE, WATER (DEGREES CENTIGRADE)*** | DEG C | water | SM 2550 B and TCEQ SOP V1 | 00010 | Field |
| **TRANSPARENCY, SECCHI DISC (METERS)*** | meters | water | TCEQ SOP V1 | 00078 | Field |
| **SPECIFIC CONDUCTANCE,FIELD (US/CM @ 25C)*** | us/cm | water | EPA 120.1 and TCEQ SOP, V1 | 00094 | Field |
| **OXYGEN, DISSOLVED (MG/L)*** | mg/L | water | SM 4500-O G and TCEQ SOP V1 | 00300 | Field |
| **PH (STANDARD UNITS)*** | s.u | water | EPA 150.1 and TCEQ SOP V1 | 00400 | Field |
| SALINITY - PARTS PER THOUSAND | PPT | water | SM 2520 and TCEQ SOP V1 | 00480 | Field |
| DAYS SINCE PRECIPITATION EVENT (DAYS) | days | other | TCEQ SOP V1 | 72053 | Field |
| DEPTH OF BOTTOM OF WATER BODY AT SAMPLE SITE* | meters | water | TCEQ SOP V2 | 82903 | Field |
| MAXIMUM POOL WIDTH AT TIME OF STUDY (METERS)** | meters | other | TCEQ SOP V2 | 89864 | Field |
| MAXIMUM POOL DEPTH AT TIME OF STUDY(METERS)** | meters | other | TCEQ SOP V2 | 89865 | Field |
| POOL LENGTH, METERS** | meters | other | TCEQ SOP V2 | 89869 | Field |
| % POOL COVERAGE IN 500 METER REACH** | % | other | TCEQ SOP V2 | 89870 | Field |
| WIND INTENSITY (1=CALM,2=SLIGHT,3=MOD.,4=STRONG) | NU | other | NA | 89965 | Field |
| PRESENT WEATHER (1=CLEAR,2=PTCLDY,3=CLDY,4=RAIN,5=OTHER) | NU | other | NA | 89966 | Field |
| WATER SURFACE(1=CALM,2=RIPPLE,3=WAVE,4=WHITECAP) | NU | water | NA | 89968 | Field |
| TIDE STAGE 1=LOW,2=FALLING,3=SLACK,4=RISING,5=HI | NU | water | NA | 89972 | Field |
| WATER ODOR (1=SEWAGE, 2=OILY/CHEMICAL, 3=ROTTEN EGGS, 4=MUSKY, 5=FISHY, 6=NONE, 7=OTHER (WRITE IN COMMENTS)) | NU | water | NA | 89971 | Field |
| WATER COLOR 1=BRWN 2=RED 3=GRN 4=BLCK 5=CLR 6=OT | NU | water | NA | 89969 | Field |

* Reporting to be consistent with SWQM guidance and based on measurement capability.
** To be routinely reported when collecting data from perennial pools.

References:
United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 23rd Edition, 2017.
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).

| TABLE A7.3b Measurement Performance Specifications for City of Houston, Health Department (HHD) | | | | | |
|---|---|---|---|---|---|
| **Flow Parameters** | | | | | |
| **Parameter** | **Units** | **Matrix** | **Method** | **Parameter Code** | **Lab** |
| **FLOW STREAM, INSTANTANEOUS (CUBIC FEET PER SEC)** | cfs | water | TCEQ SOP V1 | 00061 | Field |
| **FLOW SEVERITY:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=Dry** | NU | water | TCEQ SOP V1 | 01351 | Field |
| **FLOW MTH 1=GAGE 2=ELEC 3=MECH 4=WEIR/FLU 5=DOPPLER** | NU | other | TCEQ SOP V1 | 89835 | Field |

References:

United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard
Methods for the Examination of Water and Wastewater, 23rd Edition, 2017.
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).

| TABLE A7.3c Measurement Performance Specifications for City of Houston, Health Department (HHD) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Conventional Parameters in Water** | | | | | | | | | | |
| **Parameter** | **Units** | **Matrix** | **Method** | **Parameter Code** | **TCEQ AWRL** | **LOQ** | **LOQ Check Sample %Rec** | **Precision (RPD)** | **Bias %Rec. of LCS** | **Lab** |
| RESIDUE, TOTAL NONFILTRABLE (MG/L) | mg/L | water | SM 2540D | 00530 | 5 | 4 | NA | NA | NA | HHD-BLS |
| **NITROGEN, AMMONIA, TOTAL (MG/L AS N)** | mg/L | water | SM 4500-NH3 H | 00610 | 0.1 | 0.1 | 70-130 | 20 | 80-120 | HHD-BLS |
| **NITRITE NITROGEN, TOTAL (MG/L AS N)** | mg/L | water | EPA 300.0 Rev. 2.1 (1993) | 615 | 0.05 | 0.02 | 70-130 | 20 | 80-120 | HHD-BLS |
| **NITRATE NITROGEN, TOTAL (MG/L AS N)** | mg/L | water | EPA 300.0 Rev. 2.1 (1993) | 00620 | 0.05 | 0.02 | 70-130 | 20 | 80-120 | HHD-BLS |
| **NITROGEN, KJELDAHL, TOTAL (MG/L AS N)** | mg/L | water | EPA 351.2 | 00625 | 0.2 | 0.2 | 70-130 | 20 | 80-120 | Eastex |
| **PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)** | mg/L | water | EPA 365.1 | 00665 | 0.06 | 0.02 | 70-130 | 20 | 80-120 | HHD-BLS |
| **CHLORIDE (MG/L AS CL)** | mg/L | water | EPA 300.0 Rev. 2.1 (1993) | 00940 | 5 | 5 | 70-130 | 20 | 80-120 | HHD-BLS |
| **SULFATE (MG/L AS SO4)** | mg/L | water | EPA 300.0 Rev. 2.1 (1993) | 00945 | 5 | 5 | 70-130 | 20 | 80-120 | HHD-BLS |

References:
United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 23rd Edition, 2017.
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).

**TABLE A7.3d Measurement Performance Specifications for City of Houston, Health Department (HHD)**

**Bacteriological Parameters in Water**

| Parameter | Units | Matrix | Method | Parameter Code | TCEQ AWRL | LOQ | LOQ Check Sample %Rec | Log Difference of Duplicates | Bias %Rec. of LCS | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| **E. COLI, COLILERT, IDEXX METHOD, MPN/100ML** | MPN/100 mL | water | IDEXX Colilert 18 | 31699 | 1 | 1 | NA | 0.50* | NA | HHD-BLS |
| **ENTEROCOCCI, ENTEROLERT, IDEXX, (MPN/100 ML)** | MPN/100 mL | water | Enterolert | 31701 | 10*** | 10 | NA | 0.50* | NA | HHD-BLS |
| **E.COLI, COLILERT, IDEXX, HOLDING TIME** | hours | water | NA | 31704 | NA | NA | NA | NA | NA | HHD-BLS |

* This value is not expressed as a relative percent difference. It represents the maximum allowable difference between the logarithm of the result of a sample and the logarithm of the duplicate result. See Section B5.
** E.coli samples analyzed by these methods should always be processed as soon as possible and within 8 hours. 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.

References:
United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 23rd Edition, 2017.
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).

**TABLE A7.7a Measurement Performance Specifications for Environmental Institute of Houston (EIH)**

**Field Parameters**

| Parameter | Units | Matrix | Method | Parameter Code | Lab |
|---|---|---|---|---|---|
| **TEMPERATURE, WATER (DEGREES CENTIGRADE)*** | DEG C | water | SM 2550 B and TCEQ SOP V1 | 00010 | Field |
| **TRANSPARENCY, SECCHI DISC (METERS)*** | meters | water | TCEQ SOP V1 | 00078 | Field |
| **SPECIFIC CONDUCTANCE,FIELD (US/CM @ 25C)*** | us/cm | water | EPA 120.1 and TCEQ SOP, V1 | 00094 | Field |
| **OXYGEN, DISSOLVED (MG/L)*** | mg/L | water | SM 4500-O G and TCEQ SOP V1 | 00300 | Field |
| **PH (STANDARD UNITS)*** | s.u | water | EPA 150.1 and TCEQ SOP V1 | 00400 | Field |
| SALINITY - PARTS PER THOUSAND | PPT | water | SM 2520 and TCEQ SOP V1 | 00480 | Field |
| DAYS SINCE PRECIPITATION EVENT (DAYS) | days | other | TCEQ SOP V1 | 72053 | Field |
| DEPTH OF BOTTOM OF WATER BODY AT SAMPLE SITE* | meters | water | TCEQ SOP V2 | 82903 | Field |
| MAXIMUM POOL WIDTH AT TIME OF STUDY (METERS)** | meters | other | TCEQ SOP V2 | 89864 | Field |
| MAXIMUM POOL DEPTH AT TIME OF STUDY(METERS)** | meters | other | TCEQ SOP V2 | 89865 | Field |
| POOL LENGTH, METERS** | meters | other | TCEQ SOP V2 | 89869 | Field |
| % POOL COVERAGE IN 500 METER REACH** | % | other | TCEQ SOP V2 | 89870 | Field |
| WIND INTENSITY (1=CALM,2=SLIGHT,3=MOD.,4=STRONG) | NU | other | NA | 89965 | Field |
| PRESENT WEATHER (1=CLEAR,2=PTCLDY,3=CLDY,4=RAIN,5=OTHER) | NU | other | NA | 89966 | Field |
| WATER SURFACE(1=CALM,2=RIPPLE,3=WAVE,4=WHITECAP) | NU | water | NA | 89968 | Field |
| TIDE STAGE 1=LOW,2=FALLING,3=SLACK,4=RISING,5=HI | NU | water | NA | 89972 | Field |
| WATER ODOR (1=SEWAGE, 2=OILY/CHEMICAL, 3=ROTTEN EGGS, 4=MUSKY, 5=FISHY, 6=NONE, 7=OTHER (WRITE IN COMMENTS)) | NU | water | NA | 89971 | Field |
| WATER COLOR 1=BRWN 2=RED 3=GRN 4=BLCK 5=CLR 6=OT | NU | water | NA | 89969 | Field |

* Reporting to be consistent with SWQM guidance and based on measurement capability.

** To be routinely reported when collecting data from perennial pools.

References:

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

U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136

American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 23rd Edition, 2017.

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).

**TABLE A7.7b Measurement Performance Specifications for Environmental Institute of Houston (EIH)**

**Flow Parameters**

| Parameter | Units | Matrix | Method | Parameter Code | Lab |
|---|---|---|---|---|---|
| **FLOW STREAM, INSTANTANEOUS (CUBIC FEET PER SEC)** | cfs | water | TCEQ SOP V1 | 00061 | Field |
| **FLOW SEVERITY:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=Dry** | NU | water | TCEQ SOP V1 | 01351 | Field |
| **FLOW MTH 1=GAGE 2=ELEC 3=MECH 4=WEIR/FLU 5=DOPPLER** | NU | other | TCEQ SOP V1 | 89835 | Field |

References:

United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 23rd Edition, 2017.
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).

**TABLE A7.7c Measurement Performance Specifications for Environmental Institute of Houston (EIH)**

**Conventional Parameters in Water**

| Parameter | Units | Matrix | Method | Parameter Code | TCEQ AWRL | LOQ | LOQ Check Sample %Rec | Precision (RPD) | Bias %Rec. of LCS | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| RESIDUE, TOTAL NONFILTRABLE (MG/L) | mg/L | water | SM 2540D | 00530 | 5 | 1 | NA | NA | NA | Eastex |
| **NITROGEN, AMMONIA, TOTAL (MG/L AS N)** | mg/L | water | SM 4500 NH3G | 00610 | 0.1 | 0.1 | 70-130 | 20 | 80-120 | Eastex |
| **NITRITE NITROGEN, TOTAL (MG/L AS N)** | mg/L | water | EPA 300.0 | 00615 | 0.05 | 0.05 | 70-130 | 20 | 80-120 | Eastex |
| **NITRATE NITROGEN, TOTAL (MG/L AS N)** | mg/L | water | EPA 300.0 | 00620 | 0.05 | 0.05 | 70-130 | 20 | 80-120 | Eastex |
| **NITROGEN, KJELDAHL, TOTAL (MG/L AS N)** | mg/L | water | EPA 351.2 | 00625 | 0.2 | 0.2 | 70-130 | 20 | 80-120 | Eastex |
| NITRITE PLUS NITRATE, TOTAL ONE LAB DETERMINED VALUE (MG/L AS N) | mg/L | water | SM 4500-NO3 F | 00630 | 0.05 | 0.02 | 70-130 | 20 | 80-120 | Eastex |
| **PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)** | mg/L | water | EPA 200.7 | 00665 | 0.06 | 0.06 | 70-130 | 20 | 80-120 | Eastex |
| **CHLORIDE (MG/L AS CL)** | mg/L | water | EPA 300.0 | 00940 | 5 | 5 | 70-130 | 20 | 80-120 | Eastex |
| **SULFATE (MG/L AS SO4)** | mg/L | water | EPA 300.0 | 00945 | 5 | 4 | 70-130 | 20 | 80-120 | Eastex |
| CHLOROPHYLL-A UG/L SPECTROPHOTOMETRIC ACID. METH | ug/L | water | EPA 446.0 | 32211 | 3 | 3 | NA | 20 | 80-120 | Eastex |

References:

United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 23rd Edition, 2017.
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).

