United States
Environmental Protection
Agency

Office of Ground Water and
Drinking Water

SDWIS/STATE System Administration Guide for Release 8.0

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SDWIS/STATE SYSTEM ADMINISTRATION GUIDE
FOR RELEASE 8.0

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Chapter 1: Introduction

Background of SDWIS

The Environmental Protection Agency's (EPA) Office of Ground Water and Drinking Water (OGWDW) is responsible for implementing the Public Water System Supervision (PWSS) Program established under the auspices of the federal Safe Drinking Water Act (SDWA) of 1974, the 1986 amendments, and the 1996 authorization. Two of OGWDW's major responsibilities under the Act are to set national standards for drinking water quality and ensure that states having assumed primary enforcement responsibility for maintaining water quality (i.e., primacy) are enforcing these standards.

The Safe Drinking Water Information System (SDWIS/STATE) application was developed to assist states in managing their drinking water programs and to assist the EPA Headquarters' system (SDWIS/FED) and regions in facilitating their partnership role with the primacy agencies.

SDWIS/STATE is an application designed to meet these modernization objectives and allow states and EPA regional offices to shut down their current data systems. The application accepts, stores, and assists in the analysis and reporting of information to support the SDWA. States and EPA regional personnel use the application to manage the oversight, collection, analysis, and reporting requirements of the SDWA. SDWIS/STATE assists state and EPA agencies in maintenance of critical information about public water system inventory and water quality. States can forward the information in SDWIS/STATE to a nationwide EPA database, SDWIS/FED.

In order to fully view SDWIS/STATE 8.0 screens, your display resolution set should be to 1024 x 768 pixels. To do this, right-click anywhere on a blank area on your desktop, select **properties** and select the **settings** tab. Slide the Desktop Area control towards the right until it reads 1024 x 768 pixels. Click **Apply** and **OK**.

Structure of SDWIS/STATE

The SDWIS/STATE application is divided into several components: the online *Legal Entities*, *Inventory*, *Sampling*, *Monitoring and Noncompliance*, *Enforcement*, *Online Data Dictionary*, *Sampling via Electronic Data Interchange* (EDI), and *Migration to State MDBP Summary* components are available to most users. *System Administration*, *Migration to SDWIS/STATE*, and *Migration to SDWIS/FED* components are available to SDWIS/STATE Administrators. The *System Administration* components, *Migration to SDWIS/FED*, and *Migration to SDWIS/STATE* are described in this guide. The remaining areas of the application are covered in the SDWIS/STATE User's Guide, which includes a detailed description of the components available to all users. Refer to it for an overall introduction to the application.

Topics Covered

This guide addresses the following topics and is intended for use by the SDWIS/STATE Administrator or other administrative staff:

System Administration   The *System Administration* component enables the state's SDWIS/STATE Administrator to establish users and to maintain reference tables that are used to verify data entry. Only the SDWIS/STATE Administrator may make additions or changes to data maintained in this component

Migration to   The *Migration to SDWIS/FED* component allows states to export data
SDWIS/FED   from SDWIS/STATE into the data transfer file (DTF) format, which is suitable for transfer to the federal database for drinking water information, SDWIS/FED.

Migration to   The *Migration to SDWIS/STATE* feature allows states to migrate data
SDWIS/STATE   from legacy systems into the SDWIS/STATE database.

CDS Setup   The *Compliance Decision Support* (CDS) Setup component runs a number of processes to establish appropriate associations, calculate values, and create sample summaries in order to implement the many Compliance Decision Support (CDS) compliance checks and assessment functions and produce CDS Reports
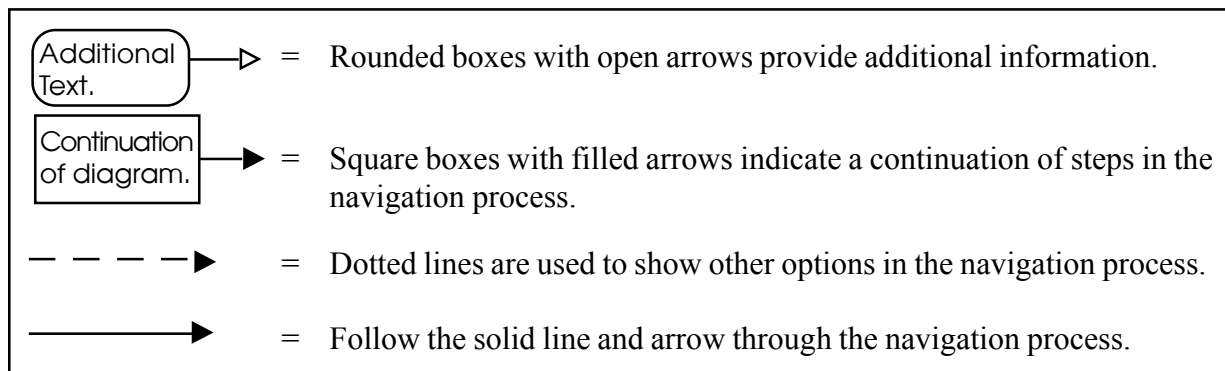
Exhibit 1-1. Key to Exhibits

Installation instructions for installing the database schema and the SDWIS/STATE application files are part of a separate SDWIS/STATE Installation Guide.

All exhibits in this guide present windows from the SDWIS/STATE application running on Windows 98. Use the key in Exhibit 1-1 to help guide you through the remaining exhibits in this document.

SDWIS/STATE User Support

After consulting the online Help, the User's Guide, and the System Administration Guide, users can call the SDWIS/STATE User Support Hotline at (703) 292-6298 for further support. The hotline is intended as a technical support tool for the operation and present functionality of SDWIS/STATE. Requests for expanded functionality or other changes in the software can be communicated to EPA or submitted to the SDWIS/STATE team at one of the addresses below.

A SDWIS/STATE team member answers calls to the hotline between 8 a.m. and 5 p.m. Eastern Time on weekdays (except federal holidays) and offers immediate user support when possible. During evenings, weekends, or those times when the support personnel are temporarily not available, callers can leave a detailed message. Questions that require the expertise of other team members—such as developers or subject matter experts—will be recorded and answered as soon as possible by the appropriate team member. In the case of urgent requests between 9 a.m. and 5 p.m. Eastern Time, a team member will respond to the caller within an hour of the initial hotline call.

Contact the EPA's user support representative in the OGWDW office at the following address:

> Clint Lemmons
> USEPA
> 1200 Pennsylvania Avenue NW
> Washington, DC 20460
> Fax: 202-564-3757   Phone: 202-564-4623
> Email: lemmons.clint@epamail.epa.gov

Contact the SDWIS/STATE development team at the following address:

> EPA Systems Development Center
> 6565 Arlington Blvd.
> Falls Church, VA 22042
> Fax: 703-292-6390

Contact the User Support Hotline

> Phone: 703-292-6298
> Email: sdwisstate@sdc-moses.com
> Hotline Call Reports: http://www.epa.gov/safewater/sdwis_st/state.htm

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Chapter 2: System Administration

System
Administration

About System Administration

The *System Administration* component allows a SDWIS/STATE Administrator to maintain reference tables and rules used to verify data entry and to establish users and their security levels. Only users with system administration privileges may use the *System Administration* component.

System Administration Basics

The *System Administration* main menu offers the following eight items under the **Edit** menu: **Areas Served**; **Primacy Rules**; **User Accounts**; **Rule Authority**; **Analytes, Methods and Rules**; **Enforcement Support**; **Permitted Values**; **Treatment**; and **CDS Setup**. These items are discussed in further detail below and are organized by submenu item. Additional information appears at the end of the chapter about displaying the User ID and maintaining Water System Groups.

Areas Served

Areas served are created in the database to represent a variety of geographic and service areas throughout a state in which water systems reside or provide service. The following two menu items are available under **Edit/Areas Served**.

Geographic

The **Geographic** menu item allows you to maintain information describing the various geographic areas within a state (e.g., city, county, and township). Geographic areas may be used to precisely identify political, franchise, and other legal areas where a water system has the authority to operate. The relationships of cities to counties and counties to states may also be maintained. If the exact characteristics of the areas are not known, you can perform a search. The FIPS code field on the Geographic Area Maintenance window may contain a variety of codes, including the Indian Reservation Code, the FIPS County Code, City Served Code, Congressional District Code, Metropolitan Statistical Area (MSA), and possibly other types of codes. Double-click on any name in the retrieved list to display the Geographic Area Maintenance window, where the information on the area can be maintained (Exhibit 2-1).

Note that you can record both a FIPS County Code and a State County Code for your counties. If a county has a FIPS code, that is reported to SDWIS/FED. If a county does not have a FIPS code, then the State County Code is reported to SDWIS/FED. If you do not have FIPS codes for your counties, you need to make sure that EPA has cross walked its FIPS county codes to your State County code. Otherwise, you will receive an error from SDWIS/FED.

These codes will have to be removed by your DBA or someone who is approved by your SDWIS/ STATE Administrator to work directly with data in the database tables.

In addition, in the rare event that a new county is added to the database for your primacy area, you may need to initially add both codes so that SDWIS/FED can establish a crosswalk between the two codes. Once the new county record has been included in an Inventory data transfer file (DTF) and accepted by SDWIS/FED, make the record consistent with the remaining County records.

Note: Principal counties may be assigned to cities. When maintaining cities, the Principal County can be assigned to the City. Principal County means the county in which the majority of the City residents live. See the Geographic Area Maintenance window.
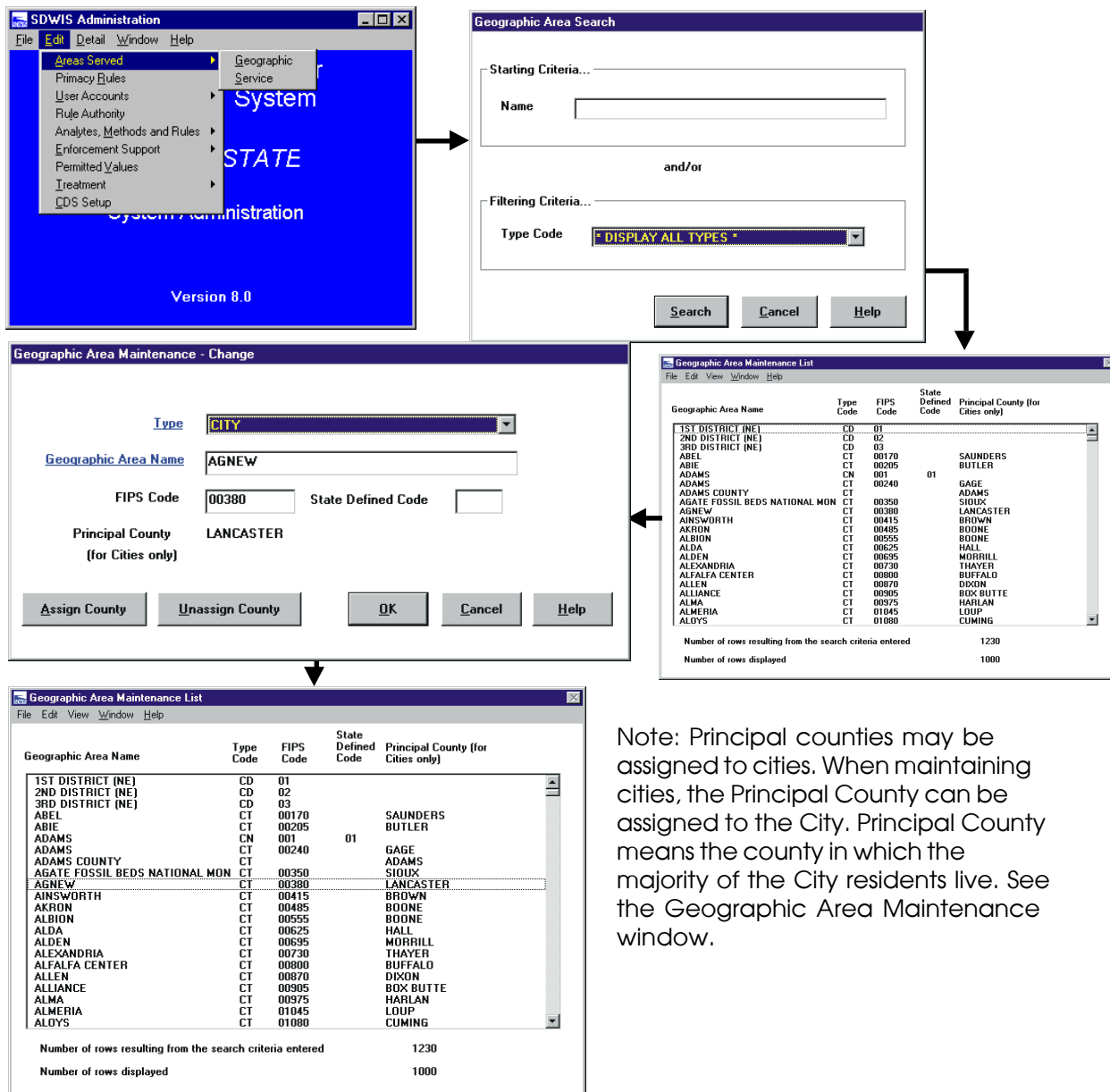
Exhibit 2-1. Geographic Area Principal County Select Window

Service

The **Service** menu item maintains the list of valid service areas (e.g., hospital, mobile home park). Double-click on an item in the Service Area Maintenance List to display the Service Area Maintenance window, where the SDWIS/STATE Administrator can change information about a service area (Exhibit 2-2). To add a new service area, select **Edit/Add** from the Service Area Maintenance List, then choose the Classification Code, enter the Service Area Name, and assign a unique two-character Name Code for storing the name in the database.

Select **Edit/Areas Served/Service** from the System Administration main menu.

Maintenance List Window

You may add, change, or delete state-owned service areas. The 28 federally owned service areas cannot be changed or deleted.

Service Area Maintenance - Add

Classification Code   RESIDENTIAL

Service Area Name   RESIDENTIAL AREA

Name Code   RA

OK   Cancel   Help
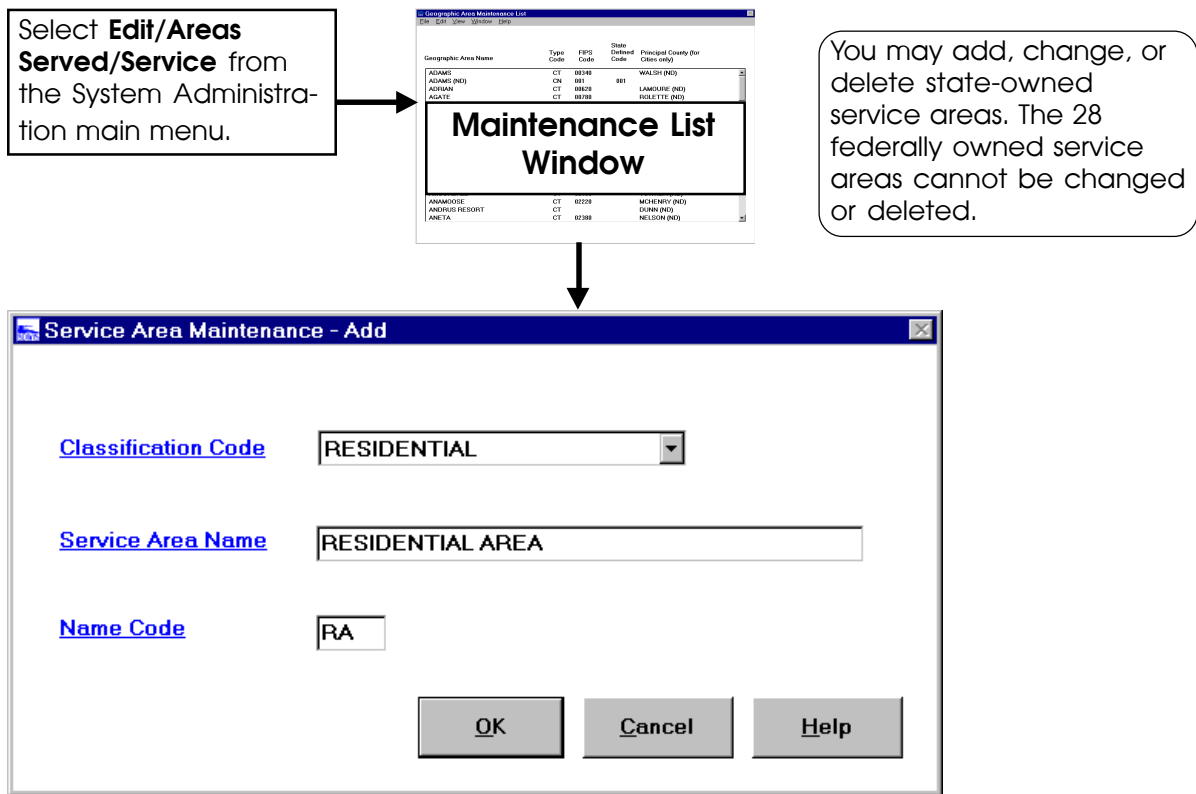
Exhibit 2-2. Service Area Maintenance

Primacy Rules

The **Edit/Primacy Rules** menu option maintains the primacy rule data used to determine state water system classifications. Select **Edit/Primacy Rules** to display the Rule Table Maintenance List (Exhibit 2-3). Double-click on an item to display the Rule Table Maintenance window. Only state-owned rules can be modified.

The Rule Table Maintenance window allows the SDWIS/STATE Administrator to modify the state rule table. This table contains the rules used to assign the state water system type codes. Entries in this table define the limits used to identify water systems as public water systems and further categorize them into each of four possible types: community (C), transient non-community (NC), non-transient non-community (NTNC), and non-public (NP).

Each row in the table defines the limits for one category within one government entity. The government agency that defined each rule is identified in a separate attribute in the same table. The table contains "HQ" for the federal government rules and the two-character U.S. Postal State Code for the state-defined rules.

Select **Edit/Primacy Rules** from the System Administration main menu.

Agency Code	Rule Type Code	Minimum Service Connection Count	Minimum Residential Pop Served Count	Minimum Residential Non Trans Pop Served	Minimum Days
HQ	C	15	25	0	365
HQ	NC	0	25	25	0
HQ	NTNC	0	25	25	182
HQ	P	15	25	25	60
IL	C	15	25	0	365
IL	NC	10	25	25	0
IL	NTNC	50	15	10	365
IL	P	15	25	25	60

Rule Table Maintenance - Change

Government Agency Code

Rule Type Code: NON-TRANSIENT NON COMMUNITY

Minimum Service Connection Count: 0

Minimum Residential Pop Served Count: 25

Minimum Residential Non Trans Pop Served Count: 25

Minimum Days Count: 182

☐ Where Installed Indicator Code

OK   Cancel   Help

Highlight an item from the list and select **Edit/Change** from the menu.

Exhibit 2-3. Rule Table Maintenance

User Accounts

SDWIS/STATE users are classified as a type (public, data entry, compliance, or system administrator). Exhibit 2-4 shows the user categories that may access each component of SDWIS/STATE. An additional level of security must be maintained in the Oracle environment. Refer to the section on registering new users in the Post-Installation Activities chapter of the Installation Guide.

In order to restrict public users from updating the database, the Oracle DBA should grant select-only privileges for public users. This designation allows users to read data but not change the database. For instance, a public user cannot make a water system group current. The DBA should consider this restriction before granting select-only privileges.

	System Admin	Inventory	Legal Entity	Monitoring	Sampling	Sampling via EDI	Migration to SDWIS/STATE MDBP Summary	Migration to SDWIS/FED	Migration to SDWIS/STATE	Enforcement
Public		X	X		X	X	X			
Data Entry		X	X		X	X	X			
Compliance		X	X	X	X	X	X			X
Sys Admin	X	X	X	X	X	X	X	X	X	X

Exhibit 2-4. User Privileges

The SDWIS/STATE Administrator also assigns users to work for one or more government agency (Exhibit 2-5). This is an important step in creating the correct access for use in TCR noncompliance determination.

The two menu options that are available under **Edit/User Accounts** are described on the following page.

Select **Edit/ Change Govt Agency Access**

Select **Edit/ Add**

In order to enable a user to run TCR non-compliance determination, the appropriate government agency access must be established for that user and be assigned to the TCR Rule.

Exhibit 2-5. Government Agency Selection List

Maintain User

Select **Maintain User** to display the SDWIS User Maintenance List, where the SDWIS/STATE Administrator can add new users or maintain information about existing users (Exhibit 2-6). Double-click on a name to display the User Maintenance window. The process of adding a new SDWIS/STATE user is similar to adding (and results in the creation of) a new legal entity.

Exhibit 2-6. User Maintenance

Add Initial User

Upon installation of SDWIS/STATE, the first user is added as the SDWIS/STATE Administrator of the system (Exhibit 2-7). *This action is performed only once.* Upon completion, the remainder of the users are created by the SDWIS/STATE Administrator using the **Maintain User** option. When adding the first user (i.e., the SDWIS/STATE Administrator), you must also create the user in Oracle and grant system administrator privileges as described in the Installation Guide.

Exhibit 2-7. Add Initial User

Rule Authority

Under **Rule Authority**, SDWIS/STATE Administrators can assign regulating agencies the authority to perform noncompliance determination through SDWIS/STATE.

Select **Edit/Rule Authority** to invoke the Rule Selection List (Exhibit 2-8). Select a rule and the **Select** button to invoke the Current Rule Assignment List, which contains the current government agencies (EPA, state primacy agencies, or any state or county agency with appropriate regulatory authority) assigned to regulate water systems for the current rule. Currently, SDWIS/STATE has only automated TCR noncompliance determination. At a minimum, states that intend to use automated TCR NCD need to assign their primacy government agency to the TCR.
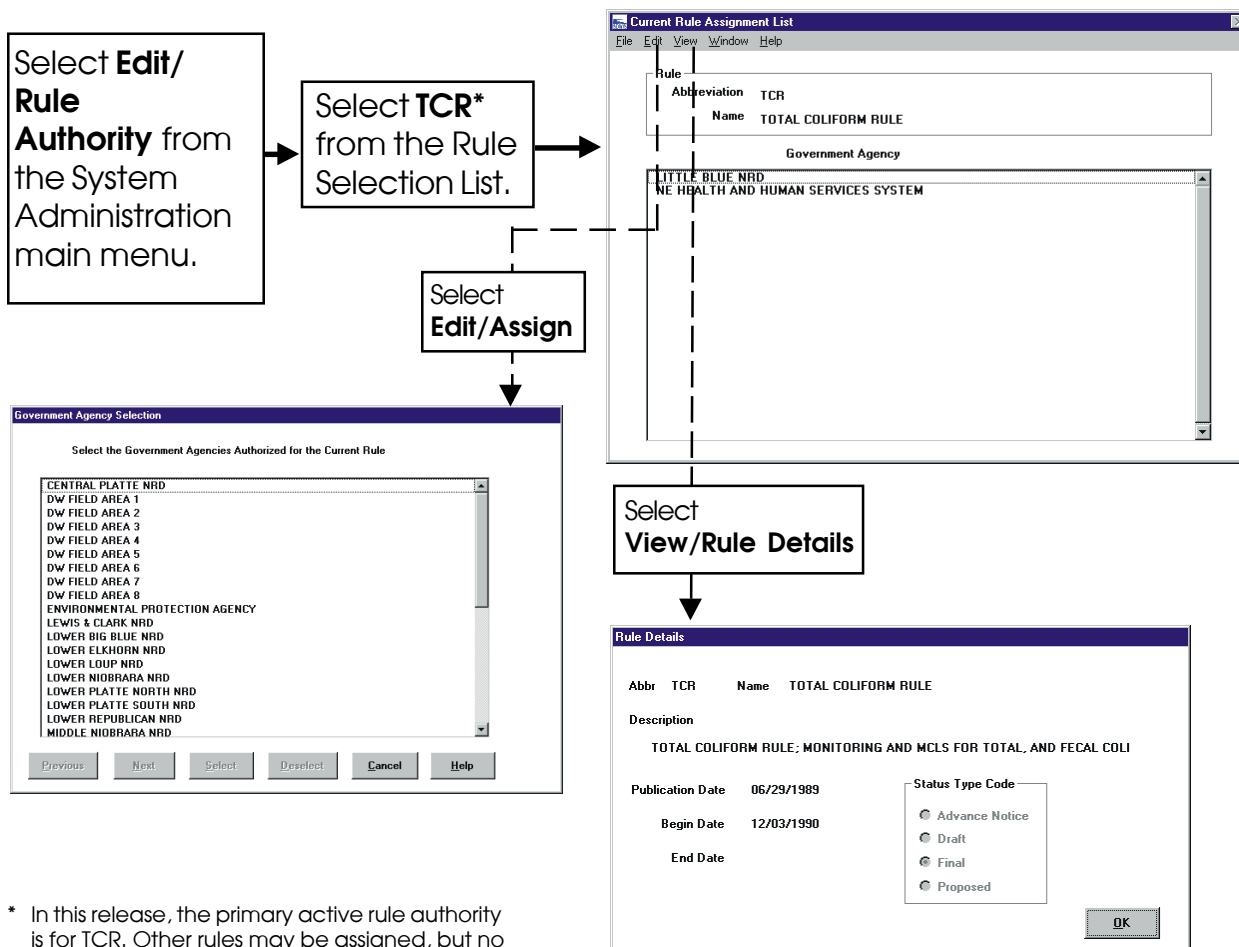
* In this release, the primary active rule authority is for TCR. Other rules may be assigned, but no automated sample scheduling or noncompliance determination exists.

Exhibit 2-8. Government Agency Selection List and Rule Details

The Current Rule Assignment List allows government agencies to be assigned or unassigned to the rule. On this window, details about the rule can be viewed under **View/Rule Details**. To assign a government agency, select **Edit/Assign** to invoke the Government Agency Selection list. Choose a government agency and click the **Select** button to return to the previous window. To unassign a government agency, highlight the agency and select **Edit/Unassign**.

Analytes, Methods, and Rules

Under the **Edit/Analytes, Methods and Rules** menu, the SDWIS/STATE Administrator can maintain **Analytes, Analyte Groups**, **Analyte Level**, **Standard Methods**, and **Analyte Method Pairings**. These submenu items are discussed in greater detail below. States can add and maintain their own records for these entities; federally owned records for these entities cannot be modified or deleted.

Analytes

System administrators can add new analytes to SDWIS/STATE. However, this should only rarely be required. The existing table of analytes contains nearly 700 records. Most of these are indeed analytes. However, this table also contains codes for Rules (e.g., SWTR - 0200, Lead and Copper - 5000, CCR - 7000), Contaminant Group Codes (e.g., All NIPDWR Inorganic Contaminants - 1***, 15 Unregulated Phase I VOCs - 2U15), and three carried over from a previous system.

Before adding an analyte, make sure the analyte is not already in SDWIS/STATE. You can do this by identifying the CAS Number for the analyte and searching based on it as well as searching by any other synonyms for the analyte. Once you are confident the analyte is not in SDWIS/STATE, contact EPA to see if they are in process of assigning a code number for it and to otherwise coordinate with them.

Select **Edit/Analytes, Methods and Rules/Analytes** to display the Analyte Search window (Exhibit 2-9). The Analyte Search window allows you to select analytes and other related records like EPA-defined contaminant groups, Rules with SDWIS/FED reporting codes by code, name, CAS Registry number, or analyte type. Most of the records in the Analyte table (TSAANLYT) are federally owned and therefore cannot be modified or deleted. Users can enter new analyte records, and these state-owned records can be modified or deleted. A state-owned record may not be deleted if it has been referenced.

When performing a search for an existing analyte, bear in mind the following: first, some analytes have more than one name and sometimes the names for a single analyte are dissimilar. If the analyte of interest has more than one name and you do not find a match based on the first name entered, try another name. Second, if the analyte has a CAS Registry Number, this may be a good way to search for it. Note that CAS Registry Numbers have not been entered for all EPA-owned analytes.
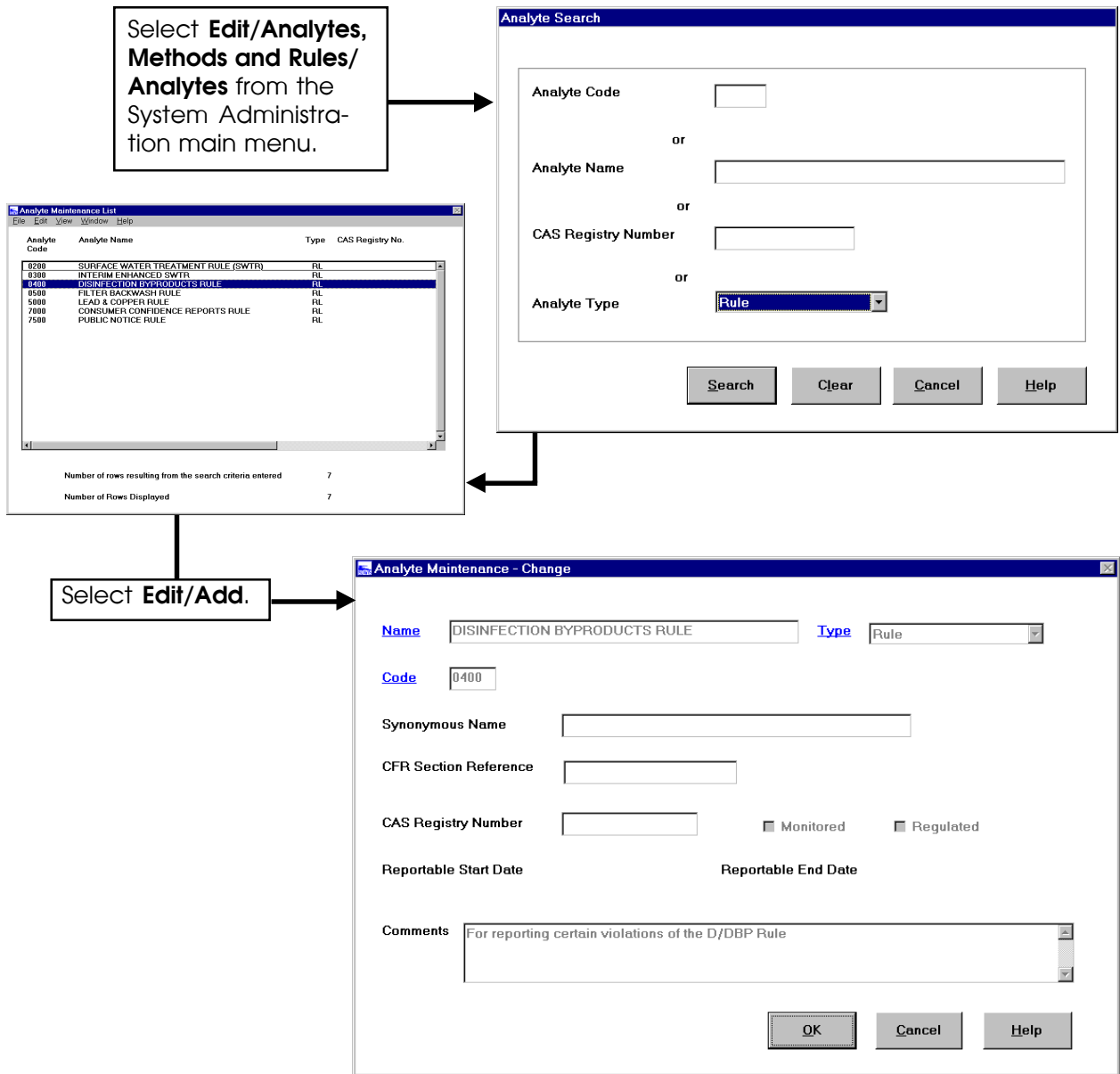
Exhibit 2-9. Analyte Maintenance

The following analyte types are used by SDWIS/STATE:

Inorganic Chemical	Organic Chemical
Organism	Group Contaminant
Radionuclide	Rule
Water Quality	Other (a record that is not an analyte and does not fit into Rule or Group Contaminant)

On the Analyte Search window, enter the Analyte Code, Analyte Name, CAS Registry Number, or Analyte Type by which you wish to search, then click on the **Search** button. To redefine the search criteria, click on **Clear** to reset the fields. To cancel the action and return to the previous window, click on **Cancel**.

(Note that there should never be more than one record with the same Analyte Name. However, the Analyte table does have some duplicates by Name. Also, sometimes more than one analyte record has the same CAS Registry Number, for example, Copper and Copper 90th Percentile.)

Clicking on the **Search** button displays the Analyte Maintenance List with the analytes that meet the specified search criteria. This window provides the capability to add, change, or delete state-owned analytes as defined below. Federally owned analytes can only be viewed. You can sort or filter the list by using the **View** menu.

Add   Choose **Edit/Add** on the Analyte Maintenance List to add a state-owned analyte. The Analyte Maintenance window appears (Exhibit 2-9).

The Analyte Maintenance window allows you to add or maintain information about state-owned analyte records. You can view federally owned analytes. Most of the records in the Analyte table (TSAANLYT) are federally owned; therefore, they cannot be modified or deleted. Users can enter new analyte records, and these state-owned records can be modified and deleted if they have not been referenced.

You may wish to exercise caution when adding a new analyte since it is easy to enter an analyte that already exists in the database under a different name. Before entering a new analyte, you may wish to perform a search on the World Wide Web, using the name you intend to enter. Your search should provide links to some reliable sources of information, like OSHA and EPA, where you can obtain synonyms and CAS Registry Numbers for your analyte.

You can create, edit, or view the information below about a state-owned regulated analyte record or view federally owned analytes. The mandatory fields, Name, Type, and Code are blue and underlined.

Name	CAS Registry Number
Type	Monitored
Code	Regulated
Synonymous Name	Comments
CFR Section Reference	

Click the **OK** button on the Analyte Maintenance window to add the analyte and display it on the top of the Analyte Maintenance List.

Change Select an item in the Analyte Maintenance List and select **Edit/Change** to display the Analyte Maintenance window. Federally owned analytes can be viewed but not changed.

Delete Select an analyte from the Analyte Maintenance List and select **Edit/Delete**. Only state-owned analytes can be deleted from the list.

Analyte Groups

Analyte groups are user-defined collections of analytes. Analyte Groups are used to accomplish three tasks in SDWIS/STATE:

- Add multiple results more rapidly using the online *Sampling* component.
- Create Monitoring Requirements, which are used to create Sample Schedules.
- Create Violations.

Analyte Groups for Results Entry

Analyte groups that are used to add multiple results more rapidly should mirror the laboratory forms used by data entry personnel, meaning the group should not only contain all the analytes typically reported by a given lab for a given method but should also be in the same order the laboratory uses for reporting. This makes data entry as simple as possible.

Analyte Groups for Sample Schedules and Violations

Your approach for establishing monitoring requirements for groups of analytes (e.g., the volatile organic chemicals, inorganic chemicals) influences the determination and maintenance of M&R violations. For example, assume you select an analyte group named "Regulated Organic Chemicals" (a group containing all of the regulated VOCs and regulated SOCs) when running the Chemical/Radionuclide M&R Compliance Check. Also assume that there are Sample Schedules in the database that reference this same Analyte Group as well as Sample Schedules that reference an Analyte Group consisting of all the regulated and unregulated VOCs (called "All VOCs").

If the compliance check determines that a Sample Schedule referencing the "Regulated Organic Chemicals" analyte group had not been satisfied, it creates a single candidate violation for this analyte group (a desired outcome). If, on the other hand, the compliance check determines that a Sample Schedule referencing the "All VOCs" analyte group had not been satisfied, the compliance check creates candidate individual violations for each of the analytes included in both the "Regulated Organic Chemicals" and the "All VOCs" analyte groups rather than a candidate violation for the "All VOCs" group. This happens because the "All VOCs" analyte group references some analytes not included in the group picked by the user. Because of this, you should take care to correlate analyte groups that you use for the M&R compliance check and those you use for Sample Schedules. (For example, if you intend to check compliance for all regulated organic chemicals, then only include regulated organic chemicals in the analyte groups used for schedules, not regulated and unregulated organic chemicals.)

From the *System Administration* main menu, select **Edit/Analyte, Methods and Rules/Analyte Groups** to invoke the Analyte Group Maintenance List, where you can add, change, or delete analyte groups (Exhibit 2-10). Analytes appear in the maintenance list in the order in which you highlight them.
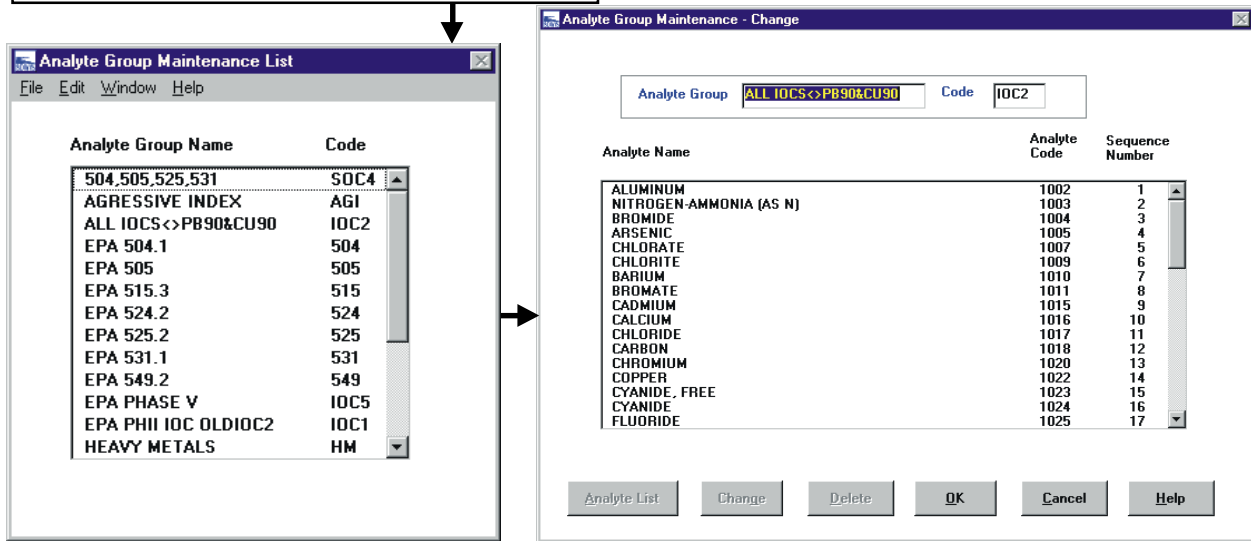
Exhibit 2-10. Analyte Group Maintenance

Add   Select **Edit/Add** from the Analyte Group Maintenance List to display the Filter By Analyte Type dialog box, then the Multiple Analyte Selection List. Highlight the analytes you wish to have in your group, then click on the **Select** button to invoke the Analyte Group Maintenance window.

On the Multiple Analyte Selection List, do not select any analyte where the type code is GC (Group Contaminant), RL (Rule), or OT (Other) when creating an analyte group. Do not use the following group contaminant codes when you create a new analyte group:

1***	All NIPDWR inorganic contaminants - type code is "GC"
2***	All NIPDWR organic contaminants - type code is "GC"
0200	Surface Water Treatment Rule (SWTR) - type code is "RL"
2U15	15 Unregulated Phase 1 Volatile Organic Compounds (VOC) - type code is "GC"
2U34	34 Unregulated Phase 1 VOCs - type code is "GC"
2U36	36 Unregulated Phase 1 VOCs - type code is "GC"
2V07	07 Regulated Phase 1 VOCs - type code is "GC"
2VO8	08 Regulated Phase 1 VOCs - type code is "GC"
1999	Note: Reserved by MSIS - type code is "OT"
2999	Note: Reserved by MSIS - type code is "OT"
4999	Note: Reserved by MSIS - type code is "OT"
5000	Lead and Copper - type code is "GC"

You can return to the Multiple Analyte Selection List by clicking the **Analyte List** button. To change the sequence in which the analyte appears, select the **Change** button. To delete the analyte from the list, select the **Delete** button. If the **Analyte List** button is grey (disabled), this means that the Analyte Group has been referenced by a violation or monitoring requirement and cannot, therefore, be modified. Analyte Group code values may not be the same as an Analyte code value.

Edit To edit a state-owned analyte group, highlight an analyte group and then select **Edit/Change** from the Analyte Group Maintenance List menu to display the Analyte Group Maintenance window. Double-click on an analyte in this window to change the order sequence in which the analytes are displayed within the group. Note: if you resequence analytes, the newly created analyte group will not function properly. You must finish creating the group, leave the group, and then return to the group to change the sequence.

Delete Select an analyte group and **Edit/Delete** from the Analyte Group Maintenance window to delete a state-owned analyte group that is not referenced by a violation or monitoring requirement.

Analyte Level

SDWIS/STATE Administrators can maintain all analyte levels in table TMNALRA except Action Level (ACL) and MCL records for Total Coliform, Fecal Coliform, and *E.coli* (Analyte Codes 3100, 3013, and 3014 respectively). The data in this table are considered state-owned, with the exception of the three records mentioned above. As you modify an analyte level, the value in the TMNALRA State Code field that has been modified is updated with your state or region's two-digit code.

