

# **Source Water Susceptibility Assessments**

## **Addendum 6**

(Revision 2)

to the

### **Quality Assurance Project Plan for the Texas Commission on Environmental Quality Public Water System Supervision Program Relating to the Safe Drinking Water Act**

Effective

November 10, 2022



## List of Acronyms

API	area of primary influence
CA	corrective action
COC	contaminant of concern
DSG	Data Support Group
DSS	decision support system
DWIP	Drinking Water Inventory and Protection
DWSF	Drinking Water Special Functions
DWTR	Drinking Water Technical Review
GIS	Global Information System
GPM	gallons per minute
GPS	global positioning system
GW	groundwater
OW	Office of Water
PSOC	potential sources of contamination
PWS	Public Water System
PWSS	Public Water System Supervision
QA	quality assurance
QC	quality control
QMP	Quality Management Plan
SDWA	Safe Drinking Water Act
SDWIS	Safe Drinking Water Information System
SOP	standard operating procedure
SSGW	spring seepage and groundwater
SWA	Source Water Assessor
SWAP	Source Water Assessment and Protection
SWDM	Source Water Data Manager
SWP	Source Water Protection
SWPP	Source Water Protection Plan
SWSA	Source Water Susceptibility Assessment
TDIR	Texas Department of Information Resources
USGS	United States Geological Survey
WSD	Water Supply Division

# **(A) Project Management**

## **A1 Approval**

The following individuals are signatories on this QAPP Addendum because they are responsible for management and assurance of quality of the work described.

### **Steven Swierenga, Section Manager**

Texas Commission on Environmental Quality (TCEQ) / Office of Water (OW) / Water Supply Division (WSD) / Drinking Water Special Functions Section (DWSFS)

Signature: Steven Swierenga Date: 9/13/2022

### **Sean Ables, P.G., DWSF Special Assistant**

TCEQ/OW/WSD/DWSFS

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### **Jacolyn Saldaña, Team Leader**

TCEQ/OW/WSD/DWSFS/ Drinking Water Inventory and Protection (DWIP) Team

Signature: Jacolyn Saldaña Date: 09/13/2022

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## **A3 Distribution List**

The PWSS Program Lead Quality Assurance Specialist (QAS) ensures the individuals on the distribution list in Section A3 of the QAPP Programmatic document receive a copy of the Programmatic QAPP and Addenda. Redistribution occurs when amendments or revisions are approved and published.

The Team Leaders of the TCEQ Drinking Water Inventory and Protection (DWIP) Team and Drinking Water Technical Review (DWTR) Team ensure the QAPP is distributed, or otherwise made available to all participants specified in Section A4 of this QAPP Addendum.

The current version of the Programmatic QAPP and Addenda are on the TCEQ PWSS Program webpage at <[tceq.texas.gov/drinkingwater/pwss.html](http://tceq.texas.gov/drinkingwater/pwss.html)>.

## **A4 Project/Task Organization**

Section A4 of the Programmatic QAPP document describes roles and responsibilities of TCEQ individuals in WSD management positions, including the PWSS Program Lead Quality Assurance Specialist, Deputy Directors, Section Manager etc.

The individual/groups listed below manage, administer and/or participate directly in the stated activities related to source water susceptibility assessments (SWSA).

### **DWIP Team Leader and SWAP Program Staff**

Leads the DWIP Team which includes the Source Water Assessment and Protection (SWAP) Program. The SWAP Program receives and manages applicable data/information and performs source water susceptibility assessments (SWSA) for drinking water sources to determine their susceptibility to contaminants.

### **DWTR Team Leader and Data Support Group Staff**

Leads the DWTR Team which includes oversight of the Data Support Group (DSG). The DSG helps maintain the Safe Drinking Water Information System (SDWIS) and SWAP databases; and extracts information to update upper management, program support, and public information requests.

### **DWSF Special Assistant**

Serves role of Source Water Data Manager (SWDM) and SWA oversight for this project. Performs monthly quality control (QC) on data/information, runs SWSAs, and generates SWSA reports.

## **A5 Problem Definition and Background**

The SDWA amendments of 1996 required states to prepare a SWSA for PWSs to protect them from contamination. The amendments required states to determine the following for all PWSs.