**TABLE A7.7d Measurement Performance Specifications for Environmental Institute of Houston (EIH)**

**Bacteriological Parameters in Water**

| Parameter | Units | Matrix | Method | Parameter Code | TCEQ AWRL | LOQ | LOQ Check Sample %Rec | Log Difference of Duplicates | Bias %Rec. of LCS | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| **E. COLI, COLILERT, IDEXX METHOD, MPN/100ML** | MPN/100 mL | water | Colilert** | 31699 | 1 | 1 | NA | 0.50* | NA | Eastex |
| **ENTEROCOCCI, ENTEROLERT, IDEXX, (MPN/100 ML)** | MPN/100 mL | water | Enterolert | 31701 | 10*** | 10 | NA | 0.50* | NA | Eastex |
| **E.COLI, COLILERT, IDEXX, HOLDING TIME** | hours | water | NA | 31704 | NA | NA | NA | NA | NA | Eastex |

* This value is not expressed as a relative percent difference. It represents the maximum allowable difference between the logarithm of the result of a sample and the logarithm of the duplicate result. See Section B5.

** E.coli samples analyzed by these methods should always be processed as soon as possible and within 8 hours. 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.

References:

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

U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136

American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 23rd Edition, 2017.

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).

| TABLE A7.1e Measurement Performance Specifications for Environmental Institute of Houston (EIH) | | | | | |
|---|---|---|---|---|---|
| 24 HourParameters in Water | | | | | |
| Parameter | Units | Matrix | Method | Parameter Code | Lab |
| TEMPERATURE, WATER (DEGREES CENTIGRADE), 24HR AVG | DEG C | Water | TCEQ SOP V1 | 00209 | field |
| WATER TEMPERATURE, DEGREES CENTIGRADE, 24HR MAX | DEG C | Water | TCEQ SOP V1 | 00210 | field |
| TEMPERATURE, WATER (DEGREES CENTIGRADE) 24HR MIN | DEG C | Water | TCEQ SOP V1 | 00211 | field |
| SPECIFIC CONDUCTANCE, US/CM, FIELD, 24HR AVG | uS/cm | Water | TCEQ SOP V1 | 00212 | field |
| SPECIFIC CONDUCTANCE, US/CM, FIELD, 24HR MAX | uS/cm | Water | TCEQ SOP V1 | 00213 | field |
| SPECIFIC CONDUCTANCE, US/CM, FIELD, 24HR MIN | uS/cm | Water | TCEQ SOP V1 | 00214 | field |
| PH, S.U., 24HR MAXIMUM VALUE | std. units | Water | TCEQ SOP V1 | 00215 | field |
| PH, S.U., 24HR, MINIMUM VALUE | std. units | Water | TCEQ SOP V1 | 00216 | field |
| SALINITY, 24-HR, MAXIMUM, PPT | ppt | Water | TCEQ SOP V1 | 00217 | field |
| SALINITY, 24-HR, AVERAGE, PPT | ppt | Water | TCEQ SOP V1 | 00218 | field |
| SALINITY, 24-HR, MINIMUM, PPT | ppt | Water | TCEQ SOP V1 | 00219 | field |
| SALINITY, # OF MEASUREMENTS IN 24-HRS | NU | Water | TCEQ SOP V1 | 00220 | field |
| WATER TEMPERATURE, # OF MEASUREMENTS IN 24-HRS | NU | Water | TCEQ SOP V1 | 00221 | field |
| SPECIFIC CONDUCTANCE, # OF MEASUREMENTS IN 24-HRS | NU | Water | TCEQ SOP V1 | 00222 | field |
| pH, # OF MEASUREMENTS IN 24-HRS | NU | Water | TCEQ SOP V1 | 00223 | field |
| **DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA** | mg/l | Water | TCEQ SOP V1 | 89855 | field |
| **DISSOLVED OXYGEN, 24-HOUR MAX. (MG/L) MIN. 4 MEA** | mg/l | Water | TCEQ SOP V1 | 89856 | field |
| **DISSOLVED OXYGEN, 24-HOUR AVG. (MG/L) MIN. 4 MEA** | mg/l | Water | TCEQ SOP V1 | 89857 | field |
| **DISSOLVED OXYGEN, # OF MEASUREMENTS IN 24-HRS** | NU | Water | TCEQ SOP V1 | 89858 | field |

References:

United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 23rd Edition, 2017.
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).

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

## TASK 3: WATER QUALITY MONITORING

**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 Multi-Basin monitoring;
- routine, regularly-scheduled monitoring to collect long-term information and support statewide assessment of water quality;
- systematic, regularly-scheduled short-term monitoring to screen water bodies for issues.
- permit support monitoring to provide information for setting permit effluent limits; and
- special study, intensive monitoring targeted to:
    - identify sources and causes of pollution;
    - assess priority water quality issues;
    - obtain background water quality information;
    - provide information for setting site-specific permit effluent limits; and
    - evaluate statewide, regional, and site-specific water quality standards.

**Task Description:**

The Performing Party will coordinate and develop water quality monitoring strategies through the RMW and present strategies to the CRP Steering Committee for review and concurrence.

To avoid duplication of monitoring efforts, the Performing Party will continue to coordinate monitoring efforts with other area data providers. The Performing Party also will continue to arrange regional training opportunities and workshops which support cooperative monitoring efforts (e.g., field methods, biological data collection, and habitat assessment).

The Performing Party will complete the following subtasks:

**Monitoring Description** — In FY2020, the Performing Party will collect quarterly samples at 20 water quality monitoring sites throughout the H-GAC service area. Sampling efforts will include basic field parameters, flow, conventional chemical parameters, and bacteria. Most sites are located in the upper portions of watersheds or watersheds that fall outside the jurisdiction of local partner agencies.

In addition to the Performing Party's ambient monitoring program, six local agencies are involved in this multi-basin monitoring effort. The Performing Party contracts with several entities to conduct monitoring and coordinated with others as in-kind contributors. The six participating agencies typically monitor a combined total of over 300 monitoring sites in the region. Each of the agencies' monitoring activities will be coordinated through the RMW. The coordination reduces monitoring duplication and allows all local agencies to see the data collection efforts of and data availability from other local agencies. Routine monitoring is scheduled at varying frequencies, which are determined by the parameters of concern for individual streams and/or proximity to a monitoring agency's field office and lab. Frequencies vary from quarterly for some parameters to monthly in highly impacted urban areas. Baseline monitoring will include the collection of field parameters at all sites and the collection of

bacteria, flow, and conventional chemical parameters at sites where indicated. Additional details concerning the monitoring activities conducted by partner agencies are outlined in the Performing Party's Multi-Basin QAPP.

In FY2021, the Performing Party and area partners are expected to monitor at a similar level of effort as in FY2020. The actual number of sites, location, frequency, and parameters collected for FY2021 will be based on priorities identified at the CRP Steering Committee and Coordinated Monitoring meetings and included in the amended Appendix B schedule of the Performing Party's Multi-Basin QAPP.

All monitoring will be completed in accordance with the H-GAC 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). The Performing Party will include summaries of monitoring activities in the corresponding quarterly QPR.

**24-Hour Dissolved Oxygen Monitoring** — There are priority sub-segments with dissolved oxygen impairments or concerns in the Performing Party's monitoring area. More data collection is needed to determine or verify impairment. The Performing Party will conduct 24-hour dissolved oxygen monitoring at a minimum of two stations, four times per year, throughout the two-year contract period. The sites will be determined once budget is approved and site locations are coordinated and prioritized with TCEQ. The Performing Party will also include summaries of monitoring events in the corresponding quarterly QPR.

**Permit Support Monitoring** — During FY2020 and/or FY2021, the Performing Party <u>may</u> conduct monitoring activities to support TCEQ's Water Quality Division by collecting field parameters and discharge measurements at selected waterbodies identified by TCEQ. The sites will be determined once budget is approved and site locations are coordinated and prioritized with TCEQ. The Performing Party will include summaries of any activities in the corresponding quarterly QPR.

**RMW** - The RMW will meet during three of four quarters to discuss monitoring needs, problems, successes and changes. The fourth quarter meeting is conducted as the Coordinated Monitoring Meeting (see below). The RMW is composed of H-GAC CRP staff and representatives from local participating agencies, currently including Harris County Pollution Control, Environmental Institute of Houston, City of Houston-Health Department, City of Houston-Drinking Water Operations, Texas Research Institute for Environmental Studies, and the San Jacinto River Authority as well as H-GAC's contract lab and TCEQ Region 12. Meeting notices will be sent to TCEQ, United States Geological Survey (USGS), Texas Parks and Wildlife, Texas Department of Health, GBEP, local universities, and other interested parties to invite input on monitoring discussions and strategies. Each agency/organization will be asked to send representatives from their field investigation staff and laboratory staff. The RMW will discuss CRP monitoring tasks and deliverables, basin monitoring priorities, training, and upcoming projects. This workgroup is designed to function as the mechanism through which data management needs and priorities are discussed. The Performing Party will include meeting summaries in the corresponding QPR.

RMW meeting results will be presented to the CRP Steering Committee for review and concurrence with various basin interests. This review process will be used to assess the current monitoring plan and adjust regional monitoring strategies as needed.

**Coordinated Monitoring Meeting** — The Performing Party will hold an annual coordinated monitoring meeting as described in the FY2020-2021 CRP Guidance in lieu of the spring RMW meeting. 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.

**QPR** — Each QPR (Task 1) will include all types of monitoring and indicate the number of sampling events and the types of monitoring conducted in the quarter.

**Special Studies** — Status reports of each special study (if conducted) will describe activities during the quarter. The status reports will be submitted along with the QPR. These studies also include draft and final project reports due as deliverables. To help keep the public and basin stakeholders informed, the Performing Party's Web site will be updated in a timely manner to include key elements of Special Studies' Reports or Summaries (e.g., status reports, executive summary, maps, data analysis, final reports).
New Special Studies under consideration for the FY2021 contract biennium include:
**Targeted Monitoring for Bacteria Source Identification in the Bacteria Implemetation Group (BIG) Project Area:** The Performing Party has tracked bacteria levels to develop a list of the most impaired water bodies for bacterial concentrations (i.e. those streams with the highest geometric means relative to the state standards for bacteria). The Performing Party will address ten targeted watersheds (four from highly urbanized areas, four from suburban areas and two from rural areas). Ten impaired watersheds will be prioritized based on the BIG I-Plan's recommendation under the Geographic Priority Framework for five criteria: bacteria level, accessibility, use level, implementation opportunities, and any anticipated future land use changes.
Based on the prioritization analysis, at least one subwatershed in each of the 10 watersheds will be monitored during dry weather conditions. Water quality monitoring will be used to further refine source identification and to aid in tracking the source(s) of the impairment to the greatest extent practicable. Once verified, the source(s) of the bacteria loading will be relayed to the appropriate jurisdiction for correction. Additionally, any potential sources identified during the prioritization analysis will be directed to local jurisdictions. The Performing Party will track implementation of the corrective action and may conduct additional monitoring of the original sites to determine if the corrective action results in improved water quality.

**Site Characterizations** — Review of local monitoring data indicates there are many sites throughout the region where elevated levels of bacteria or low levels of dissolved oxygen are chronic conditions. Local entities have expressed interest in determining why these chronic conditions exist. Beginning with some of the most problematic sites, the Performing Party and other CRP partners may conduct 'site specific' characterizations at future locations if data analysis determines a need. Habitat information, field verification of land cover, and identification of potential sources of pollution will be collected. Additional monitoring will be collected from these small sub-watersheds as needed to supply data to support TCEQ's assessment process. Data collected during these intensive surveys will be submitted to TCEQ. The Performing Party will also include summaries of any activities in the corresponding quarterly QPR.

A short report of approximately one to five pages in length along with photographs will be submitted following completion of each characterization assessment. The reports will be submitted to the TCEQ to assist with determining the appropriate water quality strategies to be

pursued. An appendix to the Multi-Basin QAPP will be developed to provide the details of these special studies.