Select **Edit/Analytes, Methods and Rules/Analyte Level** from the *System Administration* main menu to invoke the Analyte Level Search window (Exhibit 2-11). The Analyte Level Search window allows you to select analytes and rules that exist in the SDWIS/STATE lookup tables and create pairs (Analyte and Rule) that are appropriate in your state. Press the **Go To** buttons to invoke the Analyte Selection List or the Rule Selection List from which you may select the Analyte and/or Rule. You can also add contaminant levels and detection levels for the pairs that are added. However, you cannot modify or delete existing pairs from the SDWIS/STATE lookup tables.

Select the Rule and Analyte combination for which you want to add a rule or level. Then click on the **Search** button to invoke the Analyte Level Maintenance List, where you can add, change, or delete analyte levels as described below. Any row added by the state can be modified by the state.

Add Select **Edit/Add** to invoke the Analyte Level Maintenance window. The value that shows in the Measure field is stored in TMNALRA MEASURE_TEXT. This is a text field that SDWIS/STATE uses to accurately store the significant digits of a recorded level.
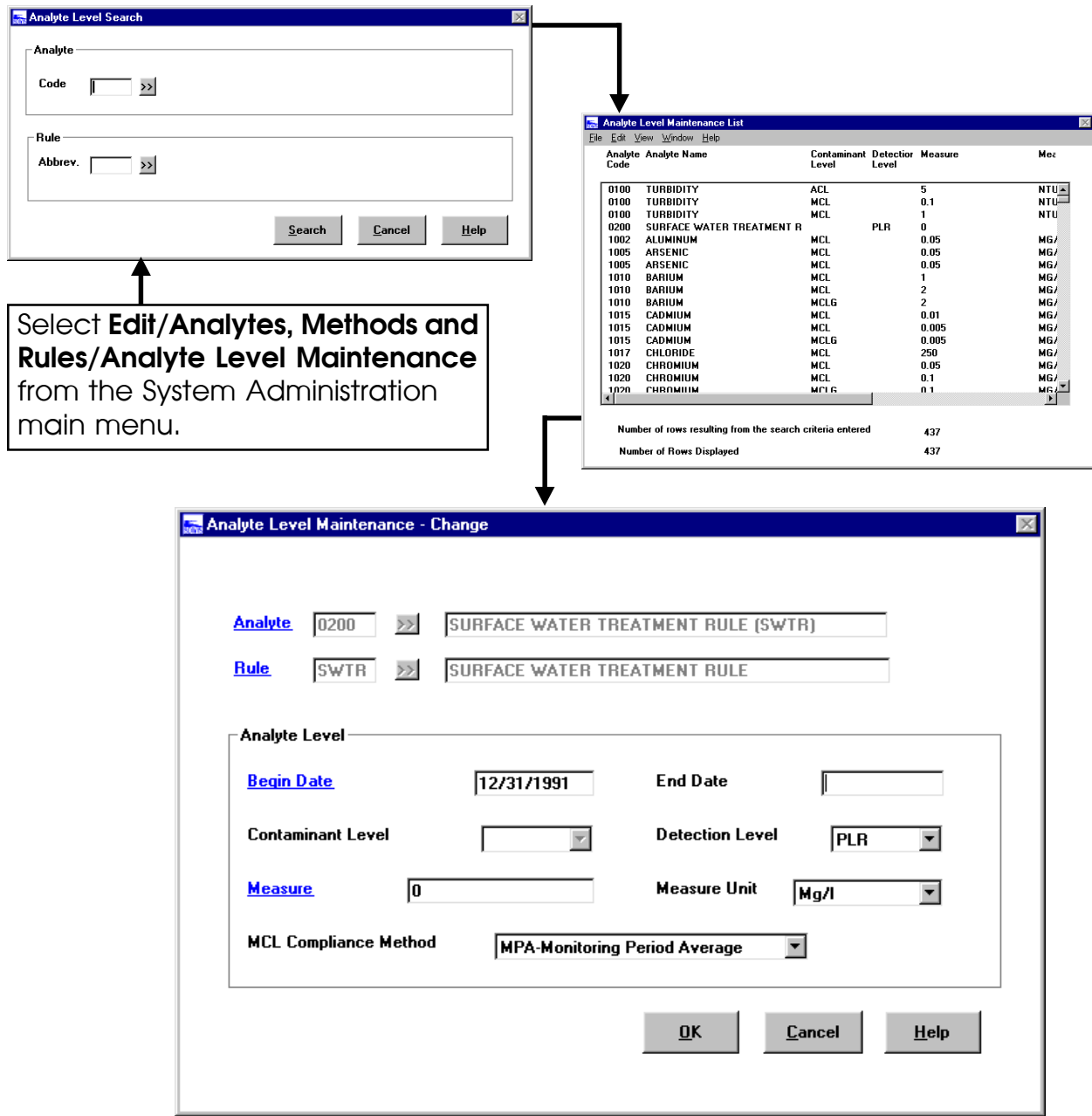
Exhibit 2-11. Analyte Level Maintenance

The MCL Compliance Method field lets you designate that a level applies to either Monitoring Period Average (MPA) or Running Annual Average (RAA) when the monitoring frequency for a given analyte is quarterly or more frequent. The Monitoring Period Average value applies to all analytes if they are on annual or greater monitoring. So, for example, the MCL Compliance Method attribute will be set to "MPA" for nitrate and nitrite but will be set to "RAA" for the other Phase II inorganic chemicals.

Change Select an item and then select **Edit/Change** to display on the Analyte Level Maintenance window.

Delete Select an item and then select **Edit/Delete** to delete an analyte level. If you select a state-owned analyte (only three are not state-owned) level for deletion, a delete confirmation dialog box is invoked. Deletion of three federally owned records (Action Level (ACL) and Maximum Contaminant Level (MCL) records for Total Coliform, Fecal Coliform, and *E. coli* (analyte codes 3100, 3013, and 3014 respectively)) is not allowed.

If you confirm the delete and the analyte level is of type MCL, each Sample Schedule Monitoring Period Assignment (SSMPA) record that is associated to a sample schedule that references the analyte referenced in the about-to-be-deleted analyte level record is retrieved. The Last Update Timestamp of each retrieved SSMPA record is set to current date and time prior to deleting the analyte level. (Deletion of one of the three federally owned records is not allowed.)

If you confirm the delete and the analyte level is of type ACL or Trigger Level (TRL), each sample schedule that references the analyte referenced in the about-to-be-deleted analyte level record is retrieved. The monitoring assessment flag of the sample schedule is set to spaces.

Analyte Level Maintenance

The Analyte Level Maintenance window allows you to select analytes and rules that exist in the SDWIS/STATE lookup tables, and create pairs (analyte and rule) that are appropriate in your state. You can also add contaminant levels and detection levels for the pairs that are added. All analyte levels (except the three for TCR) can be modified.

Note, only one analyte level can be modified on a single window. To change the Contaminant Level for a particular window, select the appropriate row from the Analyte Level Maintenance List and make the changes. To change the Detection Level, select the appropriate row and change the Detection Level on the Analyte Level Maintenance window.

SDWIS/STATE assesses compliance using levels that do not necessarily affect all systems on the same effective date or at the same level. These levels, established for a water system facility, are stored in the Facility Analyte Level table (TMNFANL) and can be entered using the Facility Analyte Level windows or by migrating them using the *Migration to SDWIS/STATE* component.

The following analytes may have levels stored in the Analyte Level table, but SDWIS/STATE determines the level compliance for these analytes from the values stored in the Facility Analyte Level table:

    0100   Turbidity Treatment Technique
    2950   Total Trihalomethanes (MCL compliance)
    2456   Total Haloacetic Acids (MCL compliance)
    1009   Chlorite (MCL compliance)
    1008   Chlorine Dioxide (MRDL compliance)
    0999   Chlorine (MRDL compliance)
    1006   Chloramine (MRDL compliance)

See the *User's Guide* chapter on Monitoring and Noncompliance for additional information about Facility Analyte Level.

Because Analyte Levels are maintained by states and regions, SDWIS/STATE Administrators need to modify existing levels and/or add new levels after schema migration using Analyte Level Maintenance.

Note that there are analytes such as 2920 (TOC), 1004 (Bromide), and 1067 (Alkalinity) for which no compliance level is specified. For these analytes, analytical results are used to calculate compliance. Two of them, TOC and Bromide, require the calculation of a running annual average (RAA) in order to determine compliance, a service which SDWIS/STATE CDS processes automatically performs.

The following uniqueness check for an existing Analyte Level Rule Asgmt makes sure that there is only one level of any given type for any given analyte at any given time: Related Analyte (Code) and Analyte Level Rule Asgmt Type (either Threshold Type Code or Measure Level Type Code attribute) and Effective Period (Begin Date and End Date). This means that, for example, there could not be two MCL values for barium (Analyte Code 1010) during the same effective period. If a duplicate is found, you receive the following error message: "Analyte Level for same Analyte, Type, and Effective Period already exists."

Standard Methods

This component enables System Administrators to:

*   Create a new Standard Method Number and link it to an existing Standard Method.
*   Create a new Standard Method and Standard Method Number.
*   Maintain a Standard Method or Standard Method Number that they have added (i.e., ownership not equal to "Federal").

Standard Method Names and Numbers delivered with SDWIS/STATE cannot be modified (i.e., ownership is equal to "Federal").

If it is important to your agency to record the analytical method used to obtain a result, then you need to use this component (and the next one) whenever a new standard method or standard method number is reported to your agency for an analytical result. You would first add the new standard method and/or standard method number using this component. Then you would use the Analyte Method Pairings component to assign the new method/number to the appropriate analyte(s). After

that, when you add the result online, this new method/number shows up in the pick list of methods for that analyte. If you use *Sampling via EDI*, then the result is accepted because the method and number specified in the structure set matches an Analyte Method Pairing stored in SDWIS/STATE. This component may be particularly useful as you implement many of the rules currently under development.

Select **Edit/Analytes, Methods and Rules/Standard Methods** from the *System Administration* main menu to invoke the Standard Method Search window, where you can specify a Standard Method Name or Standard Method Number Code (Exhibit 2-12). Click the **Go To** button for a list of Standard Method Names. Click the **Search** button to display the Standard Method Maintenance List with the standard methods that meet the specified search criteria. Add, change, or delete a state-owned standard method or standard method number from this window.

Add   At the Standard Method Maintenance List, select **Edit/Add** to invoke the Standard Method Maintenance window to add a standard method or standard method number. To create a new Standard Method, a new Standard Method Number that is paired with that Standard Method must be created at the same time. Click the **OK** button to invoke the Standard Method Maintenance List with the new standard method and Standard Method Number at the top of the list.

Change Select a Standard Method and then select **Edit/Change** to display the Standard Method Maintenance window. You cannot change federally owned methods and method numbers.

Delete Select a Standard Method and then select **Edit/Delete** from the Standard Method Maintenance list to delete it. You cannot delete federally owned methods or state-owned methods that have been referenced by results, analyte method pairings, etc.

Standard Method Maintenance

The Standard Method Maintenance window allows you to add new standard methods or change existing ones. You must enter a name in the Standard Method Name field or tab to the **Go To** button and select from the Standard Method Selection List. In the Standard Method Purpose field, you may enter the reason for adding or changing the standard method.

The Code field in the Standard Method Group Box is mandatory. The code must be unique. If the method is a collection method, check the Collection Method check box. You may enter the Start Date and the End Date as well as the Certifying Agency. To access a list of certifying agencies, click on the **Go To** button.

Click **OK** to accept the criteria you have entered or click **Cancel** to return to the Standard Method Maintenance List.
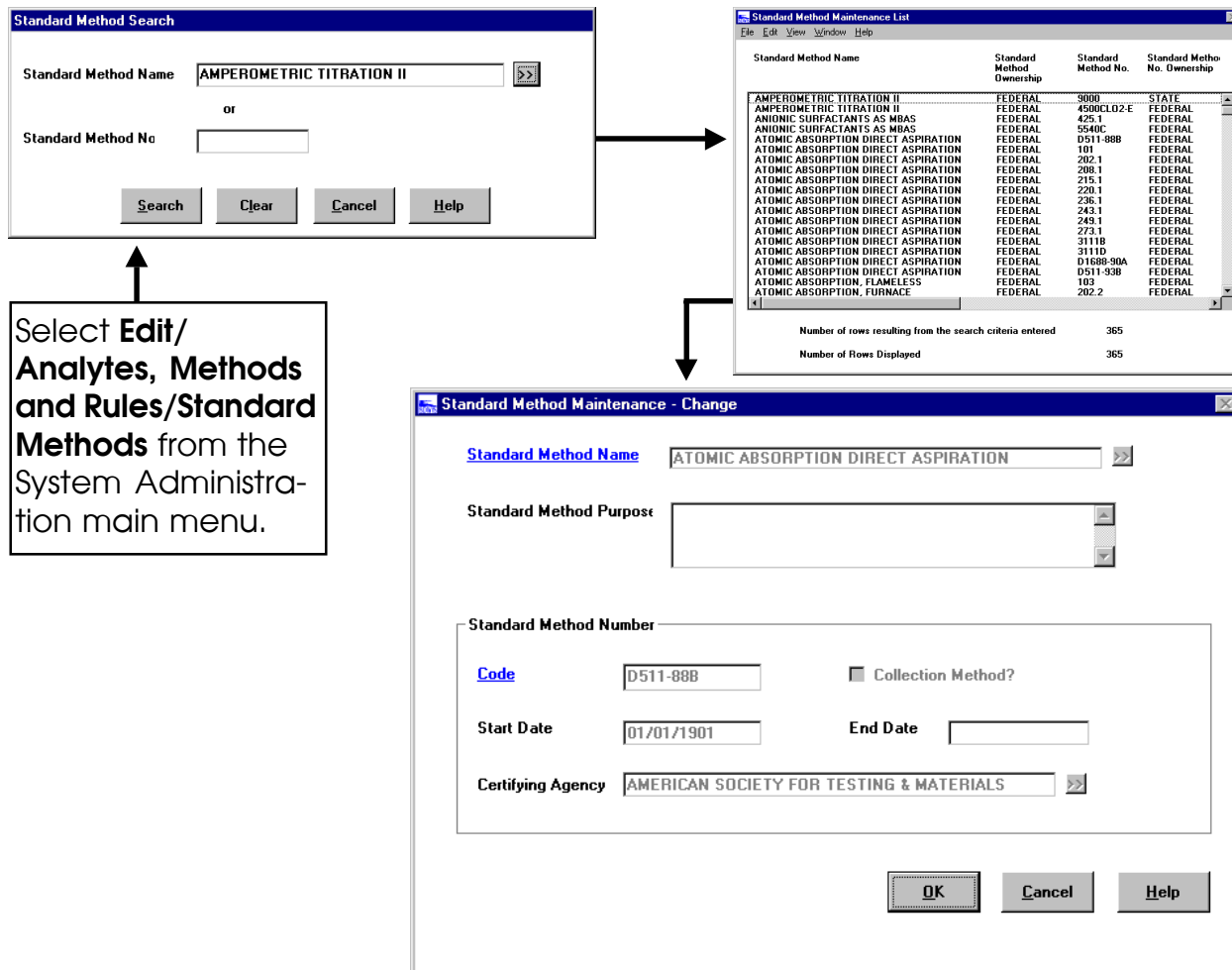
Exhibit 2-12. Standard Method Maintenance

Analyte Method Pairings

Select **Edit/Analytes, Methods and Rules/Analyte Method Pairings** from the *System Administration* main menu to invoke the Analyte Method Pairing Search window, where you can specify the Analyte Code or Standard Method Number Code (Exhibit 2-13). The Analyte Method Pairing Search window enables you to search for analyte method pairings by either Analyte Code or by Standard Method Number Code. You may either type the analyte code or tab to the **Go To** button and select a code from the Analyte Selection List or you may choose to type the standard method number code or tab to the corresponding **Go To** button and select from the Standard Method Number Selection List.

You can search for analyte method pairings based on Analyte, Standard Method Number, or both. Click the **Search** button to invoke the Analyte Method Maintenance List with those analyte method pairings that meet the specified search criteria.
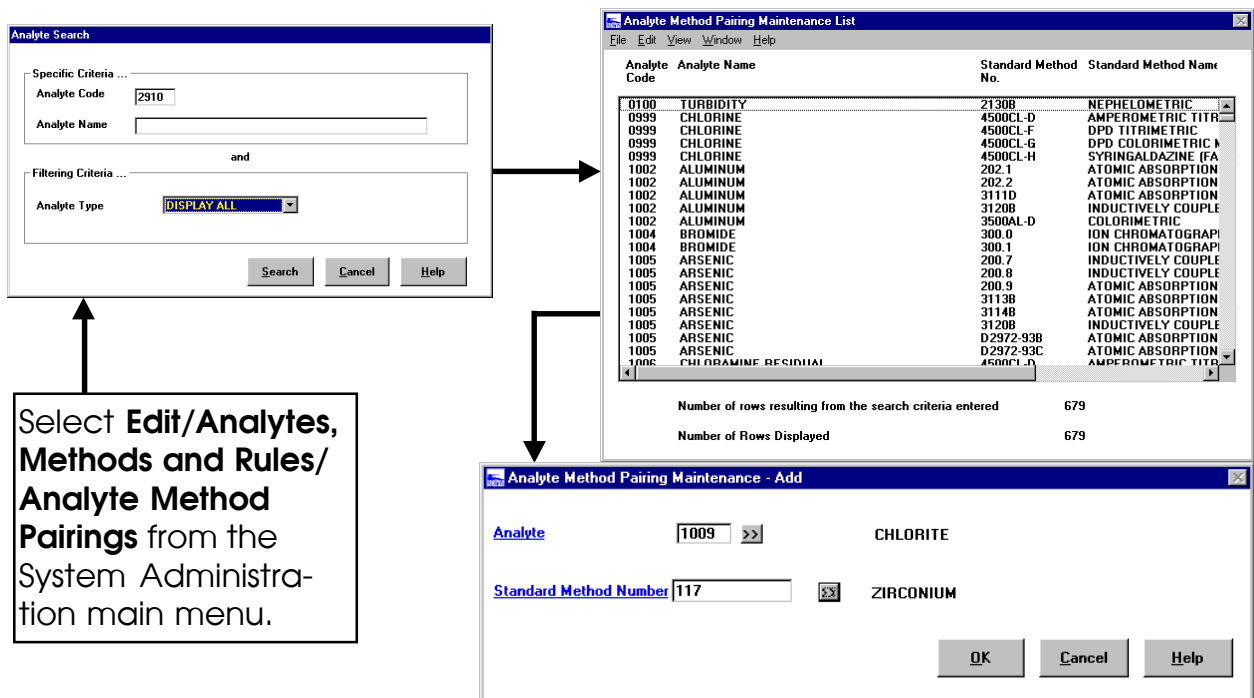
Exhibit 2-13. Analyte Method Pairing Maintenance

Analyte Method Pairing Maintenance

You can add or delete analyte method pairings from the Analyte Method Pairing Maintenance window as described below.

Add   To add a new analyte method pairing, select **Edit/Add** from the Analyte Method Pairing Maintenance List. This invokes the Analyte Method Pairing Maintenance window. The only constraint to creating a new analyte method pairing is that the pairing should not already exist in the database. New pairings can be:

- Federally owned analytes to federally owned standard method numbers.
- Federally owned analytes to state-owned standard method numbers.
- State-owned analytes to federally owned standard method numbers.
- State-owned analytes to state-owned standard method numbers.

Click the **Go To** buttons to display the Analyte Selection List or Standard Method Number Selection List.

The Analyte Method Pairing Maintenance List shows the total number of rows that met the search criteria. The total number of rows displayed may be less than the number of rows that met the search criteria. The value in the ownership column is set to Federal if it is federally owned.

Delete   To delete a state-owned analyte method pairing that has not been referenced, highlight the pairing to be deleted and select **Edit/Delete** from the Analyte Method Pairing Maintenance List.

Enforcement Support

Under the **Edit/Enforcement Support** menu option from the *System Administration* main menu, the SDWIS/STATE Administrator has the capability to maintain **Action Types**, **Activity Types**, **Violation Types**, and **Standard Responses**. These items were created to help support the *Enforcement* component and are described in further detail below.

Action Types

Action Types are used by two components in SDWIS/STATE: Enforcement Action Maintenance and Assistance Action Maintenance. This is where the SDWIS/STATE Administrator can add and maintain action types that are used by these components. There is already a set of 69 federally defined action types in the database (e.g., SIA, SFL, SIE, EFK). These federally defined action types cannot be changed or deleted.

Select **Edit/Enforcement Support/Action Types** to display the Action Type Maintenance List (Exhibit 2-14). This window provides the capability to add, change or delete a state-owned action type, as described in more detail below. You can sort or filter the list from the **View** menu.

Add   To add a new action type, select **Edit/Add** from the Action Type Maintenance List to invoke the Action Type Maintenance window. State-owned action types may not start with *S* or *E*. Action Type and Name are required fields. On the Action Type Maintenance window, the Report to SDWIS/FED **Go To** button invokes a list of federally owned action types. Selecting one of these informs SDWIS/STATE that any enforcement actions taken for this state-owned action type should be reported to SDWIS/FED as the specified federal action type.
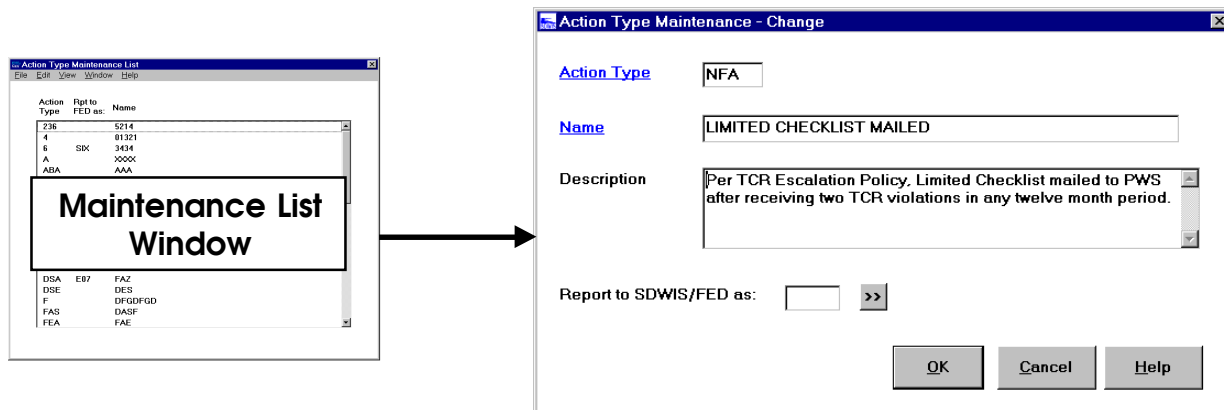
Exhibit 2-14. Action Type Maintenance

2-20

Change To change a state-owned action type, select an item on the Action Type Maintenance List and then select **Edit/Change** to display the Action Type Maintenance window. Federally owned action types may be viewed.

Delete To delete a state-owned action type, select an item on the Action Type Maintenance List and then select **Edit/Delete**. An action type cannot be deleted if it is in use by an enforcement action or assistance action.

Activity Types

Activity types are used to define different types of compliance and PN schedule activities. To process an activity type, select **Edit/Enforcement Support/Activity Types** to display the Activity Type Maintenance List (Exhibit 2-15). You may add, change, or delete an activity type on this window.
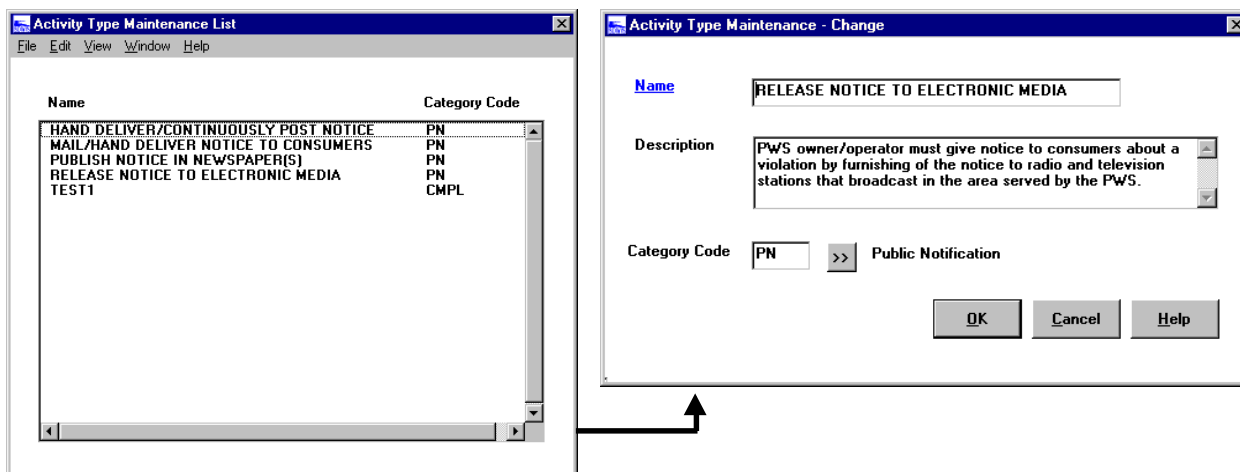
Exhibit 2-15. Activity Type Maintenance

Add To add activity type, select **Edit/Add**. This invokes the Activity Type Maintenance window. The Category Code field **Go To** button invokes the Code Permitted Value Selection List.

Change To change an activity type, select an item and then select **Edit/Change** to display the Activity Type Maintenance window.

Delete To delete an activity type select an item and then select **Edit/Delete**.

Violation Types

The Violation Types function enables you to add violation types not included in the set of EPA-defined violation types. In general, the SDWIS/STATE project team adds new EPA-defined violation types as they come out, so this component should not be used to add these. Instead, it should be added if your primacy agency wants to track violations of state-specific violations (e.g., operator certification violations, construction permit violations, operating permit violations).

Violations created using a state-defined violation type are not reported to SDWIS/FED because they would be rejected. However, enforcement actions taken as a result of a state-specific violation can be reported if the System Administrator indicates so as part of the Violation Types record. If these enforcement actions are reported, they are legitimate orphan enforcement actions, one of the main reasons that SDWIS/FED does allow orphan enforcement action records.

To maintain a state-owned violation type, select **Edit/Enforcement Support/Violation Types** from the *System Administration* main menu to display the Violation Type Maintenance List (Exhibit 2-16). This window allows you to add, change, or delete a state-owned violation type as described below.

Add To add a violation type, select **Edit/Add** to invoke the Violation Type Maintenance window. Violation Type and Name are required fields. The Report Associated Enforcement Action to SDWIS/FED check box allows you to request that SDWIS/STATE include enforcement actions associated with violations of this state-owned violation type in the E1 DTF when you execute *Migration to SDWIS/FED: Actions*.

Change To change a state-owned violation type, select an item and then select **Edit/Change** to display the Violation Type Maintenance window.

Delete To delete a state-owned violation type, select an item and then select **Edit/Delete**. If the violation type is already in use by a violation, it cannot be deleted.

If the violation type is federally owned (i.e., ST_CODE is HQ), this field is pre-populated and appears in your schema migrated data schema. If a federally owned violation type is not linked to a "Fed Reportable Contaminant Code" analyte, you receive a message asking you to use the analyte code stored with the violation.

Delete To delete a state-owned violation type, select an item and then select **Edit/Delete**. If the violation type is already in use by a violation, it cannot be deleted.
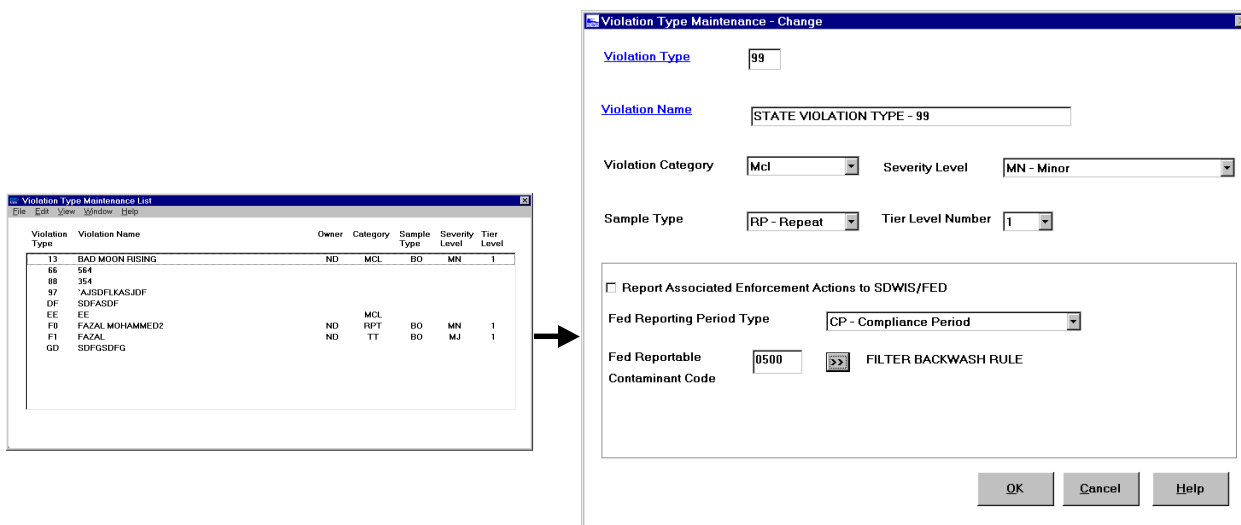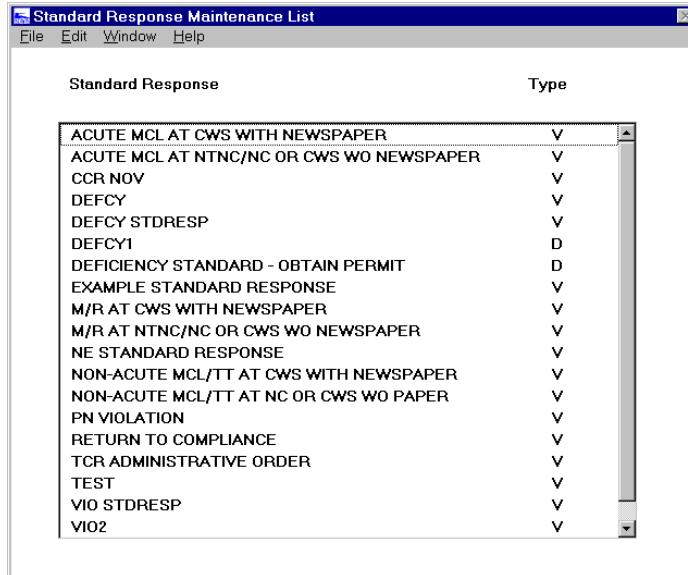
Exhibit 2-16. Violation Type Maintenance

Standard Responses

It is important to understand the benefit of the Standard Response function. A Standard Response is simply a template you create to address a specific type of situation, so that when that situation occurs, you can consistently and easily apply the same actions. In SDWIS/STATE, you can create either Violation Standard Respones or Deficiency Standard Responses.

SDWIS/STATE comes pre-populated with six violation standard responses, though you may create as many additional standard responses as you want. All six of the pre-populated violation standard responses reference U.S. Environmental Protection Agency as the "Regulating Agency." Most users will want to change the Regulating Agency to their own primacy agency. This should be done before applying a Standard Response to a violation record.

To maintain a standard response, select **Edit/Enforcement Support/Standard Responses** to display the Standard Response Maintenance List (Exhibit 2-17), where you can add a Deficiency Standard Response or a Violation Standard Response, or change or delete a Standard Response.

Exhibit 2-17. Standard Response Maintenance List

Standard Response Maintenance List

The Standard Response Maintenance List allows you to add, change, or delete a standard response.

The Type may be either V (Violation—the Standard Response used with Violations and Enforcement Actions) or D (Deficiency—Standard Response used with Site Visits and Deficiencies). This field controls the type of Standard Response window that is displayed, depending on whether you invoke a standard response by clicking on the **Standard Response** button within the Violation maintenance or Site Visit maintenance area. There are several windows from which you can invoke a Standard Response in both the Violation and Site Visit maintenance areas. If you click **Standard Response** on the Site Visit Maintenance window, only candidate standard responses of type Deficiency are displayed. If you do the same from Violation Maintenance, only standard responses of type Violation are displayed.

To add a violation or deficiency Standard Response, select **Edit/Add/Violation Standard Response** or **Edit/Add/Deficiency Standard Response** to invoke the Violation Standard Response Maintenance window (Exhibit 2-18) or the Deficiency Standard Response Maintenance window. Both windows are described in more detail below. Highlight an existing standard response and choose **Edit/Change** or **Edit/Delete** to change or delete a standard response.

SDWIS/STATE currently contains six predefined violation-type standard responses that can be modified as necessary to fit a state's need for standard violation situations and responses.

Violation Standard Response

A Standard Response allows a user to rapidly create enforcement action records and public notification activities and relate them to a violation record by selecting the **Standard Response** button on the Violation Maintenance window or checking the Apply standard response check box on the Violation Validation window. It is in the Violation Standard Response Maintenance window where the SDWIS/STATE Administrator defines which enforcement actions and public notification activities are created when a given standard response is selected in one of these two places.

On this window, you define the enforcement actions and public notice schedule activities to be performed as part of a standard response. To add a violation standard response, you must enter a unique Standard Response Name, a Regulating Agency, and at least one enforcement action.

The Enforcement Actions list box displays all enforcement actions that already have been defined for the standard response. You may add, change, or delete enforcement actions for the standard response. To define a new enforcement action, click on the **Add** button (enabled only if an existing record is not selected). To change a record, highlight it and click on **Change**. In either case, the Standard Response Enforcement Action Types window appears.

Exhibit 2-18. Violation Standard Response Maintenance

On the Standard Response Enforcement Action Type window, you must enter the Action Type and Status for an action type that is part of a standard response on the Standard Response Enforcement Action Type window. You may also enter Status Days. Either type in the Action Type or click on the **Go To** button to access the Action Type Selection List window. The Status is Potential, Taken, or Rejected. Status Days (where the default is 0) is the number of days after the violation determination date that the enforcement action should be taken. Click on **OK** to save the information, accept the criteria, and return to the Violation Standard Response Maintenance window, or click on **Cancel** to return to the maintenance window without saving changes.

The PN Schedule Activities list box displays all PN activities that are defined for the standard response. You may add, change, or delete activities for the standard response. To define a new PN schedule activity, click on **Add** (enabled only if an existing record is not selected). To change a record, highlight it and click on **Change**. In either case, the Violation Standard Response Activity Maintenance window appears. Before you can define a PN schedule activity, you must first define an enforcement action of type EIE or SIE, since all activities created are associated to the EIE or SIE enforcement action.

Violation Standard Response PN Schedule Activity Types

You must enter the Name, Due Date Days, and Proof of PN Due Days for a PN activity that is part of a standard response on the Violation Standard Response PN Schedule Activity Types window (Exhibit 2-19).

Enter the name of the activity or click on the **Go To** button to access the Activity Type Selection List window. The Due Date Days is the number of days after the violation determination date that a public notice is required. The Proof of PN Due Days is the number of days after the violation determination date when the proof of a public notice is required.

Click **OK** to save the information to accept the criteria and return to the Violation Standard Response Maintenance window; click **Cancel** to return to the maintenance window without saving changes.

Exhibit 2-19. Violation Standard Response PN Schedule Activity Type

Click on **OK** to accept the standard response information you have entered, or click on **Cancel** to return to the *System Administration* main menu. When you click on **OK**, if the action type is SIE, SDWIS/STATE checks to ensure that the Standard Response is not already linked to an action type of EIE; if the action type is EIE, SDWIS/STATE checks to ensure that the Standard Response is not already linked to an action type of SIE.

Deficiency Standard Response

To add a deficiency standard response, select **Edit/Add/Deficiency Standard Response** on the Standard Response Maintenance List to invoke the Deficiency Standard Response Maintenance window (Exhibit 2-20). You must enter a unique Standard Response Name and a Regulating Agency.
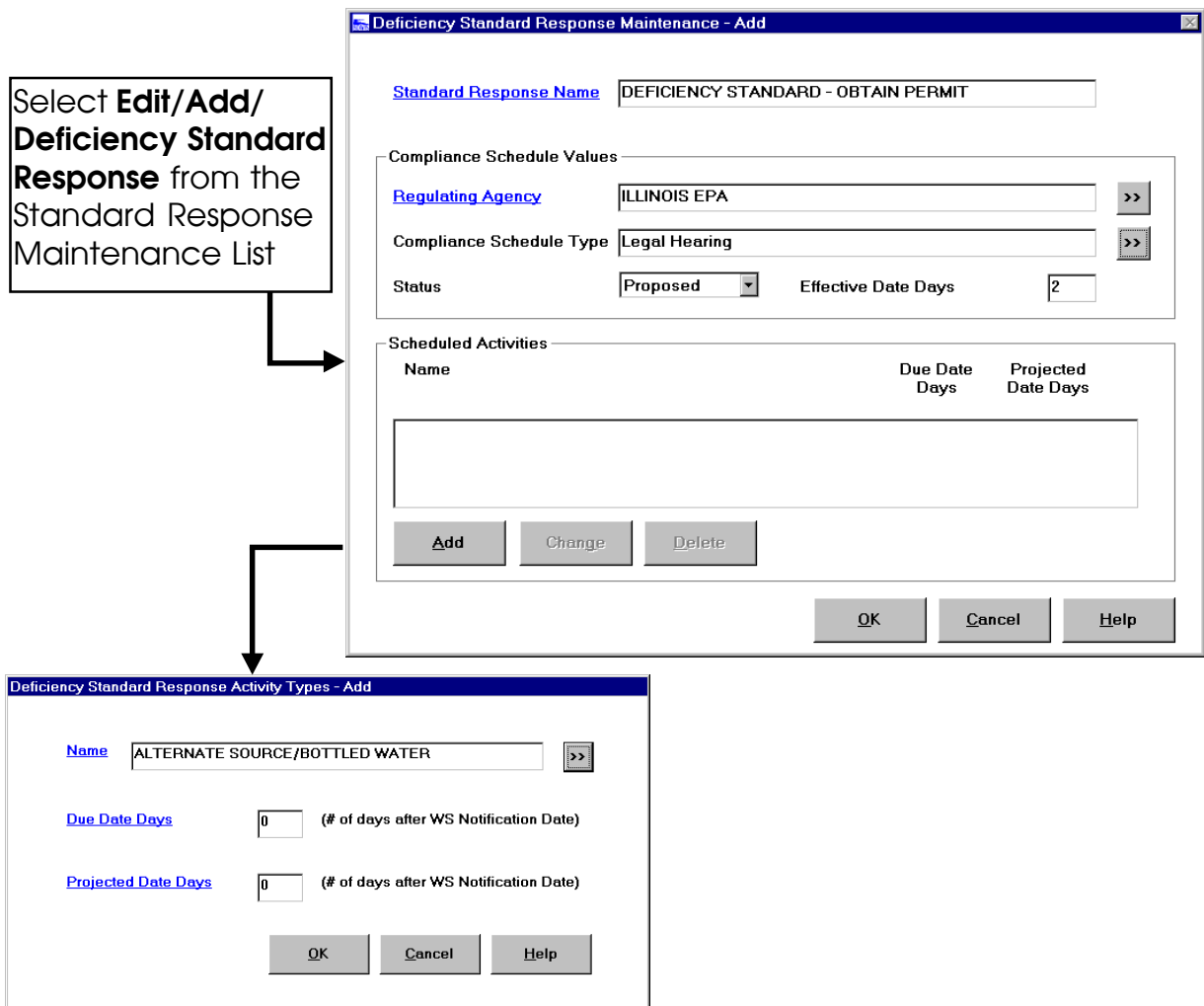
Exhibit 2-20. Deficiency Standard Response Maintenance

In the Compliance Schedule Values group box, you must enter the Regulating Agency or click on the **Go To** button to select from the Regulating Agency Selection List. You may enter the following information: Compliance Schedule Type, Status, and Effective Date Days.

Click on the **Add** or **Change** button in the Scheduled Activities list box to invoke the Deficiency Standard Response Activity Types window (Exhibit 2-20). In the Deficiency Standard Response Activity Types window that appears, you must enter the Name that identifies the standard response activity type or click on the **Go To** button to select from the Activity Type Selection List. You must also enter a number in the Due Date Days field and the Projected Date Days field.

You can also delete a Scheduled Activity by highlighting an activity and then pressing the **Delete** button on the Deficiency Standard Response Maintenance window.

Permitted Values

Under the menu option **Edit/Permitted Values**, the SDWIS/STATE Administrator has the ability to maintain permitted values. This option is used to add Permitted Values to attributes such as the Compliance Schedule - Schedule Type field and the Activity Type - Category Code fields. Select **Edit/Permitted Values** to invoke the Code Search window (Exhibit 2-21). You can search for Code Name and Attribute Name. Click the **Search** button to invoke the Code Selection List with those code requirements that meet the specified search criteria. The Code Selection List is used to select the code whose values you want to change. Highlight the code and select **Edit/Values** from the Code Selection List to invoke the Code Permitted Value Maintenance List. Codes and Permitted Values that are federally owned, such as those that support locational data maintenance and federal reporting, can be viewed but not changed. Exhibit 2-21, for example, shows the new federal permitted values for Lat_Long_Source_Code.