- source water(s)
- origin of any contaminants of concern (COC)
- susceptibility to COC exposure

The TCEQ finalized the State of Texas Source Water and Protection Strategy in 1999. In 2003, the TCEQ sent out SWSA Reports to more than 6,000 PWSs, representing more than 18,000 surface water intakes or groundwater wells and 247 individual COCs. In 2004, the TCEQ began a rotating schedule for SWSAs wherein one-third of PWSs statewide were assessed annually or sooner if protection-program activities deemed it necessary.

In 2011, the TCEQ developed its current assessment approach (Source-Water Susceptibility Assessment in Texas: Approach and Methodology, 2011) with the help of the United States Geological Survey (USGS) and a technical workgroup based on assumptions that both natural processes and human activities contribute to the susceptibility of a system to COCs. At this time, the SWP program transitioned to a voluntary program with several dozen systems being evaluated annually. Maintenance and enhancement of SWAP DSS software ended in 2011. The SWAP DSS software is incompatible with TCEQ's current version of GIS software.

## **A6 Project Description**

SWSAs involve the tasks and components described in this section and are determined and/or calculated using the SWAP DSS software. Under each of the assessment components (with the exception of Delineation), a relative susceptibility rating of high, medium, or low is produced. The software uses over 100 attributes or indicators to develop the components for each PWS. Source results are combined based on capacity (when a PWS has multiple sources), and the results are combined into a single SWSA for the PWS. The TCEQ uses the information from the SWSA to develop a SWSA report which provides maps and information about the susceptibility rating of the water system to contaminants. SWSA Reports also include a list of options for implementing a SWAP as well as a list of options for making the material available to the public.

### **SWSA Tasks and components**

The TCEQ workflow for completing a SWSA involves the following tasks/steps listed below. The TCEQ uses work instructions to complete these tasks (see Section A9).

1. Receipt of PWS engineering plans.
2. Management and input of source water data/information (e.g., water source location, capacity (pumping) data, well construction data) into the SWAP and SDWIS databases (See Section B10).
3. Verifying that the data are complete, consistent, and accurate.
4. Loading the data into the SWAP DSS.
5. Completing each assessment component, Table A6.
6. Generating the SWSA Report.

**Table A6 Source Water Susceptibility Assessment Components**

<b>Component</b>	<b>Explanation</b>
Identification of Sources	Uses the source location and the hydrogeological or hydrographic properties to delineate the source area(s) for the intake or well. Under the identification component, a susceptibility rating is produced for groundwater sources only and is based on well structural integrity.
Delineation	Delineates water source area(s) based on hydrogeological or hydrographic properties identified under the identification component.
Intrinsic Susceptibility	Estimates the degree to which intrinsic factors such as climatology, soils, and topography cause the intake or well to be more or less susceptible to contamination. Produces susceptibility ratings for each assessed COC for the well or intake.
Non-Point Source susceptibility	Evaluates and/or models non-point sources as potential sources of contaminant exposure. Produces susceptibility ratings for each assessed COC for the well or intake.
Point Source Susceptibility	Estimates whether potential sources of contamination or permitted discharge associated COCs are likely to affect the well or intake based on physical properties of the COC and of the aquifer or contributing watershed. A susceptibility determination is made by comparing the estimated final concentration at the well or intake from all point/area sources, after COC attenuation, to the TCEQ-established COC threshold. Produces susceptibility ratings for each assessed COC for the well or intake.
Contaminant Occurrence	Identifies COC detections above TCEQ-threshold values at water quality monitoring and finished water sites near the intake or well. If COCs are detected above the threshold, a "High" susceptibility rating is assigned. Produces susceptibility ratings for each assessed COC for the well or intake.
Source Susceptibility Summary	Combines all component ratings into a summary assessment for the intake or well. Produces susceptibility ratings for each assessed COC. SWSAs produce both a source susceptibility summary and a system susceptibility summary.
System Susceptibility Summary	For a public water system with multiple intakes or wells, combines all source summary component ratings into a summary assessment for the system. Produces susceptibility ratings for each assessed COC.

## **A7 Quality Objectives and Criteria**

### **Objectives and Project Decisions**

The objective of this project is to SWSAs consistent with the overall objective of the SDWA to protect drinking water and public health. The following activities described in this

document pursuant to state and federal rules and regulations ensure quality objectives are met.

- management oversight
- staff training
- guidance, work instructions, SOPs, etc.
- required reporting protocols and data security
- assessment and response procedures

SWSAs do not involve the collection of measurement data.