**Deliverables and Dues Dates:**

**September 1, 2019 through August 31, 2020**

A. Conduct water quality monitoring, summarize activities, and submit with QPR — December 15, 2019; March 15 and June 15, 2020
B. RMW Meeting Notice – Two weeks in advance of RMW meetings
C. Coordinated Monitoring Meeting — between March 15 and April 30, 2020
D. Coordinated Monitoring Meeting Summary of Changes — within 2 weeks of the meeting
E. Email notification that Coordinated Monitoring Schedule updates are complete — May 31, 2020
F. Special Study Status Reports — August 31 and December 15, 2019; March 15 and June 15, 2020
G. Special Study Desk Review/Ground Truth Preliminary Action Draft Report – June 30, 2020
H. Special Study Desk Review/Ground Truth Preliminary Action Final Report – August 31, 2020
I. Site Characterization Reports (if applicable) — coordinate due date(s) with TCEQ CRP Project Manager

**September 1, 2020 through August 31, 2021**

A. Conduct water quality monitoring, summarize activities, and submit with QPR — September 15 and December 15, 2020; March 15 and June 15 and August 31, 2021
B. RMW Meeting Notice – Two weeks in advance of RMW meetings
C. Coordinated Monitoring Meeting — between March 15 and April 30, 2021
D. Coordinated Monitoring Meeting Summary of Changes — within 2 weeks of the meeting
E. Email notification that Coordinated Monitoring Schedule updates are complete — May 31, 2021
F. Special Study Status Reports — September 15 and December 15, 2020; March 15 and June 15 and August 31, 2021
G. Special Study Source Identification Draft Report – May 31, 2021
H. Special Study Source Identification Final Report – August 31, 2021
I. Site Characterization Reports (if applicable) — coordinate due date(s) with TCEQ CRP Project Manager

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

## *Sample Design Rationale FY 2021*

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

The following changes (additions or subtractions) have been to the monitoring schedule for FY2021. The changes have come about because of concerns or requests of monitoring entities or steering committee members.

**TCEQ, Region 12 Field Operations** (FO): No changes for FY2021.

**City of Houston Health Department** (HHD) All 133 monitoring sites will continue to have a monitoring frequency of six times per year.

ADD 'Nitrite as N' to all the sites where they collect TKN to complete the nutrient suite.

| Action | Site ID | Site Description | Monitoring Effort |
|---|---|---|---|
| MOVE | 15847 | NEW: Turkey Creek 220 M upstream of Memorial Drive at Memorial Oaks Cemetery | Moved 200 m upstream to more accessible location. Using same SLOC ID. |

**Environmental Institute of Houston** (EIH).

| Action | Site ID | Site Description | Monitoring Effort |
|---|---|---|---|
| ADD | 21079 | Cary Bayou immediately upstream of Raccoon Drive bridge in Baytown (tidal site) | TCEQ SWQM assessor asked for quarterly routine data for this site. |
| ADD | 21079 | Cary Bayou immediately upstream of Raccoon Drive bridge in Baytown | SWQM Assessor requested quarterly 24-Hr DO monitoring at this site. |
| CONTINUE | 11493 | Oyster Creek at FM1462west of Rosharon | Monthly flow monitoring and field parameters; quarterly 24-hour DO, conventionals & bacteria |
| CONTINUE | 11491 | Oyster Creek at Sims Road near Holiday Lakes | Monthly flow monitoring and field parameters for Permitting |
| CONTINUE | 11490 | Oyster Creek at Hwy 35 | Routine sample collection along with current 24-hour DO monitoring |

| | | | |
|---|---|---|---|
| DROP | 21734 | Brushy Bayou at CR 213/Shell Rd 8.9 KM east of Angleton | Site deemed not representative. It is more of a pool than flowing stream. |
| ADD | 18636 | Unnamed trib of Marys Creek 8 M downstream of Thalerfield Dr E of Old Chocolate Bayou Rd/Brazoria CR 89 approx 300 M upstream Silver Lake WWTP | Quarterly routine monitoring with water quality samples plus monthly flow monitoring w/ field parameter but no sonde measurements during only flow events (8X per year). |
| ADD | 22232 | Cotton Bayou 10 Meters upstream of westbound IH-10 Frontage Road in Mont Belvieu | Monthly routine water quality monitoring. |
| ADD | 22232 | Cotton Bayou 10 Meters upstream of westbound IH-10 Frontage Road in Mont Belvieu | Quarterly 24-Hr DO monitoring with flow and all field parameters except sonde measurements if no water samples are collected. |

**San Jacinto River Authority** (SJRA) No changes to the monitoring sites or frequency.

Dropped all metals from The Woodland sites.

ADD 'Nitrite as N' to all Lake Conroe sites.

**Texas Research Institute for Environmental Studies** (TRIES) No changes were made to the monitoring sites, frequency, or parameters.

**Harris County Pollution Control Division** (HC) No changes were made to the monitoring sites, frequency, or parameters list.

**City of Houston Drinking Water Operations** (DWO) No changes were made to monitoring frequency.

ADD 'Nitrite as N' to the parameter list for both watershed and Lake Houston sites.

| Action | Site ID | Site Description | Monitoring Effort |
|---|---|---|---|
| ADD | 22224 | Luce Bayou 224 meters northwest of end of Cry Baby Lane in Huffman | Added new site outside of mixing zone of Trinity River transfer into Lake Houston to be sampled six times per year. |

**H-GAC** (HG) The following changes were made to the HG monitoring schedule for FY2021.

| Action | Site ID | Site Description | Monitoring Effort |
|---|---|---|---|
| DROP* | 11181 | Crystal Creek at FM 1314 southeast of Conroe | Monthly flow monitoring and field parameters |
| DROP* | 16626 | Stewarts Creek at SH Loop 336 | Monthly flow monitoring and field parameters |

| | | | |
|---|---|---|---|
| DROP* | 11243 | West Fork San Jacinto River immediately upstream of SH 242 | Monthly flow monitoring and field parameters |
| CONTINUE | 21965 | Spring Branch at Shakey Hollow Rd. | Quarterly 24-hour DO monitoring in addition to field, flow, conventionals, and bacteria |

*TCEQ Permitting determined no more monthly flow data is needed for these sites.

## *Monitoring Sites for FY 2021*

The sample design for SWQM is shown in Table B1.1 in the attached EXCEL spreadsheet on the next page.