Add   To add a permitted value to a certain code, select **Edit/Add** from the Code Permitted Value Maintenance List. This invokes the Permitted Values Maintenance window, which allows you to add values with a description to a given code. Do not add permitted values to the TINLOC codes that support locational data maintenance.

Change   To change a permitted value, select an item and **Edit/Change** from the Code Permitted Values Maintenance List window to display it in the Permitted Value Maintenance window. If the value has been referenced, the Reference Permitted Value Change Confirmation dialog box appears so you can verify that you want to change the permitted value that has been referenced.

Delete   To delete a state-owned permitted value that has not been referenced, select **Edit/Delete**.
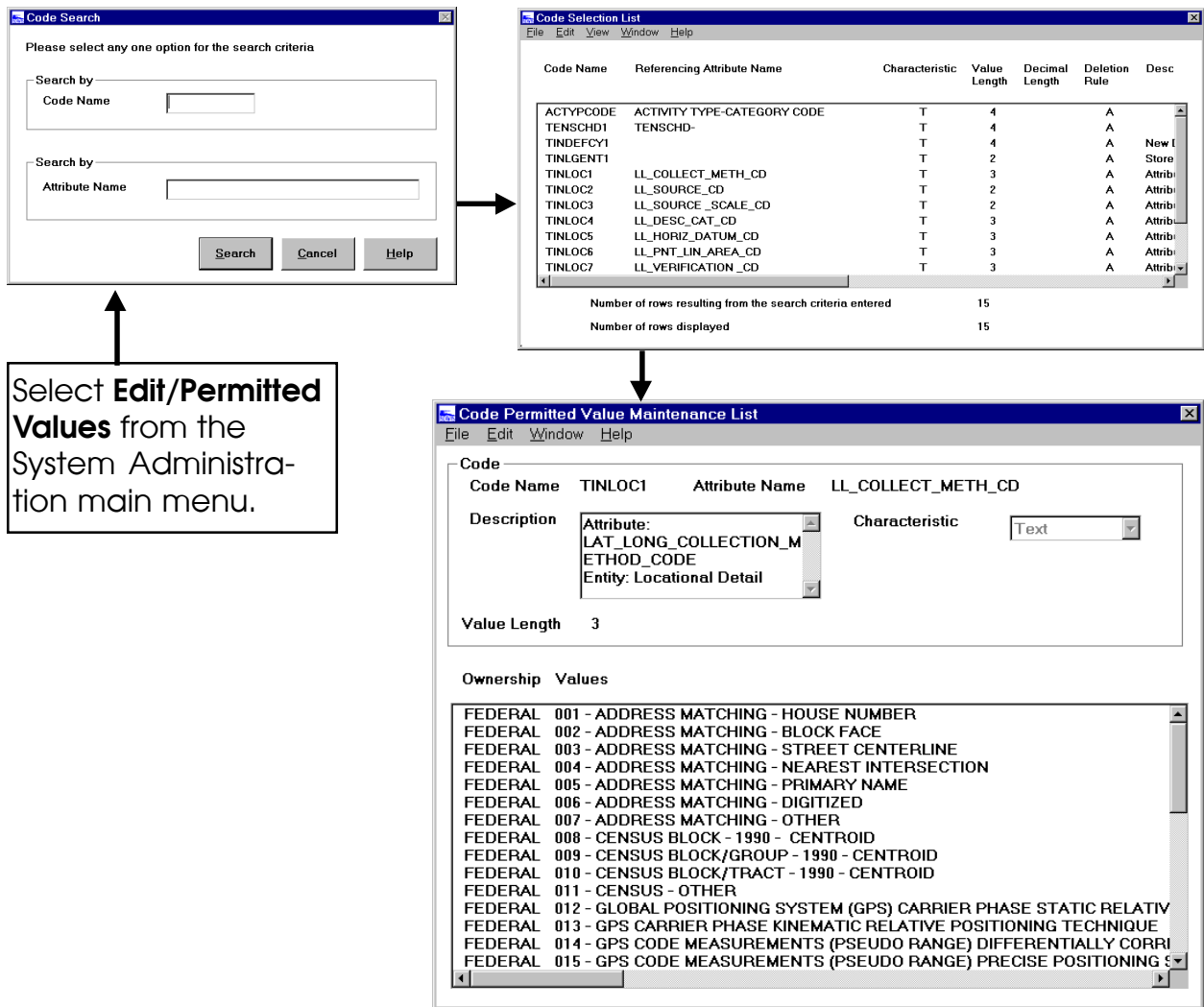
Exhibit 2-21. Code Permitted Value Maintenance

Treatment

Under the menu option **Edit/Treatment**, the SDWIS/STATE Administrator may add new treatment processes or new pairings between existing processes and objectives. Both of these are reported to SDWIS/FED as innovative treatment records.

Processes

The SDWIS/STATE Administrator can add or delete a state-owned treatment process by selecting **Edit/Treatment/Processes**, which invokes the Treatment Process Maintenance List (Exhibit 2-22).

Add   To add a state-owned treatment process, select **Edit/Add**. This invokes the Treatment Process Maintenance window. You cannot add a new process whose name or code matches an existing federal- or state-owned process.

Delete   To delete a state-owned treatment process, select **Edit/Delete**. A federally owned treatment process cannot be deleted.
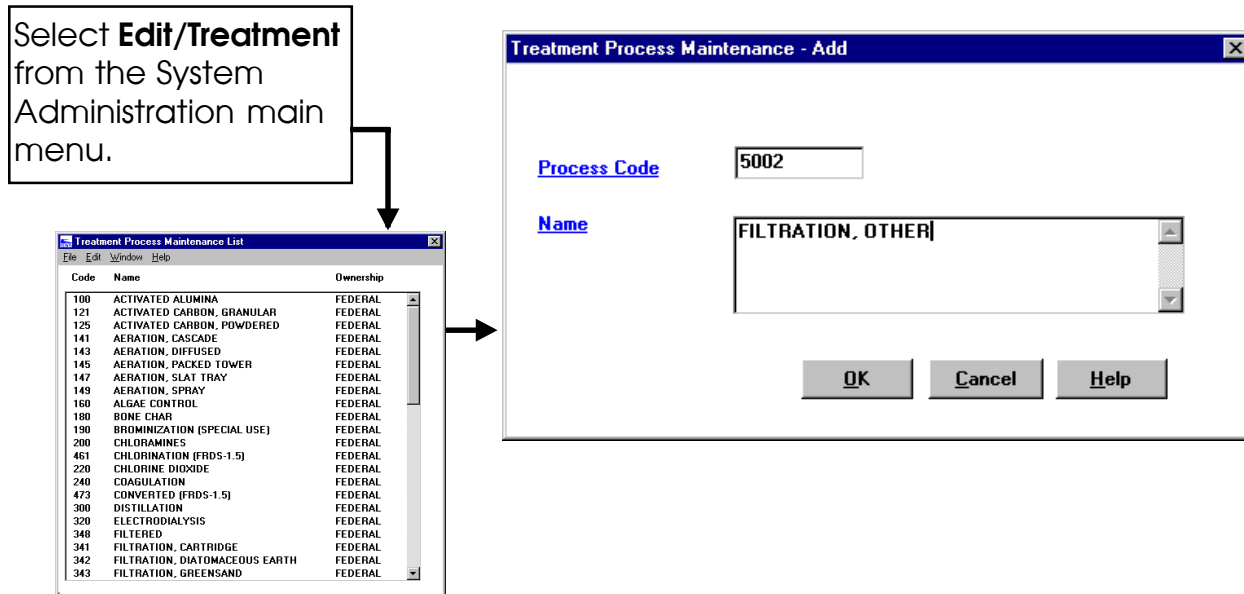
Exhibit 2-22. Treatment Process Maintenance

Pairings

The SDWIS/STATE Administrator can assign a treatment objective to a treatment process by selecting **Edit/Treatments/Pairings**. This invokes the Treatment Objective Process Pairing window. Select an item in the Treatment Objectives list and an item in the Treatment Processes list, and click on the **Assign** button. (Exhibit 2-23).

The SDWIS/STATE installation comes populated with a standard federal list of Treatment Objectives and Treatment Processes. You can create a new state-owned combination of Objective and Process. A warning message appears if you attempt to create an Objective/Process pairing that already exists.

CDS Setup

Under the menu option **Edit/CDS Setup**, the SDWIS/STATE Administrator can launch the *CDS Setup* module. In order to successfully implement the many Compliance Decision Support (CDS) compliance checks and assessment functions and produce CDS Reports, CDS Setup runs a number of processes to establish appropriate associations, calculate values, and create sample summaries based on individual results.
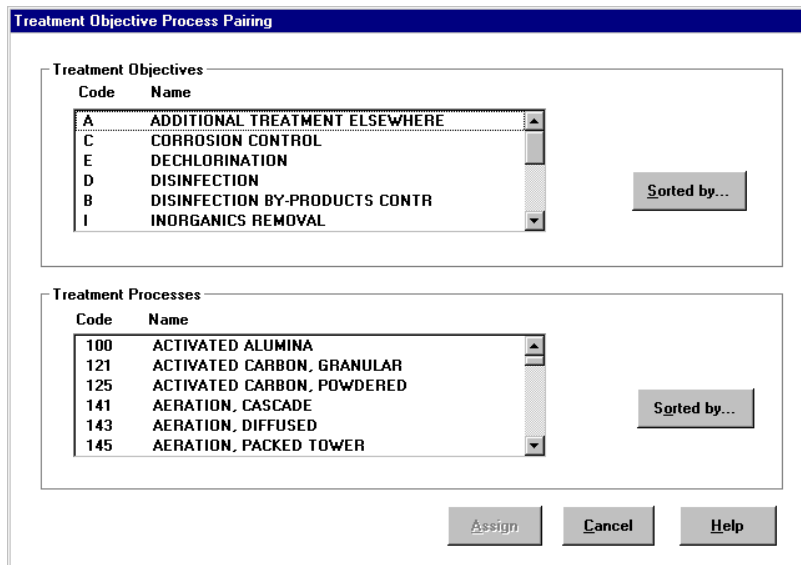
Exhibit 2-23. Treatment Objective Process Pairing

CDS Setup is a batch function that can be run after the close of business each day or whenever the SDWIS/STATE Administrator schedules it to run. More information about *CDS Setup* appears in Chapter 5 of this guide.

Display User ID

The User Display dialog box lets you know which user ID SDWIS/STATE is using and which state/region ID it is using to update records. For example, if you select a regulating agency as current, SDWIS/STATE constrains the water system list to those that fall under the jurisdiction/regulation of that agency. The current water system group or government agency is carried through all components of SDWIS/STATE.

You can view the current user ID by selecting **Detail/Display User ID** from the main menu. This invokes the User ID dialog box (Exhibit 2-24), which allows the user to view User ID, State ID, Government Agency, or Current WS Group. In order to view your water systems, you need to make either a Government Agency or Water System Group current. This means that you are telling
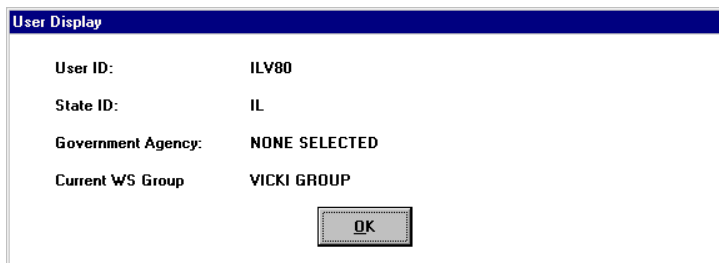
Exhibit 2-24. Display User ID Dialog Box

SDWIS/STATE to focus your view of water systems by either a Government Agency (typically the primacy agency when you are first setting up your database) or a Water System Group that you create. If you do not select either a Government Agency or Water System Group as current, SDWIS/STATE will not be able to list your water systems.

Maintaining Water System Groups

You can maintain water system groups by selecting **Detail/Maintain WS Group** (Exhibit 2-25) in the *Inventory*, *Sampling*, and *Monitoring and Noncompliance* SDWIS/STATE components. Water system groups provide a way to organize water systems in functional groupings meaningful to a user. In addition to government agency access, there are two types of water system groups:

Dynamic Dynamic groups are defined by the characteristics of water systems for primacy agency. Selection criteria include activity status, primary source, federal type, and population range. The contents of the group change dynamically (when recalculated by the user) as the water system characteristics change.
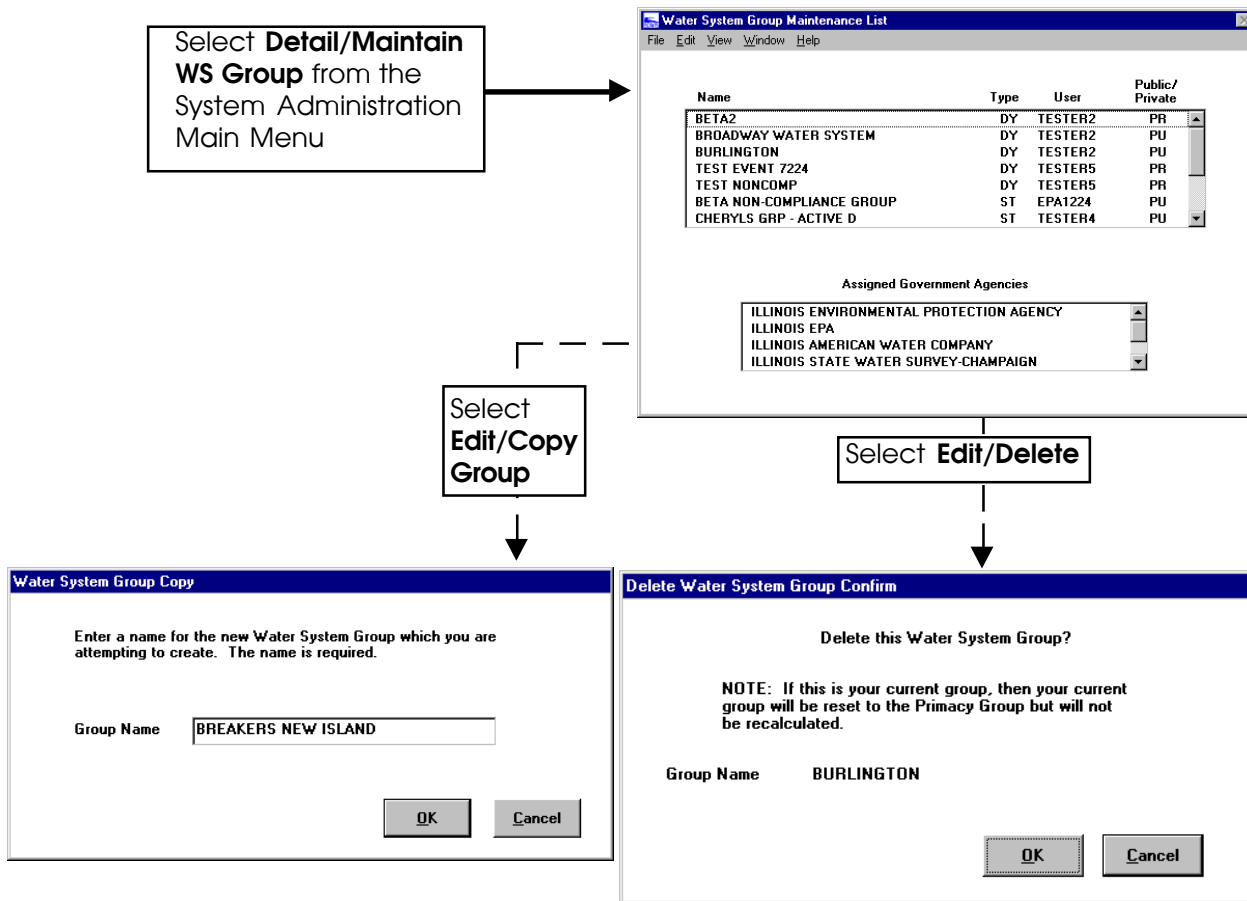
Exhibit 2-25. Copying and Deleting Water System Groups

Static   Static groups are defined by an explicit selection of water systems from the Water System List window. The contents of the group change only by explicit direction of the group's owner. Static groups may be created by any user for use in sample schedule review and data entry for a finite list of water systems.

Many government agencies are large and can affect performance of the SDWIS/STATE application. To make your SDWIS/STATE session more efficient, you may want to establish smaller groups of selected water systems. *When naming groups, do not use any special characters such as apostrophes, dashes, etc.* SDWIS/STATE can access all groups, but you must select one group or government agency to work with at a time. To do this, select the appropriate row in the Water System Group Maintenance List or Assigned Government Agencies List and then select **Edit/Make Current**. This establishes the finite set of water systems for the current SDWIS/STATE session, as defined by either a water system group or government agency. The composition of most water system groups may be changed. **Edit/Make Current** is the only menu item available when a government agency is selected.

Water system groups are either *public* or *private*. These terms refer to whether an individual owns the group or whether it may be used publicly; the default is private ownership. Water system groups can be made public in the Water System Group Maintenance List. A group can be made public only by the SDWIS/STATE Administrator or the group creator and can then be modified only by the administrator or creator. Public groups can be used by any registered SDWIS/STATE user, while private groups can be used only by the group's creator. Once you make a group public, you cannot make it private again. Selecting water systems for a group should be based on the utility of the group for routine data entry and preliminary noncompliance determination. (See Appendix A of the User's Guide for more details.)

Public groups can be copied so the user can begin working with a previously defined group of water systems. Private groups cannot be copied. When you select **Edit/Copy Group**, a unique name must be given to the new group (Exhibit 2-26). It is then added to the Water System Group Maintenance List as the current user's private group.

Groups can be deleted by selecting **Edit/Delete**. SDWIS/STATE Administrators can delete any public or private group that is not current for any users. All other types of users can delete any public group and their own private groups that are not current for any users.

Select **Detail/Maintain WS Group** from the System Administration Main Menu

Water System Group Maintenance List

File Edit View Window Help

Add ▶ Dynamic
Change Static
Delete
Copy Group
Make Current
Make Public

		Type	User	Public/Private
		DY	TESTER2	PR
WATER SYSTEM		DY	TESTER2	PU
		DY	TESTER2	PU
7224		DY	TESTER5	PR
TEST NONCOMP		DY	TESTER5	PR
BETA NON-COMPLIANCE GROUP		ST	EPA1224	PU
CHERYLS GRP - ACTIVE D		ST	TESTER4	PU

Assigned Government Agencies

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
ILLINOIS EPA
ILLINOIS AMERICAN WATER COMPANY
ILLINOIS STATE WATER SURVEY-CHAMPAIGN

Dynamic Group Maintenance - Add

Water System Group
Name   BREAKER ISLAND
Description

Filter Criteria
Activity Status   ACTIVE
Primary Source   SURFACEWATER
Federal Type   COMMUNITY
Population From   300   (greater than or equal to)
Population To   9999999999   (Less than or equal to)

OK   Cancel   Help

Select **Edit/Add/Dynamic**

Select **Edit/Add/Static**

Note: Do *not* use any special characters in the name of a water system group.

Static Group Maintenance - Add

Water System Group
Name   BREAKER ISLAND GROUP
Description   ANOTHER ISLAND GROUP

Number	Name
IL0915145	BARBERRY ACRES MHP

Total number of water system in this list ... 1

Selection List   Search   Delete   OK   Cancel   Help

Exhibit 2-26. Dynamic and Static Group Maintenance

Migrate to
SDWIS_FED

Introduction

The SDWIS/STATE *Migration to SDWIS/FED* component exports eligible data from SDWIS/STATE into a Data Transfer File (DTF) format suitable for transfer to SDWIS/FED. These DTFs have field lengths, data types, and allowable data values that, in some cases, differ from the data stored in SDWIS/STATE. Making the SDWIS/STATE data compatible with existing data in the SDWIS/FED mainframe application eliminates the need to enter the data in two systems manually. SDWIS/STATE supports the reporting of inventory, milestone events (as part of inventory), actions, and lead 90th percentile (Pb90), copper 90th percentile (Cu90), and Unregulated Contaminant Monitoring (UCM) sample results to SDWIS/FED. You may only use *Migration to SDWIS/FED* if you are a SDWIS/STATE administrator.

Concept of Operations

Migration to SDWIS/FED creates *total replace* files for inventory items (including milestone events) and actions. *Migration to SDWIS/FED* creates *traditional processing* files for UCM, Cu90, and Pb90 sample results. Under traditional processing, only new or modified samples and results are updated in SDWIS/FED. When SDWIS/FED receives a DTF that was created by *Migration to SDWIS/FED* for inventory, inventory and milestone events, or actions, SDWIS/FED deletes all the state-owned existing inventory (and/or actions for the fiscal year specified) and replaces it with the data contained in the new DTF.

A list of DTFs that *Migration to SDWIS/FED* creates appears below:

Inventory Data A1 PWS name, address, and phone number for first administrative contact or owner.
A2 PWS characteristics (activity status, service connections, population served, and annual operating period [for transient non-community and non-transient non-community]).
A3 PWS addresses for all other contacts.
B1 PWS facility and source information.
B2 PWS treatment data.
B4 Physical treatment plant address data.
C1 PWS geographic areas served.
C2 PWS service area characteristics.
C4 Milestone Event.

Action Data D1 Violation data.
E1 Enforcement data.

Sample Results   H1   UCM, Pb90, and Cu90 results data. (See Appendix B for a list of
Data   SDWIS/FED Reportable Analytes.)

The structure of the DTFs generated by *Migration to SDWIS/FED* is similar to the transmission formats currently in use and defined in *Federal Reporting Data System (FRDS-II) Data Entry Instructions Release 2.12*. There are many edit checks specific to each DTF. *Migration to SDWIS/FED* only generates DTF transactions for those items that meet SDWIS/FED requirements. In general, SDWIS/FED requires that a public water system have a valid service connection, population served, activity status, and active source of water.

Before sending a DTF to SDWIS/FED for processing, review the DTF to ensure that it is accurate. You can do many "dry runs" before sending the final DTF to SDWIS/FED for the actual update of your state data. The dry runs can be used to identify potential data errors and to identify data that will be rejected by SDWIS/FED. This process provides an opportunity to resolve any data problems before the DTFs are actually processed by SDWIS/FED.

Once *Migration to SDWIS/FED* generates a DTF, you must physically or electronically transport it to SDWIS/FED via modem, disk, e-mail, or some other method.

Migration to SDWIS/FED: Update Modes

Total Replace Update

Migration to SDWIS/FED for Inventory and Actions supports the *total replace* mode. Total replace of data in SDWIS/FED results in the deletion of the state's entire record of state-owned inventory or actions by fiscal year, or both, and a complete replace with new data. Therefore, a total replace should be given careful consideration, and data being migrated should be reviewed for accuracy before the migration file is created.

Traditional Update

Migration to SDWIS/FED: Sampling supports the *traditional update* mode. During a traditional update, a state changes its water system results data by inserting new data (DIM code I) and modifying existing data (DIM code *M*). *Migration to SDWIS/FED* does not support the deletion of sample data.

Operating Instructions for Using Migration to SDWIS/FED

Double-click on the *Migration to SDWIS/FED* icon to display the *Migration to SDWIS/FED* main menu (Exhibit 3-1). Choose **Edit/Inventories** to migrate Inventory data, **Edit/Actions** to migrate Action data, and **Edit/Samples/Migration to SDWIS/FED** or **Edit/Samples/Post Migration Processing** to migrate and process sample results. An overview of each option appears below.
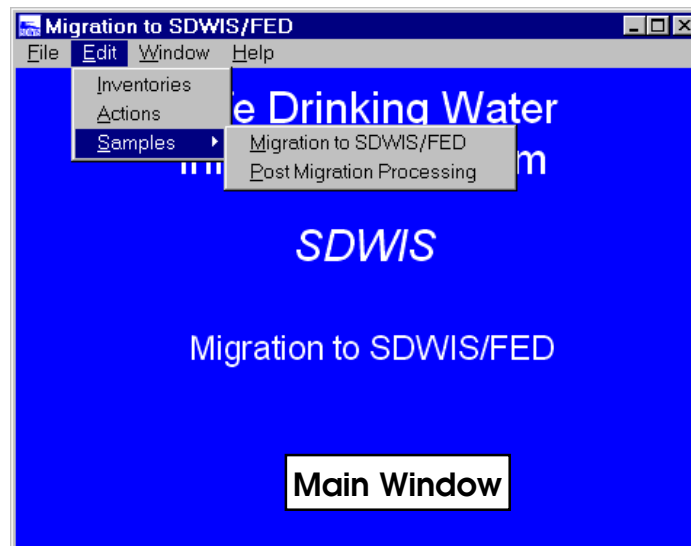
Exhibit 3-1. Migration to SDWIS/FED Main Window

Inventories The **Edit/Inventories** menu option generates DTF transactions for all SDWIS/STATE eligible public water system inventory data. These data describe the physical infrastructure of an entire water system, including individual facilities and unit processes as well as the acquisition, storage, and distribution of drinking water. Inventory data also include legal entity data associated with a public water system. Legal Entity Points of Contact (such as operators, owners, etc.) are associated to individual water systems in the *Inventory* component of SDWIS/STATE. *Note: when creating an association between cities and counties in a water system, associate the county first; otherwise, it will be rejected when you run Migration to SDWIS/FED.*

For more details on inventory data, see the SDWIS/STATE User's Guide. You may elect to migrate inventory data only or to migrate inventory and milestone events. This second option generates a DTF that contains all eligible SDWIS/STATE public water system inventory as well as state-generated milestone events. Only milestone events with status *V* (validated) that are state-generated (data origin code *S*) are considered candidates for reporting to SDWIS/FED. Milestone events with status *P* (potential) or *R* (rejected) are not reported.

Actions The **Edit/Actions** menu option generates DTF transactions for all validated state-generated violations and enforcement actions assigned to a public water system. Enter a range of federal fiscal years (FY) to include in the action DTFs. The "from" date may not be prior to FY1978. *Migration to SDWIS/FED* generates a DTF for each year included in the date range. *Migration to SDWIS/FED* does not create a DTF for a fiscal year if no data exist for that year within the specified date range.

Samples   The **Edit/Samples/Migration to SDWIS/FED** menu option generates DTFs for all validated UCM, Pb90, or Cu90 sample results credited to a public water system. Selecting samples by date range is mandatory. *Migration to SDWIS/FED* generates a DTF containing the samples that fall inside the date range. *Migration to SDWIS/FED* does not create a DTF if no data exist for a specified date range.

The **Edit/Samples/Post Migration Processing** menu option checks the status of a batch run to determine whether it ran successfully or failed.

Migration to SDWIS/FED: Inventory (Total Replace)

Inventory data describe the physical infrastructure of an entire water system, including individual facilities and unit processes, as well as the acquisition, storage, and distribution of safe drinking water. A water system's inventory also relates to the people, corporations, government agencies, or private commissions having an association with the system.

You can select Inventory, Inventory and Milestone Events data, or Site Visits for migration (Exhibit 3-2). Site visits are reported on Form C3. Milestone data and site visits cannot be processed alone; they are always processed with Inventory data. However, Inventory data may be processed without milestones or site visits.

A progress bar on the bottom of the window indicates how far along the processing is at all times. Once *Migration to SDWIS/FED* completes processing, a "processing complete" informational message appears and a processing report is generated. Once a processing report is generated with *Migration to SDWIS/FED*, you can view it onscreen or print it from a network printer by selecting the appropriate check box when processing is complete (see the Reporting the Results section later in this chapter).

Select **OK** to begin *Migration to SDWIS/FED: Inventory* processing or **Exit** to return to the previous window.

A DTF record is not generated for data that do not pass the cross-edits. DTFs are created only for data that are acceptable in SDWIS/FED. The name of the DTF file that contains all of the inventory data is INVENT.DTF and is located in the C:\SDWIS\MIGSDFED\INVENTRY directory.

Migration to SDWIS/FED: Actions (Total Replace)

Select Migrate Action Data to generate DTFs for all validated actions (violations and enforcement actions) assigned to a public water system. To select actions that fall within a desired fiscal year (or range of fiscal years), enter the fiscal year range in the *Migration to SDWIS/FED: Actions* window (Exhibit 3-3). You must enter a four-character date (e.g., 1999) to indicate both the century and the year (CCYY). *Migration to SDWIS/FED* generates a DTF for each year included in the date
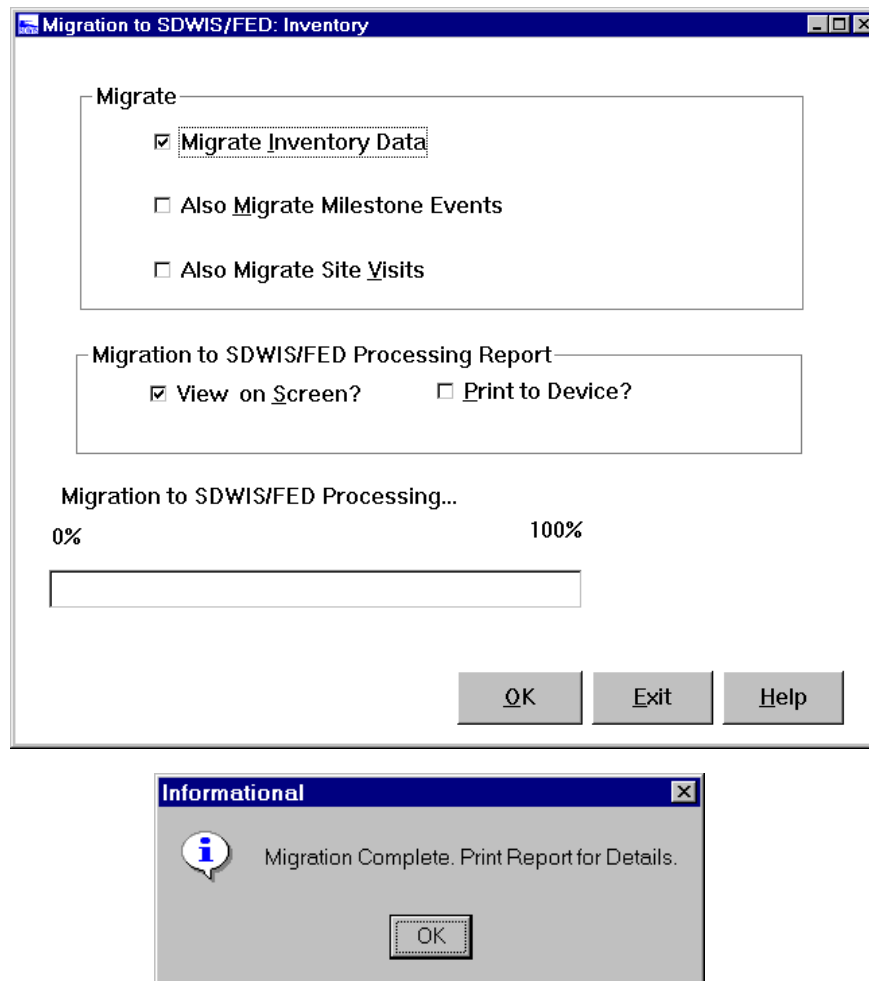
Exhibit 3-2. Migration to SDWIS/FED Inventory Window and Informational Message

range. Each action's DTF is named ACTIONXX.DTF (where *XX* is the last two digits of the corresponding fiscal year). These DTFs are located in the C:\SDWIS\MIGSDFED\ACTIONS subdirectory.

Once a processing report is generated with *Migration to SDWIS/FED*, you can view it onscreen or print it from a network printer. Select **OK** to begin *Migration to SDWIS/FED* processing or **Exit** to return to the SDWIS/STATE program group.

If *Migration to SDWIS/FED:Actions* creates a data transfer file (DTF) for a fiscal year you did not select (in addition to a DTF for the fiscal year you did select), review this "unexpected" DTF before submitting it. If it only contains E1 transactions with data element Y5000, which is all it should contain, then you should submit the "unexpected" DTF as a traditional upload file. Be sure to indicate that the main DTF (the one created for the selected fiscal year) is to be treated as a total replace.

Note that the E1 transactions in the "unexpected" DTF are coded as Insert records. These will be accepted by SDWIS/FED even though some SDWIS/FED documentation indicates that they should be marked a Modify records. SDWIS/FED processing was changed to accept either a Modify or Insert for new Y5000 links.

Migration to SDWIS/FED:Actions now reports a Y5000 transaction for a violation even when a related enforcement action is outside the selected fiscal year. In this case, *Migration to SDWIS/ FED:Actions* creates the Y5000 records in a DTF for the fiscal year of the enforcement action. As indicated above, if the DTF created for the Y5000 transaction was not a fiscal year you selected, then it needs to be treated as a traditional upload file and not as a total replace file.
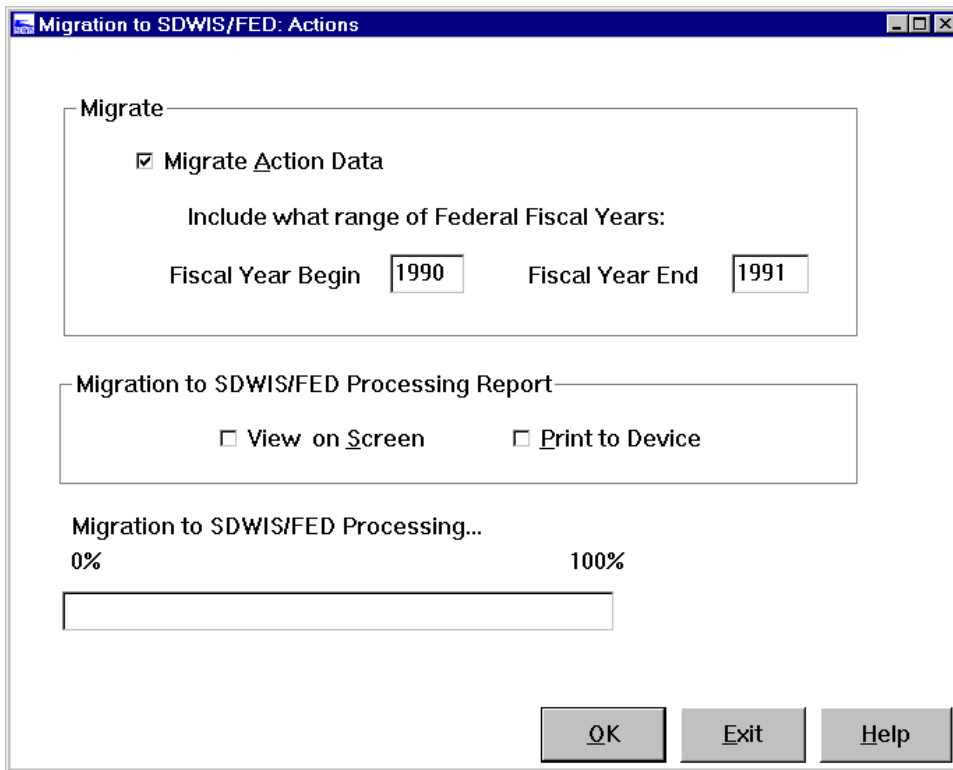
Exhibit 3-3. Migration to SDWIS/FED: Actions

Selection of Inventory and Action Items

Migration to SDWIS/FED processes both inventory and action forms in alphabetical order by DTF form code. Non-public water system data do not meet SDWIS/FED requirements and are not included for processing. Before a DTF is created, *Migration to SDWIS/FED* identifies water systems that are either currently active or have been active within the past 3 years. *Migration to SDWIS/FED* does not select water systems for processing that fail to meet these criteria.

Occasionally, a small traditional update file is created at the same time the total replace file is created for actions. This file includes Y5000 enforcement actions in fiscal years that are not requested but are associated to violations in the requested fiscal year. When submitting the files to SDWIS/FED it should be noted that this file is a traditional update file, not a total replacement file.

Inventory Forms

A Forms   For inventory data, A1 and A3 form data are processed first. Name and Address data for the first administrative contact are generated in the A1 form. All other points of contact address data are generated on the A3 form. *Migration to SDWIS/FED* continues processing other DTF form data whether or not A1 and A3 form data exist. (Note, however, that a PWS without A1 form data is not grant eligible.)

A2 form data are processed in three parts:

Part I   *Migration to SDWIS/FED* verifies that the retail population served and the deactivation date (for inactive water systems) are valid. If these data are invalid, no DTF transactions are generated for the PWS, for any form, and processing for that PWS discontinues.

Part II   *Migration to SDWIS/FED* verifies that the service connection data are valid. If these data are invalid, no DTF transactions are generated for the PWS, for any form, and processing for that PWS discontinues.

Part III   *Migration to SDWIS/FED* verifies that an annual operating period exists for transient non-community or non-transient non-community types. If these data are invalid, an error is created for these data elements on the *Migration to SDWIS/FED* error report and processing continues.

If any mandatory A2 form items are rejected in parts I and II, no DTF transactions are generated for any A, B, or C forms.

B Forms   B1 form data can only be generated for PWSs that have A2 form transactions. SDWIS/FED also requires that B1 form data include a source type (such as a well) and source water type (such as groundwater). If no active water source exists, then no B1 form data is created and no DTF transactions for any preceding or succeeding form data for the water system are created either. If an active water source exists for B1 form data, then *Migration to SDWIS/FED* processes all B2 form data for the water system.

C Forms   If A2 and B1 data are valid, *Migration to SDWIS/FED* processes C1 and C2 form data. C4 forms (Milestone Events) are dependent on the generation of Inventory Forms (A1, A2, A3, B1, B2, C1, C2).

Actions Forms

D1 Form This form covers all violation data attributes. Only validated violation data are processed. D1 data must have a valid analyte code, violation type, compliance period, and status date to generate DTF transactions. If these data fail to meet any of these requirements, no DTF transactions occur for the violation.

E1 Form This form contains validated enforcement action data, including a valid enforcement action code and a valid status date. No DTF transactions for the enforcement action are generated if these data fail this requirement. Enforcement actions can be independent from violation data. If an invalid enforcement action is assigned to a valid violation, only the enforcement action is rejected.

Revising the Reports of Processing Inventory or Actions

Inventory or action data that do not meet SDWIS/FED requirements generate either error or warning messages. *Migration to SDWIS/FED* creates a list of error and warning messages encountered during the processing of Inventory and Milestone data and Actions. This list includes a summary report of the number of records accessed, accepted, and rejected for each DTF. This report file is named UPPROC.RPT. *Migration to SDWIS/FED: Inventory* automatically creates the file in the C:\SDWIS\MIGSDFED\INVENTRY directory. *Migration to SDWIS/FED: Actions* automatically creates it in the C:\SDWIS\MIGSDFED\ACTIONS directory. These subdirectories and files are created automatically when the *Migration to SDWIS/FED* component is run. *Migration to SDWIS/FED* recreates the UPPROC.RPT each time you execute it and overwrites any previously generated report. If you wish to prevent a summary report from being overwritten, copy the file to another location or rename it with a unique name.