## A8 Special Training/Certifications

TCEQ personnel performing work on this project are qualified and trained to perform their assigned work per the TCEQ QMP and Section A8 of the QAPP main document.

The current SWDM is trained and has extensive experience in geospatial concepts and use of Agency Global Information System (GIS) software, map/photo interpretation experience, and understanding of cartographic concepts. He has also attended the Federal Geographic Data Committee (FGDC) Geospatial Metadata Workshop.

## A9 Documents and Records

### A9.1 Documents and Records

The documents and records that describe, specify, instruct, and report SWSA activities are listed in Table A9.2.

**Table A9.1 SWSA Documents and Records**

<b>Document or Record</b>	<b>Purpose</b>	<b>Format/Location</b>
The State of Texas Source Water and Protection Strategy, 1999	Describes the SWAP Program including SWSAs which: (1) identifies the areas that supply public drinking water (2) delineates the boundaries of the assessment area, and (3) inventories the potential sources of contamination within the assessment areas, It also describes the SWPP which: (1) informs the public of results and (2) implements a SWPP.	Electronic <a href="https://www.tceq.texas.gov/drinkingwater/SWAP/index_swa.html">https://www.tceq.texas.gov/drinkingwater/SWAP/index_swa.html</a>
SWSA in Texas: Approach and Methodology, 2011	Describes the current component approach SWAP DSS software to produce SWSAs.	Electronic <a href="https://www.tceq.texas.gov/drinkingwater/SWAP/index_swa.html">https://www.tceq.texas.gov/drinkingwater/SWAP/index_swa.html</a>
SWSA Using SWAP-DSS	TCEQ instructions used to calculate the susceptibility assessment for PWS sources.	WSD Network drives



<b>Document or Record</b>	<b>Purpose</b>	<b>Format/Location</b>
Software-Work Instructions		
SWAP Data Input-Work Instructions	TCEQ instructions that outline the processes involved in using the dbSwapEntry database.	WSD Network drives
PWS Source Water Data for Incoming Plans-Work Instructions	Provides a checklist of steps for entering PWS source information into the SDWIS database obtained from incoming plans from the Utilities Technical Review Team (UTRT).	WSD Network drives
Completed SWSA Reports	SWSA reports describe the SWSA methodology, present the results of the SWSA, and explain how the results can be used including how to develop SWPPs. (See Section A9.3) SWSA Reports are maintained as an agency record.	SWAP files and Central File Records Summaries are displayed on <a href="http://www.tceq.texas.gov/goto/dww">www.tceq.texas.gov/goto/dww</a>
SW documents from Engineering plans	Documents from engineering plans (e.g., well reports, cementing certificates, geophysical logs, maps, etc.) serve as SWSA records.	SWAP files and Central File Records

## **A9.2 Quarterly and/or Final Reports**

### **SWSA reports**

The SWSA report contain the following information:

- Overview of the SWSA methodology.
- Information about the PWS and its drinking water source(s).
- Brief summary of the SWSA results listing the contaminants for which the system has been determined to have a high or medium susceptibility rating.
- Component scores for contaminants with high or medium susceptibility ratings for each source of drinking water for the system.
- Maps of drinking water sources and potential sources of contaminants (PSOCs) identified within and around the delineated assessment areas (see subsection below).
- A list of the 227 identified drinking water contaminants used within this assessment.
- Count of PSOCs located within the assessment area.
- Information on how to use the assessment results to develop a TCEQ SWPP.

## **Maps**

The PWS well-capture zone maps included with the SWSA Report are unique to each PWS. The capture zones are created using computer algorithms based upon the hydrogeology of the area and each respective well's construction. When some of this information is missing, a half-mile diameter circle, a fixed radius is automatically delineated as the capture zone.

The PWS intake capture zone maps consist of the area of primary influence (API) and the watershed. Nearby PWSs may share the same API and/or watershed. The API is based upon a 1000-foot buffer from a waterbody shoreline. It may extend upstream for PWS intakes drawing from rivers or streams. How far upstream the API extends depends upon a two-hour time of travel. The API boundaries are determined by characteristics that are specific to the TCEQ source water assessments. The API applies the same characteristics for boundary determination for each PWS. The watershed boundaries are determined by the natural topography specific to the particular PWS being assessed.

## **(B) Data Generation and Acquisition**

### **B1 Sampling Process Design**

Not Applicable.

### **B2 Sampling Methods**

Not Applicable.

### **B3 Sample Handling and Custody**

Not Applicable.