## Table B1.1 Monitoring Schedule FY2021

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAN JACINTO RIVER TIDAL IMMEDIATELY DOWNSTREAM OF IH 10 BRIDGE EAST OF CHANNELVIEW | 11193 | 1001 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| SAN JACINTO RIVER TIDAL 23 METERS SOUTH AND 735 METERS EAST OF INTERSECTION OF WALLISVILLE ROAD AND 7TH STREET | 11198 | 1001 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| SAN JACINTO RIVER TIDAL IMMEDIATELY DOWNSTREAM OF US 90 BRIDGE EAST OF SHELDON | 11200 | 1001 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| SAN JACINTO RIVER TIDAL AT MAGNOLIA GARDENS 1.78 KM UPSTREAM OF US BUS 90U/ BEAUMONT HIGHWAY IN HOUSTON | 11201 | 1001 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| HOUSTON SHIP CHANNEL AT BAYTOWN TUNNEL/CM 103 1.84 KM NORTH AND 1.17 KM EAST OF INTERSECTION OF SH 225 AND SH 146 | 11254 | 1005 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| HOUSTON SHIP CHANNEL AT SAN JACINTO PK WEST OF THE BATTLESHIP TX 317 M N AND 303 M W OF INTERSECTION OF BATTLEGROUND RD AND MARKER DR | 11264 | 1006 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| HOUSTON SHIP CHANNEL AT CONFLUENCE WITH GREENS BAYOU/CM 152 | 11271 | 1006 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| HOUSTON SHIP CHANNEL/BUFFALO BAYOU HSC AT WASHBURN TUNNEL | 11283 | 1007 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| HSC/BUFFALO BAYOU IN TURNING BASIN 2.82 K UPSTREAM OF CONFLUENCE WITH BRAYS BAYOU 433 M S AND 182 M W OF INTERSECT OF SIGNET AND DORSETT | 11292 | 1007 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| CLEAR LAKE AT SH 146 DRAWBRIDGE | 13332 | 2425 | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TABBS BAY MIDWAY BETWEEN GOOSE CREEK AND UPPER HOG ISLAND | 13338 | 2426 | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| BLACK DUCK BAY AT MID BAY 0.6 KM NE OF SH 146 BRIDGE AND 0.6 KM SE OF END OF OKLAHOMA ST IN BAYTOWN | 13340 | 2428 | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| BURNETT BAY AT MID BAY 1.3 KM SSW OF CONFLUENCE WITH SPRING GULLY AND 1.6 KM SE OF LYNCHBURG ROAD | 13344 | 2430 | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| ARMAND BAYOU TIDAL 25 M WEST OF CLEAR LAKE PARK FISHING PIER IN MUD LAKE/PASADENA LAKE IN HARRIS COUNTY | 15455 | 1113 | 11 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| CLEAR CREEK TIDAL AT THE CONFLUENCE WITH CLEAR LAKE 30 M NORTH AND 266 M WEST OF DAVIS ROAD AT VEGA COURT IN LEAGUE CITY IN HARRIS COUNTY | 16573 | 1101 | 11 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| HOUSTON SHIP CHANNEL AT CARGILL TERMINAL NORTH OF TIDAL ROAD | 16617 | 1006 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| HOUSTON SHIP CHANNEL W OF EXXON DOCKS AND N OF ALEXANDER ISLAND 316 M S AND 1.55 KM W OF INTERSECTION OF BAYWAY DR AND BAYTOWN AVE | 16618 | 1005 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| HOUSTON SHIP CHANNEL AT LYNCHBURG FERRY INN SOUTH OF LYNCHBURG RD 658 M N AND 802 M E OF INTERSECTION OF BATTLEGROUND RD AND TIDAL RD | 16619 | 1005 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| HOUSTON SHIP CHANNEL/BUFFALO BAYOU AT MAYO SHELL RD 1.42 KM S AND 41 M W OF INTERSECTION OF MAYO SHELL RD AND CLINTON DR IN HOUSTON | 16620 | 1007 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| SAN JACINTO RIVER TIDAL AT CONFLUENCE WITH HSC 226 M S AND 1.07 KM W OF INTERSECTION OF S LYNCHBURG RD AND POQUENO RD IN HOUSTON | 16621 | 1005 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| SAN JACINTO RIVER TIDAL AT BANANA BEND ROAD AT END OF PAVEMENT IN HOUSTON | 16622 | 1001 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAN JACINTO RIVER TIDAL MID STREAM AT TERMINUS OF SHADY LANE IN CHANNELVIEW 9 M S AND 648 M W OF INTERSECTION OF SHADY LN AND PARK DR | 17919 | 1001 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| CRYSTAL BAY IN BAYTOWN 383 METERS WEST AND 137 METERS SOUTH OF THE INTERSECTION OF BAYSHORE DRIVE AND CROW ROAD | 17921 | 2430A | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| SCOTT BAY 1.2 KM SW OF INTERSECTION OF BAYWAY DRIVE AND PARK STREET IN BAYTOWN | 17922 | 2429 | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| UPPER SAN JACINTO BAY UNDERNEATH ELECTRICAL TRANSMISSION LINES 2.1 KM E/NE OF INTERSECTION OF MILLER CUTOFF RD AND OLD CLARK RD | 17923 | 2427 | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| LOWER SAN JACINTO BAY MID CHANNEL SOUTH OF SH 146 1 KM NE OF INTERSECTION OF SH 225 AND STRANG ROAD IN LAPORTE | 17924 | 2427 | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| BARBOUR'S CUT NEAR NORTH BANK 0.5 KM NNW OF THE INTERSECTION OF BARBOURS CUT BLVD AND MAPLE ST | 17925 | 2436 | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| GOOSE CREEK NEAR SH 146 340 M SOUTH OF THE INTERSECTION OF SH 146 AND WEST MAIN IN BAYTOWN | 17927 | 2426C | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| HARRIS COUNTY FLOOD CONTROL DITCH A TRIBUTARY TO TAYLOR BAYOU 385 M UPSTREAM OF CONFLUENCE WEST OF SH 146 AT PORT ROAD IN HARRIS COUNTY | 20012 | 2425E | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| TAYLOR BAYOU MID CHANNEL 400 M DOWNSTREAM OF PORT ROAD BRIDGE IN HARRIS COUNTY | 20013 | 2425A | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| CLEAR LAKE UNNAMED INLET 115 M SOUTHWEST OF THE INTERSECTION OF NASA ROAD 1 AND OCEANVIEW DRIVE IN SEABROOK IN HARRIS COUNTY | 20014 | 2425 | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAYLOR LAKE MID LAKE AT BLUE WINDOWS 230 M SOUTH OF LAKEWAY DRIVE AT RAY SHELL COURT/HARBOR COVE CIRCLE IN HARRIS COUNTY | 20015 | 2425A | 24 | 12 | HG | HC | RT | 6 | 6 | 6 | | | |
| CARPENTERS BAYOU AT MOUTH OF BARGE CANAL 32 METERS WEST AND 666 METERS SOUTH FROM THE INTERSECTION OF DE ZAVALLA ROAD AND HARDING ROAD/HARDING STREET IN HARRIS COUNTY | 20797 | 1006 | 10 | 12 | HG | HC | RT | 12 | 12 | 12 | | | |
| SPRING BRANCH IMMEDIATELY DOWNSTREAM OF SHAKEY HOLLOW WEST OF WOODBRANCH VILLAGE IN MONTGOMERY COUNTY | 21965 | 1010C | 10 | 12 | HG | HG | BS | | | | 4 | 4 | Started collecting 24-hr DO in 2/2017; Continue through FY21 |
| BUFFALO BAYOU IMMEDIATELY DOWNSTREAM OF GREEN BUSH ROAD 3.1 MILES SOUTHEAST OF KATY | 11145 | 1014B | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| CRYSTAL CREEK AT FM 1314 SOUTHEAST OF CONROE | 11181 | 1004D | 10 | 12 | HG | HG | RT | 10 | | | 10 | | Site added in FY19 |
| WEST FORK SAN JACINTO RIVER IMMEDIATELY UPSTREAM OF SH 242 | 11243 | 1004 | 10 | 12 | HG | HG | RT | 10 | | | 10 | | Site added FY19 |
| CANEY CREEK IMMEDIATELY UPSTREAM OF FM 2090 WEST OF SPLENDORA | 11335 | 1010 | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| LAKE CREEK AT EGYPT COMMUNITY ROAD 8.3 MILES SOUTHWEST OF CONROE | 11367 | 1015 | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| STEWARTS CREEK 175 METERS DOWNSTREAM OF SH LOOP 336 SOUTHEAST OF CONROE | 16626 | 1004E | 10 | 12 | HG | HG | RT | 10 | | | 10 | | Site added in FY19 |
| EAST FORK SAN JACINTO RIVER IMMEDIATELY DOWNSTREAM OF SH 150 WEST OF COLDSPRING | 17431 | 1003 | 10 | 10 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| MOUND CREEK 167 METERS DOWNSTREAM OF MULLIGAN ROAD 1.35 KM UPSTREAM OF CONFLUENCE WITH LAKE CREEK | 17937 | 1015A | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| LAKE CREEK AT SH 105 NR DOBBIN | 18192 | 1015 | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | This site replaces site 18191 |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPRING CREEK AT ROBERTS CEMETERY ROAD WEST-NORTHWEST OF TOMBALL | 18868 | 1008 | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| CANEY CREEK AT FIRETOWER ROAD WEST TO THE CITY OF WOODBRANCH | 20452 | 1010 | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| CANEY CREEK AT COUNTY LINE ROAD IN MONTGOMERY COUNTY EAST TO THE CITY OF WILLIS | 20453 | 1010 | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| PEACH CREEK AT COUNTY LINE ROAD-FM 3081 NORTHEAST OF CONROE IN MONTGOMERY COUNTY | 20454 | 1011 | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| LITTLE CYPRESS CREEK AT MUESCHKE ROAD 4.4 KILOMETERS NORTH OF SH 290 NORTHWEST OF CYPRESS | 20456 | 1009E | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| CYPRESS CREEK AT KATY HOCKLEY ROAD 7 KILOMETERS SOUTH OF SH 290 WEST OF CYPRESS | 20457 | 1009 | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| WALNUT CREEK AT DECKER PRAIRIE ROSEHL ROAD NORTHWEST OF TOMBALL | 20462 | 1008I | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| BRUSHY CREEK AT GLENMONT ESTATES BOULEVARD 265 METERS NORTH AND 35 METERS WEST TO THE INTERSECTION OF ARNDT LANE AND ANN CIRCLE WEST OF TOMBALL | 20463 | 1008J | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| HORSEPEN CREEK AT FM 529 1.9 KILOMETERS EAST OF SH 6 NORTHWEST OF HOUSTON | 20465 | 1014C | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| TARKINGTON BAYOU AT SH 105/SH 321 SOUTHEAST OF CLEVELAND | 20466 | 1002A | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| WHITE OAK CREEK AT MEMORIAL DRIVE IN CONROE | 20731 | 1004J | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| WINTERS BAYOU AT TONY TAP ROAD NEAR CLEVELAND | 21417 | 1003A | 10 | 10 | HG | HG | RT | 4 | 4 | 4 | 4 | | |
| MILL CREEK AT FM 149 NORTH OF TOMBALL | 21957 | 1008A | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | This site replaces site 20461 in Feb. 2017 |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPRING BRANCH IMMEDIATELY DOWNSTREAM OF SHAKEY HOLLOW WEST OF WOODBRANCH VILLAGE IN MONTGOMERY COUNTY | 21965 | 1010C | 10 | 12 | HG | HG | RT | 4 | 4 | 4 | 4 | | This site replaces site 20451 in Feb. 2017 |
| GARNERS BAYOU AT NORTH SAM HOUSTON PARKWAY/SH LOOP 8 NE OF HOUSTON | 11125 | 1016A | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8074250 |
| HALLS BAYOU AT JENSEN DRIVE IN HOUSTON | 11126 | 1006D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8076500 |
| HALLS BAYOU 87 METERS UPSTREAM OF TIDWELL ROAD IN SETTEGAST | 11127 | 1006D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| HUNTING BAYOU IMMEDIATELY DOWNSTREAM OF IH 10 EAST OF HOUSTON | 11128 | 1007R | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| HUNTING BAYOU AT NORTH LOOP EAST/IH 610 IN HOUSTON | 11129 | 1007R | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8075770 |
| SIMS BAYOU AT TELEPHONE ROAD/SH 35 IN HOUSTON | 11132 | 1007D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8075500 |
| SIMS BAYOU AT CULLEN BLVD/FM 865 SOUTH OF HOUSTON | 11133 | 1007D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| SIMS BAYOU AT HIRAM CLARKE RD IN HOUSTON | 11135 | 1007D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8075400 |
| BRAYS BAYOU IMMEDIATELY DOWNSTREAM OF ALMEDA ROAD SOUTHWEST OF HOUSTON | 11138 | 1007B | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BRAYS BAYOU AT SOUTH MAIN ST IN HOUSTON | 11139 | 1007B | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8075000 |
| BRAYS BAYOU AT SOUTH GESSNER DRIVE IN HOUSTON | 11140 | 1007B | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8074810 |
| LITTLE WHITE OAK BAYOU AT TRIMBLE STREET/NORTH EDGE OF HOLLYWOOD CEMETERY IN HOUSTON | 11148 | 1013A | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8074540 |
| VOGEL CREEK IMMEDIATELY DOWNSTREAM OF WEST LITTLE YORK ROAD | 11155 | 1017C | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROLLING FORK CREEK IMMEDIATELY DOWNSTREAM OF LAKE LANE | 11157 | 1017F | 10 | 12 | HG | HH | RT | 6 | | 6 | | | |
| SOUTH MAYDE CREEK IMMEDIATELY DOWNSTREAM OF MEMORIAL DRIVE | 11163 | 1014H | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BRAYS/KEEGANS BAYOU IMMEDIATELY DOWNSTREAM OF ROARK ROAD NEAR US 59 AT BELTWAY 8 IN SOUTHWEST HOUSTON | 11169 | 1007C | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8074800 |
| LITTLE VINCE BAYOU IMMEDIATELY DOWNSTREAM OF NORTH MAIN STREET IN PASADENA TX | 11172 | 1007 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| WILLOW CREEK IMMEDIATELY UPSTREAM OF GOSLING ROAD | 11185 | 1008H | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| RUMMEL CREEK IMMEDIATELY DOWNSTREAM OF MEMORIAL DRIVE IN WEST HOUSTON | 11188 | 1014N | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| GREENS BAYOU IMMEDIATELY DOWNSTREAM OF GREEN RIVER ROAD/LEY ROAD IN HOUSTON | 11279 | 1006 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8076700 |
| HUNTING BAYOU TIDAL AT FEDERAL ROAD BRIDGE IN HOUSTON | 11298 | 1007 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| SIMS BAYOU TIDAL IMMEDIATELY DOWNSTREAM OF LAWNDALE AVENUE IN HOUSTON | 11302 | 1007 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BRAYS BAYOU TIDAL AT 75TH STREET IN HOUSTON | 11306 | 1007 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BRAYS BAYOU TIDAL AT SCOTT STREET IN HOUSTON | 11309 | 1007 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| SPRING CREEK IMMEDIATELY DOWNSTREAM OF RILEY FUZZEL ROAD | 11312 | 1008 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8068520 |
| SPRING CREEK 1.13 KM UPSTREAM OF SH 249 NEAR DRAGONFLY RD IN SPRING CREEK PARK | 11315 | 1008 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | Replaced 11314 in FY2020 due to construction at bridge |
| SPRING CREEK IMMEDIATELY UPSTREAM OF DECKER PRAIRIE ROSEHILL ROAD | 11323 | 1008 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CYPRESS CREEK AT STEUBNER-AIRLINE ROAD IN HOUSTON | 11330 | 1009 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8068900 |
| CYPRESS CREEK AT SH 249 | 11331 | 1009 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| CYPRESS CREEK IMMEDIATELY DOWNSTREAM OF GRANT ROAD NEAR CYPRESS | 11332 | 1009 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8068800 |
| CYPRESS CREEK IMMEDIATELY DOWNSTREAM OF HOUSE HAHL ROAD NEAR CYPRESS | 11333 | 1009 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8068740 |
| BUFFALO BAYOU TIDAL AT MCKEE ST IN HOUSTON | 11345 | 1013 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BUFFALO BAYOU TIDAL IMMEDIATELY DOWNSTREAM OF MAIN STREET IN HOUSTON | 11347 | 1013 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8074600 |
| BUFFALO BAYOU TIDAL AT SHEPHERD DRIVE IN HOUSTON | 11351 | 1013 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8074000 |
| BUFFALO BAYOU AT VOSS ROAD | 11356 | 1014 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BUFFALO BAYOU IMMEDIATELY DOWNSTREAM OF WEST BELTWAY 8 IN HOUSTON | 11360 | 1014 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8073600 |
| BUFFALO BAYOU AT WILCREST DRIVE IN HOUSTON | 11361 | 1014 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BUFFALO BAYOU IMMEDIATELY DOWNSTREAM OF DAIRY ASHFORD ROAD WEST OF HOUSTON | 11362 | 1014 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8073500 |
| BUFFALO BAYOU AT ELDRIDGE ROAD IN HOUSTON | 11363 | 1014 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BUFFALO BAYOU AT SH 6 | 11364 | 1014 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8072500 |
| GREENS BAYOU AT TIDWELL ROAD IN HARRIS CO | 11369 | 1016 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| GREENS BAYOU IMMEDIATELY DOWNSTREAM OF MT HOUSTON PARKWAY | 11370 | 1016 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| GREENS BAYOU AT US 59 NORTH OF HOUSTON | 11371 | 1016 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| GREENS BAYOU AT WEST GREENS PARKWAY | 11376 | 1016 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| WHITEOAK BAYOU AT NORTH SHEPHERD STREET IN HOUSTON | 11389 | 1017 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WHITEOAK BAYOU AT NORTH HOUSTON ROSSLYN ROAD | 11394 | 1017 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| WHITEOAK BAYOU IMMEDIATELY DOWNSTREAM OF TAHOE DRIVE | 11396 | 1017 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| ARMAND BAYOU AT GENOA-RED BLUFF RD NE OF ELLINGTON AFB | 11404 | 1113A | 11 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| ARMAND BAYOU AT FAIRMONT PARKWAY ALONG MEDIAN AT MIDPOINT BETWEEN BRIDGES | 11405 | 1113A | 11 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| ARMAND BAYOU TIDAL AT BAY AREA BLVD NORTH OF NASA AT MIDDLE OF MEDIAN BETWEEN 2 BRIDGES EASTERN SHORE | 11503 | 1113 | 11 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| GREENS BAYOU 184 METERS DOWNSTREAM OF KNOBCREST DRIVE | 13778 | 1016 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8075900 |
| LITTLE CYPRESS CREEK IMMEDIATELY DOWNSTREAM OF KLUGE ROAD IN HOUSTON | 14159 | 1009E | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| WHITEOAK BAYOU IMMEDIATELY DOWNSTREAM OF WEST 43RD STREET IN NORTHWEST HOUSTON | 15829 | 1017 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| WHITEOAK BAYOU AT WEST TIDWELL ROAD IN NORTHWEST HOUSTON | 15831 | 1017 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BUFFALO BAYOU TIDAL IMMEDIATELY UPSTREAM OF JENSEN DRIVE IN HOUSTON | 15841 | 1007 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BUFFALO BAYOU TIDAL AT SABINE STREET NORTH OF ALLEN PARKWAY IN HOUSTON | 15843 | 1013 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BUFFALO BAYOU AT CHIMNEY ROCK ROAD IN HOUSTON | 15845 | 1014 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BUFFALO BAYOU IMMEDIATELY DOWNSTREAM OF BRIAR FOREST DRIVE IN WEST HOUSTON | 15846 | 1014 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TURKEY CREEK 200 M UPSTREAM OF MEMORIAL DRIVE AT BRIDGE IN MEMORIAL OAKS CEMETERY | 15847 | 1014K | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | Moved upstream by 200 M in FY20 (same ID number) |
| BRAYS BAYOU IMMEDIATELY DOWNSTREAM OF SH 6 IN WEST HOUSTON | 15848 | 1007B | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BRAYS BAYOU AT DAIRY ASHFORD STREET IN WEST HOUSTON | 15850 | 1007B | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BRAYS BAYOU AT WILCREST DRIVE IN WEST HOUSTON | 15851 | 1007B | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BRAYS BAYOU IMMEDIATELY DOWNSTREAM OF BEECHNUT STREET IN WEST HOUSTON | 15852 | 1007B | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BRAYS BAYOU IMMEDIATELY DOWNSTREAM OF HILLCROFT STREET IN WEST HOUSTON | 15853 | 1007B | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BRAYS BAYOU IMMEDIATELY DOWNSTREAM OF SOUTH RICE AVENUE IN WEST HOUSTON | 15854 | 1007B | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BRAYS BAYOU IMMEDIATELY DOWNSTREAM OF STELLA LINK ROAD IN HOUSTON | 15855 | 1007B | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| HALLS BAYOU AT HOMESTEAD ROAD IN NORTHEAST HOUSTON | 15862 | 1006D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| HALLS BAYOU AT HIRSCH RD IN NORTHEAST HOUSTON | 15863 | 1006D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| HALLS BAYOU AT MESA DR IN NORTHEAST HOUSTON | 15864 | 1006D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| HUNTING BAYOU AT JENSEN DRIVE IN NORTHEAST HOUSTON | 15867 | 1007R | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| HUNTING BAYOU AT CAVALCADE ST IN NORTHEAST HOUSTON | 15869 | 1007R | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| HUNTING BAYOU AT LOCKWOOD DRIVE IN NORTHEAST HOUSTON | 15873 | 1007R | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| SIMS BAYOU IMMEDIATELY DOWNSTREAM OF ALMEDA ROAD IN SOUTH HOUSTON | 15876 | 1007D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SIMS BAYOU AT MARTIN LUTHER KING JUNIOR BOULEVARD IN SOUTH HOUSTON | 15877 | 1007D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8075470 |
| SIMS BAYOU AT SWALLOW STREET IN SOUTHEAST HOUSTON | 15878 | 1007D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BRAYS BAYOU AT SOUTH WAYSIDE DRIVE 802 METERS UPSTREAM OF IH 45 IN SOUTHEAST HOUSTON | 16479 | 1007 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| GARNERS BAYOU IMMEDIATELY UPSTREAM OF OLD HUMBLE ROAD AT CONFLUENCE WITH RIENHARDT BAYOU IN NORTHEAST HOUSTON | 16589 | 1016A | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| UNNAMED TRIBUTARY OF GREENS BAYOU AT MESA DR/E. HOUSTON-DYERSDALE ROAD IN NORTHEAST HOUSTON | 16590 | 1016B | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| SPRING BRANCH CREEK IMMEDIATELY UPSTREAM OF WIRT ROAD 331 METERS DOWNSTREAM OF IH 10 IN WEST HOUSTON | 16592 | 1014O | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| COLE CREEK IMMEDIATELY UPSTREAM OF BOLIVIA BLVD 792 METERS UPSTREAM OF CONFLUENCE WITH WHITEOAK BAYOU IN NW HOUSTON | 16593 | 1017B | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BRICKHOUSE GULLY AT US 290 IN NORTHWEST HOUSTON 2.03 KM UPSTREAM OF CONFLUENCE WITH WHITEOAK BAYOU | 16594 | 1017A | 10 | 12 | HG | HH | RT | 6 | | 6 | 6 | | Flow from gage 8074250 |
| UNNAMED TRIBUTARY OF WHITE OAK BAYOU AT W 14TH IN WEST HOUSTON 516 METERS UPSTREAM OF CONFLUENCE WITH WHITE OAK BAYOU | 16596 | 1017E | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| NEWMAN BRANCH / NEIMANS BAYOU AT MEMORIAL DRIVE IN WEST HOUSTON | 16597 | 1014M | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| LITTLE WHITE OAK BAYOU AT WHITE OAK DRIVE IN NORTH HOUSTON | 16648 | 1013A | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COUNTRY CLUB BAYOU/TRIBUTARY OF BRAYS BAYOU IMMEDIATELY UPSTREAM OF SOUTH WAYSIDE DRIVE/US90A IN CENTRAL HOUSTON | 16650 | 1007K | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| COUNTRY CLUB BAYOU/TRIBUTARY OF BRAYS BAYOU AT HUGHES STREET IN CENTRAL HOUSTON | 16651 | 1007K | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| WILLOW WATERHOLE AT MCDERMED DRIVE IN SOUTHWEST HOUSTON | 16652 | 1007E | 10 | 12 | HG | HH | RT | 6 | | 6 | | | |
| KUHLMAN GULLY/TRIBUTARY OF BRAYS BAYOU AT BROCK STREET 311 METERS UPSTREAM OF WHEELER STREET IN SOUTHEAST CENTRAL HOUSTON | 16653 | 1007G | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| UNNAMED TRIBUTARY OF BRAYS BAYOU AT DUMFRIES DRIVE IN SOUTH WEST HOUSTON | 16654 | 1007L | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| UNNAMED TRIBUTARY OF SIMS BAYOU AT DULCIMER STREET IN SOUTH HOUSTON | 16655 | 1007N | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| SIMS BAYOU SOUTH BRANCH AT TIFFANY DRIVE IN SOUTH HOUSTON | 16656 | 1007A | 10 | 12 | HG | HH | RT | 6 | | 6 | | | |
| UNNAMED TRIBUTARY OF HUNTING BAYOU IMMEDIATELY UPSTREAM OF JOHN RALSTON ROAD IN EAST HOUSTON | 16657 | 1007M | 10 | 12 | HG | HH | RT | 6 | | 6 | | | |
| PLUM CREEK/TRIBUTARY OF SIMS BAYOU AT OLD GALVESTON ROAD IN SOUTH EAST HOUSTON | 16658 | 1007I | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| PINE GULLY/TRIBUTARY OF SIMS BAYOU AT OLD GALVESTON ROAD IN SOUTH EAST HOUSTON | 16659 | 1007H | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BERRY BAYOU/TRIBUTARY OF SIMS BAYOU IMMEDIATELY UPSTREAM OF AHRENS DRIVE IN SOUTHEAST HOUSTON | 16660 | 1007 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BERRY BAYOU IMMEDIATELY UPSTREAM OF SOUTH RICHEY STREET IN SOUTH EAST HOUSTON | 16661 | 1007F | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BIG GULCH AT WALLISVILLE ROAD IN EAST HOUSTON | 16662 | 1006F | 10 | 12 | HG | HH | RT | 6 | | 6 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPRING GULLY AT WEST TERMINUS OF BARNESWORTH DRIVE IN NORTHEAST HOUSTON | 16663 | 1006H | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| GOODYEAR CREEK TIDAL IMMEDIATELY UPSTREAM OF IH 10 IN EAST HOUSTON | 16664 | 1006 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| UNNAMED TRIBUTARY OF HALLS BAYOU IMMEDIATELY DOWNSTREAM OF LANGLEY ROAD IN NORTH HOUSTON | 16665 | 1006J | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| UNNAMED TRIBUTARY OF HALLS BAYOU AT TALTON STREET IN NORTH EAST HOUSTON | 16666 | 1006I | 10 | 12 | HG | HH | RT | 6 | | 6 | | | |
| UNNAMED TRIBUTARY OF HALLS BAYOU AT WOODLYN ROAD IN NORTH EAST HOUSTON | 16667 | 1006I | 10 | 12 | HG | HH | RT | 6 | | 6 | | | |
| UNNAMED TRIB OF BUFFALO BAYOU AT GLENWOOD CEMETARY RD 160 M W OF INTERSECT OF LUBBOCK ST AND SAWYER ST IN CENTRAL HOUSTON | 16675 | 1013C | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| UNNAMED TRIBUTARY OF GREENS BAYOU AT SMITH RD IN NORTHEAST HOUSTON | 16676 | 1016D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| SPRING GULLY AT SPRING CREEK OAKS DRIVE IN TOMBALL | 17481 | 1009D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| LANGHAM CREEK AT SH 6 IN NORTHWEST HOUSTON | 17482 | 1014E | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8072760 |