The Summary Report for Inventory and Milestone and the Summary Report for Actions (Exhibits 3-4 and 3-5) are similar in format. The columns provide the following details:

- Processing date.
- Processing mode (total replace).
- Summary statistics about the number of records in the DTF, including Records Eligible, Rejected, Accepted, Form ID, and Form Title.
- Number of water systems eligible, rejected, and accepted for Inventory, Milestone, Violation, and Enforcement record updates.

```
SAFE DRINKING WATER INFORMATION SYSTEM (SDWIS/STATE)
EDIT/UPLOAD SUMMARY REPORT
                              **INVENTORY AND MILESTONE**          PAGE 1


Processing Finish Date/Time: 09/04/1998 13:37
Processing Mode: TOTAL REPLACE

Inventory Options:          Milestone Options:

Y Replace Inventory         Y Replace Milestone

Number of Records in DTF File

Eligible       Rejected      Accepted      Form ID      Form Title
11316          11            11305         A1           PWS Administrative Address
13184          4             13180         A2           PWS Characteristics
1987           560           1427          A3           PWS Other Addresses
31158          24            31134         B1           PWS Facilities (Source/Entity)
8              0             8             B2           PWS Facility (SE) Treatments
3903           0             3903          C1           PWS Geographic Areas Served
2095           2019          76            C2           PWS Service Areas
6610           19            6591          C4           Milestone
_____        _____       _____
70261          2637          67624         Total Number of Records

Number of Public Water Systems Eligible
2424                    Inventory
212                     Milestone

Number of Public Water Systems

Eligible       Rejected      Accepted
2429           5             2424

***NOTE: IF ANY MILESTONE ARE ACCEPTED, ALL PREVIOUS
   SDWIS/FED MILESTONES WILL BE REPLACED.
```

Exhibit 3-4. UPPROC.RPT Summary Report for Inventory and Milestone

```
SAFE DRINKING WATER INFORMATION SYSTEM (SDWIS/STATE)
EDIT/UPLOAD SUMMARY REPORT
                                    **ACTIONS**                    PAGE 1


Processing Finish Date/Time: 09/04/1998 09:36
Processing Mode: TOTAL REPLACE

Action Options:

Y Replace Actions
1992 Fiscal Year Begin
1998 Fiscal Year End

Number of Records in DTF File

Eligible        Rejected        Accepted        Form ID         Form Title
254             35              219             D1              Violation
50              0               50              E1              Enforcement


_____          _____         _____
304             35              269             Total Number of Records

Number of Public Water Systems

Eligible
13              Violation
15              Enforcement

Number of Public Water Systems

Eligible        Rejected        Accepted
2429            0               2429
```

Exhibit 3-5. UPPROC.RPT Summary Report for Actions

The Error Report for Inventory and Milestone and the Error Report for Actions (Exhibits 3-6 and 3-7) are also similar in format. The columns provide the following details:

DTF form ID	Actual data value in contention
PWS ID	Date of the migration error
Record change number	Error code
Change type (Insert or Modify)	Error message
DTF attribute ID	

```
                         SAFE DRINKING WATER INFORMATION SYSTEM (SDWIS/STATE)
        09/04/1998                    EDIT/UPLOAD ERROR REPORT                    PAGE    1
                                      ** INVENTORY AND MILESTONE **


          DATA ADDRESS QUALIFIERS
        FORM QUAL 1  QUAL 2  QUAL 3 ACT  DE              BATCH   ERROR
        ID  PWS ID        CD NUM  DATA VALUE             DATE  NUM:MESSAGE
        ----------------------------------------------------------------------------------------------------------------
        A3 IA0000026 04526          I   C0315           090498 C17 ZIP Code is Invalid
        B1 IA0000026 0013370 CC  E   C0411 TONY CC      090498 No purchase exists, Seller Id cannot be determined
        A1 IA0000027                I                   090498 E0M NO "A1" FORM FOR THIS PWS
        A1 IA001                    I                   090498 E0M NO "A1" FORM FOR THIS PWS
        C4 IA0105002 2087           I C0803 19760214    090498 EHY C803 must be after 06/30/1991
        C4 IA0105002 2088           I C0803 19760210    090498 EHY C803 must be after 06/30/1991
        C4 IA0105002 2089           I C0815 0000001.30000000  090498 EEL C815 must not be less than 1.35 for Copper
                                                                      Samples
        C4 IA0105002 2089           I C0803 19760210    090498 EHY C803 must be after 06/30/1991
        C4 IA0105002 2091           I C0815 0000001.30000000  090498 EEL C815 must not be less than 1.35 for Copper
                                                                      Samples
        C4 IA0105002 2091           I C0803 19760210    090498 EHY C803 must be after 06/30/1991
        C2 IA0105509 04323          I C0605            090498 Must report primary service Ind for NC and NTNC.
        C2 IA0105509 04323          I C0605            090498 Primary Indicator code is not equal to 'Y' or 'N'.
        C4 IA0105509 0014           I C0815 0000000.01500000  090498 EEJ C815 must not be less than 0.0155 for Lead
                                                                      Samples
        A3 IA012345  04601          I C0315            090498 C17 ZIP Code is blank.
        B1 IA012345                 I C0417 0200520    090498 Longitude value out of range
        B1 IA012345  13355          I C0421 E          090498 A02 Range Number is invalid.
        B1 IA012345  13355          I C0419 S          090498 A02 Township Number is invalid.
        C2 IA0135046 04331          I C0605            090498 Primary Indicator code is not equal to 'Y' or 'N'.
        C2 IA0140007 04333          I C0605            090498 Primary Indicator code is not equal to 'Y' or 'N'.
        C2 IA0140701 04335          I C0605            090498 Primary Indicator code is not equal to 'Y' or 'N'.
        C2 IA0160901 04344          I C0605            090498 Must report primary service Ind for NC and NTNC.
        C2 IA0160901 04344          I C0605            090498 Primary Indicator code is not equal to 'Y' or 'N'.
        C2 IA0180001 04346          I C0605            090498 Primary Indicator code is not equal to 'Y' or 'N'.
        C4 IA0180001 0074           I C0815 0000000.01549990  090498 EEJ C815 must not be less than 0.0155 for Lead
                                                                      Samples
```

Exhibit 3-6. UPPROC.RPT Error Report Page for Inventory and Milestone

```
                       SAFE DRINKING WATER INFORMATION SYSTEM (SDWIS/STATE)
    09/04/1998                         EDIT/UPLOAD ERROR REPORT                      PAGE    1
                                            ** ACTIONS **


        DATA ADDRESS QUALIFIERS
    FORM QUAL 1        QUAL 2    QUAL 3 ACT  DE         BATCH   ERROR
     ID  PWS ID        CD NUM  DATA VALUE     DATE  NUM:MESSAGE
    ------------------------------------------------------------------------------------------------------------------
    D1 IA012345       9701809   I C1115 070797           090498 E9R C1115 must not be before C1109
    D1 IA012345       9701814   I C1115 070797           090498 E9R C1115 must not be before C1109
    D1 IA0140007      9801835   I C1115 102797         090498 E9R C1115 must not be before C1109
    D1 IA0220075      9700006   I C1115 030697           090498 E9R C1115 must not be before C1109
    D1 IA0472012      9700163   I C1103                  090498 EQS C1103 must be 3100 for TCR Violations
    D1 IA0607013      9800079   I C1103                  090498 EQS C1103 must be 3100 for TCR Violations
    D1 IA1000000      9701801   I C1105 09               090498 U80 Invalid  VIOL type for 'Contaminant type'.
    D1 IA1000000      9701801   I C1105 09               090498 EYA Invalid Violation type.
    D1 IA2843706      9700046   I C1105 08               090498 U80 Invalid  VIOL type for 'Contaminant type'.
    D1 IA2843706      9700046   I C1105 08               090498 EYA Invalid Violation type.
    D1 IA4907084      9700078   I C1103                  090498 EQS C1103 must be 3100 for TCR Violations
    D1 IA5000000      9700065   I C1107                  090498 E9U Violation Begin Date is invalid.
    D1 IA5000000      9700065   I C1109                  090498 UBF End Date must be present for PB/CU
    D1 IA5000000      9700065   I C1105 03               090498 EHF  C1109 must be 1 to 120 months duration
    D1 IA5000000      9800066   I C1107                  090498 E9U Violation Begin Date is invalid.
    D1 IA5000000      9800066   I C1107                  090498 EIB Violation begin date is invalid.
    D1 IA5000000      9800066   I C1105 52               090498 EHT C1105 must be 6/12/36/ months duration
    D1 IA5000000      9800066   I C1109                  090498 UBF End Date must be present for PB/CU
    D1 IA5208701      9700077   I C1103                  090498 EQS C1103 must be 3100 for TCR Violations
    D1 IA5225101      9700056   I C1115 032797           090498 E9R C1115 must not be before C1109
    D1 IA5225101      9801776   I C1103                  090498 EQS C1103 must be 3100 for TCR Violations
    D1 IA5225716      9700076   I C1103                  090498 EQS C1103 must be 3100 for TCR Violations
    D1 IA5704012      9700080   I C1103                  090498 EQS C1103 must be 3100 for TCR Violations
    D1 IA5715152      9700084   I C1103                  090498 EQS C1103 must be 3100 for TCR Violations
    D1 IA6003032      9800081   I C1103                  090498 EQS C1103 must be 3100 for TCR Violations
    D1 IA6222101      9800098   I C1103                  090498 EQS C1103 must be 3100 for TCR Violations
    D1 IA6525090      9701736   I C1103                  090498 EQS C1103 must be 3100 for TCR Violations
```

Exhibit 3-7. UPPROC.RPT Error Report Page for Actions

Formatting to Print Reports

After returning to any of the *Migration to SDWIS/FED* windows, you can select the View on Screen check box to view the *Migration to SDWIS/FED* post-processing reports in MS Word. These reports can be printed by selecting the Print to Device check box. To ensure that the complete report appears and prints properly, select View on Screen first. In MS Word, change the font to 8-point Courier (by selecting **Format/Font**), change the page orientation to landscape, and set the margins to 0.5 inches on each side (by selecting **File/Page Setup**). If you are unable to review the report using the View on Screen check box, verify that the location of WINWORD.EXE has been specified correctly in the Utilities program. If a processing report exists, you can print or view it at any time by opening *Migration to SDWIS/FED*, selecting Print to Device or View on Screen, and selecting **OK**.

Migration to SDWIS/FED uses MS Word to format and print its reports. In order to work properly, the path to MS Word must be preconfigured using the Utilities program that is located in your SDWIS/STATE program group. The utility allows you to configure the path for three MS Office packages: MS Word, MS Excel, and MS Access. Of the three, only MS Word has significance for the *Migration to SDWIS/FED* application. Double-click on the Utilities icon on the SDWIS/STATE desktop to invoke the program and configure the correct path for the Microsoft applications.

In addition, two macros, Courier8 and PrintDoc, need to be incorporated into your NORMAL.DOT template. A file called REPORT.BAS is included in the software release; you need to make this part of the template by doing the following:

1. Invoke MS Word and open the NORMAL.DOT file. NORMAL.DOT should be found in the template directory. To locate the template directory, go to **Tools/Options** and select the File Locations tab. The template directory is located where User Templates is pointing.

2. When NORMAL.DOT is opened, choose **Tools/Macro/Visual Basic Editor**. On the Microsoft Visual Basic Editor screen, select **File/Import File** and search for REPORT.BAS in the directory where the SDWIS files were installed (this should be C:\SDWIS\TEMPLATE). Choose **File/Save** and then return to MS Word by selecting **File/Close**. Check if the macros were correctly installed by selecting **Tools/Macro/Macros**. Two macros should appear: Courier8 and PrintDoc. Exit MS Word and select **Save** when prompted.

Migration to SDWIS/FED: Sampling (Traditional Update)

Migration to SDWIS/FED: Sampling creates an H1 DTF that may do the following:

*   Create an Insert transaction for an Unregulated Contaminant Monitoring (UCM), Lead 90th Percentile (Pb90), or Copper 90th Percentile (Cu90) result that was not previously reported to SDWIS/FED (including those that the State/Region tried to report but were rejected).

- Create a Modify transaction for any UCM, Pb90, or Cu90 result that was previously reported to and accepted by SDWIS/FED and was subsequently modified in SDWIS/STATE.

- Filter out (does not create a DTF transaction for) any UCM, Pb90, or Cu90 result that was previously reported to and accepted by SDWIS/FED and was not subsequently modified in SDWIS/STATE.

Migration to SDWIS/FED: Sampling does not create an error report because the sampling edit checks are built into the online *Sampling*, *Sampling via EDI*, and *Migration to SDWIS/STATE: Sampling* components.

Migrating Samples to SDWIS/FED

From the *Migration to SDWIS/FED* main menu, select **Edit/Samples/Migration to SDWIS/FED** (Exhibit 3-1) to invoke the *Migration to SDWIS/FED: Sampling* window (Exhibit 3-8).
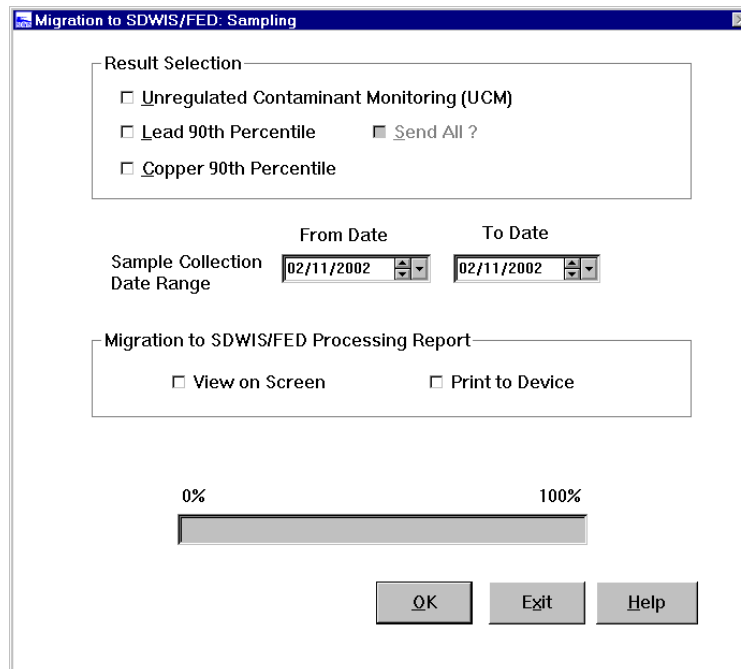
Exhibit 3-8. Migration to SDWIS/FED: Sampling

Perform the following steps to prepare a Sampling migration H1 DTF:

1. Select one or more of the Result Selections: Unregulated Contaminant Monitoring (UCM), Lead 90th Percentile, or Copper 90th Percentile.

Check the Send All check box to indicate that all Lead 90th Percentile sample summary results should be evaluated as candidates to be reported to SDWIS/FED. Users who wish to report all Pb90 summary results, even those that do not exceed the lead action level, may do so by checking this check box. The check box is only enabled after the Lead 90th Percentile check box is selected.

2. Enter a Sample Collection Date Range by filling in the From Date and/or To Date fields using the calendar function.

   For UCM samples, the From Date field selects samples where the sample collection date (SAMPLE_Collection_End_Date) is on or after the date entered. The To Date field selects samples where the sample collection date is on or before the date entered.

   For Pb90 and Cu90 Sample Summaries, the From Date and To Date fields identify the monitoring periods for the sample summaries to be migrated to SDWIS/FED. Sample summaries associated with monitoring periods that both start and end within the From and To date range are eligible for inclusion in the H1 DTF.

3. Select the View On Screen check box to view the *Migration to SDWIS/FED* processing report in MS Word. Select the Print to Device check box to print the *Migration to SDWIS/FED* processing report in a networked printer. The software automatically checks these fields once *Migration to SDWIS/FED: Sampling* is done (that is, once a "batch run" is finished).

4. Select **OK** to begin processing *Migration to SDWIS/FED: Sampling*. A progress bar indicates what percent of the processing is complete. Once the task is finished, an informational message appears (Exhibit 3-9) and a processing report is generated, which can be viewed onscreen or printed.
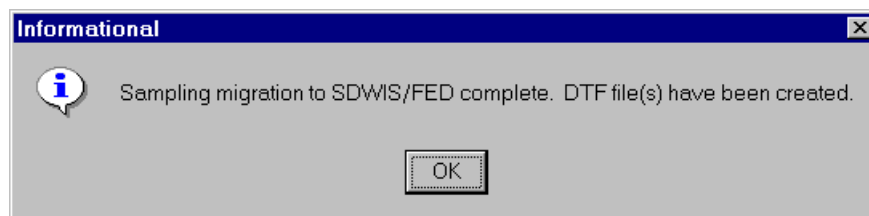
Exhibit 3-9. Processing Complete Information Window

Restart for Migration to SDWIS/FED: Sampling

When you have finished executing *Migration to SDWIS/FED*: *Sampling* (that is, finished a "batch run"), check the status of the batch run in the Post SDWIS/FED Batch Selection list (Exhibit 3-10), which pulls information from the TINBATCH table. To do this, select **Edit/Samples/Post Migration Processing** from the *Migration to SDWIS/FED* main menu. The most recent batch run

appears at the top of the list. Check the DTF File Status of the batch run. It will have a *P*, which means that the batch run completed successfully, or an *F*, which means that the batch run failed. A failure would occur if the program abnormally terminates, such as in a power outage.

Batch No	DTF Creation Date	DTF Creation Time	Selection DateRange From	Selection DateRange To	PB90 /ICU90 /IUCM	All PB90 Results ?	Total Samples	DTF File Status
12							0	P
11							0	P
10							0	P
9							0	P
8			01-01-2000	08-15-2001			0	
7							0	P
6							0	P
5							0	P
4							0	P
3			01-01-2001	09-01-2001			0	
2	08-14-2001	15:05:10	01-01-2000	08-01-2001	PB90		0	P
1	08-14-2001	11:15:28	01-01-2001	08-01-2001	PB90		0	D

Prev Next   Accept Cancel Help

Exhibit 3-10. Post SDWIS/FED Batch Selection

The DTF File Status in the exhibit above can have one of four values: *F*, *P*, *D*, or *A*.

F (failed to complete) is the default status for each batch that has not yet been accepted by SDWIS/FED. The status of each batch run remains *F* until the run is successfully completed. If the batch run successfully completes, the status changes to *P*; if it does not, it remains *F*.

P (batch run completed but pending acceptance by SDWIS/FED) describes batches that were successfully completed and whose DTF you may have already transferred to SDWIS/FED. However, you have not yet told SDWIS/STATE that the sample results in this batch run were accepted by SDWIS/FED.

A (accepted) is assigned to a batch run that you have indicated to SDWIS/STATE has been accepted by SDWIS/FED. *"A"* appears when you highlight the batch run number in the Post SDWIS/FED Batch Selection window whose DTF File Status is *P* and press **Accept**.

D (dry run) is assigned to previous batch runs that were not accepted. This status is automatically assigned to pending (*P*) batch runs that were not accepted (*A*) before a new batch run was executed using *Migration to SDWIS/FED: Sampling*. When the batch record is set to *D*, the DTF that was created with it is deleted.

If the DTF File Status of the batch run is *P*, the DTF has been created and you will probably want to view the *Migration to SDWIS/FED: Sampling* Summary Report. The Reporting the Results of Processing Sample Results section of this chapter describes how to interpret this report.

If the DTF File Status is *F*, the batch run must be restarted or invalidated. From the *Migration to SDWIS/FED* main menu, select **Edit/Samples/Migration to SDWIS/FED** to invoke the Failed Batch Run dialog box (Exhibit 3-11).
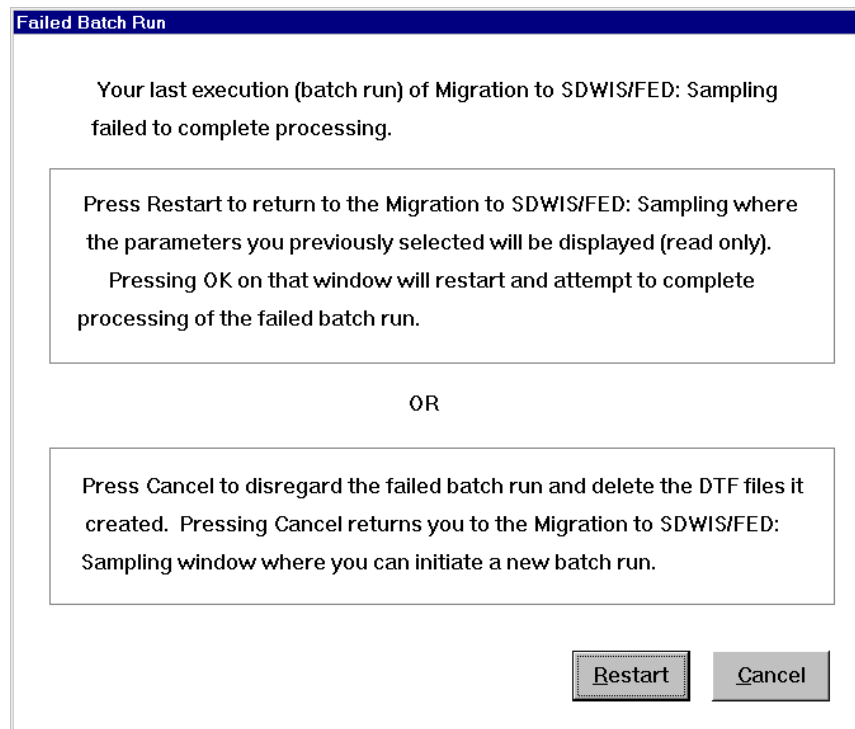
Exhibit 3-11. Failed Batch Run

Press **Restart** to reexecute the failed batch run starting from the point of termination. (The software sorts the sample results/summary results and keeps a record of the last one recorded in the H1 DTF.) Once the batch run successfully completes, its DTF File Status is set to *P* in the Post SDWIS/FED Batch Selection list.

Press **Cancel** to reset the batch run DTF File Status to *D* (dry run) and delete the DTF created during that batch run. At this point, you can start the *Migration to SDWIS/FED: Sampling* process again.

Creating the H1 DTF

When processing Pb90 and Cu90 percentile results, *Migration to SDWIS/FED: Sampling* creates the DTF in the C:\SDWIS\MIGSDFED\SAMPLES directory using the following naming convention: PYYYYMMDDHHMM.DTF where *P* represents 90th percentile. The file and subdirectory are created automatically by running the *Migration to SDWIS/FED* component. When processing UCM results, *Migration to SDWIS/FED: Sampling* creates the DTF using the following naming convention: UYYYYMMDDHHMM.DTF where *U* represents unregulated. This file is stored in the same directory. Embedding the datetimestamp in the file name makes it easier to keep track of each execution of *Migration to SDWIS/FED: Sampling*. If you cannot see the full expression of the file name, you can find it by using Windows Explorer on your desktop, right-clicking on the file name, and selecting **Properties** from the menu that appears.

After creating the DTF, *Migration to SDWIS/FED: Sampling* produces a Summary Report for Sampling Results, which is discussed in the Reporting the Results section of this chapter. At this point, you may wish to evaluate the Summary Report for Sampling Results and either send the DTF to SDWIS/FED for processing or determine that some errors exist in the DTF and not send it to SDWIS/FED. If the errors in the DTF resulted from errors in the SDWIS/STATE data, correct the data in SDWIS/STATE and rerun *Migration to SDWIS/FED: Sampling* with the same date range selected.

Reporting the Results of Processing Sample Results

As mentioned earlier in the chapter, *Migration to SDWIS/FED: Sampling* does not produce an error report. However, it does produce a detailed summary of the disposition of the sample results and/or summary results that were included in the DTF (Exhibit 3-12). Once you are satisfied with the sample results in the DTF, you may forward them to SDWIS/FED for further processing.

Post-Migration Processing

Once SDWIS/FED has sent you a SDWIS/FED Processing Error Report for the sample/summary results that you forwarded in your DTF, you need to update your SDWIS/STATE database to indicate which sample/summary results were accepted or rejected by SDWIS/FED.

Addressing Sample Summary Results That Were Rejected by SDWIS/FED

For each rejected sample analytical result or sample summary result, update the result's SDWIS/FED Status Code to Rejected in the Chemical Sample Analytical Result Maintenance window or the PbCu Sample Summary Maintenance window (SDWIS/FED field for analyte Pb90). This is a good time to fix the error in the sample, result, or summary that prevented SDWIS/FED from accepting it.

```
                        SAFE DRINKING WATER INFORMATION SYSTEM (SDWIS/STATE)
                                MIGRATION TO SDWIS/FED SUMMARY REPORT
                                       ** SAMPLING RESULTS **

Processing Finish Date/Time : 02/11/2002 18:18
Processing Mode :  TRADITIONAL UPDATE
Sample Results Type :  CU90
From Date :  01/01/2000
To   Date :  01/01/2002


No. of UCM Samples            :       0
No. of UCM Sample Results     :       0
No. of PB90 Sample Results    :       0
No. of CU90 Sample Results    :       1

No. of Organic UCM Results > detection limit   :       0
No. of Organic UCM Results > 5 ug/l            :       0
No. of Inorganic UCM Results > detection limit :       0 (excludes Sulfate)
No. of Inorganic UCM Results > 5 ug/l          :       0 (excludes Sulfate)
No. of PB90 Results > .015 mg/l                :       0
No. of CU90 Results > 1.3 mg/l                 :       1

Sample Result Type          Insert        Modify        Total
_____         ____     ____     ____-
UCM (Organic)                   0             0             0
UCM (Inorganic)                 0             0             0
PB90 Percentile                 0             0             0
CU90 Percentile                 1             0             1
                             ____        ____     ____-
Total Sample Results            1             0             1


Number of records/lines in DTF File
Form ID    Created    Form Title
___     ___     _____-
H1               0    UCM Results
H1               0    PB90 Results
H1               4    CU90 Results
___     ___     _____-
                 4    Total Number of records/lines
```

Exhibit 3-12. Example of UPPROC.RPT Summary Page for Sampling Results

Addressing Sample Results That Were Accepted by SDWIS/FED

If the sample results or summary results for a particular batch were not explicitly rejected in the SDWIS/FED Error Report, then you may assume that they were accepted by SDWIS/FED. To inform SDWIS/STATE of their acceptance, select **Edit/Samples/Post Migration Processing** from the *Migration to SDWIS/FED* main menu, which invokes the Post SDWIS/FED Processing Batch Selection list (Exhibit 3-10).

Batch runs are listed by number with the date and time they were run, along with other information. Select the appropriate batch number and click **Accept**. This finds all sample results and summary results with the SDWIS/FED Status of **DTF CREATED** (**REJECTED** results are excluded) and the selected Batch Number, and changes the SDWIS/FED Status to **ACCEPTED**. For example, if

the UCM DTF contained 1,000 sample analytical results only five of which SDWIS/FED rejected, you would explicitly reject the five in the Chemical Sample Analytical Result Maintenance window. You would accept the remaining 995 results by selecting the batch run and pressing **Accept**.

A description of the columns in the Post SDWIS/FED Batch Selection list (Exhibit 3-10) appears below.

Batch No.   Uniquely identifies a batch run for the purpose of generating a DTF H1 file.

DTF Creation Date   Shows the date (extracted from the timestamp) that the batch run was executed.

DTF Creation Time   Shows the time (extracted from the timestamp) that the batch run was executed.

Begin Date   Shows the lower collection date range entered in the *Migration to SDWIS/ FED: Sampling* window.

End Date   Shows the upper collection date range entered in the *Migration to SDWIS/ FED: Sampling* window.

PB90/CU90/UCM   Indicates whether or not the batch run was for Pb90, Cu90, UCM, or all of them.

All PB90 Results?   Indicates *Y* (yes) or *N* (no) to show whether the Send All check box was selected on the Migration to SDWIS/FED: Sampling window to migrate all Lead 90th Percentile results.

Total Samples   Shows the number of sample results (UCM) or summary results (Pb90) processed and written to the DTF H1 file during a single batch run.

DTF File Status   Shows the status of a particular batch run. Possible values include *F* (failed), *P* (pending), *D* (dry run), and *A* (accepted).

Results in SDWIS/FED From a Legacy System

If you migrate sample results into SDWIS/STATE (or enter them using the online system) that you intend to report to SDWIS/FED and you have reported results in SDWIS/FED from a legacy database, you need to request that EPA allow you to do a onetime total replace of results. This is necessary to ensure that the sample (i.e., Result) ID in SDWIS/FED and SDWIS/STATE are the same. If you have any questions about this, please contact the SDWIS/STATE hotline.

Selection Criteria for Processing UCM, Lead 90th Percentile, and Copper 90th Percentile Results

The following six sections provide the selection criteria that *Migration to SDWIS/FED: Sampling* uses to select candidate sample results and sample summary results for inclusion in an H1 DTF.

Selection Criteria for Processing UCM Sample Results as Inserts to SDWIS/FED

The UCM processing module selects as candidates for reporting as *inserts* to SDWIS/FED those sample results (table TSASAR) and their parent samples (table TSASAMPL) where

The sample result Data Quality Code is (*A* for accepted or *V* for validated)

AND

The sample result has been taken for a reportable analyte (meaning the Analyte Reportable Start Date is valued and the Sample Collection End Date is on/after the Analyte Reportable Start Date; if the Analyte Reportable End Date is valued (37 of the analytes will have end dates), the Collection End Date would also need to be less than the Analyte Reportable End Date)

AND

The Sample Collection End Date falls inside (inclusively) the user-specified collection date range on the *Migration to SDWIS/FED: Sampling* window

AND

Either

(1) Sample Result SDWISFED Status equals *spaces*

OR

(2) (Sample Result SDWISFED Status equals *DTF Created* AND Sample Result Transaction Type equals **I**; includes sample results that have not been marked as *Accepted* by SDWIS/FED)

OR

(3) (Sample Result SDWISFED Status equals *REJECTED* AND Sample Result Transaction Type equals *I*)

Selection Criteria for Processing UCM Sample Results as Modifications to SDWIS/FED

Processing of UCM *modified* samples and sample results follows the processing of *new* sample results in a continuous/seamless manner. The UCM processing module selects as candidates for reporting as *modifications* to SDWIS/FED those sample results (table TSASAR) and their parent samples (table TSASAMPL) where

The sample result Data Quality Code is (*A* for accepted or *V* for validated)

AND

The Sample Collection End Date falls inside (inclusively) the user-specified collection date range on the *Migration to SDWIS/FED: Sampling* window

AND

Either

(1) (Sample Result SDWISFED Status equals *ACCEPTED* AND (Sample Result Last Update Timestamp >Sample Result_Result DTF Created Timestamp)

OR

(2) (Sample Result SDWISFED Status equals *DTF Created* AND Sample Result Transaction Type equals *M*)

OR

(3) (Sample Result SDWISFED Status equals *REJECTED* AND Sample Result Transaction Type equals *M* AND ((Sample Last Update Timestamp >Sample Result DTF Created Timestamp) OR (Sample Result Last Update Timestamp > Sample Result DTF Created Timestamp)))

Selection Criteria for Processing Lead 90th Percentile Sample Summaries as Inserts to SDWIS/FED

The Pb90 processing software should select as candidates for reporting as inserts to SDWIS/FED those SAMPLE_SUMMARY_RESULTS and their parent SAMPLE_SUMMARIES where

The Sample_Summary references Analyte Code equal to (Pb90 or 1030)

AND

The Sample_Summary_Compliance_Purpos_Indicator_Code is equal to *Y*

AND

The Sample_Summary_Result_Type_Code is equal to *90*

AND

The Sample_Summary_Result Data Quality Code is (*A* or *V*)

AND

The Monitoring Period Start Date (CP_PRD_BEGIN_DT) associated with the Sample Summary is greater than or equal to the Analyte Reportable Start Date for Pb90

AND

If the Analyte Reportable End Date for PB90 is valued, the Monitoring Period End Date (CP_PRD_END_DT) is equal to or less than the Analyte Reportable End Date for Pb90

AND

The Start Date to End Date range of the Monitoring Period associated with the Sample Summary falls inside (inclusively) the user-specified Sample Collection Date Range on the Migration to SDWIS/FED: Sampling window **(**See Note 1)**

AND

The Monitoring Period's duration is not equal to QT, MN, 4H, DL, HR, or WK

Sample_Summary_Result SDWISFED Status equals spaces
OR
(2) (Sample_Summary_Result SDWISFED Status equals DTF Created AND
Sample_Summary_Result Transaction Type equals *I*)
OR
(3) (Sample_Summary_Result SDWISFED Status equals REJECTED AND
Sample_Summary_Result Transaction Type equals *I*).

If the PB90_ALL_RESULTS does not equal *Y*, apply the following additional selection criteria:

AND

Either
(1) MONITORING_PERIOD_TYPE_CODE is not equal to 6M, QT, MN, 4H, DL, HR, or WK
   AND SAMPLE_SUMMARY_RESULT_COUNT_QTY is greater than or equal to 20
   OR
(2) MONITORING_PERIOD Type Code is 6M AND
   SAMPLE_SUMMARY_RESULT_COUNT_QTY is greater than or equal to 40

OR
(3) WATER_SYSTEM D Population Count is greater than 3300
    OR
(4) If the SAMPLE_SUMMARY_RESULT_UOM_CODE is = "MG/L," then
    SAMPLE_SUMMARY_RESULT_MEASURE is > 0.015
    OR
    If the SAMPLE_SUMMARY_RESULT_UOM_CODE e is = "UG/L," then
    SAMPLE_SUMMARY_RESULT_MEASURE is > 15.

(**Note 1) For example if the user specifies a range of 01/01/1997 to 09/30/1997 on the Migration to SDWIS/FED: Sampling window, a Sample Summary whose Monitoring Period Start Date is 01/01/1997 and End Date is 06/30/1997 would meet the select criteria; but a Sample Summary whose Monitoring Period Start Date is 07/01/1997 and End Date is 12/31/1997 would not.

Selection Criteria for Processing Lead 90th Percentile Sample Summaries as Modifications to SDWIS/FED

The Pb90 processing software should select as candidates for reporting as modifies to SDWIS/ FED those Sample_Summary_Results and their parent Sample_Summaries where

The Sample_Summary references Analyte Code equal to (Pb90 or 1030)

AND

The Sample_Summary.Compliance_Purpos_Indicator_Code is equal to Y

AND

The Sample_Summary_Result.Type_Code is equal to "90"

AND

The Sample_Summary_Result Data Quality Code is ("A" or "V")

AND

The Monitoring Period Start Date (CP_PRD_BEGIN_DT) associated with the Sample Summary is greater than or equal to the Analyte Reportable Start Date for Pb90

AND

If the Analyte Reportable End Date for Pb90 is valued, the Monitoring Period End Date (CP_PRD_END_DT) is equal to or less than the Analyte Reportable End Date for Pb90

AND

The Start Date to End Date range of the Monitoring Period associated with the Sample Summary falls inside (inclusively) the user-specified Sample Collection Date Range on the Migration to SDWIS/FED: Sampling window

AND

The Monitoring Period's duration is not equal to QT, MN, 4H, DL, HR, or WK

AND

Either

(1) (Sample_Summary_Result SDWISFED Status equals ACCEPTED AND (Sample_Summary Last Update Timestamp > Sample_Summary_Result DTF Created Date OR Sample_Summary_Result Last Update Timestamp > Sample_Summary_Result DTF Created Date))
OR
(2) (Sample_Summary_Result SDWISFED Status equals DTF Created AND Sample_Summary_Result Transaction Type equals M)
OR
(3) (Sample_Summary_Result SDWISFED Status equals REJECTED AND Sample_Summary_Result Transaction Type equals M AND (Sample_Summary Last Update Timestamp > Sample_Summary_Result DTF Created Date OR Sample_Summary_Result Last Update Timestamp > Sample_Summary_Result DTF Created Date)).

If the PB90_ALL_RESULTS does not equal Y, apply the following additional selection criteria:

AND

Either
(1) MONITORING_PERIOD_TYPE_CODE is not equal to 6M, QT, MN, 4H, DL, HR, or WK AND SAMPLE_SUMMARY_RESULT_COUNT_QTY is greater than or equal to 20
OR
(2) Monitoring_Period Type Code is 6M AND SAMPLE_SUMMARY_RESULT_COUNT_QTY is greater than or equal to 40
OR
(3) Water_System D Population Count is greater than 3300
OR
(4) If the SAMPLE_SUMMARY_RESULT_UOM_CODE is = "MG/L," then SAMPLE_SUMMARY_RESULT_MEASURE is > 0.015
OR

If the Sample_Summary_Result.UOM_Code is = "UG/L," then
Sample_Summary_Result.Measure is > 15.

Selection Criteria for Processing Copper 90th Percentile Sample Summaries as Inserts to SDWIS/FED

The Cu90 processing software should select as candidates for reporting as inserts to SDWIS/FED those Sample_Summary_Results and their parent Sample_Summaries where

The Sample_Summary references Analyte Code equal to (Cu90 or 1022)

AND

The Sample_Summary.Compliance_Purpos_Indicator_Code is equal to *Y*

AND

The Sample_Summary_Result.Type_Code is equal to *90*

AND

The Sample_Summary_Result Data Quality Code is (*A* or *V*)

AND

The Start Date to End Date range of the Monitoring Period associated with the Sample Summary falls inside (inclusively) the user specified Sample Collection Date Range on the Migration to SDWIS/FED: Sampling window **(**See Note 1)**

AND

The Monitoring Period's duration is not equal to QT, MN, 4H, DL, HR, or WK

AND

Either
Sample_Summary_Result SDWISFED Status equals spaces
OR
(2) (Sample_Summary_Result SDWISFED Status equals DTF Created AND
    Sample_Summary_Result Transaction Type equals *I*)
OR
(3) (Sample_Summary_Result SDWISFED Status equals REJECTED AND
    Sample_Summary_Result Transaction Type equals *I*)

AND

If the Sample_Summary_Result.UOM_Code is = *MG/L*, then
Sample_Summary_Result.Measure is > 1.3
OR
If the Sample_Summary_Result.UOM_Code is = *UG/L*, then
Sample_Summary_Result.Measure is > 1300

Selection Criteria for Processing Copper 90th Percentile Sample Summaries as Modifications to SDWIS/FED

The Cu90 processing software should select as candidates for reporting as modifies to SDWIS/FED those Sample_Summary_Results and their parent Sample_Summaries where

The Sample_Summary references Analyte Code equal to (Cu90 or 1022)

AND

The Sample_Summary.Compliance_Purpos_Indicator_Code is equal to Y

AND

The Sample_Summary_Result.Type_Code is equal to "90"

AND

The Sample_Summary_Result Data Quality Code is ("A" or "V")

AND

The Start Date to End Date range of the Monitoring Period associated with the Sample Summary falls inside (inclusively) the user-specified Sample Collection Date Range on the Migration to SDWIS/FED: Sampling window

The Monitoring Period's duration is not equal to QT, MN, 4H, DL, HR, or WK

AND

Either
(1) (Sample_Summary_Result SDWISFED Status equals ACCEPTED AND
    (Sample_Summary_Last_Update_Timestamp > Sample_Summary_Result DTF Created
    Date OR Sample_Summary_Result_Last_Update_Timestamp > Sample_Summary_Result
    DTF Created Date))
    OR
(2) (Sample_Summary_Result SDWISFED Status equals DTF Created AND
    Sample_Summary_Result Transaction Type equals M)
    OR

(3) (Sample_Summary_Result SDWISFED Status equals REJECTED AND
Sample_Summary_Result Transaction Type equals M AND (Sample_Summary Last Update
Timestamp >Sample_Summary_Result DTF Created Date OR Sample_Summary_Result
Last Update Timestamp >Sample_Summary_Result DTF Created Date)).
AND
If the Sample_Summary_Result.UOM_Code is = "MG/L," then
Sample_Summary_Result.Measure is > 1.3
OR
If the Sample_Summary_Result.UOM_Code is = "UG/L," then
Sample_Summary_Result.Measure is > 1300

Information About Excluding Total Trihalomethane Results from Sample DTFs

Currently, *Migration to SDWIS/FED: Sampling* creates DTF transactions for all trihalomethane results, even if the results have been obtained in compliance with the Total Trihalomethanes (TThm) or Disinfection Byproducts (DBP) rules. The SDWIS/STATE model cannot currently distinguish whether a trihalomethane result is for TThm/DBP compliance or for UCM compliance.

There is, of course, a significant difference between a result obtained in compliance with TThm/DBP and one obtained in compliance with UCM regulations. The former is measured *after* disinfection treatment as a measure of disinfection byproducts, whereas the latter is intended to be raw water result (taken *before* disinfection treatment) to see if the source water has been contaminated.

States are not required to report individual results if they are obtained in compliance with TThm or DBP rules. They are required to report them if taken in compliance with UCM regulations.

Users can prevent *Migration to SDWIS/FED: Sampling* from reporting any trihalomethane results by changing the Reportable Start Date for the four analytes to null. These changes have to be done by your Oracle DBA or someone who is approved by your SDWIS/STATE Administrator to work directly with data in Oracle tables.

Introduction

States and regions currently use a number of different information systems (legacy databases) to track information in Public Water Systems (PWS) in support of the Safe Drinking Water Act (SDWA). The *Migration to SDWIS/STATE* application is designed to enable the states or regions to move their data from these legacy systems into the SDWIS/STATE application without having to re-key (duplicate data entry) information. This chapter explains in detail the steps required to migrate legacy data into the SDWIS/STATE application.

The migration process begins with the state or region legacy databases. The states/regions extract data from their legacy systems and create formatted ASCII text files using file specifications provided by EPA. These file specifications, or structure sets, detail the data requirements, including edit and duplicate checks that the ASCII text files must meet to be successfully transferred into SDWIS/STATE. The *Migration to SDWIS/STATE* application, which is divided into several components, processes the ASCII text files and populates the online SDWIS/STATE application database. The source information may be located in any repository format (e.g., IMS hierarchical database, FoxPro database, dBASE4, VSAM, etc.). You can run the *Migration to SDWIS/STATE* application as many times as necessary to ensure that your legacy data have been migrated correctly and accurately.

Most of the *Migration to SDWIS/STATE* software can be used by a first-time user or a current user of SDWIS/STATE. If the state/region already has a SDWIS/STATE database, the state/region can use *Migration to SDWIS/STATE* software to append rows from its legacy system to the existing SDWIS/STATE database. If the state/region does not already have a SDWIS/STATE database, *Migration to SDWIS/STATE* can be used to create one. (The Total Coliform Rule (TCR) Noncompliance Determination (NCD) Setup function is the exception and should only be used as part of creating the database for the first time). The migration software uses the edit checks, including duplicate checks, that exist in the online SDWIS/STATE application. Most of these edit checks are included in the File Layout and Permitted Value tables of each of the 31 structure sets (Appendix A). If a candidate row does not pass the minimum edit checks, it will be rejected from entry in the destination SDWIS/STATE table(s). Some candidate rows may pass the minimum set of edit checks, but some of the data that are posted to the SDWIS/STATE table(s) may be changed from the value(s) supplied based on SDWIS/STATE logic. For example, SDWIS/STATE may recalculate the federal type code supplied by the state to reflect Code of Federal Regulation (CFR) requirements for water system classification.

When running *Migration to SDWIS/STATE*, use the appropriate section of this chapter in conjunction with the appropriate structure sets to achieve the smoothest possible migration of your legacy data.

Concept of Operations

Building the Structure Set-Formatted Text Files

Each of the *Migration to SDWIS/STATE* modules requires a structure-set formatted text file as its source of data. EPA has developed 31 different structure sets that provide detailed specifications for creating fixed-format, fixed-length ASCII files that contain the legacy water system data you wish to migrate. Twenty-seven of the 31 structure sets should each result in a single formatted text file that conforms with its structure set. The exceptions to this rule are structure sets 18 and 19, B_Sample_Sample_Summary and B_Result_Summary_Result, which together should yield a single structure set-formatted text file. Your preparation of these structure set-formatted text files according to the requirements defined in each structure set is the prerequisite to execute the migration. You do not need to have all 31 structure set-formatted text files built prior to executing the migration. You may wish to build the first two or three inventory files and try migrating them, for example, before you build additional structure set-formatted text files.