### **B4 Analytical Methods**

Not applicable.

### **B5 Quality Control**

Not applicable.

### **B6 Instrument/Equipment Testing, Inspection, and Maintenance**

Not applicable.

### **B7 Instrument/Equipment Calibration and Frequency**

Not applicable.

### **B8 Inspection/Acceptance of Supplies and Consumables**

Not applicable.

## **B9 Non-Direct Measurements**

Not Applicable.

## **B10 Data Management**

The TCEQ uses Standard Operating Procedures (SOP) or to manage source water data/information by performing the following activities.

- Removes applicable paper documents (e.g., State of Texas Water Well Report, Cementing Certificate, USGS topographical maps, geophysical logs, etc.) from the PWS engineering plan packets.
- Reviews document information for completeness and accuracy.
- Stores the information in electronic and hard copy formats.
- Enters data/information contained within the documents in both SDWIS and the SWAP database.
- Labels all documents to be archived in the SWAP files with the complete assigned water source code.

The SWAP database was created using Microsoft Access and is used to store source water data/information from the engineering plans as described above. The SWDM has read/write access. Data/information entered into the SWAP database include, but are not limited to, well depth, site location, drill date, aquifer type, construction details, static water levels, well site geology, horizontal data, pumping rates, etc.

SDWIS is also used to store the following source water data/information from engineering plan documents.

- name of the drinking water source
- physical location
- depth and status of well
- TCEQ source water code
- owner's source ID
- source type
- physical address
- rated/tested pump capacities
- activity/availability status
- treatment status
- locational data
- flow connections source/plant/EP/ distribution

There is some redundant information in the two databases and on a regular frequency the data are "reconciled" (i.e., migrated from the SWAP database to SDWIS) to ensure the data in each database are both correct and identical.

SDWIS is maintained by the TCEQ. All data systems and infrastructure are located within the State of Texas' Data Center Services. Access to SDWIS is restricted and users must be

added by both the SDWIS Administrator and the TCEQ Database Administrator. The SWAP DSS software loads SWAP database and SDWIS data/information required to run an assessment, and copies the completed assessment datasets to active, archive, and complete folders. Each PWS has its own folder, for example sys\_1234567, and each source under this folder is named src\_G1234567A. The TCEQ SWAP DSS software uses ESRI® ArcGIS. The input software for SWAP-DSS is loaded on local GIS PCs. The SWA has read/write access.

## **(C) Assessment and Oversight**

### **C1 Assessments and Response Actions**

#### **C1.1 Corrective Actions (CA)**

In accordance with the TCEQ QMP, all TCEQ staff working on behalf of this QAPP are responsible for identifying deficiencies when there are nonconformances with established procedures involving the performance of their work. Deficiencies may be identified during the performance of routine work, or during audits and oversight.

Most nonconformances are not “deficiencies” as addressed in this section. Staff routinely encounter, document, and correct technical and procedural nonconformances at the point of origin using established procedures defined in SOPs that include documentation of problem, solution, implementation and follow-up. These nonconformances are documented at the point of origin and maintained with the applicable project records. However, the level of corrective action described in this section may be warranted when established procedures don’t prevent a situation from recurring.

##### **C1.1.1 Deficiencies Requiring a Corrective Action Plan**

Deficiencies are unique nonconformances that cannot be corrected by established procedures and will require actions to be defined and documented in a corrective action plan (CAP) within 14 days. Upon detection of a deficiency, staff are responsible for notifying their management in writing.

For this project, deficiencies may involve, but are not limited to the following situations.

- SWSA results or conclusions are jeopardized
- Nonconformances with state or federal regulations
- Intentional misrepresentation of data or information
- Repeat nonconformances or deviations from standard practices

The preparation of CAPs is assigned to appropriate staff by managers who are responsible for assuring that CAPS are:

- Appropriately prepared, reported, implemented, and verified effective.
- Implemented in ways that will most likely eliminate the problem and prevent recurrence.
- Forwarded to PWSQA@tceq.texas.gov within 14 days of initial notification.

The PWSS Program Lead Quality Assurance Specialist, or designee, receives and reviews CAPs to determine if actions planned to resolve the deficiency are acceptable, provides feedback on any items determined to be insufficient, tracks reported CAPs, and may monitor implementation. Appropriate staff may be designated to review and track corrective actions that are not deemed significant, as described in C1.1.3.