| BEAR CREEK AT OLD GREENHOUSE ROAD WEST OF HOUSTON | 17484 | 1014A | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| UNNAMED TRIBUTARY OF HORSEPEN BAYOU TIDAL AT PENN HILLS | 17485 | 1113C | 11 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BIG ISLAND SLOUGH AT HILLRIDGE ROAD IN SOUTHEAST HOUSTON | 17486 | 1113E | 11 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| WILLOW SPRING AT BANDRIDGE ROAD IN SOUTHEAST HOUSTON | 17487 | 1113D | 11 | 12 | HG | HH | RT | 6 | | 6 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPRING CREEK IMMEDIATELY DOWNSTREAM OF KUYKENDAHL ROAD NORTHEAST OF HOUSTON | 17489 | 1008 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| HALLS BAYOU AT AIRLINE ROAD IN NORTH HOUSTON | 17490 | 1006D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| HALLS BAYOU AT DEER TRAIL DRIVE IN NORTH HOUSTON | 17491 | 1006D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | 6 | | Flow from gage 8076200 |
| BUFFALO BAYOU AT SOUTH MASON ROAD WEST OF HOUSTON | 17492 | 1014B | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| MASON CREEK 151 METERS DOWNSTREAM OF PARK PINE DRIVE WEST OF HOUSTON | 17494 | 1014L | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| GREENS BAYOU IMMEDIATELY UPSTREAM OF MILLS ROAD WEST OF HOUSTON | 17495 | 1016 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| FAULKEY GULLY OF CYPRESS CREEK 105 METERS DOWNSTREAM OF LAKEWOOD FOREST DRIVE NORTHWEST OF HOUSTON | 17496 | 1009C | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| SIMS BAYOU UPSTREAM TIDAL AT SOUTH POST OAK ROAD IN SOUTHWEST HOUSTON | 17976 | 1007D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| UNNAMED TRIBUTARY OF BUFFALO BAYOU IMMEDIATELY DOWNSTREAM OF EMILE ST ON NORTH BANK 120 M SOUTH OF CLINTON DRIVE IN CENTRAL HOUSTON | 17977 | 1007O | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| UNNAMED TRIBUTARY OF HUNTING BAYOU AT MINDEN STREET APPROXIMATELY 0.3 KM EAST OF LOCKWOOD AND S OF N 610 LOOP EAST | 18689 | 1007V | 10 | 12 | HG | HH | RT | 6 | | 6 | | | |
| BINTLIFF DITCH TRIBUTARY OF BRAYS BAYOU UNDER CENTER OF BISSONNET ST BRIDGE 317 M NE OF BISSONNET AT FONDREN RD IN SW HOUSTON | 18690 | 1007T | 10 | 12 | HG | HH | RT | 6 | | 6 | | | |
| MIMOSA DITCH TRIBUTARY OF BRAYS BAYOU AT NEWCASTLE DR IN SOUTHWEST HOUSTON | 18691 | 1007U | 10 | 12 | HG | HH | RT | 6 | | 6 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POOR FARM DITCH TRIBUTARY OF BRAYS BAYOU AT EASTBOUND NORTH BRAESWOOD BLVD APPROX 200 M E OF BUFFALO SPEEDWAY IN SW HOUSTON | 18692 | 1007S | 10 | 12 | HG | HH | RT | 6 | | 6 | | | |
| KEEGAN'S BAYOU AT SYNOTT ROAD 1.1 KM SOUTH OF THE INTERSECTION OF SYNOTT ROAD AND BISSONET STREET IN SOUTHWEST HOUSTON | 20211 | 1007C | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| BUFFALO BAYOU NORTH SHORE IMMEDIATELY UNDERNEATH THE SOUTHBOUND FEEDER ROAD BRIDGE OF IH 610 WEST IN HOUSTON | 20212 | 1014 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| WILLOW CREEK AT TUWA ROAD APPROXIMATELY 859 METERS DOWNSTREAM OF FM 2920 ROAD IN NORTHERN HARRIS COUNTY | 20730 | 1008H | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| SIMS BAYOU AT GALVESTON ROAD IN HOUSTON | 20736 | 1007 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | Replaced site 11304 in FY2020 |
| GREENS BAYOU AT WALLISVILLE ROAD APPROX 150 METERS NORTHEAST OF THE INTERSECTION OF DATTNER ROAD AND WALLISVILLE ROAD IN HOUSTON | 21008 | 1006 | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| HARRIS COUNTY FLOOD CONTROL DISTRICT CHANNEL D138 / CHIMNEY DITCH IMMEDIATELY UPSTREAM OF CAVERSHAM DRIVE BETWEEN THE NORTHBOUND AND SOUTHBOUND SECTIONS OF CHIMNEY ROCK ROAD IN HOUSTON | 21180 | 1007W | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | |
| SOUTH MAYDE CREEK AT SOUTH PARK VIEW DRIVE WEST OF HOUSTON | 21813 | 1014H | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | Replaced site 17493 in FY2017 |
| UNNAMED TRIBUTARY OF GREENS BAYOU AT ALDINE-WESTFIELD RD | 22090 | 1016C | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | Replaced site 11124 in FY19 |
| UNNAMED TRIBUTARY OF WHITE OAK BAYOU APPROXIMATELY 30 METERS SW OF HELBERG RD DEAD END. | 22094 | 1017D | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | Replaced site 16595 in FY 19. |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TURKEY CREEK AT CLAY ROAD IN NORTHWEST HOUSTON | 22169 | 1014K | 10 | 12 | HG | HH | RT | 6 | 6 | 6 | | | Replaced site 15847 in FY20 |
| CRYSTAL CREEK AT FM 1314 SOUTHEAST OF CONROE | 11181 | 1004D | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | | | Replaces site 16635 Crystal Creek at SH 242 in FY2018 |
| LUCE BAYOU/SAN JACINTO RIVER EAST FORK AT HUFFMAN-NEW CANEY ROAD | 11187 | 1002B | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | | | |
| LAKE HOUSTON NORTH SIDE OF MISSOURI PACIFIC RAILROAD BRIDGE 137 METERS SOUTH AND 1.36 KM WEST OF INTERSECTION OF PINO LN AND SUNOCO RD | 11208 | 1002 | 10 | 12 | HG | HW | RT | 12 | 12 | 12 | | | |
| LAKE HOUSTON AT FM 1960 WEST END PASS BRIDGE 269 M N AND 731 M E OF INTERSECTION OF ATASCOCITA SHORES AND FM 1960/CITY HO SITE 9 | 11211 | 1002 | 10 | 12 | HG | HW | RT | 12 | 12 | 12 | | | |
| LAKE HOUSTON AT FM 1960 EAST END PASS BRIDGE 235 M S AND 950 M WEST OF INTERSECTION OF FM 1960 AND FAIRLAKE LANE/CITY HO SITE 13 | 11212 | 1002 | 10 | 12 | HG | HW | RT | 12 | 12 | 12 | | | |
| EAST FORK SAN JACINTO RIVER AT FM 1485 | 11235 | 1003 | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | 6 | | Flow from gage 8070200 |
| EAST FORK SAN JACINTO RIVER IMMEDIATELY UPSTREAM OF TX-105 BUSINESS ROUTE / W SOUTHLINE STREET WEST OF CLEVELAND | 11238 | 1003 | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | 6 | | Flow from gage 8070000 |
| WEST FORK SAN JACINTO RIVER IMMEDIATELY UPSTREAM OF SH 242 | 11243 | 1004 | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | | | |
| WEST FORK SAN JACINTO RIVER IMMEDIATELY DOWNSTREAM OF SH 105 NW OF CONROE CAMS772 | 11251 | 1004 | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | 6 | | Flow from gage 8067650 |
| SPRING CREEK BRIDGE AT IH 45 20 MILES NORTH OF HOUSTON | 11313 | 1008 | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | 6 | | Flow from gage 8068500 |
| CYPRESS CREEK BRIDGE ON IH 45 15 MI NORTH OF HOUSTON | 11328 | 1009 | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | 6 | | Flow from gage 8069000 |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CANEY CREEK IMMEDIATELY DOWNSTREAM OF FM 1485 | 11334 | 1010 | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | | | |
| PEACH CREEK BRIDGE AT FM 2090 IN SPLENDORA | 11337 | 1011 | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | | | |
| LAKE HOUSTON 90 M S AND 349 M W OF INTERSECTION OF MAGNOLIA PT DR AND DIAMOND WAY CANEY CREEK ARM IN HOUSTON | 16623 | 1002 | 10 | 12 | HG | HW | RT | 12 | 12 | 12 | | | |
| PEACH CREEK IMMEDIATELY UPSTREAM OF OLD HWY 105 | 16625 | 1011 | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | | | |
| STEWARTS CREEK 175 METERS DOWNSTREAM OF SH LOOP 336 SOUTHEAST OF CONROE | 16626 | 1004E | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | | | |
| LK HOUSTON W OF LK SHADOWS SUBDIVISION MID LAKE NW OF HOUSTON 2.09 KM N AND 1.38 KM E OF INTERSECT OF LK HOUSTON PKWY AND DITE CAYLIN | 16668 | 1002 | 10 | 12 | HG | HW | RT | 12 | 12 | 12 | | | |
| LAKE HOUSTON IN THE WEST FORK SAN JACINTO RIVER CHANNEL 270 M EAST AND 60 M NORTH OF MISTY COVE AT ATASCOCITA PLACE DR | 18667 | 1002 | 10 | 12 | HG | HW | RT | 12 | 12 | 12 | | | |
| LAKE HOUSTON/LUCE BAYOU 123 M NORTH AND 188 M WEST OF LAKEWATER DR AT WATERWOOD DR IN WATER WONDERLAND SUBDIVISION IN HARRIS COUNTY | 18670 | 1002 | 10 | 12 | HG | HW | RT | 12 | 12 | 12 | | | |
| LAKE HOUSTON WEST FORK SAN JACINTO RIVER ARM UNDER POWER LINES 567 METERS EAST AND 538 METERS NORTH FROM THE INTERSECTION OF BELLEAU WOOD DRIVE AND SOUTHSHORE DRIVE IN HOUSTON | 20782 | 1002 | 10 | 12 | HG | HW | RT | 12 | 12 | 12 | | | |
| CANEY CREEK AT MILLMAC ROAD NORTHEAST OF CUT AND SHOOT | 21465 | 1010 | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | | | |
| LUCE BAYOU 224 METERS NORTHWEST OF END OF CRY BABY LANE IN HUFFMAN | 22224 | 1002B | 10 | 12 | HG | HW | RT | 6 | 6 | 6 | | | Added in FY21. Added to CMS on 6/11/20 |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LAKE CONROE AT DAM MID CHANNEL 85 M OUT FROM MIDDLE TAINTER GATE 922 M N AND 426 M E OF INTERSECTION OF DAM SITE RD AND SH 105 | 11342 | 1012 | 10 | 12 | HG | SJ | RT | 12 | 12 | 12 | | | |
| LAKE CONROE AT FM 1375 IN THE MAIN CHANNEL 4TH PILING FROM THE EAST 541 M SOUTH AND 1.40 KM W OF INTERSECTION OF KAGLE RD AND FM 1375 USGS SITE GC | 11344 | 1012 | 10 | 12 | HG | SJ | RT | 12 | 12 | 12 | | | |
| PANTHER BRANCH 295 METERS DOWNSTREAM OF SAWDUST ROAD IN THE WOODLANDS | 16422 | 1008C | 10 | 12 | HG | SJ | RT | 12 | 4 | 4 | | | |
| LAKE WOODLANDS AT WESTERN REACH 110 METERS NORTH AND 100 METERS EAST OF INTERSECTION OF MEADOW COVE DR AND PLEASURE COVE DR IN THE WOODLANDS | 16481 | 1008F | 10 | 12 | HG | SJ | RT | 12 | 4 | 4 | | | |
| LAKE WOODLANDS AT SOUTH END 23 METERS NORTH AND 50 METERS EAST OF THE WEST EDGE OF DAM IN THE WOODLANDS | 16482 | 1008F | 10 | 12 | HG | SJ | RT | 12 | 4 | 4 | | | |
| LAKE WOODLANDS AT MID POINT 130 METERS NORTH AND 30 METERS EAST OF THE NORTHERN INTERSECTION OF E SHORE DR AND CAPE HARBOR PL IN THE WOODLANDS | 16483 | 1008F | 10 | 12 | HG | SJ | RT | 12 | 4 | 4 | | | |
| LAKE WOODLANDS AT NORTH END 111 METERS DOWNSTREAM OF RESEARCH FOREST DRIVE IN THE WOODLANDS | 16484 | 1008F | 10 | 12 | HG | SJ | RT | 12 | 4 | 4 | | | |
| LOWER PANTHER BRANCH AT FOOTBRIDGE 265 M UPSTREAM OF SAWDUST RD APPROX 200 M UPSTREAM OF PERMIT WQ0011401-001 LOCATED AT 2436 SAWDUST ROAD | 16627 | 1008C | 10 | 12 | HG | SJ | RT | 12 | 4 | 4 | | | |
| UPPER PANTHER BRANCH APPROX 80 M UPSTREAM OF PERMIT WQ0012597-001 LOCATED AT 5402 RESEARCH FOREST DR | 16629 | 1008B | 10 | 12 | HG | SJ | RT | 12 | 4 | 4 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UPPER PANTHER BRANCH APPROX 170 METERS DOWNSTREAM OF PERMIT WQ0012597-001 LOCATED AT 5402 RESEARCH FOREST DR | 16630 | 1008B | 10 | 12 | HG | SJ | RT | 12 | 4 | 4 | | | |
| BEAR BRANCH 20 METERS DOWNSTREAM OF RESEARCH FOREST DRIVE | 16631 | 1008E | 10 | 12 | HG | SJ | RT | 12 | 4 | 4 | 4 | | Flow from gage 8068400 |
| LAKE CONROE AT APRIL POINT MID CHANNEL 559 M N AND 586 M E OF INTERSECTION OF APRIL POINT PLACE AND APRIL HILL | 16638 | 1012 | 10 | 12 | HG | SJ | RT | 12 | 12 | 12 | | | |
| LAKE CONROE AT SOUTH END OF LAKE ON EAST SIDE 201 METERS SOUTH AND 732 METERS WEST OF INTERSECTION OF S VALLEY DRIVE AND CREST DRIVE | 16639 | 1012 | 10 | 12 | HG | SJ | RT | 12 | 12 | 12 | | | |
| LAKE CONROE S OF BENTWATER ISLAND WEST COVE S OF FM 1097 BRIDGE 769 M N AND 89 M E OF INTERSECTION OF WATERFRONT AND SPRINGTIME DR | 16640 | 1012 | 10 | 12 | HG | SJ | RT | 12 | 12 | 12 | | | |
| LAKE CONROE AT AQUARIUS POINT MID CHANNEL N OF FM 830 BOAT RAMP 437 M N AND 924 M W OF INTERSECT OF FM 830 AND LAKEVIEW MANOR DR | 16641 | 1012 | 10 | 12 | HG | SJ | RT | 12 | 12 | 12 | | | |
| LAKE CONROE AT LAKE MID POINT MID CHANNEL AT FM 1097 BRIDGE 57 M S AND 520 M W OF INTERSECTION OF FM 1097 AND BLUEBERRY HILL | 16642 | 1012 | 10 | 12 | HG | SJ | RT | 12 | 12 | 12 | | | |
| LAKE CONROE AT HUNTERS POINT CANEY CREEK ARM E OF SCOTTS RIDGE BOAT RAMP 640 M N AND 558 M E OF INTERSECT OF TEEL RD AND HUNTERS TRL | 16643 | 1012 | 10 | 12 | HG | SJ | RT | 12 | 12 | 12 | | | |
| LAKE CONROE AT PARADISE POINT MID CHANNEL 396 METERS S AND 309 M WEST INTERSECTION OF PARADISE VIEW DRIVE AND PARADISE POINT DRIVE | 16644 | 1012 | 10 | 12 | HG | SJ | RT | 12 | 12 | 12 | | | |
| LAKE CONROE AT MOUTH OF SANDY BRANCH COVE 2.63 KM EAST OF INTERSECTION OF HARDY SMITH ROAD AND F S 218 A | 16645 | 1012 | 10 | 12 | HG | SJ | RT | 12 | 12 | 12 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EAST FORK SAN JACINTO RIVER AT FM 2090 IN LIBERTY COUNTY | 11236 | 1003 | 10 | 12 | HG | TF | RT | 4 | 4 | 4 | 4 | | |
| EAST FORK SAN JACINTO RIVER IMMEDIATELY DOWNSTREAM OF FM 945 5.6 MILES NORTH OF CLEVELAND | 11237 | 1003 | 10 | 10 | HG | TF | RT | 4 | 4 | 4 | 4 | | |
| EAST FORK SAN JACINTO RIVER IMMEDATELY DOWNSTREAM OF US 59 AT RED GULLY | 14242 | 1003 | 10 | 12 | HG | TF | RT | 4 | 4 | 4 | 4 | | |
| WINTERS BAYOU AT FM 2929 / FOUR NOTCH ROAD 4.8 KILOMETERS SOUTH OF PHELPS IN WALKER COUNTY | 21933 | 1003A | 10 | 12 | HG | TF | RT | 4 | 4 | 4 | 4 | | |
| BOSWELL CREEK AT FOUR NOTCH ROAD / BOSWELL ROAD 13 KILOMETERS NORTHEAST OF NEW WAVERLY IN WALKER COUNTY | 21934 | 1003C | 10 | 12 | HG | TF | RT | 4 | 4 | 4 | 4 | | |
| WINTERS BAYOU AT FM 2693 IN SAN JACINTO COUNTY | 21935 | 1003A | 10 | 10 | HG | TF | RT | 4 | 4 | 4 | 4 | | |
| WINTERS BAYOU AT SH 150 IN SAN JACINTO COUNTY | 21936 | 1003A | 10 | 10 | HG | TF | RT | 4 | 4 | 4 | 4 | | |
| WINTERS BAYOU AT DABNEY BOTTOM RD IN SAN JACINTO COUNTY | 21937 | 1003A | 10 | 10 | HG | TF | RT | 4 | 4 | 4 | 4 | | |
| NEBLETTS CREEK AT FM 1725 IN SAN JACINTO COUNTY | 21938 | 1003B | 10 | 10 | HG | TF | RT | 4 | 4 | 4 | 4 | | |
| EAST FORK SAN JACINTO RIVER AT NORTH BUTCH ARTHUR ROAD IN SAN JACINTO COUNTY | 21939 | 1003 | 10 | 10 | HG | TF | RT | 4 | 4 | 4 | 4 | | |
| OYSTER CREEK IMMEDIATELY DOWNSTREAM OF SH 35 WEST OF ANGLETON | 11490 | 1110 | 11 | 12 | HG | UI | BS | 4 | | | 4 | 4 | Added in FY 2020. Field parameters without 'grab' sonde measurements. |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OYSTER CREEK AT FM 1462 | 11493 | 1110 | 11 | 12 | HG | UI | BS | 4 | | | 4 | 4 | Added in FY 2020. Field parameters without 'grab' sonde measurements. |
| CARY BAYOU IMMEDIATELY UPSTREAM OF RACCOON DRIVE BRIDGE IN BAYTOWN (Tidal) | 21079 | 0901A | 9 | 12 | HG | UI | BS | 4 | | | | 4 | Added to CMS for FY21. Field parameters without 'grab' sonde measurements. |
| COTTON BAYOU 10 METERS UPSTREAM OF WESTBOUND IH-10 FRONTAGE ROAD IN MONT BELVIEU | 22232 | 0801E | 8 | 12 | HG | UI | BS | 4 | | | 4 | 4 | Added to CMS for FY21. Field parameters without 'grab' sonde measurements. |
| CEDAR BAYOU TIDAL MID CHANNEL 45 M DOWNSTREAM OF SH 146 NORTHEAST OF BAYTOWN | 11115 | 0901 | 9 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| CEDAR BAYOU TIDAL AT IH 10 EASTBOUND BRIDGE SOUTH OF MONT BELVIEU EAST SIDE OF BAYOU | 11117 | 0901 | 9 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| CEDAR BAYOU ABOVE TIDAL 30 M DOWNSTREAM OF FM 1942 AT EAST BANK | 11118 | 0902 | 9 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| CEDAR BAYOU ABOVE TIDAL 45 M DOWNSTREAM OF FM 1960 NORTHEAST OF HUFFMAN | 11123 | 0902 | 9 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| MOSES BAYOU AT NORTHBOUND SH 146 BRIDGE AT MID-BRIDGE NORTH OF LA MARQUE | 11400 | 2431A | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| HIGHLAND BAYOU AT FAIRWOOD ROAD IN LA MARQUE IN GALVESTON COUNTY | 11415 | 2424A | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| MUSTANG BAYOU AT FM 2917 SOUTH OF ALVIN | 11423 | 2432A | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| CEDAR CREEK AT FM 517 W OF DICKINSON | 11434 | 1103E | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| GUM BAYOU AT FM 517 E OF DICKINSON | 11436 | 1103D | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DICKINSON BAYOU TIDAL AT SH 146 BRIDGE EAST OF DICKINSON | 11455 | 1103 | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| DICKINSON BAYOU TIDAL AT IH 45 | 11462 | 1103 | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| CHOCOLATE BAYOU TIDAL AT FM 2004 BRIDGE SOUTH OF ALVIN | 11478 | 1107 | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| OYSTER CREEK TIDAL AT THAT-WAY DRIVE 0.5 MILES BELOW FM 2004 | 11486 | 1109 | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| OYSTER CREEK IMMEDIATELY DOWNSTREAM OF SH 35 WEST OF ANGLETON | 11490 | 1110 | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | Added in FY 2020 |
| OYSTER CREEK AT SIMS RD / BRAZORA CR 30 WEST OF ANGLETON | 11491 | 1110 | 11 | 12 | HG | UI | RT | 12 | 4 | 4 | 12 | | Added in FY2019 |
| OYSTER CREEK AT FM 1462 WEST OF ROSHARON | 11493 | 1110 | 11 | 12 | HG | UI | RT | 12 | 4 | 4 | 12 | | Added in FY 2020 |
| HARDEMAN SLOUGH IMMEDIATELY DOWNSTREAM OF ALLENHURST RD NE OF FM 2540 NEAR ALLENHURST COMMUNITY | 12135 | 1305A | 13 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| CANEY CREEK IMMEDIATELY UPSTREAM OF CONCRETE BRIDGE 210 M DOWNSTREAM OF LINVILLE BAYOU CONFLUENCE AND ADJACENT TO FM 521 | 12151 | 1304 | 13 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| CANEY CREEK AT SERGEANT JOE PARKS JR MEMORIAL HIGHWAY / FM 457 IN MATAGORDA COUNTY | 12153 | 1305 | 13 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| WEST BAY OFFAT BAYOU MID BAYOU OPPOSITE LAKE MADELINE CANAL | 13322 | 2424D | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| WEST BAY AT RANGE MARKER D BETWEEN SOUTH DEER ISLAND AND TEICHMAN POINT | 14622 | 2424 | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| OFFATTS BAYOU OFF CM 18 | 14645 | 2424D | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| HIGHLAND BAYOU AT FM 519 | 15941 | 2424A | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | Added for FY2019. Ck if gage 08077710 is active. |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CANEY CREEK ABOVE TIDAL IMMEDIATELY UPSTREAM OF FM 457 IN CITY OF CEDAR LANE | 15951 | 1304 | 13 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | Added for FY2019. |
| SAN BERNARD RIVER IMMEDIATELY DOWNSTREAM OF FM 3013 ON THE COLORADO-AUSTIN COUNTY LINE APPROXIMATELY 15KM SW OF SEALY | 16370 | 1302 | 13 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| GEISLER BAYOU AT FM517 BRIDGE 0.19MI UPSTREAM OF DICKINSON BAYOU IN DICKINSON | 16470 | 1103C | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| BENSONS BAYOU AT FM 517 / PINE DR IN DICKINSON | 16471 | 1103A | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| MARYS CREEK AT MARYS CROSSING IN NORTH FRIENDSWOOD | 16473 | 1102B | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| ROBINSONS BAYOU AT FM270 IN LEAGUE CITY | 16475 | 1101D | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| HIGHLAND BAYOU 80 M NORTHEAST OF SH 6 BRIDGE CENTERPOINT IN BAYOU VISTA WEST OF IH 45 IN GALVESTON COUNTY | 16488 | 2424A | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| MARCHAND BAYOU TIDAL AT FM519 IN HITCHCOCK | 16490 | 2424C | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| HIGHLAND BAYOU AT FM 2004 IN HITCHCOCK IN GALVESTON COUNTY | 16491 | 2424A | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| CHIGGER CREEK AT FM528 BRIDGE IN FRIENDSWOOD | 16493 | 1101B | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| HIGHLAND BAYOU AT END OF BAYOU LANE FREDDIESVILLE | 16562 | 2424A | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| LAKE MADELINE AT CORNER OF BELUCHE DRIVE AND DOMINIQUE DRIVE IN GALVESTON | 16564 | 2424B | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| CLEAR CREEK TIDAL AT BROOKDALE DR APPROX 0.1MI DOWNSTREAM OF GRISSOM RD IN COUNTRYSIDE PARK IN CANOE LAUNCHING AREA IN LEAGUE CITY | 16576 | 1101 | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| MAGNOLIA CREEK AT W BAY AREA BLVD LEAGUE CITY APPROX 250 M UPSTREAM OF WWTP PERMIT WQ0010568-003 | 16611 | 1101A | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COWART CREEK 9 METERS UPSTREAM FROM CASTLEWOOD DRIVE BRIDGE IN FRIENDSWOOD | 16677 | 1102A | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| HICKORY SLOUGH AT ROBINSON DRIVE IN PEARLAND | 17068 | 1102C | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| CHOCOLATE BAY 200 M NORTHWEST OF HORSE GROVE POINT AND 5.1 KM DOWNSTREAM OF FM 2004 | 17086 | 2432 | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| MOSES BAYOU AT SH 3 IN TEXAS CITY | 17910 | 2431E | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| NEW BAYOU AT FM 2004 S/SW OF HITCHCOCK | 17911 | 2432E | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| PERSIMMON BAYOU AT FM 2004 S/SW OF HITCHCOCK | 17913 | 2432D | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| COW BAYOU AT NASA ROAD 1 IN WEBSTER 100 M EAST OF FM 270/EL CAMINO REAL | 17928 | 1101C | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| AUSTIN BAYOU TIDAL AT FM 2004 | 18048 | 1105B | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| BASTROP BAYOU OFF BAYOU WOOD DR DUE EAST OF BRAZORIA CR 201 AT BASTROP BAYOU DR | 18502 | 1105 | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| BASTROP BAYOU TIDAL APPROXIMATELY 15 M OFF NORTH BANK AND 1.55 KM UPSTREAM OF FM 2004 IN RICHWOOD VILLAGE | 18503 | 1105 | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| BASTROP BAYOU TIDAL MID CHANNEL AT NORTH END OF BASTROP BEACH ROAD 350 M DOWNSTREAM OF FM 523 SE OF ANGLETON | 18504 | 1105 | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| BASTROP BAYOU TIDAL 38 M NORTH OF N END OF COMPASS DR/BRAZORIA CR 504 APPROXIMATELY 4.4 KM DOWNSTREAM OF FM 523 SE OF ANGLETON | 18505 | 1105 | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| AUSTIN BAYOU IMMEDIATELY UPSTREAM OF DANBURY-ANGLETON ROAD/BRAZORIA CR 210 EAST OF DANBURY | 18506 | 1105C | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| FLORES BAYOU IMMEDIATELY UPSTREAM OF DANBURY-ANGLETON ROAD/BRAZORIA CR 210 EAST OF ANGLETON | 18508 | 1105A | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MUSTANG BAYOU IMMEDIATELY UPSTREAM OF EAST SOUTH STREET 85 METERS WEST OF SOUTHBOUND SH 35 IN ALVIN USGS ID 8077890 | 18554 | 2432A | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| UNNAMED TRIBUTARY OF CLEAR CREEK TIDAL IN FOREST PARK CEMETERY IMMEDIATELY UPSTREAM OF S FEEDER RD OF I 45/GULF FWY S OF NASA RD 1 IN WEBSTER | 18591 | 1101F | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| UNNAMED TRIBUTARY OF MOSES LAKE AT STATE LOOP 197/25TH AVE NORTH 432 M EAST OF NORTHBOUND SH 146 IN TEXAS CITY | 18592 | 2431C | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| HIGHLAND BAYOU DIVERSION CANAL MID CHANNEL AT SECOND STREET BRIDGE 467 M UPSTREAM OF PRICE ROAD WWTP RELEASE IN HITCHCOCK | 18593 | 2424G | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| MARYS CREEK BYPASS AT EAST BROADWAY ST/FM 518 WEST OF SUNSET MEADOWS DR IN PEARLAND | 18639 | 1102F | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| UNNAMED TRIB OF MARYS CREEK 8 M DOWNSTREAM OF THALERFIELD DR E OF OLD CHOCOLATE BAYOU RD/BRAZORIA CR 89 APPROX 300 M UPST SILVER LAKE WWTP | 18636 | 1002G | 11 | 12 | HG | UI | RT | 12 | 4 | 4 | 12 | | Add in FY2021. No sonde data unless collecting samples. Replaced site 21734 (Brushy Bayou) |
| WILLOW BAYOU AT BAKER ST 404 M UPSTREAM OF FM 2004 SOUTH OF SANTA FE IN GALVESTON COUNTY | 18668 | 2432B | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| ENGLISH BAYOU MID BAYOU 250 M EAST AND 83 M SOUTH OF 61ST ST BRIDGE CENTERPOINT IN GALVESTON | 18695 | 2424E | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| CLEAR CREEK ABOVE TIDAL AT YOST ROAD TERMINUS IN PEARLAND IN BRAZORIA COUNTY | 20010 | 1102 | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| SAN BERNARD RIVER TIDAL AT SH 35 SOUTHWEST OF WEST COLUMBIA | 20460 | 1301 | 13 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WEST BERNARD CREEK AT WHARTON CR 225 IN EAST OF HUNGERFORD | 20721 | 1302B | 13 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| PEACH CREEK AT WHARTON CR 117/CHUDALLA ROAD/ARCHER ROAD 89 METERS SOUTH OF THE INTERSECTION OF WHARTON CR 117/CHUDALLA ROAD/ARCHER ROAD AND WHARTON CR 121/ WHARTON CR 119/DONALDSON ROAD IN EAST OF WHARTON | 20722 | 1302D | 13 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| MOUND CREEK AT BRAZORIA CR 450/JACKSON SETTLEMENT ROAD 1.22 KILOMETERS UPSTREAM OF FM 1301 IN WEST OF WEST COLUMBIA | 20723 | 1302E | 13 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| BORDENS GULLY AT SPRUCE DRIVE IN DICKINSON | 20724 | 1103B | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| UNNAMED TRIBUTARY OF GUM BAYOU AT OWENS DRIVE 1.51 KILOMETERS UPSTREAM OF CONFLUENCE WITH GUM BAYOU IN DICKINSON | 20728 | 1103G | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| CARY BAYOU IMMEDIATELY UPSTREAM OF RACCOON DRIVE BRIDGE IN BAYTOWN (Tidal) | 21079 | 0901A | 9 | 12 | HG | UI | RT | 4 | 4 | 4 | | | Added to CMS for FY21. Replaced site 21734 (Brushy Bayou) |
| CHOCOLATE BAYOU IMMEDIATELY UPSTREAM OF BRAZORIA CR 171 / MUSTANG CHOCOLATE BAYOU ROAD IN LIVERPOOL | 21178 | 1107 | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |
| MUSTANG BAYOU AT THE HEIGHTS-MANVEL ROAD /CARDINAL DRIVE BRIDGE NEAR ALVIN | 21416 | 2432A | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| UNNAMED TRIBUTARY OF BASTROP BAYOU TIDAL AT BRAZORIA CR 213 / SHELL ROAD 7.0 KILOMETERS EAST OF ANGLETON | 21735 | 1105D | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |
| TURKEY CREEK AT BEAMER ROAD 1.5 KM SOUTHEAST OF FM 1959/DIXIE FARM ROAD IN FRIENDSWOOD | 21925 | 1102D | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | 4 | | |