Executing the Migration

The complete execution of the migration of legacy water system data into SDWIS/STATE involves five steps. At any point during each step, you may report the results of the module that you most recently selected to migrate. The reporting component is a separate step but is not called the sixth step because you will want to report the results of the migration of each structure set once you have executed that module. You should follow the sequence of execution described in each step. Prior to executing the migration application (Steps 2, 4, and 5), the user should maximize the computer's memory by closing all Terminate and Stay Resident (TSR) applications.

Step 1   Step 1, *Importing Text Data into Staging Tables*, imports the data from your structure set fixed-formatted text file which complies with the appropriate structure set specifications into one or more *Migration to SDWIS/STATE* Oracle staging tables. During this import, fields that are supposed to be date or number fields are converted to the appropriate domain in the staging table. Use this component to clear out the data from a staging table prior to performing another import. Once the staging tables with which you wish to work are populated, move to Step 2.

Step 2   Step 2, *Migration to SDWIS/STATE: Inventory*, selects one or more *Inventory* water system module for processing and evaluation for insertion into one or more SDWIS/ STATE Oracle tables. The *Inventory* component contains 18 staging tables; use some or all of these depending on the scope of your migration. In addition, after you have migrated key elements of your water system inventory, invoke the Generate Derived Water System Values procedure, which calculates values for Federal Type (e.g., Community, Non-transient Non-community, etc.), Federal Primary Source (e.g., Groundwater, Surface Water, Purchased Surface Water, etc.), and other system-calculated values for each water system in your SDWIS/STATE database.

Step 3   Step 3, *TCR Noncompliance Determination (NCD) Setup*, is not a migration module. Once your water system inventory has been migrated to your satisfaction, invoke *TCR NCD Setup* to automatically calculate the TCR monitoring requirements and create the TCR monitoring schedules for each active, public water system in your data base. *TCR NCD Setup* also creates the necessary associations between the appropriate TCR monitoring periods (either monthly or quarterly) in your database and your scheduled water systems.

Step 4   At Step 4, *Migration to SDWIS/STATE: Sampling*, you have the opportunity to migrate samples/sample analytical results as well as sample summaries into SDWIS/STATE.

Step 5   During Step 5, *Migration to SDWIS/STATE: Monitoring and Noncompliance*, select one or more *Monitoring and Noncompliance* modules for processing and evaluation for insertion into one or more SDWIS/STATE Oracle tables. The *Monitoring and Noncompliance* component, which contains 11 staging tables, enables you to migrate non-TCR monitoring schedules, compliance schedules, violations, enforcement actions, public notifications, and milestone events. You may use some or all of these migration modules depending on the scope of your migration.

There is no sixth step; however, note the *Migration to SDWIS/STATE: Report Post-Migration Results* icon. This icon invokes an MS Access 97 database (SDWISCOM.MDB) that captures the information about changes SDWIS/STATE needs to make to data supplied in a structure set-formatted text file in order to create corresponding rows that represent that data in a SDWIS/STATE table. This database also contains information about records that were rejected. This database is updated at the end of the migration of each selected staging table.

The B_Legal_Entity structure set does not indicate that there must be one primacy government agency indicated in the data to be migrated. When the migration for this structure set is done and no government agency is listed as primary, the system generates the following error message: "MIGR REJECT: Processing of the B_Legal_Entity Structure Set/TMGLGENT staging table completed with no Government Agency designated as the primacy agency."

The concept of operations for *Migration to SDWIS/STATE* is illustrated in Exhibit 4-1.

Structure Set Building Details

Structure sets provide you the detailed specifications for creating user-defined, fixed-length ASCII files that capture the water system related data from your state's or region's legacy system. Complete specifications for the 29 SDWIS/STATE structure sets are located in Appendix A.
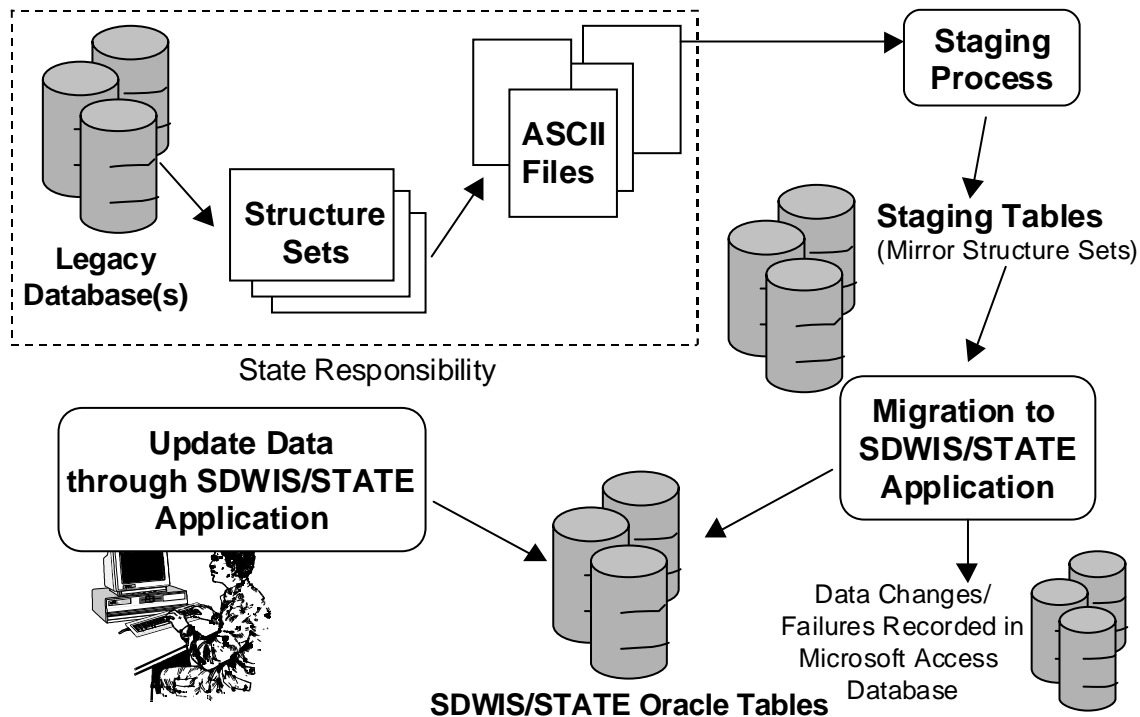
Exhibit 4-1. Migration to SDWIS/STATE Concept of Operations

It is *critical* that you maintain the sequence in which your structure set formatted-text files are migrated, as well as the sequence of the fields within each file, exactly as the structure set specifies. You will need to follow this sequence to load your legacy data into the SDWIS/STATE application tables successfully.

Structure Set Components

Each structure set is composed of four components:

1. *File Layout* describes the structure (i.e., field name, domain, size, position, optionality, and business rules of the file).

2. *Permitted Values* (for those fields that have permitted values) lists the valid permitted values for each field that may only be populated by one of a discrete list of permitted values. These fields are noted with an asterisk (*) in the Field No. column of File Layout.

3. *Mapping to SDWIS/STATE Entities and Attributes* details the correspondence between the structure set attributes and SDWIS/STATE entities and attributes.

4. *Mapping to SDWIS/STATE Staging Table and Fields* details the correspondence between the structure set attributes and staging table fields.

File Layout Characteristics and Instructions

The following columns characterize the file layout:

Field No   is an arbitrary number used to designate a field in the structure set. Fields are numbered consecutively from the beginning to the end of the file. The same number refers to the same field across all the tables of the structure set. For example, Field No. 20 in B_Water_System structure set refers to the attribute B_Owner_Type_Code in the File Layout, Permitted Value List, and Mapping tables.

Field Name is, in most cases, the same as the field name in the counterpart SDWIS/STATE table, with "B_" added to the beginning. Some field names are modified from the counterpart SDWIS/STATE application name for clarity or because of space constraints.

Domain   designates a field as one of the following:

AN	alphanumeric upper case
ANmc	alphanumeric mixed case
DT	date (MMDDYYYY)
TM	time (24-hour clock; HHMMSS)

Numeric   (including decimal, such as 6 (5(2)) = NNN.NN, where 6 = total number of characters including decimal when number is converted to ASCII, 5 = number of significant digits, and 2 = number of places to the right of the decimal)

Size   is the length of the field. *(Note: Left-justify all data and fill in with blank spaces where necessary to match the specified field size.)*

Position   is the column position where the field should be placed in the ASCII table.

Optionality classifies each field as one of the following:

Mandatory	Always required
Optional	Always optional
Conditionally mandatory	Mandatory under the condition described; otherwise optional. Information for what constitutes a unique row as well as business rules are also included in this column.

Mapping to SDWIS/STATE Entities and Attributes

Where *Foreign Key* or *Reference Key* appears in a mapping table, it indicates a field from a table that has already been populated and is used as a reference to that table rather than as new data to be populated. These fields are either used for the creation of associative entities/tables (such as the Regulating Agency Assignment entity/TINRAA table that connects Water System/TINWSYS

and Government Agency/TINGOVAG) or as a direct link to a previously existing table. In the latter case, a record cannot be created in the new table without referencing a record in the previous table. Although the field has already been populated in the previous table (listed under SDWIS/STATE Table Name*)*, it must be populated in the current structure set (in the fixed-format ASCII file) to create the association with the already populated table.

For example, water system number IA3151201 is regulated by two government agencies: Iowa Department of Natural Resources (DNR) and Iowa State Administrative Region 02. Both these government agencies must already exist in the Legal Entity table (TINLGENT). The B_Legal_Entity structure set contains the information on these government agencies and, therefore, must be created and migrated to the SDWIS/STATE application before B_Water_System is created and migrated.

In order to effect these relationships in the SDWIS/STATE database, a row must be created for each of the regulating agencies in the B_Water_System input file. The value of IA3151201 in field 1 (B_NUMBER) would be identical for each of the two rows. All of the information pertinent to water system IA3151201 should be included in fields 1 through 25 of the first row. The information about the regulation of water system IA3151201 by the Iowa DNR would also be in the first row in fields 26 through 29 and information about IA3151201 in Iowa State Administrative Region 02 would be in the second row in fields 26 through 29. All the data about water system IA3151201 may be repeated in the second row, but only the information in the first row (the database's "first encounter" with that water system) is used to create water system IA3151201 in the SDWIS/STATE database. In this example, *Migration to SDWIS/STATE* would create one row in the Water System/TINWSYS table and two rows in the Regulating Agency Assignment/TINRAA table.

Mapping to SDWIS/STATE Staging Tables and Fields

The last section of each structure set contains a table that maps the structure set and attributes to its corresponding Oracle staging table and fields. This table may be a useful reference once the data from a given structure set-formatted text file have been imported into the corresponding staging table. Once you have created the first structure-set formatted text file (LEGAL ENTITY), you can proceed with the first step of executing the migration.

Instructions for Preparing Sampling Structure-Set Formatted Text File

Because the *Migration to SDWIS/STATE: Sampling* component is based on the *Sampling via EDI* module of SDWIS/STATE, it works somewhat differently than the other *Migration to SDWIS/STATE* components. These two structure sets appear in a format that is expanded from that of the other structure sets. Instead of only one file layout table for the structure sets, there are five—one for each of the types of samples (i.e., total coliform, chemical, lead and copper, radionuclide, and water quality), and one for sample summaries. These same structures are also used to create the structure-set formatted text file that is required to run the *Sampling via EDI* component. The two

structure sets that support the sampling area are B_Sample_Sample_Summary and
B_Result_Summary_ Result (18 and 19 in Appendix A). The two structure sets, however, should
be used to produce a *single text file*. (For all other structure sets, each structure set should produce
one formatted text file.) This text file typically contains information for a sample (or summary) on
the first line, followed by the results for that sample (or summary) on the following lines.

Once all sample and result information for a single sample is recorded in the file, the next line will
contain information for the next sample followed, on the succeeding lines, by its results. Typically,
one file might contain 6 months worth of TCR samples and results, 6 months worth of lead and
copper samples and results, or 6 months worth of TCR summaries. The
B_Sample_Sample_Summary structure set should produce a 375-character fixed length record that
starts with "HDR."

Each sampling input file must start with an HDR record. The B_Result_Summary_Result structure
set should produce the same length record that starts with "DTR." An input file containing samples
begins with an HDR record to represent the sample information, followed by as many DTR
records as there are results for the sample. For example, a file containing TCR samples, where
each sample typically contains one and at most two results, might resemble the following:

```
HDR..............................
DTR..............................
HDR..............................
DTR..............................
DTR..............................
HDR..............................
DTR..............................
```

By contrast, a file containing chemical samples, where there could often be multiple results per
sample, might resemble the following:

```
HDR..............................
DTR..............................
DTR..............................
DTR..............................
DTR..............................
DTR..............................
DTR..............................
DTR..............................
DTR..............................
DTR..............................
DTR..............................
DTR..............................
DTR..............................
```

Suggestion for "First-Time" Migration

Sequence is Critical

Because of the dependencies inherent in the SDWIS/STATE database (as well as most relational databases), establishing records in one table that are likely to be referenced by records in subsequent tables is critical. If you are migrating your data for the first time, consider taking an incremental approach, where you import the data into the first staging table (Legal Entity/ TMGLGENT) and then execute the migration of this staging table. Once you are satisfied that all government agencies, individuals, and other legal entities have been successfully migrated, continue the process.

The successful migration of government agencies is particularly critical to the successful migration of water system data, because in addition to creating water systems, the water system module also creates the regulating agency associations for each water system that are essential to its correct characterization. These critical regulating agency associations cannot be created if the government agencies that they reference (as supplied in the Water System text file) are not already in place. *Even if you do not for some reason choose to migrate in your government agencies prior to migrating in water systems and the rest of your inventory, samples, actions, etc., you must create the primacy government agency prior to continuing. SDWIS/STATE assumes that the government agency that you designate as the primacy agency will be either a state agency (type ST) or a region (type RG).*

The successful migration of all water systems in the inventory is critical to the successful migration of many subsequent inventory items such as wells, storage facilities, sampling points, etc., that reference those water systems. Exhibit 4-2 illustrates the dependencies that exist between the Inventory structure sets and staging tables. The entry point to the dependency tree is B_Legal_Entity. The tree is read from left to right. B_Legal_Entity is created first and then B_Water_System is created. Once B_Water_System is created, the structure sets in the next group connected to B_Water_System can be created in any order. They are not dependent on one another (with the exception of B_Well_Screen, which cannot be created until B_Well exists). Once any of the water system facility types (B_Well, B_Storage_Facility, B_Treatment_Plant, or B_Other_Water_System_Facility) are created, the final group of structure sets (B_Locational_Detail, B_Water_Purchase, B_Sampling_Point, B_Water_System_Facility_Flow, B_Valid_Pair_TT_TO_Unit_Process, or B_WS_WSF_Legent_Lab_Contact) can be created in any order.

Database Administrator (DBA) Backup Assistance

You may wish to have the DBA back up (export) all data tables in SDWIS/STATE before migrating each structure set module. After you migrate each module, review the Change and Reject Reports. If you are not satisfied with the results of the migration of a particular module, and you wish to change your source structure set-formatted text file, you can easily return to the pre-migrated state

Migration to SDWIS/STATE Dependency Tree
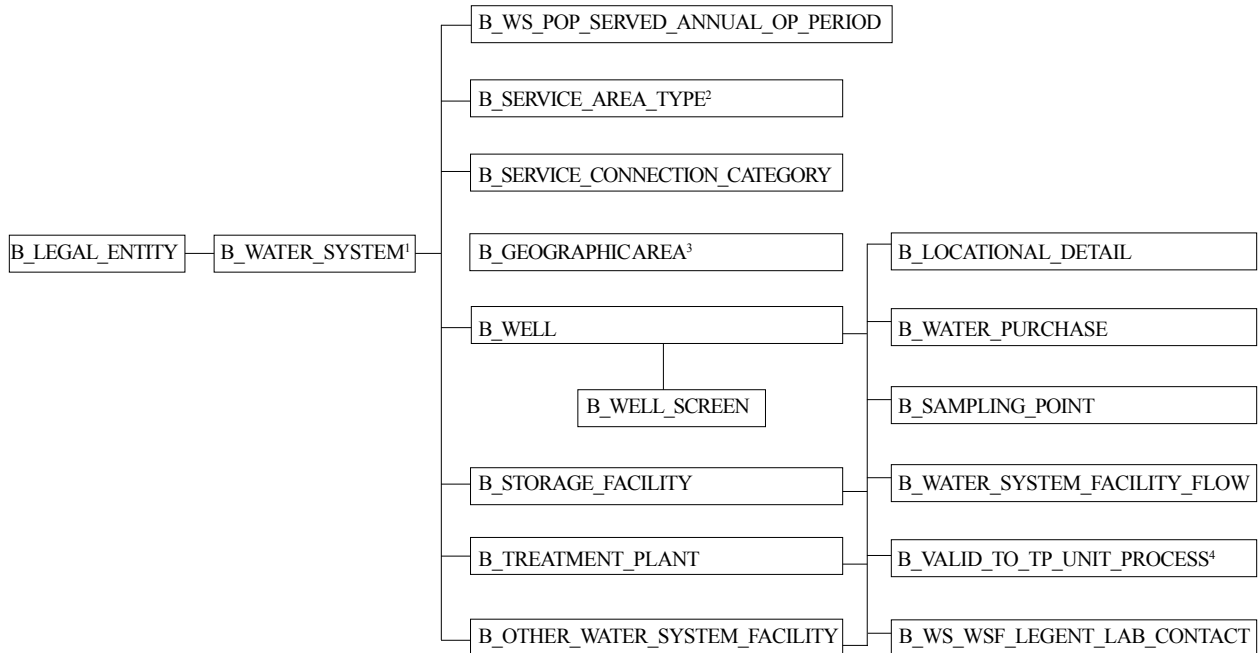
1. Critical path is to Regulating Agency Assignment. Water System can be created outside the critical path.
2. Critical path is to Water System Service Area Assignment. Service Area Type can be created outside the critical path.
3. Critical path is to Water System Geographic Area Assignment. Geographic Area can be created outside the critical path.
4. Valid Treatment Objective Process Pairing can be created outside the critical path.

Exhibit 4-2. Inventory Dependency Tree

by asking the DBA to restore the database. Data that you have already migrated and with which you are satisfied will still be in the backed-up tables. You can then fix either the source structure-set formatted text file and re-import it into the staging table; or you can fix the data directly in the staging table and then re-execute the migration of the module.

Operating Instructions for Executing the Migration

The Migration to SDWIS/STATE program group contains the six icons listed below (Exhibit 4-3).

- Import Text to Staging Table.
- Migration to SDWIS/STATE: Inventory.
- Migration to SDWIS/STATE: TCR NCD Setup.
- Migration to SDWIS/STATE: Sampling.
- Migration to SDWIS/STATE: Monitoring and Non-Compliance.
- Migration to SDWIS/STATE: Report Post-Migration Results.
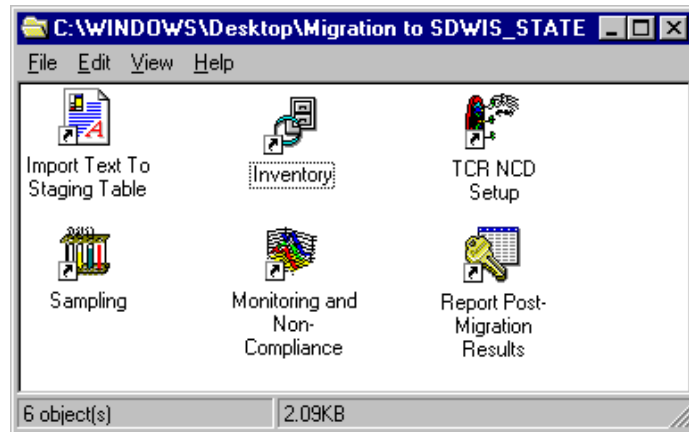
Exhibit 4-3. Migration to SDWIS/STATE Program Group

Step 1: Importing Text Data into Staging Tables

By now, you have your first structure set-formatted text file ready to use. You may wish to create a subdirectory that houses all these source text files, so that you can always find them in the same location. As a review, the primary purpose of Step 1 is to move your data from each of the structure set-formatted text files into a staging table, from which the actual migration of the data to appropriate SDWIS/STATE Oracle tables may take place.

As your data is moved from the structure set-formatted text files, the "Import" software applies the domain edits described in the Structure Set Components, File Layout Characteristics and Instructions section, as well as the following edits:

- For fields of domain *DT*, if the value supplied cannot be converted to a valid date in the staging table, it inserts the value 01/01/1100. Examples of non-convertible date values might be CH011996 (alpha characters included in the date) or 00001995. This value 01/01/1100 is recognizable to *Migration to SDWIS/STATE* as a field where you supplied a date value that could not be converted to a valid date in an Oracle staging table. If the date is a mandatory field, you need to correct the source dates in your text file and re-import to the staging table.

- For fields of domain *N*, if the value supplied cannot be converted to a valid number in the staging table, it inserts the value *9* for each significant digit as specified in the structure set. Examples of non-convertible numbers values might be the inclusion of alpha characters in the number or supplying a number that is valid but has the decimal place set differently than is specified in the structure set. For example, if the number field is defined as 5(2), and the text field supplies a value of 33.234, the software will recognize that the decimal is in the wrong place and substitute the value 999.99.

  The number 999.99 will be recognizable as a field where the data were supplied but could not be converted to help you identify data that need correction.

Importing Data into Staging Table Detailed Instructions

You are now ready to begin importing data into your staging tables by using the *Import Text to Staging Table(s)* MS Access component. Double-click on the Import Text to Staging Table icon in the *Migration to SDWIS/STATE* program group to invoke the Import Text to Staging Table(s) main window (Exhibit 4-4). You can import your structure-set formatted text file into a staging table by selecting the **Import Text to Staging Tables** button, or empty a staging table by selecting the **Empty Staging Tables** button. All Oracle staging tables contain a TMG prefix and ORA suffix (e.g., TMGWSYSOra, TMGSCCOra, TMGGEOAROra). Note: All MS Access sessions should be closed prior to running this application.

Before starting, ensure that the staging tables to be populated are empty. Note: If step 2, *Migration to SDWIS/STATE: Inventory*, has been completed for any structure set (page 4-15), some SDWIS/STATE staging tables may need to be emptied by following the steps in the "Empty Staging Tables" section below.

Empty Staging Tables

Empty a staging table by clicking on the **Empty Staging Tables** button on the main window to invoke the Empty Staging Tables window (Exhibit 4-5). Follow the steps below.

1. At the Schema Owner field, type the schema owner's name (for example, ILV80).

2. Type the password and database alias name (for example, DBPWSS01).

3. Click on the **Go To** button next to the Script File Location field to locate and select the truncate.sql script.

4. Select the table name(s) you wish to clear; an *X* appears beside each table after you select it.
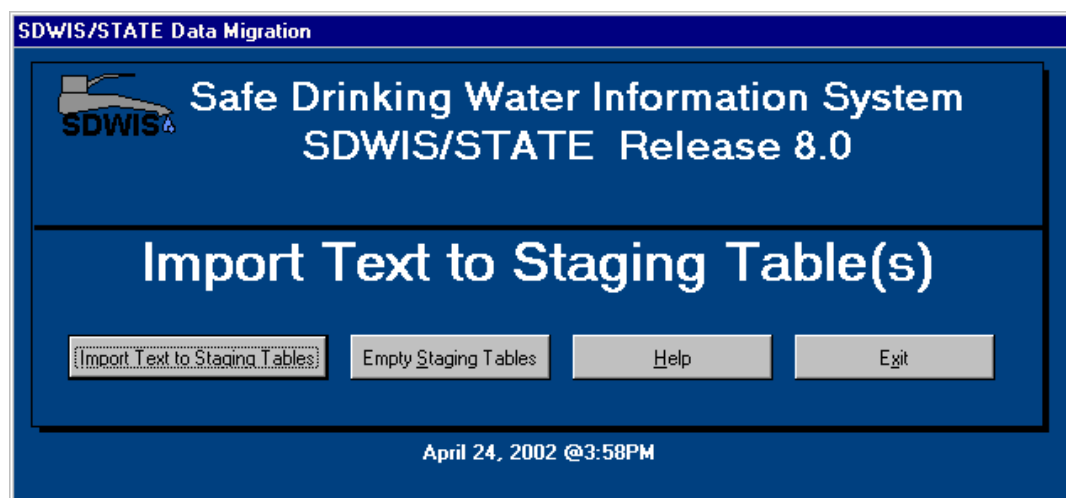
Exhibit 4-4. Import Text to Staging Table(s) main screen

5. Click on **Empty Staging Table(s)** button. For each table you selected, an MS-DOS window will momentarily appear, then disappear.

6. Click on the **Close** button to exit and return to the main window.

Note: You can check the status of a staging table by double-clicking on the Oracle table directly from the Tables tab of the MS Access component. To do this you will have to log in to Oracle as the Schema Owner.
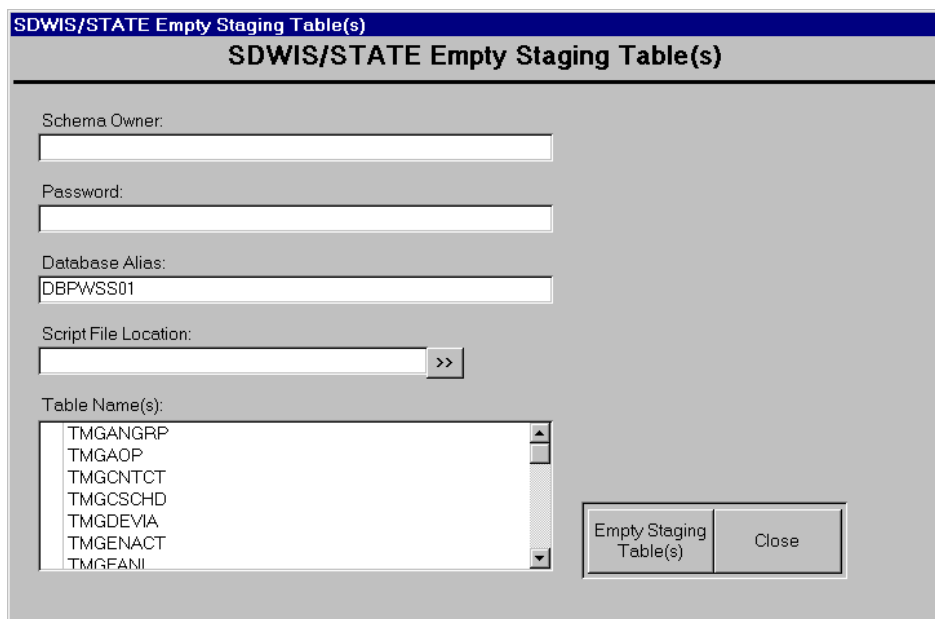
Exhibit 4-5. Empty Staging Tables

Import to Staging Table

After verifying that a staging table is empty, you can import data into that staging table. To do that, click on the **Import Text to Staging Table(s)** button on the main window to invoke the Import Text to Staging Table window (Exhibit 4-6).

1. Click on the **Go To** button (>>) next to the name of the staging table you wish to populate, navigate through your file directory and double-click on the structure set-formatted text file that corresponds to that staging table.

2. Continue selecting the staging tables in this way until all those to be populated have file names showing in the field below the staging table name.

3. Click on the **Import to Staging Table(s)** button to begin processing. The Run Query status bar displays the progress toward completion.

4. After the status bar reaches 100 percent, it resets and starts incrementing again. This time it may run more slowly. After the status bar reaches 100 percent, an import status message appears, informing you that you have successfully imported data. Click **OK**.

5. You can verify the imported data visually by browsing through the staging table (e.g., TMGLGENTOra).

6. When you have finished importing your data into the staging tables, click on the **Close** button to return to the main window.

If the link to your database is dropped at some time during the import, the standard Database Logon dialog box appears. If that happens, enter DATA_MIGRATION as both your User ID, and Password and click on **OK**. You can verify that you are linked to a particular database table by hitting the F11 key to open the Table View window and double-clicking on the table icon.

Note that there are no staging tables for your sampling data (Appendix A, Structure Sets 18 and 19). This is the only part of *Migration to SDWIS/STATE* that operates directly on a structure set-formatted text file and therefore has no staging tables.
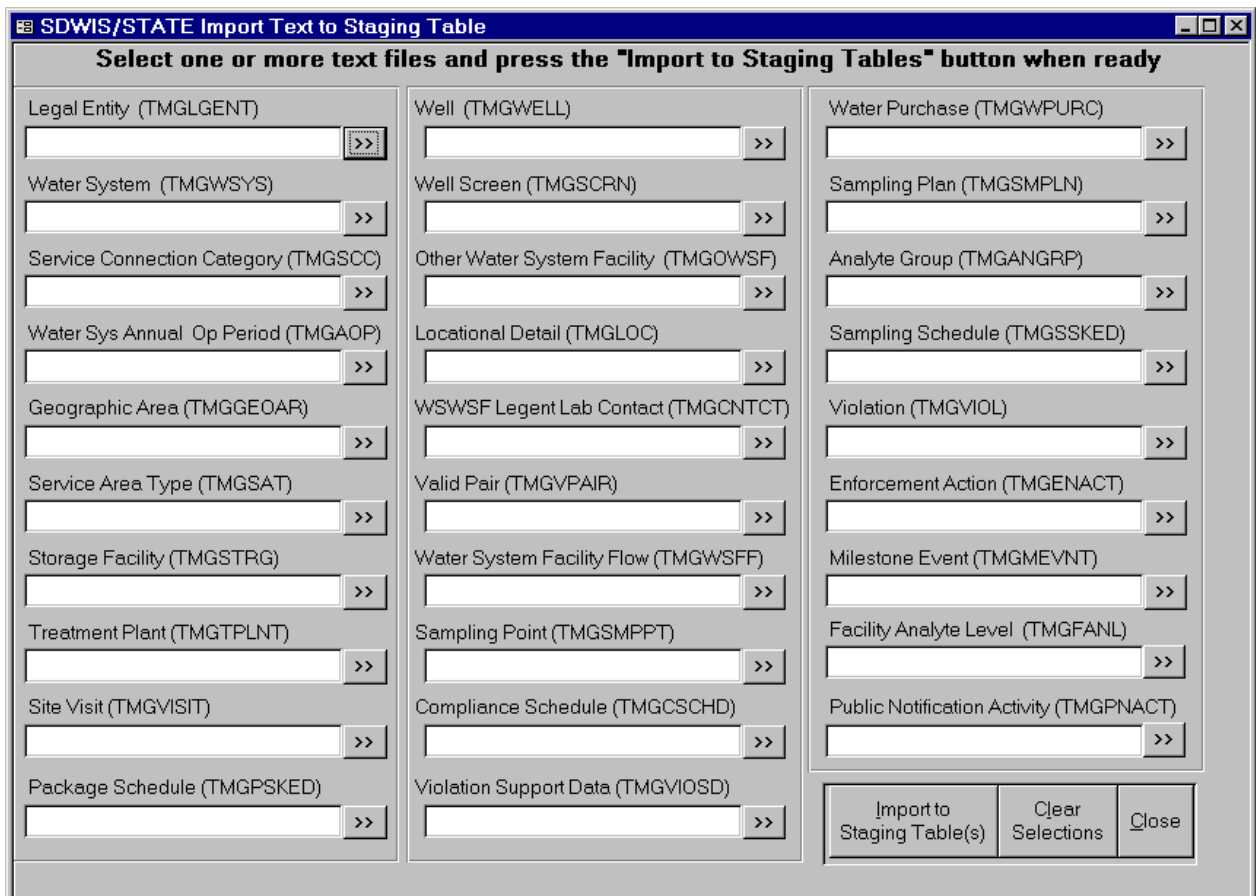
Exhibit 4-6. Import Text To Staging Table

Error Messages Associated with Importing Data To Staging Tables

If you are receiving ODBC errors or you know you have data in your staging tables but cannot see it, or if you have multiple data schemas at your site, and you are not pointing to the data schema you need, try rerunning the MAP_DATAMIGRATION.SQL script, which is located in the SDWIS/STATE DBA's folder called SDWIS_MIGRATE70TO80\DBA_SCRIPTS. If you are having trouble seeing just one or two tables, you can also try relinking just those tables by following the steps below.

1. Press **F11** to view the main database window.

2. Select **File**/**Get**/**External Data**/**Link Tables**. This opens the Link dialog box.

3. From the Files of type, select **ODBC Databases ()**. This will open a Select Data Source dialog box.

4. Select **SDWIS** as the Data Source Name, then click the **OK** button.

5. Enter the Oracle User Name and Password at the Logon to Oracle prompt (e.g., to relink the table for DATAMIG.MDB, enter DATA_MIGRATION as a user name and password).

6. From the Link Tables dialog box, select the table that produced the error (e.g., DATA_MIGRATION.TMGLGENT).

7. Make sure you retain the old name of the linked table by renaming the table you linked to, if necessary (e.g., TMGLGENTOra).

8. Correctly linked tables are represented by a black arrow pointing to a globe. After the table has been linked, highlight the table name and click on the **Open** button to test the link. At this point you will see the data from Oracle in a table view.

Step 2: Migration to SDWIS/STATE: Inventory

Inventory Staging Tables to SDWIS/STATE Oracle Table Mapping

Exhibit 4-7 lists the Inventory staging tables and corresponding SDWIS/STATE Oracle tables. Some staging tables only populate a single Oracle table; others populate multiple Oracle tables.

Only the TMG tables with ORA appended to them are populated. Ignore the TMG tables that do not end in ORA.

STAGING TABLE NAME	SDWIS/STATE ORACLE TABLE(S) POPULATED
TMGLGENT (B_Legal Entity)	TINLGENT, TINGOVAG, TINIGAA, TININDIV, TSALAB, TINUSER
TMGWSYS (B_Water_System)	TINWSYS, TINRAA
TMGSCC (B_Service Connection_Category)	TINSCC
TMGAOP (B_WS_POP_Served_Annual_OP_Period)	TINAOPRD, TINPOPSV
TMGGEOAR (B_Geographic _Area)	TINGEOAR, TINWSGAA
TMGSAT (B_Service_Area_Type)	TINSAT, TINWSSAA
TMGSTRG (B_Storage_Facility)	TINWSF, TINSTRG, TINCLD
TMGTPLNT (B_Treatment_Plant)	TINWSF, TINCLD, TINTRPLT
TMGWELL (B_Well)	TINWSF, TINWELL, TINCLD
TMGSCRN (B_Well_Screen)	TINSCRN
TMGOWSF (B_Other_Water_System_Facility)	TINWSF, TINCLD
TMGLOC (B_Locational_Detail)	TINLOC
TMGCNTCT (B_WS_WSF_Legent_Lab_Contact)	TINWSLEC, TSALLEA, TINWSFC
TMGVPAIR (B_Valid_Pair_TT_TO_Unit_Process)	TINUNPRO, TINUPF, TINTOPA, TINVTOPA
TMGWSFF (B_Water_System_Facility_Flow)	TINWSFF
TMGSMPPT (B_Sampling_Point)	TSASMPPT
TMGWPURC (B_Water_Purchase)	TINWPURC
TMGVISIT (B_Site_Visit)	TINVISIT

Exhibit 4-7. Inventory Staging Table to SDWIS/STATE Oracle Table(s)

Migrating Inventory Data Detailed Instructions

The second step in the *Migration to SDWIS/STATE* application process is to load the data from the staging tables into the SDWIS/STATE Inventory Oracle tables. Each SDWIS/STATE Oracle destination table carries a prefix that is associated with its subject area. The prefix for the Inventory tables is TIN (e.g., TINWSYS, TINWSF, TINGEOAR).

To begin migrating data to the SDWIS/STATE Oracle tables:

- Close all Terminate and Stay Resident (TSR) applications.

- Double-click on the *Migration to SDWIS/STATE: Inventory* icon to access the Inventory Migration Selection window (Exhibit 4-8).

- Log in to Oracle as Schema Owner (for example, using ILV80).

- Click on the box in the Select column next to the staging table(s) to be migrated.

- You may wish to migrate one staging table at a time, following the sequence in Exhibit 4-9.

- To discontinue the process and close the window at this point, click on the **Exit** button.

- Generate derived values. Do not generate the derived water system values before migrating the necessary Inventory items (see the *Migration to SDWIS/STATE: Generate Derived Water System Values* subsection in this chapter for more information).

- To begin processing the selected tables, click on the **Start Processing** button. The staging tables are processed in the order they appear on the screen regardless of the order in which they were selected. At first it may appear that nothing is happening; however, *Migration to SDWIS/STATE* is counting the number of rows that must be processed.

After some time, the number of candidate rows that must be processed will appear beside the structure set name. The staging table process status can be determined by the number of Completed Rows in the Staging Table Migration Status box. The number of completed rows updates in increments of 100. Once the status bar reaches 100 percent (or the Completed Rows is equal to the Candidate Rows), a ✔ appears in the Migrated check box.

However, processing for that staging table is not yet complete; at this time, the updating of the SDWISCOM.MDB starts (the MS Access 97 database that captures information about changes and rejections for each staging table). Another status bar keeps the user informed of this processing. Depending on the size of the staging table that you selected and the number of changes and/or rejections that need to be reported for that staging table, this process may take some time. The status bar gives you an indication of the processing that is taking place at this time.

Exhibit 4-8. Inventory Migration Selection

Migration of Water System Inventory

Each element of the *Inventory* component of *Migration to SDWIS/STATE* operates as described. The **Exit** button will be unavailable once you begin processing. Consult the structure set for each one of these for more specific information (Appendix A).

Legal Entity   must be the first migration in the sequence. Legal Entity lets you migrate government agencies, corporations, individuals (including SDWIS/STATE users), laboratories, and other legal entities. It is advantageous to relate all Legal Entities to appropriate laboratories, collectors, and water systems before migrating the Legal Entities to SDWIS/STATE. Regulating Agencies may be related to other Legal Entities following migration by using the online *Legal Entity* component of SDWIS/STATE . Once you are satisfied that all your legal entities have been migrated successfully, you may then continue the process. The staging table for *Legal Entity* is TMGLGENT (B_Legal_Entity). It populates the SDWIS/STATE Oracle tables TINLGENT, TINGOVAG, TINIGAA, TININDIV, TSALAB, and TINUSER.

When migrating legal entities using a SDWIS/FED extract, you need to manually populate the mandatory B_Type_Code field in the TMGLGENT staging table after you import your legal entity extract data from the legal entity structure set formatted file (into the B_Legal_Entity/TMGLGENT staging table). SDWIS/FED does not maintain type as a field in its legal entity table, so this field will be empty after you run *Import Text to Staging Table*. However, you cannot migrate any legal entities into SDWIS/STATE if this field is not populated with one of the valid permitted values.

Water System   must be the second migration in the sequence**.** The successful migration of all water systems in the inventory is critical to the successful migration of all subsequent inventory items such as wells, storage facilities, sampling points, etc., that reference those water systems. The staging table for Water System is TMGWSYS (B_Water_System). It populates the SDWIS/STATE Oracle tables TINWSYS and TINRAA.

Service Connection   lets you migrate the service connection information that is critical to
Category   characterizing a public water system. The staging table for Service Connection Category is TMGSCC (B_Service Connection_Category). It populates the SDWIS/STATE Oracle table TINSCC.

Water System   lets you migrate the annual operating period and served population
Population Served   information that is critical to characterizing a public water system. The
Annual Operating   staging table is TMGAOP (B_WS_POP_Served_Annual_OP_Period).
Period   It populates the SDWIS/STATE Oracle tables TINAOPRD and TINPOPSV.

Geographic Area   lets you migrate the geographic areas that are part of your inventory as well as link them to the water systems that you specify. The staging table for Geographic Area is TMGGEOAR (B_Geographic_Area). It populates the SDWIS/STATE Oracle tables TINGEOAR and TINWSGAA. *Note: when creating an association between cities and counties in a water system, associate the county first; otherwise, it will be rejected when you run Migration to SDWIS/FED.*

Service Area Type   lets you migrate your state service area types as well as link them and the supplied list of federal service area types to the water systems that you specify. The staging table for Service Area Type is TMGSAT (B_Service_Area_Type). It populates the SDWIS/STATE Oracle tables TINSAT and TINWSSAA.

Storage Facility   lets you migrate storage facilities including locational (latitude/longitude and/or cadastral) information. The staging table for Storage Facility is TMGSTRG (B_Storage_Facility). It populates the SDWIS/STATE Oracle tables TINWSF, TINSTRG, and TINCLD.

Treatment Plant   lets you migrate treatment plants, such as locational (latitude/longitude and/or cadastral) and microbial removal information. The staging table for Treatment Plant is TMGPLNT (B_Treatment_Plant). It populates the SDWIS/STATE Oracle tables TINWSF, TINTRPLT, and TINCLD.

Well   lets you migrate wells, including locational (latitude/longitude, cadastral) information. The staging table for Well is TMGWELL (B_Well). It populates the SDWIS/STATE Oracle tables TINWSF, TINWELL, and TINCLD.