### **C1.1.2 Required Content for a CAP**

The procedure for preparing a CAP following the identification of a deficiency begins with an investigation to determine the root cause(s). Procedures for CAPs are specified in laboratory, contractor, or PWSS Program SOPs. Management selects and implements CAPs that will mostly like eliminate the problem, prevent recurrence, and are appropriate for the magnitude and degree of risk of the deficiency.

CAPs must include the following information:

- Description of the deficiency
  - What happened, how was it identified, and the date identified?
- Root cause
  - What was the underlying cause? Why did the deficiency occur?
- Programmatic or data impact(s)
  - How did the deficiency affect data or program decisions and what was reviewed (including timeframe) to determine the impact?
- Corrective action taken
  - What was done to correct the deficiency?
- Timeline for corrective action(s)
- Documentation
  - How will the corrective action(s) be documented?
- Actions to prevent recurrence
  - What actions will be taken to prevent the deficiency from occurring again? These must be distinctly different from the corrective actions.
- Timeline for action(s) to prevent recurrence
- Documentation
  - How will the preventative action(s) be documented?
- Verification of effectiveness
  - Who will verify effectiveness, when will verification occur, and how will verification be documented?

The TCEQ QA Program has developed a standardized template form that may be used, TCEQ QAF-005. This template can be accessed through the [TCEQ Quality Assurance](#)<sup>1</sup> webpage under the Corrective Action Process section. The form is also available by request at PWSQA@tceq.texas.gov.

### **C1.1.3 Significant Deviations**

The PWSS Program Lead Quality Assurance Specialist determines whether an identified or reported deficiency is a significant deviation as defined by, but not limited to, any of the following:

- It jeopardizes the integrity of results or conclusions.
- Results in non-conformance with state or federal regulations.
- Was associated with the intentional misrepresentation of data or information.

The PWSS Program Lead Quality Assurance Specialist will forward information related to CAPs for significant deviations to the TCEQ QA Manager, WSD Grant Manager, affected Deputy Director(s), Program and Section Managers within 30 days of receipt of the CAP, as applicable. The Lead Quality Assurance Specialist will monitor the implementation and completion of CAPs related to significant deviations and advise management of the status of the CAP (recurring, closed, etc.).

### **C1.2 Authorization to Stop Work**

TCEQ management will authorize work stoppage if conditions are identified that indicate compliance is in jeopardy or if primacy requirements are not being met. The PWSS Program Lead Quality Assurance Specialist, TCEQ QA Manager, or TCEQ Grant Manager may also request a work stoppage.

## **C2 Reports to Management**

The DWIP Team Leader and special assistant report to the Section Manager concerning SWSA status and any problems encountered in their duty assignments on at least a per monthly basis. The Section Managers report to the deputy director, as needed. The dates of assessments are recorded in the SWAP database and are used by the Team Leader and the Section Manager to report status to upper management.

CAPs and reports of significant corrective actions are reported to affected Division Directors and the PWSS Program Quality Assurance Specialist as described in Section C1.

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<sup>1</sup> [www.tceq.texas.gov/agency/qa](http://www.tceq.texas.gov/agency/qa)

## **(D) Data Review and Usability**

### **D1 Data Review, Verification, and Validation**

This section defines the review processes to ensure SWSA data/information and reports are of known and defensible quality consistent with objectives specified in Section A7. The review of data and information involves verification as defined below.

Verification: Evaluating the completeness, correctness, and conformance/compliance of a specific data/information set against method, procedural, or contractual requirements described in this QAPP.

The review and verification data/information and reports as specified in Section D2 to ensure they are complete, correct, and comply with regulatory and procedural requirements to determine acceptance of CCI data/information, letters, and reports are either deemed acceptable or unacceptable based on the verification of reports and data. Situations do not exist in which data or information are qualified for use by data users.

### **D2 Validation and Verification Methods**

The process for reviewing documents submitted with engineering plans is described in the procedure entitled SWAP Data Input-Work Instructions (See Section A9). There are many records and documents within the engineering plans, a number of which (e.g., State of Texas Water Well Report, Cementing Certificates, USGS topographical maps) contain critical information necessary for a SWSA. Upon receipt, the SWDM manually reviews the plan contents to ensure they are complete. The SWDM also checks to be sure the contents belong to the PWS listed on the cover letter(s) or memo and double-checks the PWS name, county, and PWS ID with the SYMSTR table. At this point, the PWS ID and Plan Review log number are entered into the form along with the date received, date complete, staff initials, type of information received, and any necessary remarks. The SWDM is regularly assigned new plans for data review and entry. Staff initials are used to make sure individual staff members can only enter data for their assigned projects, ensuring the uniqueness and integrity of data for each PWS.