| Site Description | Station ID | Waterbody ID | Basin | Region | SE | CE | MT | Field | Conv | Bacteria | Flow | 24 hr DO | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AUSTIN BAYOU TIDAL 1.60 KILOMETERS UPSTREAM OF THE CONFLUENCE WITH BASTROP BAYOU IN BRAZORIA COUNTY | 22012 | 1105B | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | Replaced site 18507 in FY2020. |
| ARMAND BAYOU TIDAL 100 METERS DOWNSTREAM OF CONFLUENCE WITH SPRING GULLY | 22187 | 1113 | 11 | 12 | HG | UI | RT | 4 | 4 | 4 | | | New site added for dropping 2 Jarbo Bayou sites in FY2020. |
| COTTON BAYOU 10 METERS UPSTREAM OF WESTBOUND IH-10 FRONTAGE ROAD IN MONT BELVIEU | 22232 | 0801E | 8 | 12 | HG | UI | RT | 12 | 12 | 12 | 12 | | Added to CMS for FY21. Field without 'grab' sonde measurements. |
| CHOCOLATE BAY 1.2 KM EAST OF WHARTON BAYOU AND 8.1 KM DOWNSTREAM OF FM 2004 ** | 17085 | 2432 | 24 | 12 | HG | UI | RT | 4 | 4 | 4 | | | |