Well Screen   lets you migrate detailed information about each well's screen. (Staging table **Well** must be migrated before **Well Screen** is migrated.) The staging table for Well Screen is TMGSCRN (B_Well_Screen). It populates the SDWIS/STATE Oracle table TINSCRN.

Other Water System Facility   lets you migrate your remaining water system facilities (such as Distribution System, Sampling Station, Consecutive Connection, Intake, and others) including locational (latitude/longitude, cadastral) information. The staging table for Other Water System Facility is TMGOWSF (B_Other_Water_System_Facility). It populates the SDWIS/STATE Oracle tables TINWSF and TINCLD.

Locational Detail   lets you migrate locational data for water system facilities that comply with federal reporting requirements, such as latitude, longitude, and vertical (altitude) data, and "method, accuracy, and description" (MAD) codes data. The staging table is TMGLOC. It populates the SDWIS/STATE table TINLOC.

Water System Facility Legal Entity Laboratory Contact lets you migrate the linkages between a legal entity and a water system, a legal entity and a water system facility, and a legal entity and a laboratory. This is where, for example, water system owner/operator information can be specified. The staging table is TMGCNTCT (B_WS_WSF_Legent_Lab_Contact). It populates the SDWIS/STATE Oracle tables TINWSLEC, TINWSFC, and TSALLEA.

Valid Treatment Objective Treatment Process Unit Process lets you migrate your unit processes and link them to existing federal Treatment Objective Treatment Process pairings as well as any state Treatment Objective Treatment Process pairings that you supply. The staging table is TMGVPAIR (B_Valid_Pair_TT_TO_ Unit_Process). It populates the SDWIS/STATE Oracle tables TINUNPRO, TINUPF, TINTOPA, and TINVTOPA.

Water System Facility Flow lets you migrate the information about the flows that exist between water system facilities. The staging table for Water System Facility Flow is TMGWSFF (B_ Water_System_Facility_Flow). It populates the SDWIS/ STATE Oracle table TINWSFF.

Sampling Point lets you migrate your sampling points. The staging table for Sampling Point is TMGSMPPT (B_Sampling_Point). It populates the SDWIS/STATE Oracle table TSASMPPT.

Water Purchase lets you migrate Water Purchase information. If you wish to associate a Water System Facility to the Water Purchase, the Water System Facility associated with the purchasing Water System must be a *consecutive connection* (type CC), while the Water System Facility associated with the seller Water System may not be a consecutive connection. Once a Water System's consecutive connection facility is allocated against a Water Purchase, it may not be allocated against a subsequent purchase. If you wish to record two Water Purchases for a single Water System, and you would like to associate a consecutive connection with each purchase, you need to create two consecutive connections for that Water System—one to be used with each Water Purchase. The staging table for Water Purchase is TMGWPURC (B_Water_Purchase). It populates the SDWIS/STATE Oracle table TINWPURC.

Site Visit lets you migrate information concerning site visits, such as laboratory inspection and certification, training, formal and informal enforcement, sanitary surveys and others. For sanitary surveys eight elements are required by EPA's Interim Enhanced Surface Water Treatment Rule: source; treatment; distribution system; finished water storage; pumps, pump facili-

ties and controls; monitoring and reporting and data verification; system management and operation; and operator compliance with state requirements. It populates the SDWIS/STATE Oracle table TINVISIT.

Caution When Remigrating Data

You can remigrate the same data over and over until you are satisfied with the data in your SDWIS/STATE table(s). However, if you do repeatedly remigrate, after you have cleared/truncated the data in your destination SDWIS/STATE Oracle table(s) (for example, TINWSYS, TINRAA), you need to reset the counters in the TINEXSN table prior to remigrating, which you can do by running the RESET_EISN_EXSN.SQL script located in the SDWIS_MIGRATE70TO80\DBA_SCRIPTS folder. This script checks the highest external (where applicable) system numbers for each of these tables and resets TINEXSN's existing highest number for that table with the new value. If the table has no data in it (because it has been truncated), the TINEISN and TINEXSN external system numbers will be reset to 1. The exception to the last statement is for the TINLGENT, TINGOVAG, and TINSAT tables, which contain federal records (ST_Code = HQ) that should not be removed from the tables. When you run RESET_EISN_EXSN.SQL, the highest internal/external system numbers for these federally owned records will update the TINEISN/TINEXSN tables. If you inadvertently remove the federally owned records from these tables, you need to reimport them prior to re-migrating.

If you repeatedly clear out the SDWIS/STATE Oracle destination tables and remigrate without running the RESET_EISN_EXSN.SQL script, at some point, you will run out of available external system numbers and receive the following runtime error:

```
TIRM030E: Application failed - Updates have been backed out
TIRM031E: Failing procedure exit data follows:
TIRM032E: Last or current action block ID= 0008650773
TIRM033E: Last or current action block name = SHI056_DETERMINE_NEXT_ES_NUM
TIRM034E: Last or current database statement = 3
TIRM035E: Current statement being processed = 0000000003
TIRM038E: *** Fatal database error was encountered ***
TIRM039E: DB last status = DB
ORA-01438: value larger than specified precision allows for this column
TIRM046E: *** Processing terminated ***
TIRM044E: *** Press OK to continue ***
```

Again, if this happens, run the RESET_EISN_EXSN.SQL script to reset your counters in the TINEISN and TINEXSN tables.

Migration to SDWIS/STATE: Generate Derived Water System Values

Six attributes in the Water System entity are derived by *Migration to SDWIS/STATE* from data in other entities: Principal City Served, Principal County Served, Total Retail Population Served, Total Storage Capacity, Federal Primary Source Type, and Federal Primary Water System Type.

The staging tables for Legal Entity, Water System, Service Connection Category, Water System Population Served, Annual Operating Period, Geographic Area, Service Area Type, Storage Facility, Treatment Plant, Well, Well Screen, Other Water System Facility must be *successfully migrated* to SDWIS/STATE before these six attributes can be derived.

To derive these six Water System attributes, click on the box in the Select column beside Generate Derived Water System Values and select **Start Processing**. This function can be selected at the same time the first 11 Staging Tables are selected or anytime after these first 11 Staging Tables have been successfully migrated. This function, however, must be executed before proceeding to Step 3 (TCR NCD Setup). *Migration to SDWIS/STATE* uses the same algorithm to derive these six attributes as is used by the online SDWIS/STATE application.

The Generate Derived Water System Values module evaluates the information supplied in the first 11 structure-set formatted text files for each water system and calculates the following:

Water System Federal Type   Evaluates the Water System's annual operating period, population served count and type, and number of service connections to determine the federal type (e.g., Community, Non-Transient Noncommunity, Transient Noncommunity, or Non-Public).

For further information on how SDWIS/STATE derives this value, consult *Appendix B, Regulatory Classification* of the SDWIS/STATE User's Guide.

Water System Federal Primary Source Type   To determine the Federal Primary source type, this module evaluates the water system's active water source Availability Code and Water Type according to the matrix, shown in Exhibit 4-9, starting with the top row and working down until it finds one water

If **SOURCE WATER SYSTEM FACILITY**				Then **WATER SYSTEM**
Availability Code	*Water Type Code*	*Type Code*		*D_Fed_Primary_ Source_Code*
= P, I, S, O, or Blank and	= SW	and not	'CC' or 'NP'	= SW
= P, I, S, O, or Blank and	= SW	and =	'CC' or 'NP'	= SWP
= P, I, S, O, or Blank and	= GU	and not	'CC' or 'NP'	= GU
= P, I, S, O, or Blank and	= GU	and =	'CC' or 'NP'	= GUP
= P, I, S, O, or Blank and	= GW	and not	'CC' or 'NP'	= GW
= P, I, S, O, or Blank and	= GW	and =	'CC' or 'NP'	= GWP
= 'E' and	= SW	and not	'CC' or 'NP'	= SW
= 'E' and	= SW	and =	'CC' or 'NP'	= SWP
= 'E' and	= GU	and not	'CC' or 'NP'	= GU
= 'E' and	= GU	and =	'CC' or 'NP'	= GUP
= 'E' and	= GW	and not	'CC' or 'NP'	= GW
= 'E' and	= GW	and =	'CC' or 'NP'	= GWP

Exhibit 4-9. Water System Primary Source Type Matrix

source record that meets the criteria. Once the module finds one water source record that meets a listed criteria, it assigns the corresponding source type and stops.

Water System's Principal County Served

Derived from Geographic Area and Water System Geo Area Asgmt tables where Geographic Area Type is *CN* and Principal Indicator Code in a related Water System Geo Area Asgmt table is *Y*.

Water System's Principal City Served

Derived from the Geographic Area and Water System Geo Area Asgmt tables where Geographic Area Type is *CT* and Principal Indicator Code in a related Water System Geo Area Asgmt table is *Y*.

Water System's Total Calculated Daily Population

Sum of all a Water System's annual operating period population served counts, excluding wholesale populations (population type *W*).

Water System's Total Storage Capacity Measure

Sum of all a Water System's Storage Facilities' Approved Capacity Measure(s) and any of its facilities that measure capacity in gallons.

If the Water System Facilities belonging to the Water System do not have values supplied for the Water Type field in the structure set-formatted text file, SDWIS/STATE cannot calculate the water system primary source code; in this case, if a value is supplied for B_WATER_SYSTEM, field 21 B_Fed_Primary_Source_Code, the supplied value is accepted. If no value is supplied with field 21, and there is no value supplied for any WATER SYSTEM FACILITY Water Type, SDWIS cannot place any value in the Water System's Primary Source Code.

Note: Each line in the Water System Primary Source Type Matrix runs in sequence until a source water record satisfies a row of criteria. Once SDWIS/STATE finds a source water record that meets a row of the criteria, it types the PWS according to what is specified in the last column or that row and does not consider anything else.

Migration to SDWIS/STATE: Inventory Restart Capability

In the event that external factors (such as a power outage or accidental turnoff of the CPU) cause the migration to abnormally terminate, turn on the PC and follow these steps to restart processing.

1. Double-click on the Report Results icon, which will invoke the SDWIS/STATE Post Migration Review window (Exhibit 4-10). Select **Staging Table Processing Report** and select the Beginning and End Dates to specify the time range during which the staging tables you selected

for processing would have terminated. Press the **Unsuccessful** button to report any staging tables within the specified date range that did not process successfully. Note the first Structure Set Name/Staging Table Name on the list.

2. Double-click on the *Migration to SDWIS/STATE: Inventory* icon to access the Inventory Migration Selection window.

3. Select for migration the first structure set/staging table that appeared on the Unsuccessful list. Click on the box in the Select column next to the staging table(s) to be migrated.

The structure set/staging table that was processing at the time that the termination occurred must be the first structure set/staging table that you select. If any other structure set/staging table is selected that precedes that structure set/staging table (in the list), one of two messages will appear. If a staging table from *Migration to SDWIS/STATE: Monitoring* was aborted, the following message appears: "To restart, please select the appropriate Monitoring selection. Any other selection will not be recognized." If a staging table from *Migration to SDWIS/STATE: Inventory* was aborted, the following message appears: "To restart, please select the appropriate Inventory selection. Any other selection will not be recognized."
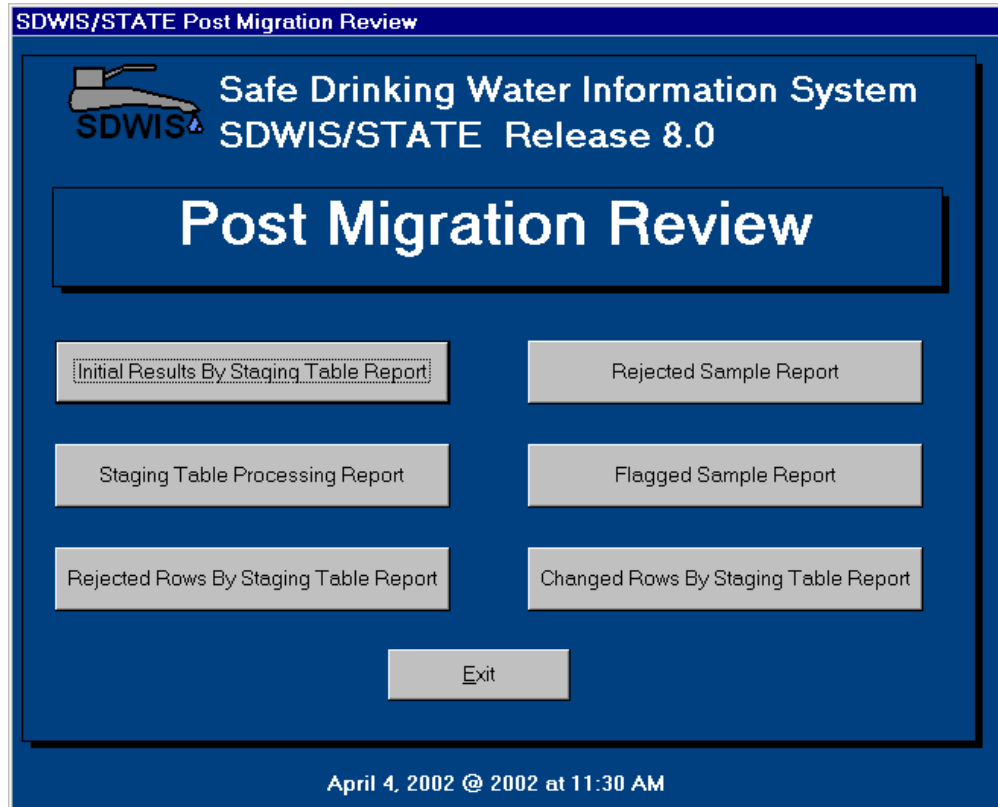
Exhibit 4-10. SDWIS/STATE Post Migration Review

Note, when one of the *Migration to SDWIS/STATE* processes is aborted or terminated in the middle of processing, the software creates a file called MIGRATMP.DAT in the C:\SDWIS\MIGRATE directory. This file stores the last record processed and the name of the staging table and database table that was being updated so that it can be restarted at a later time. If you do not want to restart the last process, you must delete this file to continue. *However, if you do delete this file, the process will start again from the beginning, and you may end up with duplicate data in your SDWISCOM.MDB database.*

Configuring SDWIS/STATE to View Migrated Data

Once you have completed the migration of Legal Entities and Water Systems, you are in a position to configure your online SDWIS/STATE application environment. This environmental configuration is something that you can do as soon as you migrate your legal entities and water systems or anytime thereafter during the migration. The advantage to doing it after you migrate your water systems, is that you can use the SDWIS/STATE application to display the data that you have migrated as soon as each staging table has completed processing.

As the SDWIS/STATE Administrator, you have the authority to set up the users, government agencies, and rules necessary to use SDWIS/STATE (see Chapter 2). In order to set up the newly migrated database properly, take some basic steps using the *System Administration*, *Legal Entity*, and *Inventory* components of SDWIS/STATE (see Chapter 2 of this guide, User Accounts and Rule Authority). If there are no users in your database, create one. This Initial User is always the same User ID as the Oracle schema owner. For example, if the Oracle schema owner is ILV80, the value ILV80 appears in the USERID field of the TINUSER table.

First, double-click on the Legal Entities icon in your SDWIS/STATE program group. Select **Edit/ Legal Entity** from the main menu, then Government Agency in the Legal Entity Type Field on the Legal Entity Search Window. Log in to the state's database as the Initial User or Oracle schema owner. Search Government Agencies to locate the agency that has "primacy." Make sure that at least one—and only one—of your state's government agencies has the Primacy Indicator turned on. (Other Government Agencies may have regulatory authority in the state, but only one can have primacy.) The others may include State Regional or District offices, or County Health Departments. Each agency for which you wish to assign TCR NCD authority must be displayed in the Government Agency list. You should have migrated all your state's government agencies in the *Legal Entity* component of *Migration to SDWIS/STATE: Inventory* and associated them with water systems during the execution of the Water System component. If you are not satisfied with the list of government agencies that you migrated, you may wish to re-migrate them before continuing.

If you did not migrate your SDWIS/STATE users as part of the *Legal Entities* component, you may wish to enter the *System Administration* component and create a User ID for yourself and other users. Note: SDWIS/STATE users who were migrated through the *Legal Entities* component using *Migration to SDWIS/STATE* must be registered by the Oracle DBA as Oracle users before they can access data from SDWIS/STATE. You may add new users at any time, but they must also be

registered by the Oracle DBA as Oracle users. If you migrated your SDWIS/STATE users, they were already associated with the government agencies that were supplied in the structure set-formatted text files. If you want to assign users to additional government agencies, select **Edit/ User Accounts/Maintain User** from the *System Administration* main menu. Upon entering the User's name, address, and Type (System Administrator, Compliance, Data Entry, Public), select **OK**. The Government Agency Selection List appears. Select the government agency for which the selected SDWIS/STATE user works. The User can work for one or more government agencies but must work for at least one agency that has been given regulatory authority to conduct TCR NCD.

Next, select **Edit/Rule Authority** from the in *System Administration* main menu. This invokes the Rule Selection List, a list of federal drinking water rules that states normally wish to enforce. Select the Total Coliform Rule. This allows you to flow to the Current Rule Assignment List where you may select **Edit**/**Assign** for each Government Agency for which you want to run TCR NCD. At a minimum, select the primacy agency at this time (see the Rule Authority section of Chapter 2).

Finally, make either a Government Agency or Water System Group current. This allows SDWIS/ STATE to focus your view of water systems by either a Government Agency (typically the primacy agency when you are first setting up your database) or a Water System Group that you create. Do not create a Water System Group until after you execute the Generate Derived Water System Values component of *Migration to SDWIS/STATE: Inventory.* At this point, it is best to select your primacy agency or another agency as current (see the Maintaining Water System Groups section in Chapter 2). If you do not select either a Government Agency or Water System Group as current, SDWIS/STATE cannot list the water systems you have migrated when you enter the *Inventory* component.

Step 3: Migration to SDWIS/STATE: TCR NCD Setup

TCR NCD Setup Purpose

Prior to running TCR Noncompliance Determination (NCD) Setup, first complete Step 1 (at least for inventory data) and Step 2. In Step 1, you should have imported the text files for your inventory data into the Inventory Staging Tables (pages 4-10 through 4-14). Then, in Step 2, you should have migrated into SDWIS/STATE all the inventory-related data you have (pages 4-15 through 4-20) and have run the Generate Derived Water System Values procedure (pages 4-20 through 4-22).

Having completed the above tasks, you are ready to take Step 3, which will further set up SDWIS/ STATE to perform automated TCR NCD. In this step, you are not actually migrating data. Instead, TCR NCD Setup uses the inventory data you already migrated to do two things: (1) create TCR sample schedules for active, public water systems; and (2) associate the same active, public water systems with the appropriate set of TCR monthly or quarterly monitoring periods. SDWIS/STATE is delivered with two years of monthly and quarterly monitoring periods for this purpose. After completing this step, you can move on to steps 4 and 5. TCR NCD Setup populates the following tables:

TMNSASCH (Sample Schedule)
TMNSAOPA (Schedule Annual Operating Period Asgmt)
TMNSSDAT (Sample Schedule Date)
TMNWSMDA (Water System Monitoring Period Definition Asgmt)
TMNWSMPA (Water System Monitoring Period Asgmt)
TMNRWSMA (Rule Water System Monitoring Period Asgmt)

TCR NCD Setup Detailed Instructions

TCR NCD Setup does not involve any staging tables. To begin TCR NCD Setup, take the following steps:

1. Double-click on the Migration to SDWIS/STATE: TCR NCD Setup icon. This invokes the TCR Non-Compliance Determination Setup window as shown in Exhibit 4-11.

2. If you know that you have no TCR schedules or monitoring period associations in your database, select either TCR Sample Schedules or TCR Monitoring Period Associations. Press **OK**. If you need to delete schedules and monitoring period associations first, follow the instructions under Deleting Schedules in the following section.

Depending on the number of active public water systems in your database, this process may take several hours to complete; consider running it overnight.
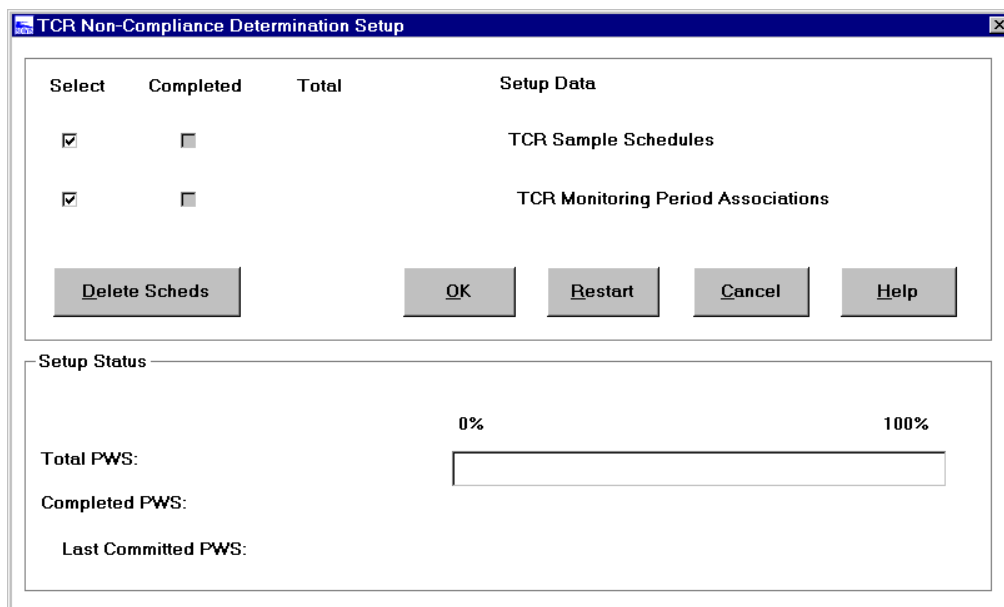
Exhibit 4-11. TCR Noncompliance Determination Setup

The Completed PWS: field is updated with every 50 water systems that are processed and can be used as a gauge of processing status. When processing is complete, Total PWS: and Completed PWS: fields should be the same number. The progress bar should be at 100 percent. When Sample Schedules have completed processing, a ✔ in the Completed check box appears, and the total number of water systems for which schedules were created is displayed in the Total PWS: field.

- Once you are satisfied with the TCR sample schedules that have been created, you may wish to complete the program by selecting TCR Monitoring Period Associations. (This process may take several hours to complete; consider running it overnight.)

- When Monitoring Period Associations have completed processing, you will see a ✔ in the Completed check box. The total number of water systems for which the appropriate monitoring period associations were created will be displayed in the Total PWS: field.

Deleting Schedules

As a component of *Migration to SDWIS/STATE: TCR NCD Setup* was designed to be executed prior to the introduction of violations and other Step 4 and Step 5 components into the database. Therefore, while you may delete schedules and monitoring period assignments and rerun TCR NCD Setup as often as is necessary prior to proceeding with Steps 4 and 5 of *Migration to SDWIS/STATE*, the introduction of violations into your database *will preclude* the Delete Schedules component of TCR NCD Setup from executing properly. If you have already migrated in your violations and you still wish to delete schedules and monitoring period associations and then rerun TCR NCD Setup, you will first *need to delete* the violations in your database. It is recommended that your Oracle DBA be involved if this is your intention. (Once you have re-executed TCR NCD Setup to your satisfaction, you can then re-migrate your violations.)

Select the **Delete Schedules** button to invoke the Delete Schedules dialog box. Here, you have two options for deleting sample schedules. The first option, Delete TCR Schedules, Deviations, and Monitoring Period Associations, allows you to delete only those schedules and monitoring period associations (rows in TMNWSMPA and TMNRWSMA) that are related to TCR. If your database contains sample schedules for Lead and Copper, Phase 2, etc. (that is, non-TCR sample schedules), those schedules will not be deleted if you select the first option. The second option, Delete All Schedules and Monitoring Period Associations, allows you to delete all schedules and monitoring period associations (rows in TMNWSMPA and TMNRWSMA) in the database. You may only select one of these options.

By selecting one of these two options, you will delete records from the following tables:

> TMNSASCH (Sample Schedule).
> TMNSAOPA (Schedule Annual Operating Period Asgmt).
> TMNSSDAT (Sample Schedule Date).
> TMNWSMDA (Water System Monitoring Period Definition Asgmt).

TMNWSMPA (Water System Monitoring Period Asgmt).
TMNRWSMA (Rule Water System Monitoring Period Asgmt).

Exhibit 4-12 and Exhibit 4-13 display the confirmation messages you receive when you choose to delete schedules.
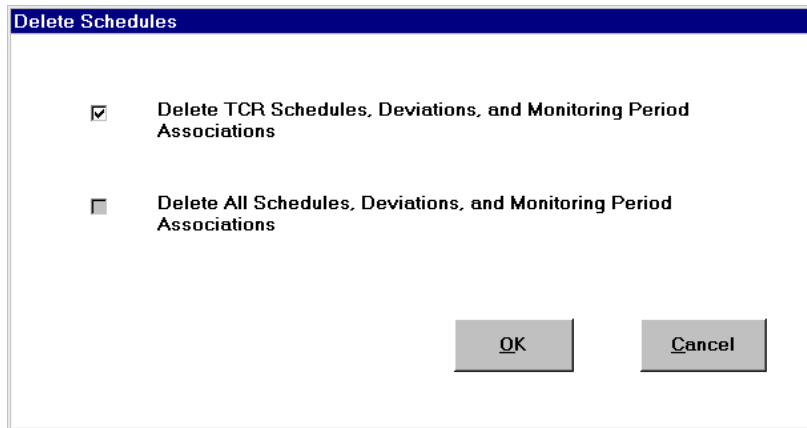
Exhibit 4-12. Delete Schedules Dialog Box
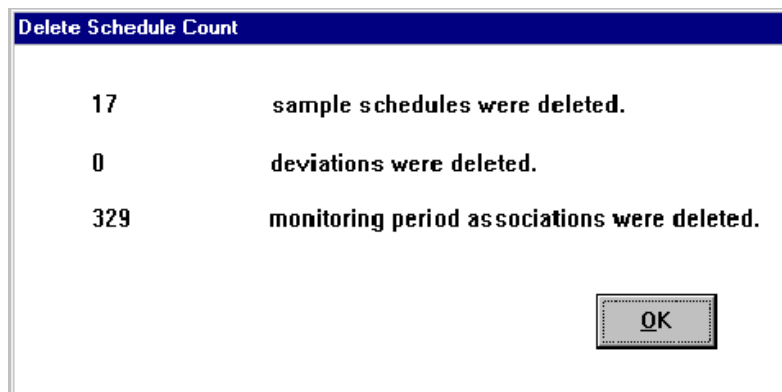
Exhibit 4-13. Delete Schedule Count Dialog Box

TCR NCD Setup "Restart" Capability

Because TCR NCD Setup is a potentially lengthy batch program, power outages, accidental termination, or other external factors may cause the program to terminate. If this happens, you can use the Restart option. The Restart option should only be used if TCR NCD Setup processing fails to run to completion. Processing can be restarted, beginning with the last water system that was committed to the database. This water system will be displayed in the Last Committed PWS: field on the TCR NCD Setup window as shown in Exhibit 4-12.

- To restart, press the **Restart** button on the TCR NCD Setup window (Exhibit 4-11). The Restart TCR Noncompliance Determination Setup dialog box appears (Exhibit 4-14).

- Enter the last committed water system in the Last Committed PWS: field.

- Select TCR Sample Schedules and/or TCR Monitoring Period Associations and press **OK**.

- If the Last Committed PWS: field was not displayed on the TCR NCD Setup window (because of a power failure, for example), it may be necessary to query the database to find this data. If you are using a tool such as MS Access, attach to the TMNSASCH and TINSWYS tables. To perform the query, join these tables on TINWSYS_IS_NUMBER and TINWSYS_ST_CODE. Sort ascending on TINWSYS_IS_NUMBER and display NUMBER0 (which is the PWS ID). Execute the query, and note the PWS ID of the last TINWSYS_IS_NUMBER displayed. Enter this ID in the Last Committed PWS: field on the Restart TCR Noncompliance Determination Setup dialog box.

- During processing, the Total Plus: and Completed Plus: fields on the TCR NCD Setup window will be calculated from the point at which restart processing begins. For example, if there are 500 water systems in the database and restart processing begins with number 301, the Total PWS: field will show 200 water systems.

Once you complete TCR NCD Setup, you can migrate your legacy samples and sample summaries.

Exhibit 4-14. Restart TCR Noncompliance Determination Setup

Step 4: Migration to SDWIS/STATE: Sampling

This component of *Migration to SDWIS/STATE* lets you migrate your legacy samples and results and sample summaries. The SDWIS/STATE Oracle destination table prefix for sampling related tables is TSA (e.g., TSASAMPL, TSASAR, TSASMPPT, TSAMAR). The Oracle tables that may be populated directly from the structure-set formatted text files include the following:

TSASAMPL	TSASMPSM	TMNMPRD
TSAMCSMP	TSASSR	TMNWSMPA
TSASAR	TSASMPPT	TMNRWSMA
TSAMAR		

As previously mentioned, *Migration to SDWIS/STATE: Sampling* operates similarly to *Sampling via EDI*. Both components insert samples, results, and sample summaries into the SDWIS/STATE database using the edit checks applied by online *Sampling*; neither updates existing data. A sample and all its results are evaluated as one package; if the sample or any one of its results fails a mandatory edit check, the entire package is rejected. Likewise, if a sample summary or any one of its summary results fails an edit check, the entire summary is rejected. The main difference between *Migration to SDWIS/STATE: Sampling* and *Sampling via EDI* is that the former works with the same SDWISCOM.MDB reporting database that is used by the rest of the *Migration to SDWIS/STATE* components. In addition, *Sampling via EDI* gives you the option of not automatically creating sampling points. *Migration to SDWIS/STATE* assumes that you wish to create any sampling points that are referenced in a sample but that may not exist in the database in order to successfully migrate the sample.

The migration software in this component operates directly against the text file that contains the sample and results or sample summaries (or both); there are no staging tables. Therefore, you do not see any references to the Sample or Result structure sets in Step 1 on the Import to Staging Table window. The single text file must be formatted correctly, in order to be successfully processed and inserted into the database.

Reportable Sample Results

If you migrate sample results into SDWIS/STATE that have already been reported to SDWIS/FED (from a legacy database), you need to mark these results accordingly in the SDWIS/STATE database. To do this, run *Migration to SDWIS/FED: Sampling,* which will create your H1 DTF file. (See instructions in *Migration to SDWIS/FED: Sampling* in this guide.) Then, depending on how confident you are that the results are in SDWIS/FED, either send the DTF to SDWIS/FED or simply mark the batch as "Accepted" using the Post Migration Processing capability. If you send the DTF to SDWIS/FED, you will receive an error message saying "UBC Attempt to insert existing sample" for every result that has already been reported to SDWIS/FED. After marking these results as accepted, *Migration to SDWIS/FED: Sampling* will no longer include these results in a DTF unless something about the result or sample is modified, in which case *Migration to SDWIS/FED: Sampling* will create "Modify" transactions for the result.

Migration to SDWIS/STATE: Sampling Detailed Instructions

To begin *Migration to SDWIS/STATE: Sampling*, take the following steps:

1. Double-click on the *Migration to SDWIS/STATE: Sampling* icon to access the Sampling Migration to SDWIS/STATE window (Exhibit 4-15).

2. Click on the **Start Processing** button to initiate processing. Log into Oracle as Schema Owner. To discontinue the process at this point and return to the desktop, click on the **Exit** button. Pressing the **Start Processing** button invokes the SDWIS Input File dialog box (Exhibit 4-16).
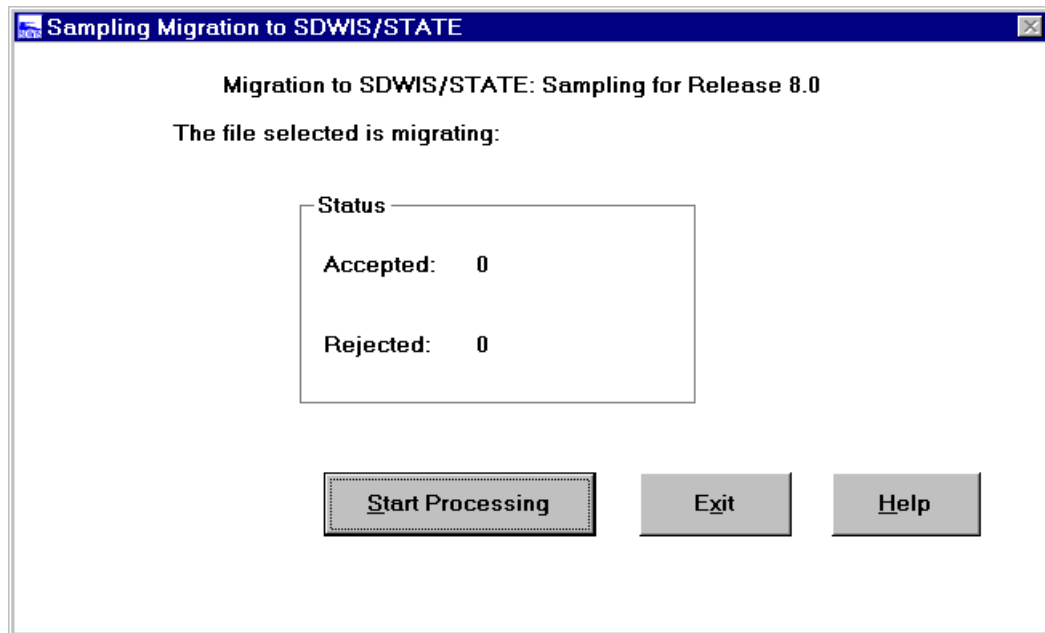
Exhibit 4-15. Sampling Migration to SDWIS/STATE
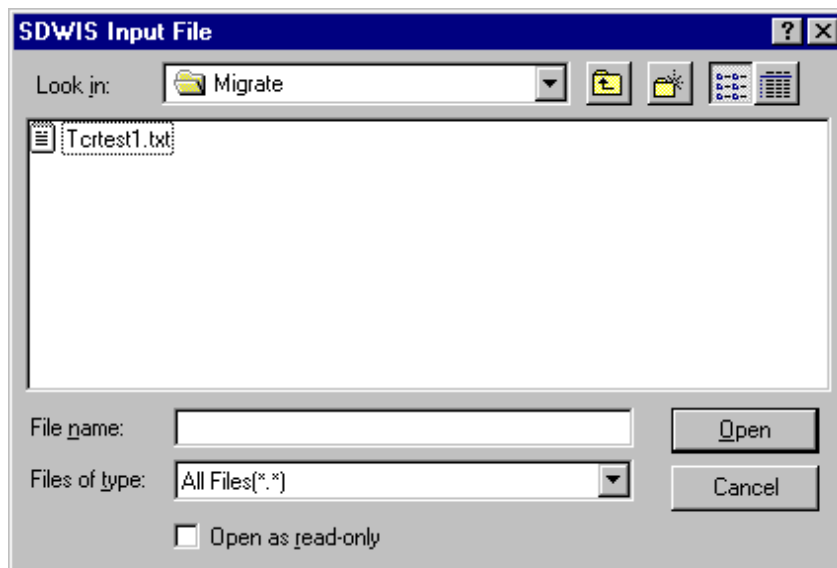
Exhibit 4-16. SDWIS Input File

3. Select the structure set-formatted text file that you wish to process. Specify the drive and directory as well as the text file you wish to process. To discontinue the process at this point, click on the **Cancel** button and then the **Exit** button (on the previous window). Once you select the file, processing begins. Once processing begins, the **Exit** button is disabled.

4. Depending on the processing power of your workstation, you may have to wait a few seconds before the Sampling Migration to SDWIS/STATE window reappears on your screen; however, processing has begun. In the Input text file that you selected, if the HDR and DTR strings are a length of other than 375, you may receive an Internal Fatal Error message: "Abnormal Program Termination was Requested." Another reason you may see this message is if the HDR and DTR values are not the first three characters of each string, as specified in the Structure Set File Layout. In either case, processing stops, and you receive an error message (Exhibit 4-17).

5. As the *Migration to SDWIS/STATE: Sampling* module processes your file, it informs you whether you are processing samples or sample summaries and lets you know how many of each are accepted or rejected from the SDWIS/STATE database. Specific definitions for rejected and accepted are covered in the Reporting the Results section of this chapter. The numbers reflect the count of samples (not sample results) and sample summaries (not summary results).

6. *Migration to SDWIS/STATE: Sampling* processing may take several hours, depending on the amount of data being processed, so you may wish to start the processing during the evening or on a weekend.

7. The file has completed processing when the Migration Complete window appears (Exhibit 4-18).
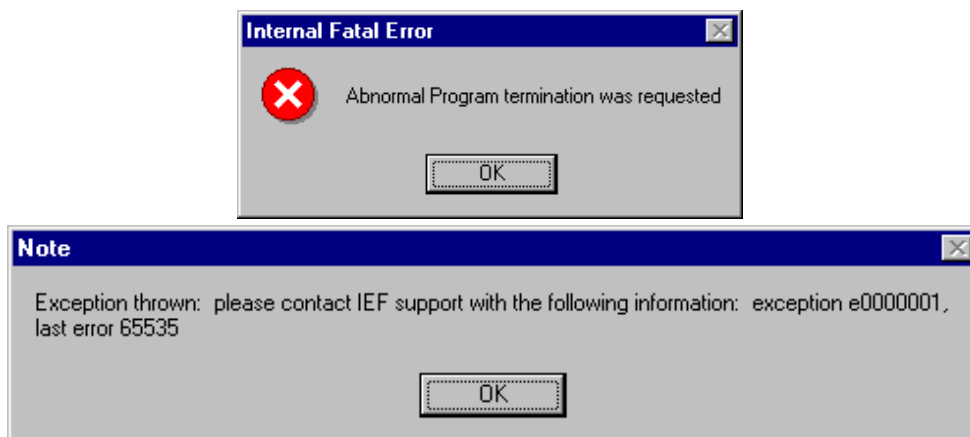
Exhibit 4-17. Error Messages Encountered With Incorrectly Formatted Text File

Sample/Result Uniqueness Evaluation

Migration to SDWIS/STATE: Sampling first evaluates whether the sample supplied in the structure set already exists. This is a two-stage evaluation. First, the software checks to see if a sample with the same Lab Sample Number for the same Laboratory for the same year already exists. If not, it processes the sample as a new record. However, if it finds a match, then it performs a second evaluation to make sure that the sample is a "duplicate by ID" sample. In this second step, the
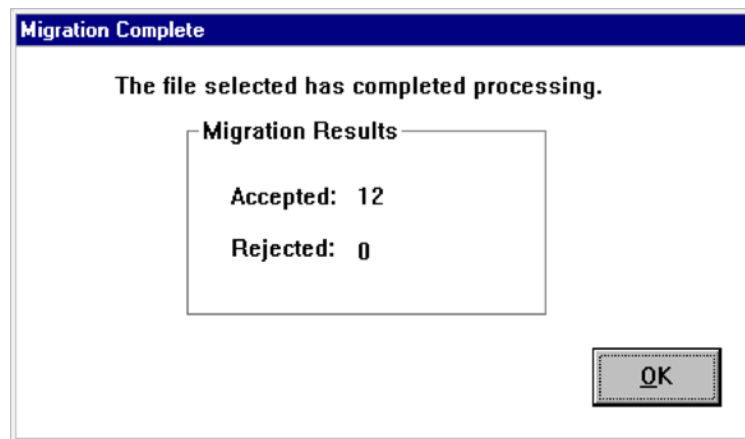
Exhibit 4-18. Sampling Migration Complete Dialog Box

software checks to see if the sample in the structure set is for the same water system and sampling point and has the same sample collection date (Collection End Date) as the one that already exists in SDWIS/STATE. If one or more of these three criteria do not match, then the sample is rejected as a "duplicate by ID" sample (the same ID used on more than one sample from the same lab for the same year). If, however, all three data elements do match, the software understands that you wish to "append" results, and therefore, lists the sample as "accepted" in the Post Migration Review reports, because it actually just processes those sample results that are to be appended to the existing referenced sample. The software makes only one duplicate check on appended results: *does a result already exist for this same sample and analyte?* If not, the result is appended to the existing sample. If a result does already exist for the same sample and analyte, the candidate result is not created in the SDWIS/STATE tables, but rather, is flagged in the Post Migration Review report for that run. Note: This evaluation process allows you to use *Migration to SDWIS/STATE: Sampling* to enter a legacy sample without any results.

When a *Migration to SDWIS/STATE: Sampling* structure set file contains a sample with results that have already been added to the database, the sample is listed as accepted but the results are listed in the flagged report, indicating that they were already present and therefore not appended. If you check the flagged report, you might think a new sample has been added, when in fact, the software encountered an existing sample and result and flagged it as such.

Processing Lead and Copper Sample Summaries

If your structure set-formatted text file included 90th percentile lead or copper summary results that exceeded an action level, a count of the records that exceed the analyte action levels is recorded in the Analyte Level Rule Assignment table (TMNALRA). This count, one for lead samples and one for copper samples, is displayed in the Lead and Copper Processing Complete dialog box at the end of processing. *Migration to SDWIS/STATE: Sampling* does not create equivalent milestone event records for these exceedence results. Equivalent milestone event records must be added using the Milestone Event Maintenance window available from the *Monitoring and Noncompliance* main menu.