A key aspect of the manual plan review is to verify the Water Source ID and whether one has previously been issued. The SWDM checks the most recent sanitary survey, the SDWIS and SWAP databases, and the entire PWS folder in the SWAP files. If an ID has been assigned, it is used. If no source water ID has been assigned, the next sequential water source is used and entered in both SDWIS and SWAP databases. All paper documents are then labeled with the assigned source code ID and filed in the SWAP files. At this point, source water information related to groundwater, surface water, operational status, and location are entered into the SWAP and SDWIS databases.

Data are verified by the SWDM during the data entry process as described in the SWAP Data Input-Work Instructions and PWS Source Water Data for Incoming Plans-Work Instructions, respectively. These work instructions prescribe a number of manual and electronic checks throughout the data entry process. For example, when entering data in the SWAP database, the SWDM manually checks certain information against other records like locations, static water level, well geology, surface attributes, pump information, etc.

Manual checks are essential to the running of the assessment software and the SWDM has to electronically certify that all information is complete and accurate as it is being entered. Electronic functions of the SWAP database are also key to ensuring accurate, valid, and complete data. Sub-forms are used to view data and forms are used to edit data. After data are edited, QC processes including a number of referential integrity checks are run.

Once per month, tables in the databases are checked against each other by the SWAP Program Assessor to ensure links are working. Tables are also reviewed for missing information and certain fields are limited to set values to ensure consistency. These tables include information detailing well depth, well construction, well geology, organic waivers, and well locations. Locational data are then reviewed for valid ranges of latitude and longitude and missing fields are populated if necessary. This facilitates the quality of data in SDWIS. The review of data is handled in the SWAP Access database and then the data are migrated into SDWIS.

To review and verify the assessment results, the SWA Special Assistant completes the following steps after the source water susceptibility assessment is completed.

1. Determines if the delineation appears to be accurate and correct. If a well record has all of the necessary information (depth, gallons per minute (GPM), screened interval, location, etc.) and the well location falls within a major/minor aquifer, then a capture zone should have been created. The half-mile circle will be used for non-major/minor aquifers or wells with missing information.
2. Checks the size of the capture zone to see that it is sized properly, based on confined/unconfined conditions and well pump rate. An example of a typical error is entering a well's pump rate of 10 GPM as 100 or 1000; in which case, the capture zone would be too large. The Edwards Aquifer and alluvial wells are exceptions since these will use different approaches, including watersheds.
3. Reviews the source summary tab listed in the spring seepage and groundwater (SSGW) column. Sorts the values by left clicking the column heading to search for all of the HIGH susceptibility contaminants. Checks each of the contributing columns to determine what made the source susceptible.
4. Reviews the system summary tab listed in the Susceptibility column. Repeats the process listed in the previous paragraph to determine what made the contaminant susceptible.
5. Reviews the map control element for point source to determine if PSOCs are identified. Questions what role these PSOCs played in the assessment.

If this review indicates the assessment has errors, the entire file must be deleted and the assessment rerun. When the software detects that an assessment has already been run, it does not overwrite the existing data. If the data meet objectives, the data in the original table are deleted and replaced with new information. If the data do not meet objectives, a message will appear describing the error. The database facilitates the input of accurate data by the use of look up tables which ensures consistency by limiting fields to only allowable and reasonable values.



### **D3 Reconciliation with User Requirements**

If there are any issues with the SWSA after it is completed, the SWA will attempt to determine inconsistencies or errors in the attribute data. If inconsistencies are found in the quality of the base data, an effort will be made to identify and obtain more accurate base data. If the results do not meet the project's requirements, the data may be reassessed to determine why the data quality did not meet the goals.

Limitations of the data are discussed in the assessment report. For example, if data for a particular attribute could not be obtained, default values may be used instead. If the PWS thinks the mapped well location(s) or any other aspect of the source water assessment report are incorrect, they are encouraged to submit a location change request to TCEQ using the instructions on the TCEQ Public Drinking Water Source Locations website, [tceq.texas.gov/drinkingwater/SWAP/source\\_locations.html](http://tceq.texas.gov/drinkingwater/SWAP/source_locations.html).