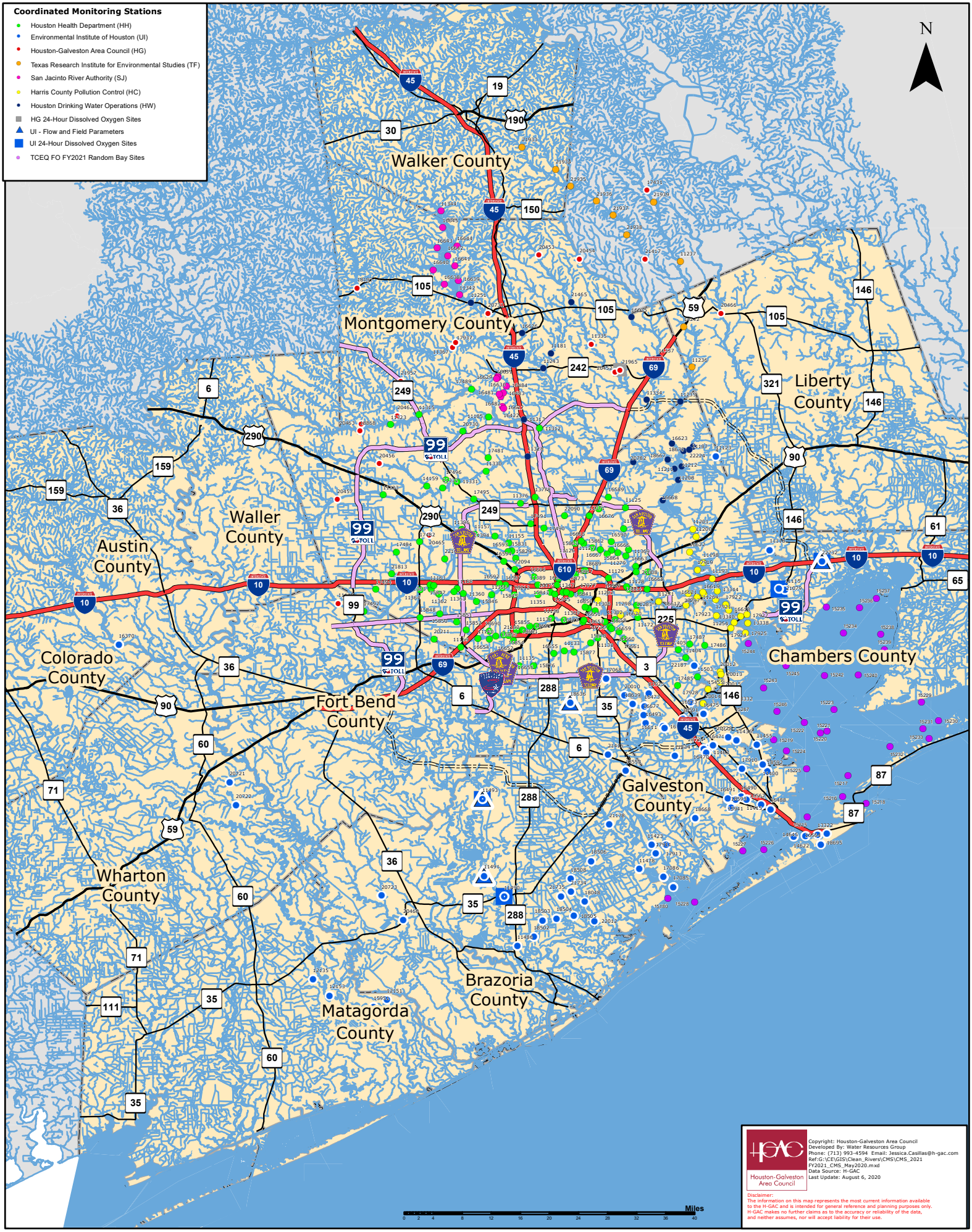
**In FY16, this became a field parameter station only unless EIH cannot collect a water sample from another regular station during quarterly monitoring. TKN & Chloro will never be collected in FY18.