The Lead and Copper Processing Complete dialog box displays only when processing sample summary lead and copper data. For all other data, the standard Processing Complete dialog box is displayed after the file has completed processing.

Composite Rad Results

As previously mentioned, *Migration to SDWIS/STATE: Sampling* supports adding a sample, including one that is not rejected, without a result. This means that Rad composite samples that have been taken during the first, second, third, and fourth quarters but that have not yet been assessed for a composite result can be reported to/recorded in the SDWIS/STATE database.

The software continues to require that the composite sample for the first quarter be reported first, as specified in the structure set (B_COMPOSITE_QUARTER = 1). The software continues to create the composite parent sample followed by the first child composite sample (whose Rad Quarter Code will be 1). The uniqueness criteria for a composite sample (Composite Indicator = Y) is the following: Water System Number and Composite Number and Rad Quarter Number.

Where Sample Category = RA and Composite Indicator = Y and Rad Quarter Code = null, the software understands that this is a reference composite sample and does not process it through the sample uniqueness check.

When migrating historical composite samples, migrate the composite sample for each Rad quarter (e.g., 1, 2, 3, or 4) without including the results; migrate the results with a "fifth" composite sample where Rad quarter is null (valued with spaces). Any results reported with Rad Composite samples for quarters 1, 2, 3, or 4 will be ignored; the only result reported for a Composite Rad sample that will be processed is the one reported for the final Composite, that is, where Rad quarter is null (valued with spaces). The Composite Date value reported for this composite will update the Parent Composite sample. See additional details in the Rad Sample File Layout of the Sample Structure Set prior to migrating Rad Composite Samples.

Migration to SDWIS/STATE: Sampling Restart Capability

If you experience a power outage or other accidental termination while you are migrating a sampling file, you can restart the program. If you initiated *Migration to SDWIS/STATE: Sampling* and the program abnormally terminates, simply restart the file using the steps listed above. After you have selected your text file, you receive a message indicating that the file has been partially processed, as displayed in Exhibit 4-19.

Press **OK** to restart processing. The counts on the Sampling Migration to SDWIS/STATE window reflect the samples or summaries processed from the point of restart. As the *Migration to SDWIS/ STATE: Sampling* processes your file, it informs you of whether you are processing samples or sample summaries and lets you know how many of each are accepted or rejected from the SDWIS/ STATE database. Samples that are accepted are combined with samples that are flagged on the Accepted field in the Sampling Migration to SDWIS/STATE window. Specific definitions for accepted, accepted flagged, and rejected are covered in the Reporting the Results section of this chapter.

The transaction set with the file name CHEM999.WK has been previously partially processed. Processing will now continue.

OK
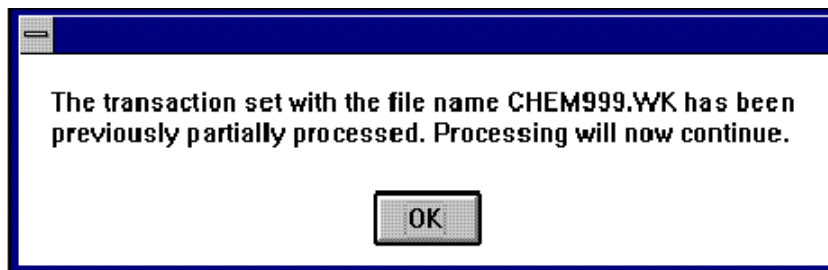
Exhibit 4-19. Partially Processed Information Message

Step 5: Migration to SDWIS/STATE: Monitoring and NCD

The final migration step in *Migration to SDWIS/STATE* is to load the data from the staging tables into tables that SDWIS/STATE uses in its *Monitoring and Noncompliance* and *Enforcement* components. This enables you to migrate items such as non-TCR sample schedules, sampling plans, violations, and enforcement actions. The Oracle tables that may be populated directly from the structure-set formatted text files are shown in Exhibit 4-20.

STAGING TABLE NAME	SDWIS/STATE ORACLE TABLE(S) POPULATED
TMGSMPLN (B_Sampling_Plan)	TMNSAPLN, TMNSPSPA
TMGANGRP (B_Analyte_Group)	TSAANGRP
TMGSSKED (B_Sample_Schedule (non-TCR))	TMNSASCH, TMNMNR, TMNSSGRP, TMNXALT
TMGPSKED (B_Package_Schedule)	TMNSKPAC, TMNSKPAR
TMGFANL (B_Facility_Analyte_Level)	TMNFANL
TMGCSCHD (B_Compliance_Schedule)	TENSCHD, TENSCHAT
TMGPNACT (B_Public_Notification_Activity)	TENPNACT, TENACTIV
TMGVIOL (B_Violation)	TMNVIOL, TMNMPRD, TMNWSMPA, TMNRWSMA, TMNVGRP, TMNVIOST, TMNORVIA
TMNVIOSD (B_Vio_Support_Data)	TMNVISRA, TMNVISPA
TMGENACT (B_Enforcement_Action)	TENENACT, TMNVIEAA
TMGMEVNT (B_Milestone_Event)	TFRMEVNT

Exhibit 4-20. Monitoring and NCD Staging Table to SDWIS/STATE Oracle Table

Migration to SDWIS/STATE: Monitoring and NCD Detailed Instructions

To begin migrating Monitoring and NCD data to the SDWIS/STATE Oracle tables, follow these steps:

1. Close all Terminate and Stay Resident (TSR) applications.

2. Log in to Oracle as Schema Owner.

3. Double-click on the Migration to SDWIS/STATE: Monitoring and NCD icon to access the Monitoring and NCD Migration to SDWIS/STATE Selection window (Exhibit 4-21).

4. Click on the box in the Select column next to the staging table(s) to be migrated. You may wish to select one staging table at a time to migrate, following the sequence shown in Exhibit 4-21.

5. To discontinue the process at this point and return to the desktop, click on the **Exit** button.

    To begin processing the selected tables, click on the **Start Processing** button. The staging tables is processed in the order they appear on the screen regardless of the order in which they were selected. Processing from this point continues as described in Step 2 (*Migration to SDWIS/STATE: Inventory*). The **Exit** button is unavailable once you begin processing.

    The processing gauge on the window counts the number of records being written to the Oracle tables for consideration. This is the first number that displays during processing with the structure set name heading. In some cases this number may not be the same as the number of records in the TMG staging table. There are several structure sets that create several rows in an Oracle table for one record reported in the TMG table.

Migration to SDWIS/STATE: Monitoring and NCD Elements

Each element of the Monitoring and NCD component of *Migration to SDWIS/STATE* operates as described. Consult the structure sets for more specific information.

Sampling Plan lets you migrate your sampling plans and to designate sampling points that should be included in the sampling plan. The staging table for Sampling Plan is TMGSMPLN (B_Sampling_Plan). It populates the following SDWIS/STATE Oracle tables: TMNSAPLN and TMNSPSPA.

Analyte Group lets you migrate analyte groups into SDWIS/STATE. Analyte groups may be referenced by violations and monitoring requirements, which in turn support non-TCR sample schedules. Analyte Groups may be used for entering sample analytical results; however, these results do not reference an analyte group in the database. If you plan to migrate in violations that are associated to a group of analytes, either migrate the analyte group using this capability or add the analyte group using the
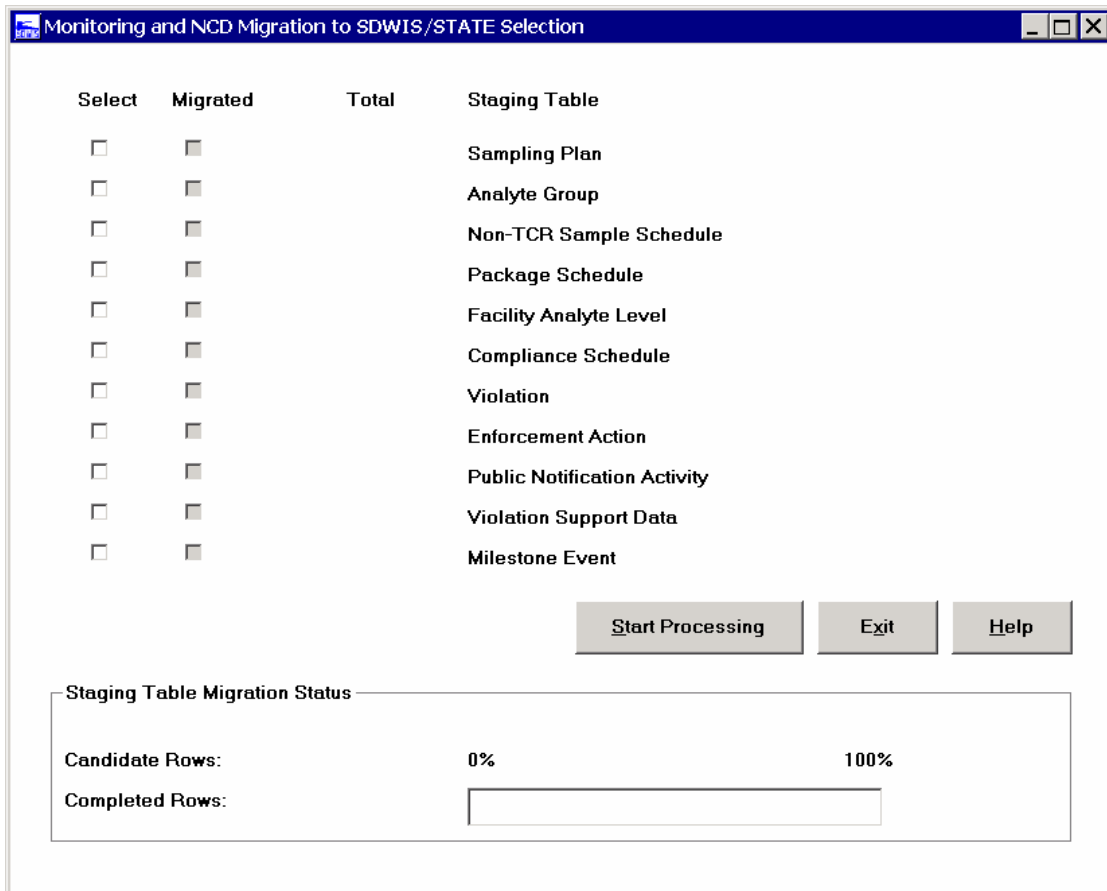
Exhibit 4-21. Monitoring and NCD Migration to SDWIS/STATE Selection

Analyte Groups maintenance capability in the *System Administration* component. Analyte Groups should not be confused with the Group Contaminant Codes developed by EPA, which used to be available for reporting violations. All analytes referenced in the Analyte Group text file must be in the database prior to migrating in the analyte group. This module will not create analytes; it will create analyte groups and associate all referenced (and existing) analytes to the analyte group. The staging table for Analyte Group is TMGANGRP. It populates the following SDWIS/STATE Oracle table: TSAANGRP.

Non-TCR Sample Schedule lets you migrate your non-TCR sample schedules. These schedules must reference sampling points and may be for single analytes or analyte groups. Single analytes trigger the creation of schedules, while analyte groups trigger the creation of schedule groups. A sampling point referenced by a schedule must exist in the database prior to migrating the schedule. The Non-TCR Sample Schedule

module will not create any sampling points, analytes, or analyte groups that may be referenced in the schedule. The staging table for Non-TCR Sample Schedule is TMGSSKED. It populates the SDWIS/STATE Oracle tables TMNSASCH, TMNMNR, TMNSSGRP, and TMNXANLT, TMNSPUB, and TMNSPSGS.

Package Schedule lets you migrate non-TCR Package Schedules into SDWIS/STATE. Before migrating this data, all sample schedules must already exist in SDWIS/STATE either through online input, schema migration, or *Migration to SDWIS/STATE.* The staging table is TMGSSKED. It populates the following SDWIS/STATE Oracle tables: TMNSKPAC and TMNSKPAR.

Facility Analyte Level lets you migrate facility Analyte Levels, which are required to support entry of SWTR (MDBP) summaries and for CDS to calculate monitoring or level compliance. The staging table is TMGFANL. It populates the following table: TMNFANL.

Compliance Schedule lets you migrate Compliance Schedules. The staging table for Compliance Schedule is TMGSCHD. It populates the following SDWIS/STATE Oracle tables: TENSCHAT and TENSCHD.

Violation lets you migrate violations, link MCL-type violations to sample analytical results that you specify. The staging table for Violation is TMGVIOL. It can populate up to seven SDWIS/STATE Oracle tables: TMNVIOL, TMNMPRD, TMNWSMPA, TMNRWSMA, TMNVGRP, TMNVIOST, and TMNORVIA. *Consult Appendix C: Violation Compliance Period Durations before developing your violation structure set-formatted file or migrating your violations.*

Enforcement Action lets you migrate enforcement actions and to link them to the violations that you specify. The staging table for Enforcement Action is TENENACT. It populates the following SDWIS/STATE Oracle tables: TENENACT and TMNVIEAA.

When migrating enforcement actions from a SDWIS/FED extract, SDWIS/FED does not maintain the Regulating Agency for enforcement actions, but Regulating Agency is mandatory when creating enforcement actions in SDWIS/STATE. If the regulating agency is not in your text file or does not match an existing government agency name, make sure that the TMGENACT.B_Regulating_Agncy field is valued with a government agency name (TINLGENT.Name) before migrating your violations into SDWIS/STATE. It is recommended that you insert the regulating agency name directly into the TMGVIOL staging table (via MS Access, SQL Plus, or similar tool).

PN Activity lets you migrate Public Notification (PN) Activities. The staging table for PN Activity is TMGPNACT. It populate the following SDWIS/STATE Oracle table: TENPNACT and TENACTIV.

Violation Support Data	lets you associate violations to the data that were used to determine the violation. (This data can include results, sample schedules, sampling points, facility analyte levels, MDBP summaries, public notification activities, compliance schedule activities, and deficiencies.) The staging table for Violation Support Data is TMGVIOSD. It populates the following SDWIS/STATE Oracle tables: TMNVISRA and TMNVISPA as well as updating TMVIOL with appropriate foreign keys. In order to use this module, any data that needs to be associated with a Violation (e.g., Facility Analyte Level or MDBP Summary) must first be in the database.
Milestone Event	lets you migrate milestone events and link them to the public water system that you specify. The staging table for milestone event is TMGMEVNT. It populates the following SDWIS/STATE oracle table: TFRMEVNT.

Migration to SDWIS/STATE: Reporting the Results

As each staging table or text file is processed, records from that staging table/text file either (1) populate the target SDWIS/STATE ORACLE tables, or (2) the results of processing anomalies (i.e., rows that were rejected or rows that were accepted but with changed or flagged values) are recorded in a local MS Access database. This database, called SDWISCOM.MDB, can be located in any drive or subdirectory, as long as it is specified as a data source in the ODBC Setup Program (normally located on the Control Panel icon on the Windows desktop). For example, the local MS Access database is installed at C:\SDWIS\MIGRATE\SDWISCOM.MDB. You may change the location, if you re-specify the location/data source in the ODBC Setup Program.

Post-Migration Reports Supplied with SDWISCOM

After the *Migration to SDWIS/STATE* processing is complete, the detailed results in reports may be viewed. To access these reports, open MS Access. Open SDWISCOM.MDB to the SDWIS/STATE Post Migration Review window (Exhibit 4-11). Four of the reports, the Staging Table Processing Report, the Initial Results by Staging Table Report, Rejected Rows by Staging Table Report, and the Changed Rows by Staging Table Report will assist you in reviewing the results of migrating Inventory and Monitoring and NCD data. The other two reports, the Rejected Sample Report and the Flagged Sample Report, will assist you in evaluating the results of migrating your samples and sample summaries. To view one of the reports, click on the corresponding button. The report can than be viewed, saved to a file, or printed.

Note: The initial results, changed, and rejected reports determine the number of changed records by totaling the staging table records that have encountered changes (the total is based on a unique staging table row number). This number is not the total number of changes listed in the report. For example, record 1 may have 3 changes listed in the report, but the number of changed records will be listed as 1.

Initial Results of Processing Report lets you know for the staging table you selected how many records were accepted (with no changes) into the targeted SDWIS/STATE Oracle table(s), how many rows were accepted with some changes into the targeted SDWIS/STATE Oracle table(s), and how many rows were rejected from entry into the targeted SDWIS/STATE Oracle table(s) (Exhibit 4-22). If the number of rows rejected is greater than 0, use the Rejected Rows by Staging Table Report. If the number of rows changed is greater than 0, use the Changed Rows by Staging Table Report.

Initial Results of Processing

Structure Set: B SERVICE CONNECTION CATEGORY

Staging Table: TMGSCC

Process Date / Time: 03/28/2002 12:39

Records that were changed may be reviewed by using the Changed Rows by Staging Table Report.
Records that were rejected may be reviewed by using the Rejected Rows by Staging Table Report.

Accepted: 9	Changed: 1	Rejected: 9

Exhibit 4-22. Staging Table Processing Report

Staging Table Processing Report lists all staging tables that were either successfully or unsuccessfully processed within the date/time range that you specify (Exhibit 4-23). This report includes three columns: Structure Set Name provides the name of the structure set processed, Staging Table Name provides the name of the staging table processed, and Submit Status provides the status of the staging table processed. A *C* in the Submit Status column indicates that processing completed normally for that file; a *P* indicates that processing terminated prior to the end of the file. Make sure you select both a begin date and end date in order to view results.

Staging Table(s) Successfully Processed

Structure Set / Staging Table that Proceed Date: 03/28/2002 11:23

Structure Set Name:	Staging Table Name:	Submit Status:
B LEGAL ENTITY	TMGLGENT	C
B WATER SYSTEM	TMGWSYS	C
B TREATMENT PLANT	TMGTPLNT	C

Exhibit 4-23. Staging Table Processing Report

Rejected Rows by Staging Table Report lists all rows in the selected structure set/staging table that were rejected (Exhibit 4-24). If there were 0 rows rejected by the staging table, this report will contain no information.

Rejected Sample Report lists all samples or sample summaries that were rejected from the text file processed at the date/time that you select (Exhibit 4-25). All samples that appear in this report have been rejected, even though some component results may have passed all edit checks. The example in the exhibit shows that the sample was rejected because of an unknown water system facility referenced in the sample record; however, none of the results were rejected. It would only be necessary to add the referenced water system facility to the *Inventory* database to assure successful migration of this sample.

Flagged Sample Report lists all samples or sample summaries that were accepted but flagged from the text file processed at the date/time you select (Exhibit 4-26). Accepted but flagged indicates that the data in one or more optional fields did not meet an edit check and were not accepted with the sample, result, sample summary, or summary result.

Rejected Rows By Staging Table Report

| Accepted: | 5912 | Changed: | 177 | Rejected: | 1967 |

Rows Rejected from: B LEGAL ENTITY   TMGLGENT   200203281123

Staging Table: TMGLGENT

Date / Time: 03/28/2002 11:23

REJECTION REASON(S): MIGR REJECT: Duplicate value found in destination table

STAGING TABLE ROW NUMBERED	STAGING TABLE PRIMARY FIELD VALUE	STAGING TABLE SECONDARY FIELD VALUE	STAGING TABLE PROBLEM FIELD NAME	REJECTED FROM DESTINATION TABLE
14	A UNIQUE CORPORATION	CM	B_NAME	TINLGENT
26	MELANIE GOLEMBIEWSKI	IN	17, 18	TININDIV
29	LEGAL SEAFOOD 2	IN	17, 18	TININDIV
30	LEGAL SEAFOOD 2	IN	17, 18	TININDIV
38	ALLEN, TERRY	CM	B_NAME	TINLGENT
39	ALLEN, TERRY	CM	B_NAME	TINLGENT
41	ALLEN, TERRY MR.	IN	17, 18	TININDIV

Exhibit 4-24. Rejected Rows by Staging Table Report

Rejected Samples

File Name Event_7414.t   Date/Time: 03/22/2002 16:42

Total Accepted/not flagged: 0   Total Accepted/flagged: 0   Total Rejected: 1

Transaction No: 15   Lab Sample No: 68   Water System No: IL0010100

State Lab ID: IL100291   Collection Date: 05051998

Sample Disposition: REJECT: Repeat Location Code permitted value violation on a TCR for compliance Repeat sample
(SAMPLE)

Analyte Code: Result(s) Disposition:

3100   No anomalies found while processing this part of the sample set.

Exhibit 4-25. Rejected Sample Report

Flagged Samples

File Name: NE_2002.txt   20020319165   Transaction Date: 03/19/2002 16:56

Total Accepted/not flagged: 0   Total Accepted/flagged: 4   Total Rejected: 0

Transaction No: 08202001   Lab Sample No: P18924-78   Water System No: NE3115302

State Lab ID: NHHS1   Collection Date: 09272001

Analyte Code: 3100

Sample Disposition: FLAG SAMPLE: "Collection Unit of Volume" – value supplied out of range

Result(s) Disposition: FLAG SAMPLE RESULT: An existing sample result was found (for the supplied sample) that references the
analyte supplied for the candidate result. The candidate result of that analyte was therefore not processed,
and the existing result remains in place.

Result(s) Disposition: FLAG SAMPLE RESULT: An existing sample result was found (for the supplied sample) that references the
analyte supplied for the candidate result. The candidate result of that analyte was therefore not processed,
and the existing result remains in place.

Transaction No: 08202001   Lab Sample No: P18925-16   Water System No: NE3100101

State Lab ID: NHHS1   Collection Date: 09252001

Analyte Code: 3100

Sample Disposition: FLAG SAMPLE: "Collection Unit of Volume" – value supplied out of range

Result(s) Disposition: FLAG SAMPLE RESULT: An existing sample result was found (for the supplied sample) that references the
analyte supplied for the candidate result. The candidate result of that analyte was therefore not processed,
and the existing result remains in place.

Result(s) Disposition: FLAG SAMPLE RESULT: An existing sample result was found (for the supplied sample) that references the
analyte supplied for the candidate result. The candidate result of that analyte was therefore not processed,
and the existing result remains in place.

Exhibit 4-26. Flagged Sample Report

Changed Rows by Staging Table Report lists those rows in the structure set/staging table that you selected in which the value supplied in the staging table was changed in at least one field (Exhibit 4-27). The reason for the change is included. If there were 0 rows changed for the staging table, this report will contain no information.

Note: Change report messages may appear for records that are ultimately rejected during MTS processing. Once the MTS software determines a record as rejected, it also stops reporting changes made to that record in the SDWISCOM.mdb change report.

Changed Rows By Staging Table Report

Accepted: 5912	Changed: 177	Rejected: 1967

Rows Changed from: B LEGAL ENTITY   TMGLGENT   200203281123

Staging Table: TMGLGENT

Date / Time: 03/28/2002 11:23

Changed Reasons: MIGR CHANGE: Permitted value violation in optional field

STAGING TABLE ROW	STAGING TABLE PRIMARY FIELD	STAGING TABLE SECONDARY FIELD	STAGING TABLE PROBLEM FIELD	CHANGED IN DESTINATION	CHANGED IN DESTINATION FIELD
6	PERM VAL FLD 30	GA	B_PRIMACY_IND_CD	TINGOVAG	J
7	FIRST GOVERNMENT AGENCY	GA	B_EPA_REGION_CD	TINGOVAG	10
10	LIST OF PERMITTED VALUES	GA	B_GOVT_AGCY_TYP_CD	TINGOVAG	NO
11	PERMITTED VALUE TESTING	GA	B_EPA_REGION_CD	TINGOVAG	25
15	LGL ENTITY TESTING FOR FIELD 1 EQUALS IN	IN	B_SALUTATION_CD	TININDIV	MS.
16	LGL ENTITY TESTING FOR FIELD 1 EQUALS IN	IN	B_SALUTATION_CD	TININDIV	MR.
18	LAURA GOLEMBIEWSKI	IN	B_SALUTATION_CD	TININDIV	MS.

Exhibit 4-27. Changed Rows by Staging Table Report

Report Results for Inventory (Step 2) and Monitoring and NCD (Step 5)

After the *Migration to SDWIS/STATE* application has completed processing the modules you selected, you can view the list of staging tables that were successfully processed in the Staging Table Processing Report. For each staging table processed, you may wish to view the results of the Rejected Rows By Staging Table Report and the Changed Rows by Staging Table Report.

As *Migration to SDWIS/STATE* processes each record in a staging table, it makes one of three disposition decisions. It either accepts the candidate record into one or more of the appropriate Oracle tables outright, it accepts the candidate record into one or more of the appropriate Oracle tables with one or more changes to a field, or it rejects the staging table record outright. The list below gives a description and example of each disposition decision.

Accepted (A) Records that are accepted meet all SDWIS/STATE edit checks. No data are modi-fied by the application. These records are inserted directly into the appropriate SDWIS/STATE Oracle table(s), and no information about them is captured in SDWISCOM.MDB.

Changed (C) Changed rows meet all mandatory edit checks but encounter minor anomalies. These rows are inserted into the database, but *part of the information will be changed from what is in the staging table*. These changes occur when part of the data in the row does not meet a SDWIS/STATE edit check. The field in question

does not cause rejection of the row. A record of each changed row is captured in the MIGRSTATUS table of SDWISCOM.MDB. Examples of scenarios where data supplied could be changed include the following:

- Value supplied for an optional field is not a permitted value, so the field is set to spaces.
- The optional number supplied did not meet the size or domain specified in the structure set and could not be converted to populate the staging table. The anomalous value from the staging table would be displayed in the Changed in Destination Field column for that staging table row.
- Federal type code supplied does not meet the criteria established in the SDWIS/STATE application, so the value is recalculated based on SDWIS/ STATE criteria.

Rejected (R) Rejected rows do not meet one or more of the mandatory edit checks. A row is rejected if any mandatory field fails its respective edit checks. These are the same edit checks encountered when entering data using the online SDWIS/STATE application. A record of each rejected row is captured in the MIGRSTATUS table of SDWISCOM.MDB. Common reasons for rejecting a row include, but are not limited to, the following:

- Value supplied for a mandatory field is either missing or not an established permitted value.
- A field contains a value that triggers a conditionally mandatory check in a second field but the value is missing from the conditionally mandatory field.
- A record that could potentially create rows in several SDWIS/STATE Oracle tables fails all edit checks to create rows in any possible destination table.

Note: When there are multiple field numbers in the Problem Field of the SDWISCOM.MDB Rejected Rows by Staging Table Report or the Changed Rows by Staging Table Report, the numbers refer to each offending field number of the structure set. In some cases, the values in more than one field contribute to the row being changed or rejected; this information is captured in the Staging Table Problem Field Value.

Report Results for Sampling (Step 4)

As *Migration to SDWIS/STATE: Sampling* processes each record in the selected text file, it makes one of three disposition decisions: (1) it accepts the candidate record into one or more of the appropriate Oracle tables outright, (2) flags and accepts the candidate record into one or more of the appropriate Oracle tables with one or more changes to a field, or (3) rejects the record outright. The list below gives a description and example of each disposition decision.

Accepted (A) Records that are accepted meet all SDWIS/STATE edit checks. These records are inserted directly into the appropriate SDWIS/STATE Oracle table(s), but an information record of each sample or sample summary processed is captured in the STATUS table of SDWISCOM.MDB.

Accepted w/Flag (F) Accepted with flag samples and results meet all required edit checks and are inserted into the database but part of the information may not be transferred. These instances occur if part of the data is not recognized in SDWIS/STATE, but it does not mean the data is rejected because of an edit check. Examples include the following:

- Results with an analytical method code that is not in the SDWIS/STATE database.
- Not for compliance samples where the supplied sampling point cannot be created because the supplied WSF State Assign ID does not exist in the database.
- Results whose concentration exceeds the maximum contaminant level goal (MCLG).

None of these examples is a reason to reject a sample or result. However, it may be useful to know why the analytical method was not in the SDWIS/STATE database in connection with the sample or sample result.

Rejected (R) Rejected samples do not meet one or more of the mandatory edit checks. A sample is rejected if a mandatory field that is part of the sample or part of one of its results fails its respective edit checks. These are the same edit checks encountered when entering samples and results using the *Sampling* component. Common reasons for rejecting a "for compliance" sample include but are not limited to the following:

- Analyte code for the result is not in the database. (You can add it using the Analyte Maintenance window.)
- Water system facility state-assigned ID supplied with the sample is not in the database.
- Original lab sample ID for a repeat sample is not provided or found in the database.
- Neither a sampling point nor sampling location is supplied with the sample.

SDWISCOM.MDB Structure

The following description of the structure and purpose of the tables in SDWISCOM.MDB database will help you develop additional queries and reports that you may wish to create (beyond the five supplied with the database) to help identify records whose data are preventing a completely successful migration. Exhibit 4-28 displays the relationships between the SDWISCOM tables. SDWISCOM.MDB contains the following tables:

LOG   A row is recorded in the LOG table for each staging table processed. Uniqueness for each row is based on the combination of the file name and the date and time that processing of that file began. This method of defining uniqueness allows a file of the same name to be processed more than once and easily retrieved for reporting.

DESCTABL   This reference table contains all rejection, change, and flag error numbers and descriptions of those error numbers used in *Migration to SDWIS/STATE*. Because this is a reference table, any changes made to this table may prevent the display of correct error messages in the Rejected Rows by Staging Table Report, the Changed Rows by Staging Table Report, the Rejected Sample Result Report, and Flagged Sample Report. *Maintaining the integrity of this table is critical to accurately reporting the results of your migration.*

MIGRSTATUS A row is recorded in the MIGRSTATUS table for each staging table record processed. The row identifies the staging table as well as indicates the disposition of the staging table record (accepted and changed) or (rejected).

STATUS   (*Sampling only) A row is recorded in the STATUS table for each sample or sample summary processed. The row contains the information to identify the sample or sample summary as well as indicates whether the sample or sample summary was accepted, accepted with a flag, or rejected.

HEADER   (*Sampling only) A row is recorded in the HEADER table for all data associated with each sample that is rejected or flagged.

HEADER_2   (*Sampling only) A row is recorded in the HEADER_2 table to capture field results (e.g., water temperature, free chlorine residual, total chlorine residual, etc.) for all flagged and/or rejected samples. This table is directly linked to the HEADER table.

DETAIL   (*Sampling only) A row is recorded in the DETAIL table for each result associated with the sample that was rejected or flagged.

SYSTEM   This table supports the initializing of the rows for the rest of the tables. The NEXTISNO is initialized to *1*. This number is incremented automatically and should not be reset. Do not use this table in any reports that you develop.
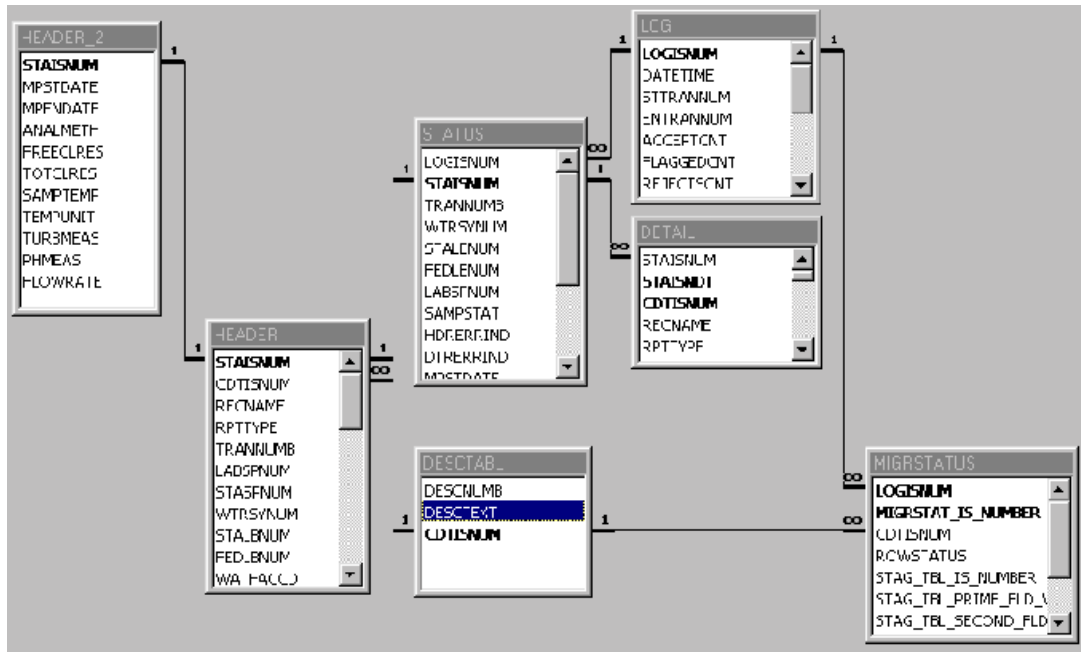
Exhibit 4-28. Relationship of SDWISCOM.MDB Tables

Correcting Errors

If you find that the data in your staging tables or text files did not migrate successfully either because they are rejected outright or are changed from the values supplied in the staging tables or text files, you can correct the source data by either using the online SDWIS/STATE application or by directly correcting the source data and *clearing* and re-migrating the affected tables.

Using the SDWIS/STATE Software

If you encounter only a few errors against components of the inventory, samples, violations, etc. of particular water systems, you may find that using the online SDWIS/STATE application is the most efficient way to correct the data. Following the instructions in the User's Guide:

1. Double-click on the appropriate SDWIS/STATE icon *(Legal Entity*, *Inventory*, *Sampling*, *Monitoring and Noncompliance* etc.).

2. Search for the legal entity, water system, etc. whose data you would like to change.

Return to Source of the Data

If you encounter extensive rejections or changes, for one or more staging table or text file, you will most likely need to either modify the source data and recreate the text file or, at a minimum, modify the data in the staging table. For sampling, you must modify the source data that creates the text file.

- Use the reports supplied with the SDWISCOM reporting results database (or develop your own) to help identify the reasons for rejection. Modify your source data and then recreate the structure set-formatted text file.

- Another source of potential data rejection could be the program that you develop to build each structure set-formatted text file.

- Run the software to import the data into the staging table.

- Run the software to load the data into the SDWIS/STATE Oracle tables.

- Review the results.

- Fix any remaining errors, if necessary.

You can remigrate the same data until you are satisfied with the data in your SDWIS/STATE table(s). However, if you do repeatedly remigrate data, after you have cleared/truncated the data in your destination SDWIS/STATE Oracle table(s) (for example, TINWSYS, TINRAA), you need to reset the counters in the TINEISN and TINEXSN tables prior to remigrating. You can do this by running the RESET_EISN_EXSN.SQL script. This script checks the highest external (where applicable) system numbers for each of these tables and resets TINEISN/TINEXSN's existing highest number for that table with the new value. If the table has no data in it (because it has been truncated), the TINEISN and TINEXSN external system numbers will be reset to 1. The exception to the last statement is for the TINLGENT, TINGOVAG, and TINSAT tables, which contain federal records (ST_Code = HQ) that should not be removed from the tables. When you run RESET_EISN_EXSN.SQL, the highest internal/external system numbers for these federally owned records will update the TINEISN/TINEXSN tables. If you inadvertently remove the federally owned records from these tables, you will need to reimport them before remigrating.

Introduction

CDS Setup runs a number of processes to establish appropriate associations, calculate values, and create sample summaries based on individual results. These *CDS Setup* processes must run in order for the many Compliance Decision Support (CDS) components in *Monitoring and Noncompliance* (e.g., Possible Increased Monitoring Assessment Report, Chem/Rad M&R Compliance Report) to make accurate determinations. *CDS Setup* is a batch function that can be run after the close of business each day or whenever the SDWIS/STATE Administrator schedules it. *CDS Setup* must be run on a regular basis (e.g., daily) for the CDS components to work properly.

This chapter is divided into two main sections. The first section, "User Instructions," provides detailed instructions on running *CDS Setup*. The second section, "Description of CDS Setup Processes," provides a detailed overview of how *CDS Setup* operates to set up your database for the CDS Reports that support compliance determination.

User Instructions

The sections below provide step-by-step instructions for running *CDS Setup* automatically during nonbusiness hours, establishing a CDS History Date to prevent the application from processing old legacy data, and reviewing the processing report created each time you run *CDS Setup*.

Before Using CDS Setup For The First Time

After SDWIS/STATE is installed and schema migration is complete but before you run *CDS Setup* for the first time, you must take the following steps:

- Modify Analyte Levels (TMNALRA table) as documented in Appendix D to meet changes expected by the software.

- Add in any sampling point subschedules to existing schedules/schedule groups. See Chapter 6 of the User's Guide for a discussion of sampling point subschedules.

- Create any new Schedule Packages. For example, while most states/regions do not have TOC or TTHM/HAA schedules in place, if you do have these types of schedules already in your database, you should create schedule packages before running *CDS Setup*. See Chapter 6 of the User's Guide for a discussion of schedule packages.

The number of non-TCR schedules, non-TCR sample results, and monitoring periods that exist in the database at the time you first initiate *CDS Setup*, as well as the date you select for the CDS History Date, determines how long *CDS Setup* runs.

Choosing a CDS History Date

Before running *CDS Setup* for the first time, you must indicate an historic date that limits the records the CDS processes evaluates. The following date is suggested as a starting point: *The earliest begin date of any monitoring period that you intend to determine compliance for using CDS.* Note that leaving the CDS History Date as null *will* slow CDS processing considerably.

A factor to consider when selecting the appropriate CDS History Date is that the earlier the history date you select, the more candidate MCL violations will be determined, because the process that determines candidate MCL violations is part of *CDS Setup*. Most of the candidate MCL violations determined when you first run *CDS Setup* will be historic violations, that is, violations you have already handled, entered, and reported to SDWIS/FED. You simply need to clear these out of the candidate violations table by using the **Edit/Post-Compliance Decision Support Processing/ Migrate CDS Candidate Violations** menu function in the *Monitoring and Noncompliance* component. In addition, the earlier the date you select, the longer *CDS Setup* runs the first time you execute it.

However, changing the CDS History Date to an earlier date does not cause *CDS Setup* to evaluate a Sample or Monitoring Period or Sample Schedule it previously did not evaluate (because the Sample or Monitoring Period or Sample Schedule was earlier than the previous CDS History Date). That is to say, if a Sample or Monitoring Period or Sample Schedule is already in SDWIS/ STATE and was not considered the first time *CDS Setup* ran because of the CDS History Date, it is not considered when *CDS Setup* is run after changing the CDS History Date no matter what date you change it to. Changing the CDS History Date to an earlier date only impacts records you added or modified in SDWIS/STATE after you changed the date.

Note: If you ran CDS Setup using a previous release of SDWIS/STATE, the first time you run it for a new release, you should not change the CDS History Date to a later date than the one you selected for the previous release. The reason for this recommendation is that, if you do change the date to a later date, any data that falls between the previous history date and the new history date will not be reassessed by the version of *CDS Setup* that you just installed (because it was set up based on previous *CDS Setup* design). This could lead to incorrect results if you were to run compliance for a period of time that falls between the two history dates.

Selecting Non-TCR Schedule Dates and Monitoring Periods

You can control how far back in time CDS determines candidate MCL and Monitoring and Reporting (M&R) violations by the combination of three dates: (1) the CDS History Date, (2) the earliest Monitoring Period Begin Date for any sequence of Monitoring Periods, and (3) the Effective Begin Date of Non-TCR Sample Schedules. A sequence of Monitoring Periods is a set of Monitoring Periods with the same duration which fall back-to-back. The following are examples of sequences of Monitoring Periods:

Annual Monitoring Periods
1/1/1997 to 12/31/1997 and 1/1/1998 to 12/31/1998 and 1/1/1999 to 12/31/1999
Six-Month Monitoring Periods
7/1/1997 to 12/31/1997 and 1/1/1998 to 6/30/1998 and 7/1/1998 to 12/31/1998
Triennial Monitoring Periods
1/1/1996 to 12/31/1998 and 1/1/1999 to 12/31/2001
Four-Year Monitoring Periods
1/1/1997 to 12/31/2000 and 1/1/2001 to 12/31/2004

For example, if you intend to use CDS to determine M&R and MCL compliance for the most recent 4 year gross alpha monitoring period and you begin implementing CDS in March of 2001, you would pick 1/1/1997. Note that you would also have to add the appropriate Sample Schedules for gross alpha and the 4-year Monitoring Period of 1/1/1997 to 12/31/2000.

For another example, assume that you decided to set the CDS History Date to 1/1/1997 because you want to use CDS to determine compliance for the 1/1/1997 through 12/31/2000 monitoring period. However, you do not want CDS to determine compliance for all the quarters beginning with the first quarter of 1997. Instead, you only want to have CDS check compliance for the first quarter of 2000 and on. You could further limit CDS by either not entering any quarterly monitoring periods that precede the first quarter of 2000 or by using 1/1/2000 as the Effective Begin Date of your quarterly schedules. Note, if you have been using TCR NCD for a while, the first method will not work since you will already have quarterly monitoring periods that predate 2000 in SDWIS/STATE. Similarly, you could limit CDS to determine compliance for the 1999 and 2000 calendar years by either having calendar year 1999 as your earliest one-year Monitoring Period or setting the Effective Begin Date of your annual sample schedules to 1/1/1999.