# Appendix C: FY2021 Station Location Map

## *Station Location Map*

A map of the stations monitored during FY2021 by the H-GAC and all subparticipants is provided below. The map was generated by H-GAC. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximately relative location of property boundaries. For more information concerning this map, contact Jessica Casillas at 713-993-4594 or Jean Wright at 713-499

# H-GAC's 2021 Regional Coordinated Monitoring Stations



**HHD Field Sheet/COC Replacement page for Appendix D & E**

**Run No.:** 7
**Field No.:** 5
**Station ID:** 17482
**USGS Gage Station ID:** 08072760

City of Houston
Houston Health Department
Bureau of Pollution Control and Prevention
7411 Park Place Blvd
832.393.5730 FAX 832-393-5726
**FIELD FORM & CHAIN OF CUSTODY FORM**

HOUSTON HEALTH DEPARTMENT

**Location Name:** Langham Creek @ Hwy 6

**Date:** _____ **Time (hhmm):** _____ **Samples Collected by:** _____

**Number of Days Since Last Rain Fall:** _____ **Field Meter #:** _____ **Calibration Date:** _____

## FIELD OBSERVATIONS

| Flow Severity | Tidal Stage | Color | Odor | Water Surface | Current Weather | Wind Intensity |
|---|---|---|---|---|---|---|
| | | | | | | |
| 1 – no flow<br>2 – low<br>3 – normal<br>4 – flood<br>5 – high<br>6 – dry* | 1 – low<br>2 – falling<br>3 – slack<br>4 – rising<br>5 – high | 1 – brownish<br>2 – reddish<br>3 – greenish<br>4 – blackish<br>5 – clear<br>6 – other* | 1 – sewage<br>2 – oily/chemical<br>3 – rotten egg<br>4 – musky<br>5 – fishy<br>6 – none<br>7 – other* | 1 – calm<br>2 – ripples<br>3 – waves<br>4 - whitecaps | 1 – clear<br>2 – partly cloudy<br>3 – cloudy<br>4 – rain<br>5 - other | 1 – calm<br>2 – slight<br>3 – moderate<br>4 - strong |

| Flow Method | Flow (cfs) | Secchi Depth (cm) | Sample Depth (m) | Total Depth (m) |
|---|---|---|---|---|
| | | | | |

1 – flow-gauge station
5 - Doppler

## INSTRUMENT READINGS

| Temp (°C) | Conductivity (mS/cm) | pH (s.u.) | Salinity (PPT) | Dissolved Oxygen (mg/L) |
|---|---|---|---|---|
| | | | | |
| (1.0 to 38.0°C) | (0.03 to 60 mS/cm) | (5.0 to 10.0 s.u.) | (0.009 to 45.0 PPT) | (0.5 to 15.0 mg/L) |

***Other Observations:**
_____
_____
_____
_____
_____

**Request for Analysis (circle what is requested)**

| | | |
|---|---|---|
| 1 – pH | 5 – $Cl^-$ | 9 – $N\text{-}NO_2$ |
| 2 – Conductivity | 6 – $SO_4$ | |
| 3 - TSS | 7 – $N\text{-}NH_3$ | 10 – *E. coli* |
| 4 – $N\text{-}NO_3$ | 8 – $T\text{-}PO_4$ | 11 – Enterococcus |

**No. of Containers:**

| | |
|---|---|
| ___ 100 mL sterile plastic | ___ 1 gallon plastic |
| ___ 1 L plastic | ___ 1 L plastic w/ $H_2SO_4$ |
| ___ 1 L plastic (TKN) bottle w/ $H_2SO_4$ (Analyzed by H-GAC Contract Lab) | |

**For lab use only:**

Acid ID#: $H_2SO_4$

Samples Received on Ice? Yes / No Thermometer ID:_____
Temp (°C) _____ Corrected Temp (°C) _____ Corrected Factor(°C) _____

**Samples relinquished by:** _____ **Date/Time:** _____

**Lab Sample No.:** _____ **Received by:** _____ **Date/Time:** _____

FF&COC version 15 updated 07/2020

*Note: If site is dry, photo should be taken. If water present within 400 m, and pool is 10+m long, and 0.4+m deep, collect sample and record Maximum pool width, depth, length, and percent pool coverage in 500 m reach (if measurable) in observations section.