Rule-By-Rule Implementation Strategy

You may also wish to control the amount of data *CDS Setup* initially processes by only using *Migration to SDWIS/STATE* to migrate in Sample Schedules and initial Monitoring Periods that relate to one rule. Using this strategy, before you run *CDS Setup* for the first time you would, for example, migrate in only the Volatile Organic Chemical (VOC) Sample Schedules and initial Monitoring Periods or only the Inorganic Chemical (IOC) Sample Schedules and initial Monitoring Periods. You would then run *CDS Setup* for this data. After you gauge how long it takes for *CDS Setup* to process these records, you can determine how many additional sets of rule-related schedules and monitoring periods to add for the next run of *CDS Setup*. This strategy does not require that you separate and only migrate in sample results that are taken to comply with the rule you selected. You can have none, some, or all of these results (taken to comply with the rule you selected) in the database at the time you run *CDS Setup* for the schedules and initial Monitoring Periods that relate to the rule you selected.

Sampling Point Subschedules can optionally specify the number of samples to be taken at a given sampling point. If you plan to use sampling point subschedules, you should either add all the subschedules needed for a given schedule prior to running *CDS Setup* or none of them.

Sample Schedule and Schedule Group records have a field called CDS Setup Processed with a flag that is set (to "Y") when the schedule/schedule group has been processed by *CDS Setup*. The purpose of this flag is to indicate to the online non-TCR schedule maintenance software that *CDS Setup* has already processed the schedule/schedule group; therefore, a new Sampling Point Subschedule cannot be added or an existing one, changed, or deleted. If you need to add, modify, or delete a Sampling Point Subschedule after *CDS Setup* has processed the sample schedule/ schedule group, it is necessary to close out (or delete, if appropriate) the existing sample schedule/ schedule group and add a new one that includes the desired changes. However, you can add a sampling point subschedule if no previous sampling point subschedule exists, regardless of whether *CDS Setup* has processed the schedule or not.

Again, it is not necessary to have all the Sample Schedules, Sampling Point Subschedules, Monitoring Periods, and Results you want CDS to consider in SDWIS/STATE before you run *CDS Setup* for the first time. As you add new records, *CDS Setup* recognizes them as new and processes them as appropriate. However, remember that when you add a large quantity of Sample Schedules, Monitoring Periods, or Results to your database, the next *CDS Setup* run may take a long time to process. You should adjust automatic processing times and network settings to account for this potentially lengthy run.

Using the ANALYZE Utility During Initial Runs of CDS Setup

Finally, as previously discussed, the number of non-TCR schedules, non-TCR sample results, and monitoring periods that exist in the database at the time you first initiate *CDS Setup*, as well as the date you select for the CDS History Date, determines how long *CDS Setup* runs.

For example, a state that has approximately 1,800 CWS and NTNC entry point sampling points might typically have approximately 250,000 current, non-TCR schedules and approximately 140,000 non-TCR results per year. If all these schedules and results already exist in the database when you first run *CDS Setup*, you may need to periodically stop and restart *CDS Setup* and run the ANALYZE_SCHEMA.SQL scripts located in the ORA-DBA\SDWIS_DBA_SCRIPTS folder. Because *CDS Setup* has been designed for use over the long-term and is not meant to be stopped during the middle of a run, no explicit capability to stop the process has been designed. Therefore, you need to stop it by using the **Alt-Ctrl-Delete** keys on your keyboard.

Running ANALYZE_SCHEMA.SQL is essential to optimizing the performance of *CDS Setup* during or after the first time it runs, especially if it is processing large quantities of data. The *CDS Setup* processes that create the largest numbers of new records include:

• Associate Monitoring Periods to Sample Schedules.
• Associate *CDS Setup*-Created Monitoring Periods to Sample Schedules.
• Calculate Monitoring Period Averages.
• Calculate MCL Values.

Stopping *CDS Setup* and running ANALYZE_SCHEMA.SQL in the middle of or after the completion of one of these modules will speed performance if the module seems to be running more slowly than it should. You can note the time estimate displayed for a given *CDS Setup* process on the CDS Status window. If the process is taking significantly longer to complete than the time given in the estimate, stop *CDS Setup* and run the ANALYZE_SCHEMA.SQL script. *CDS Setup*'s automated restart capability starts processing from where it left off.

Once you are beyond the initial implementation of *CDS Setup* and are running it nightly (or however often you choose), you should still periodically run the ANALYZE_SCHEMA.SQL script to optimize your database, as suggested in the Installation Guide. However, at this point, it is not necessary to run it each time you run *CDS Setup*, since *CDS Setup* will not creates nearly as many records as it did during initial implementation.

Additional Points of Interest

Prior to initiating *CDS Setup* for the first time, as well as during subsequent runs, please note the following:

*   To ensure that your database is properly set up, you need to run *CDS Setup* all the way through, twice the first time that you run it when receiving a new release.

*   In general, *CDS Setup* should be run overnight or on weekends; that is, during times when the database is less intensively used. Because *CDS Setup* performs a large number of database-intensive sorting and calculating operations, the Oracle database needs to have a very large temporary tablespace (over 250 MB). The size of the temporary area required is a function of the number of water systems, monitoring periods, sample schedules, sample results and sample summaries that are present in the SDWIS/STATE system. When *CDS Setup* does not have the required temporary area, it fails with the following error message: "Unable to extend temp segment by (X) in tablespace TMPWSS01." If you receive this message, you may need to enlarge your temporary area in order to complete *CDS Setup* processing.

*   Oracle 8i writes numerous records to the SQLNET.LOG file when *CDS Setup* is running. *CDS Setup* automatically deletes the SQLNET.LOG file, which Oracle 8i creates in the same directory that houses your SDWIS/STATE executables, both when you initiate it, and when it completes. If you notice that this file is growing beyond 1 MB or is otherwise starting to use a large amount of system resources (particularly during the initial run of *CDS Setup*), just delete it.

*   Sample Summaries, Sample Results, Sample Schedules, Monitoring Periods, and Maximum Contaminant Levels entered on a given day are not "set up" until the next time that *CDS Setup* is run. To take advantage of the most current information in these tables, run *CDS Setup* the night before you plan to execute any of the CDS Reports (available in the *Monitoring and Noncompliance* component).

- The phrase "CDS Setup identifies candidate records to evaluate by checking if the Last Update Timestamp of the X record is on/after the last time CDS Setup was run" is frequently used to specify how candidate records are selected for evaluation. The CDS Setup Log table TCDSSLOG keeps track of the date and time each *CDS Setup* process last executed.

- On the Non-TCR Sample Schedule Maintenance window, Routine (RT) sample schedules of periodicity 1T (One Time), HR (Hourly), or DL (Daily) can be created, but these schedules will not be evaluated by *CDS Setup*.

Setting the CDS History Date

To set the CDS History date, select **View/Set CDS History Date** on the *CDS Setup* main window in the *System Administration* component to invoke the CDS History Date dialog box and then enter a date (Exhibit 5-1). This date is subsequently used by all CDS processing unless you change it using this window. See the previous section for information on choosing your CDS History Date.
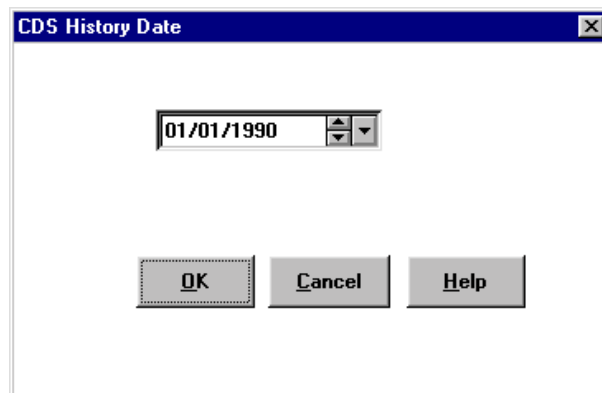
Exhibit 5-1. CDS History Date

Configuring CDS Setup To Run Using the Windows Task Scheduler

Because *CDS Setup* is a batch file that may take a long time to run, you have the option of configuring *CDS Setup* to run using the Windows Task Scheduler. Note: You cannot use the Windows Task Scheduler to invoke Oracle8 Personal Edition, so users with the standalone version of SDWIS/STATE have to run *CDS Setup* directly from the main *CDS Setup* window or leave Oracle8 Personal Edition running.

In order to configure *CDS Setup* to run using the Windows Task Scheduler, do two things: (1) set your ID and password using the *CDS Setup* Auto Login, and (2) schedule the time and frequency that *CDS Setup* will run using the Task Scheduler. Detailed instructions for both tasks appear next.

Enable CDS Setup Auto Login

Select **Edit/CDS Setup** on the *System Administration* main menu to invoke the *CDS Setup* main window (Exhibit 5-2).
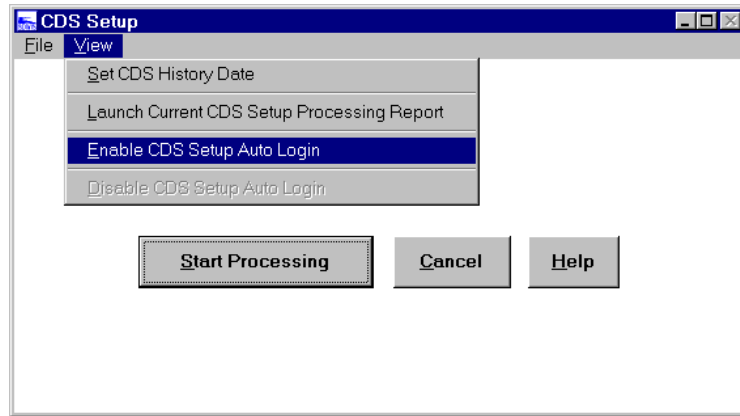
Exhibit 5-2. CDS Setup with View Menu

Select **View/Enable CDS Setup Auto Login** to invoke the *CDS Setup* Auto Login window (Exhibit 5-3). Select the appropriate database application used to run your SDWIS/STATE application, along with your User ID and password, then click **OK**.
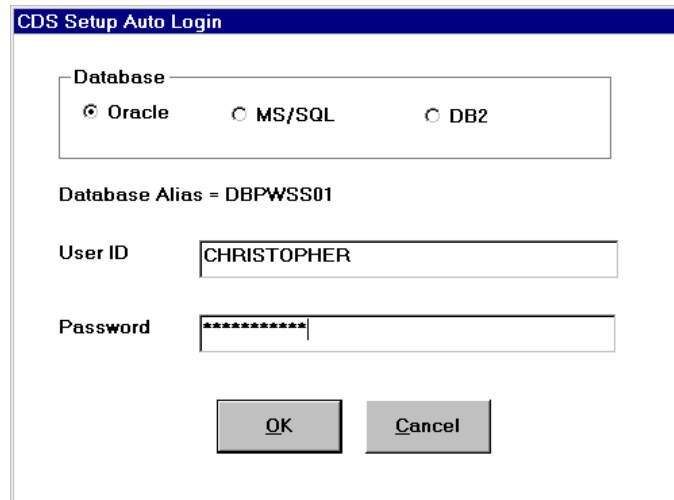
Exhibit 5-3. CDS Setup Auto Login

Schedule CDS Setup

Add *CDS Setup* as a scheduled task using the Windows Task Scheduler on your client workstation. To do this, double-click on the My Computer icon on the Windows desktop, double-click on the Scheduled Tasks icon, then double-click on the Add Scheduled Task icon (Exhibits 5-4 and 5-5).
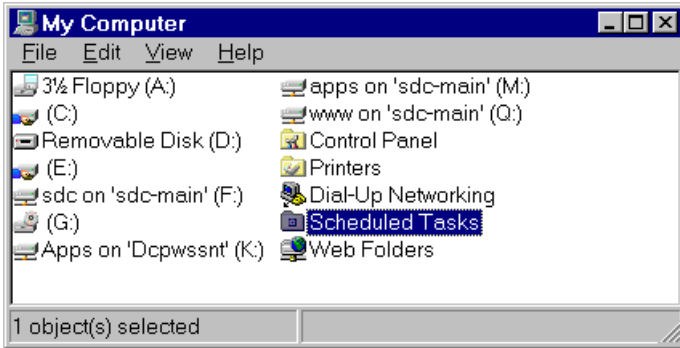
Exhibit 5-4. Scheduled Tasks Icon   **Exhibit 5-5.** Add Scheduled Task Icon
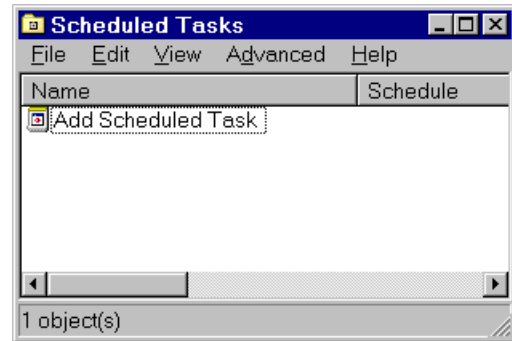
When the Scheduled Task Wizard appears, click **Next** to continue (Exhibit 5-6).

Exhibit 5-6. Scheduled Task Wizard

Click the **Browse** button and highlight the *CDS Setup* executable (cdssetup.exe) located in the folder that you designated when you installed SDWIS/STATE (Exhibit 5-7). Click **Next**.
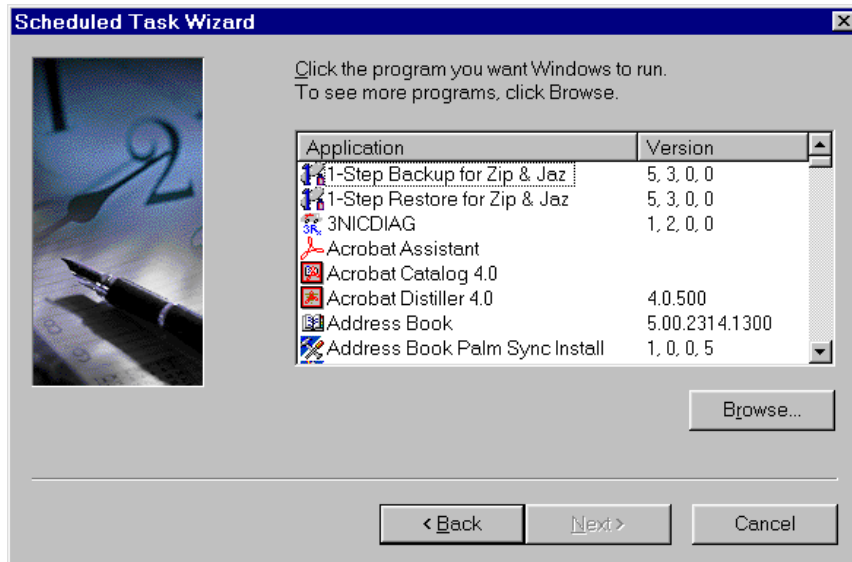
Exhibit 5-7. Select CDS Setup Executable

Select how often you want the task to run. You may want to consider running *CDS Setup* daily (Exhibit 5-8). Select **Next**.
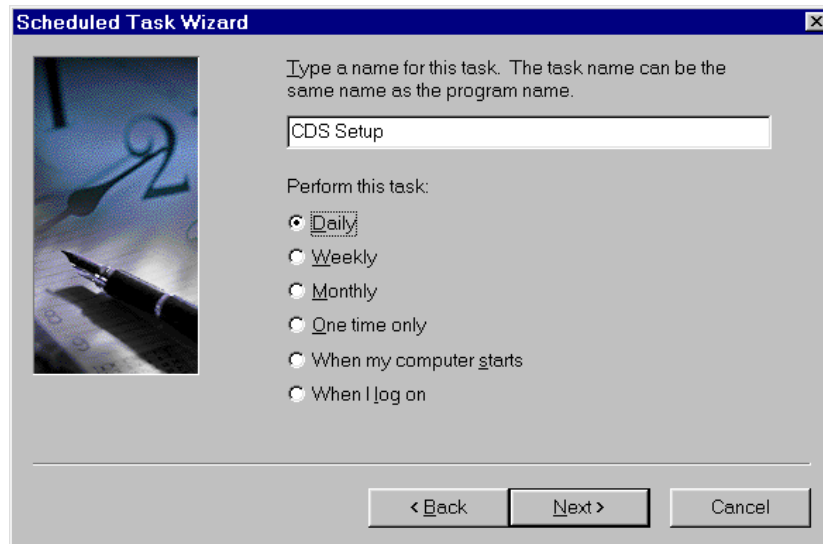
Exhibit 5-8. Select How Often CDS Setup Will Run

On the next window, select the time and day you want *CDS Setup* to start (Exhibit 5-9), then select **Next**.
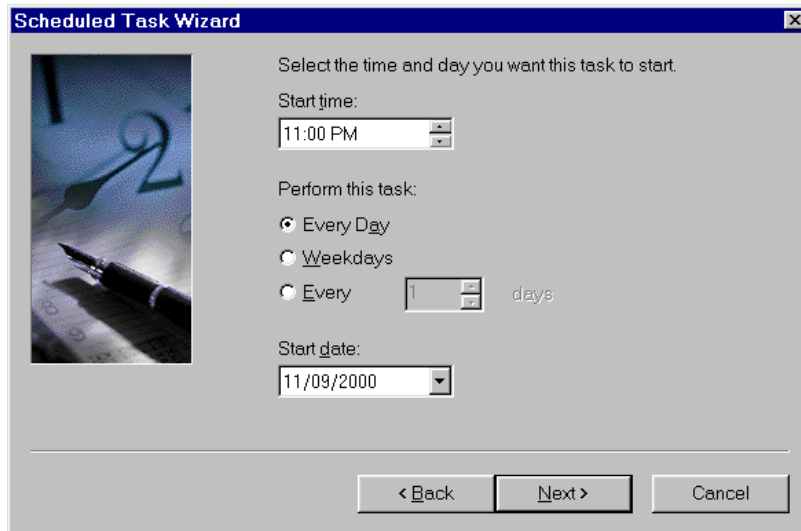
Exhibit 5-9. Select Time and Day

Select **Finish** on the final Scheduled Task Wizard screen (Exhibit 5-10). You have successfully automated *CDS Setup* batch processing.
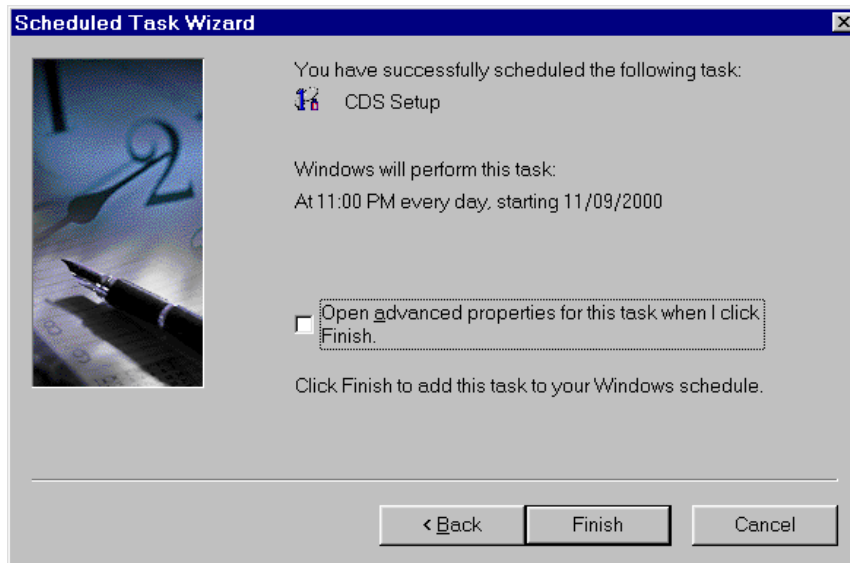
Exhibit 5-10. Final Scheduled Task Wizard Window

A *CDS Setup* icon will appear in the Scheduled Tasks folder (Exhibit 5-11). Note, the client workstation must be left on for *CDS Setup* to run.
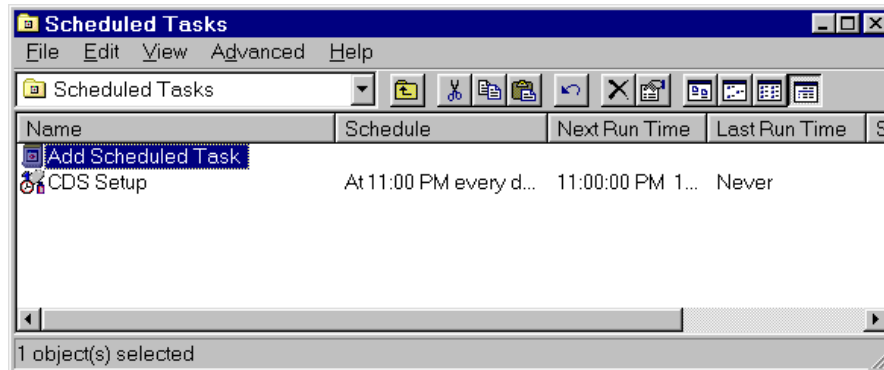
Exhibit 5-11. Final CDS Setup Icon

Modifying CDS Setup Auto Login or Schedule

To change the ID and password used by the *CDS Setup* Auto Login, select **View/Disable CDS Setup Auto Login** from the *CDS Setup* window (Exhibit 5-2). Select **View/Enable CDS Setup Auto Login** and enter new information. To modify when and how often *CDS Setup* runs, double-click on the *CDS Setup* icon in the Scheduled Tasks folder (Exhibit 5-11) and modify the information on Task, Schedule, and Settings tabs on the information window that appears (Exhibit 5-12). To delete the current *CDS Setup* schedule, simply delete the icon.
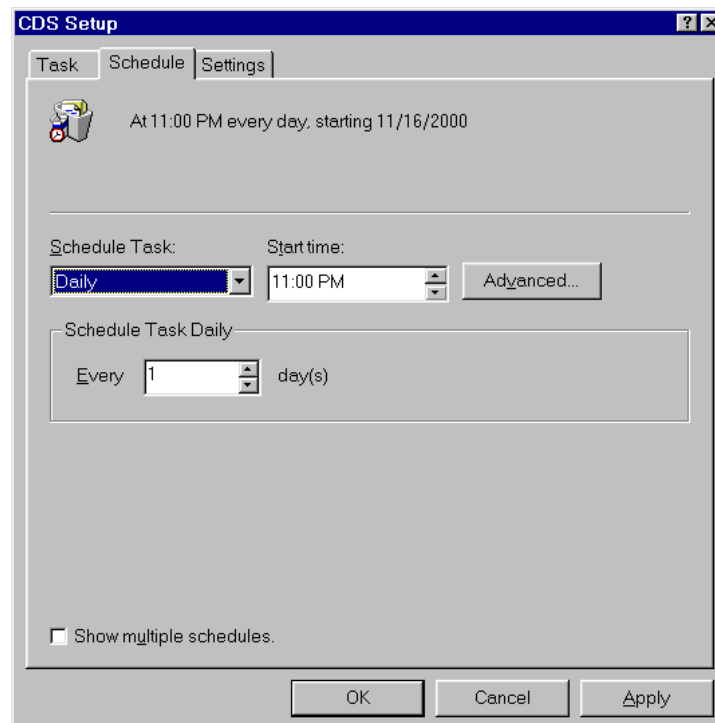
Exhibit 5-12. Scheduled Tasks Modification Window

Running CDS Setup Directly From the CDS Setup Window

You will likely want to configure *CDS Setup* to run using the Windows Task Scheduler feature; however, it is also possible to run *CDS Setup* directly from the *CDS Setup* window. To do this, select **Edit/CDS Setup** on the *System Administration* main menu to invoke the *CDS Setup* main window (Exhibit 5-2).

Initiate *CDS Setup* by clicking on the **Start Processing** button, which displays the CDS Status window (Exhibit 5-13). Twenty-three different processes are run as a batch. The horizontal progress bar on top of the CDS Status window shows what percentage of these 23 processes is complete. The vertical progress bar on the right side of the window shows the percentage of the current process that is complete. The name of this process appears in italics in the horizontal bar next to it. When the entire *CDS Setup* is finished running, the message "All Processes Completed Successfully" appears on the bottom progress bar.
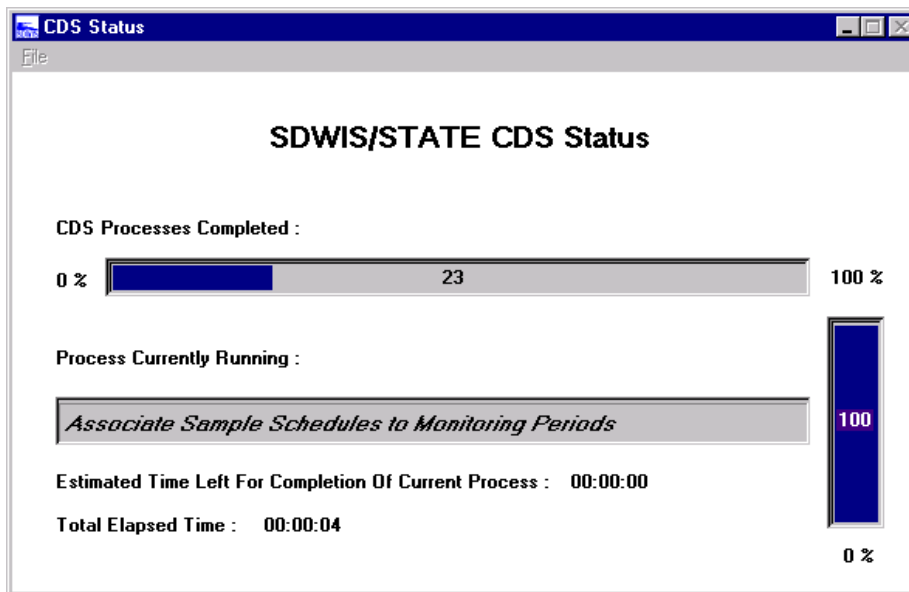
Exhibit 5-13. CDS Status Progress Bar

CDS Setup Processing Report

CDS Setup creates a processing report each time it is run to describe errors it encountered (Exhibit 5-14). The report is a text file that can be opened by any desktop word processor. The reports are located under C:\SDWIS\CDS\SETUP\ and use the following naming convention: CDSSETUP_YYYYMMDDHHMMSS.RPT (e.g., CDSSETUP_20001206174324.RPT). The timestamp on the report name indicates when the *CDS Setup* execution began. You need to use desktop tools to review and/or remove old *CDS Setup* Processing reports. Since this process is expected to run on a daily basis, reports will accumulate over time.

To review the report created the last time *CDS Setup* was run, select **View/Launch Current CDS Setup Processing Report** on the main *CDS Setup* window (Exhibit 5-1) after *CDS Setup* processing is complete. To review an older processing report, browse through the C:\SDWIS\CDS\SETUP folder until you locate the report with the desired timestamp.

You must be at the workstation that was used to run the last *CDS Setup* process in order to use the Launch Current CDS Setup Processing Report function. The current CDS Setup Processing Report is not necessarily the current report on *your* workstation. It is the current report on the workstation that last ran *CDS Setup. Each* report provides the following information: a Record Number, generated by the processing report, to identify each error; the Process Name to identify the process that was running when *CDS Setup* encountered the error; Reason Text to describe the cause of the error; Resolution Tips to provide assistance in fixing the error before running *CDS Setup* again; and a Unique Identifier to provide the water system number and name involved in the error.
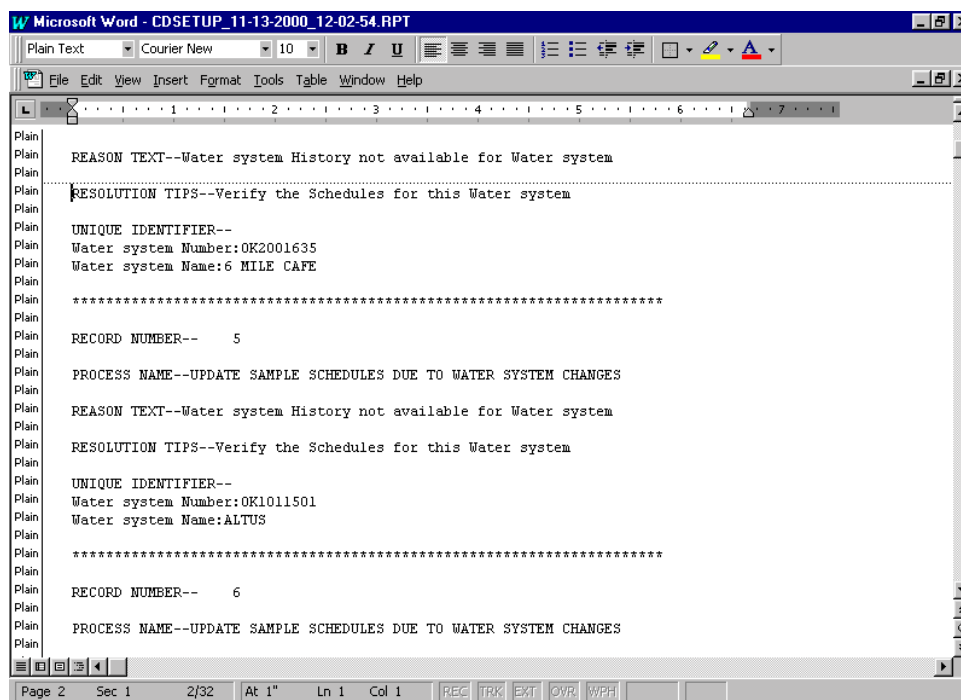
Exhibit 5-14. CDS Setup Processing Report

Description of CDS Setup Processes

Each time *CDS Setup* runs, it executes the 14 processes listed in Exhibit 5-15. The driver entity/ table for each process is listed to the right. These processes are necessary to generate accurate results for the following reports: the *CDS Setup* Processing Report, which is described in this

Logical Entity and Table Name Associated With Each CDS Process

Process Name	Logical Entity Name	Table Name
Update Sample Schedules Due to Inventory Changes		
Water System Changes	Water System	TINWSYS
Water System Facility Changes	Water System Facility	TINWSF
Sampling Point Changes	Sampling Point	TSASMPPT
Associate Monitoring Periods to Sample Schedules		
Find New/Changed Monitoring Periods	Monitoring Period	TMNMPRD
Find New/Changed Sample Schedules	Sample Schedule	TMNSASCH
Process MCL, ACL, FANL Max or TRL Additions or Modifications	Analyte Level Rule Assignment	TMNALRA
Disassociate Sample Analytical Results from Sample Schedule Monitoring Period Assignments and Sampling Point Sub-SSMPAs	Sample Schedule Monitoring Period Assignment and Sample Analytical Result	TMNSSMPA, TSASAR
Calculate Total Trihalomethane, Total Haloacetic Acid, Combined Nitrate + Nitrite, Individual Nitrite, Combined Radium, and Gross Alpha Excluding Uranium Results	Sample Analytical Result	TSASAR
Associate Sample Analytical Results to Sample Schedule Monitoring Period Assignments and Sampling Point Sub-SSMPAs	Sample Schedule Monitoring Period Assignment and Sample Analytical Result	TMNSSMPA, TSASAR
Associate *CDS Setup*-Created Monitoring Periods to Sample Schedules	Monitoring Period	TMNMPRD
Aggregate Lead and Copper 90th Percentile Data	Sample Analytical Result	TSASAR
Associate Sample Summaries to Sample Schedule Monitoring Period Assignments	Sample Schedule Monitoring Period Assignment and Sample Summary Result	TMNSSMPA, TSASMPSM
Calculate Monitoring Period Averages	Sample Schedule Monitoring Period Assignment	TMNSSMPA
Calculate MCL Values	Sample Schedule Monitoring Period Assignment	TMNSSMPA
Assess Chemical/Radionuclide MCL Compliance	Calculated MCL Value	TMNCMCLV
Assess Sample Schedule Monitoring	Sample Schedule Monitoring Period Assignment	TMNSSMPA
Identify High Chlorite and Chlorine Dioxide Results	Sample Analytical Result	TSASAR

Exhibit 5-15. Logical Entity and Table Name Associated with Each CDS Process

chapter, and the Possible Increased/Decreased Monitoring Assessment Report, Chemical/ Radionuclide M&R Compliance Report, and Lead and Copper Tap M&R Compliance Report, which are described in Chapter 6 of the User's Guide. Each process is described in detail later in this chapter.

As a process finishes evaluating a record in the driver table, it records the Internal System Number and Last Update Timestamp of that record in the CDS Report Log table (TCDSRLOG). These are used as references by *CDS Setup* to determine which record it last evaluated in a given process.

Update Sample Schedules Due to Inventory Change

Prior to setting up associations between Sample Schedules and Monitoring Periods the Update Sample Schedules Due to Inventory Change process searches for water systems, water system facilities, or sampling points whose activity status has changed since the last time *CDS Setup* was run. In addition, the process looks for water systems whose classification has changed.

Three history tracking entities track activity history for a water system, a water system facility, and a sampling point.

The Update Sample Schedules Due to Inventory Change process determines what the change was by comparing the values in the water system, water system facility, and sampling point tables to the values in the history tables. Because more than one significant change could be made to a record between *CDS Setup* runs, the Last Update Timestamp of the history table record closest to but after the *CDS Setup* last execution time is used to compare against the value in the actual table. If no History record exists for a given water system, water system facility, or sampling point, it means that no significant change occurred to any of the fields tracked by the History tables for that entity since the record was added to the database.

The Update Sample Schedules Due to Inventory Change process is divided into three subprocesses, described in the sections below.

Water System Changes Subprocess

The Water System Changes subprocess is driven by the following changes to the water system. If the water system is no longer a public water system because (a) its classification has changed from any one of the three public types (community; non-transient, non-community; or transient, non-community) to non-public; (b) it is deleted, changing its status from active to inactive and its Historic Indicator Code to historic; or (c) its activity status changes from active to inactive, this closes all open, non-TCR schedules for the water system and advises you in the CDS Setup Processing Report that this has occurred. It sets the Effective End Dates of the closed schedules as follows:

*   For any Sample Schedule with an Effective Begin Date that has already passed (i.e., is prior to the current date), the process closes the schedule with the current date.

*   For open Sample Schedules that begin on or after the current date, the process closes the schedule by setting the Effective End Date to the Sample Schedule's Effective Begin Date minus one day.

*   For Sample Schedules that have an Effective End Date in the future, it either changes the Effective End Date to the Sample Schedule's Effective Begin Date minus one day (if the begin date is greater than or equal to the inactivity date) or to the inactivity date (if the begin date is less than the inactivity date).

In situations where primacy agencies have monitoring requirements that they enforce against non-public water systems, the primacy agency has to add the appropriate Sample Schedules for that water system after *CDS Setup* has run.

If the following changes are made to a water system, the CDS Setup Processing Report advises you of this change and leaves it to you to add the appropriate Sample Schedules for the water system:

- The water system's classification changes from transient, non-community to either non-transient, non-community, or community.
- The water system's classification changes from non-public to any one of the three public types.
- The water system's activity status changes from inactive to active.
- The water system is newly added.

Water System Facility Changes Subprocess

The Water System Facility Changes subprocess is driven by the changes to the water system that are listed below.

- If a water system facility's activity status changes from active to inactive, this process closes all non-TCR, open Sample Schedules associated to the water system facility by setting the Effective End Date to the WSF Activity Date (which in this case, is the date of inactivity). Any open Sample Schedules that begin on or after the WSF Activity Date are closed using the Sample Schedule's Effective Begin Date minus one day. This process also changes the Effective End Date for a Sample Schedule that is in the future. It either changes the Effective End Date to the Sample Schedule's Effective Begin Date minus one day (if the begin date is greater than or equal to the WSF Activity Date) or to the WSF Activity Date (if the begin date is less than the WSF Activity Date).

- If a water system facility is newly added, or if a Water System Facility's activity status changes from inactive to active, the CDS Setup Processing Report advises you of this change, leaving it to you to add any Sample Schedules that may be appropriate for the Water System Facility.

- If a water system facility is deleted, this process does not need to do anything since a water system facility cannot be deleted without first deleting all sampling points that are associated to it. A sampling point cannot be deleted until all Sample Schedules and Samples associated to it are first deleted.

Sampling Point Changes Subprocess

The Sampling Point Changes subprocess is driven by changes to the Sampling Point Entity. These changes are listed below:

- If a sampling point's activity status changes from active to inactive, this process closes all non-TCR, open Sample Schedules associated to the sampling point using the new Sampling Point Activity Date (which in this case is the date of inactivity). Inactivating a sampling point inactivates all SSMPAs associated with it. Any open Sample Schedules that begin on or after the Sampling Point Activity Date are closed using the Sample Schedule's Effective Begin Date minus one day. This process also changes the Effective End Date for a future Sample Schedule. It either changes the Effective End Date to the Sample Schedule's Effective Begin Date minus one day (if the begin date is greater than or equal to the Sampling Point Activity Date) or to the Sampling Point Activity Date (if the begin date is less than the Sampling Point Activity Date).

- If a sampling point is newly added, or if a sampling point's activity status changes from inactive to active and the sampling point is an entry point (type equal to EP), the CDS Setup Processing Report advises you of this change, leaving it to you to add any Sample Schedules that may be appropriate for the sampling point.

- If a sampling point is deleted, this process does not need to do anything since a Sampling Point cannot be deleted until all Sample Schedules and Samples associated to it are first deleted.

Associate Monitoring Periods to Sample Schedules

SDWIS/STATE records when, where, and what sampling is necessary by relating several pieces of information. For example, the requirement that one routine sample be collected and analyzed for the regulated volatile organic chemicals (VOC) at Water System Facility #1 every 3 years with the next sample to be collected between 1/1/1999 and 12/31/2001 is stored in six different but related entities: WATER_SYSEM_FACILITY (table TINWSF), SAMPLE_SCHEDULE_GROUP (table TMNSSGRP), MONITORING_REQUIREMENT (table TMNMNR), ANALYTE_GROUP (table TSAANGRP), SAMPLE_SCHEDULE_MONITORING_PERIOD_ASSIGNMENT (table TMNSSMPA), and MONITORING_PERIOD (table TMNMPRD). Some refer to all these pieces of information as a sample schedule. However, in SDWIS/STATE, the term sample schedule includes all these pieces except the period during which the next sample is to be collected. Therefore, in SDWIS/STATE terminology, the above sample schedule is "one routine sample must be collected and analyzed for the regulated volatile organic chemicals at Water System Facility #1 every 3 years." SDWIS/STATE calls the last piece of information, "with the next sample to be collected between 1/1/1999 and 12/31/2001," the Sample Schedule Monitoring Period Assignment (SSMPA).

The Associate Monitoring Periods to Sample Schedules process creates SSMPA whenever *CDS Setup* is run. A schedule is now linked directly to a water system facility and can optionally be linked to one or more sampling points. Compliance determination is still done at the Water System Facility level. While the sampling schedule applies to the water system facility, in order to enable you to optionally choose to determine compliance at the more detailed sampling point level. You

can create a Sampling Point Sub-Schedule to record the requirement to sample at one or more sampling points within a Water System Facility. A Sample Schedule may optionally have one or more Sampling Point Sub-Schedules. The Associate Monitoring Periods to Sample Schedules process creates Sub-SSMPAs whenever *CDS Setup* encounters Sampling Point Subschedules.

Most monitoring periods are created by the CDS software. However, you need to create an initial set of current monitoring periods when first implementing CDS. In addition, you may still occasionally create a new monitoring period before the software does after implementing CDS. The Associate Monitoring Periods to Sample Schedules process deals with both of these situations. This process also creates associations when a Sample Schedule is added or modified. This process consists of two similar yet distinct actions, one of which examines candidate new or modified monitoring periods for linkage to sample schedules and one of which examines new or modified candidate sample schedules for linkage to monitoring periods.

The process determines appropriate associations between monitoring periods whose End Date is on/after the CDS History Date and sample schedules whose Effective End Date is either null or on/after the CDS History Date by comparing the Monitoring Period Begin Date and Duration to the Sample Schedules' Initial Monitoring Period Begin Date, Effective Period, and Periodicity. Note that whether a Sample Schedule record is added as an "individual" Sample Schedule (the user picked a monitoring requirement for an analyte rather than one for an analyte group) or a "hidden" schedule (the user picked a monitoring requirement for an analyte group), this process makes associations between monitoring periods and sample schedules (not Schedule Groups).

So, for instance, assume you create a new annual (YR) monitoring period with a begin date of 7/1/2001 and an end date of 6/30/2002 and the following Sample Schedules are in the database (Exhibit 5-16). When *CDS Setup* is initiated, it will/will not make associations to sample schedules as indicated in the last column.

Note that the deletion of SSMPAs and Sub-SSMPAs that are no longer appropriate are done both by the online software when the Sample Schedule is changed or by the first *CDS Setup* process (Update Sample Schedules When Significant Inventory Changes Occur); therefore, it does not need to be done here.

Process Maximum Contaminant Level (MCL), Action Level (ACL), FANL Max, or Trigger Level (TRL) Additions or Modifications

If a Maximum Contaminant Level (MCL), Action Level (ACL), or Trigger Level (TRL) is added (using Analyte Level Maintenance in *System Administration*) or a Facility Max Level (using Facility Analyte Level Maintenance in *Monitoring and Noncompliance)*, all results for the related analyte that are for samples collected on or after the Analyte Level Effective Begin Date need to be assessed for MCL compliance and sample schedule assessment purposes. If one of these levels is modified (including a FANL Max), all the results for the related analyte likewise need to be reevaluated for these same purposes. To accomplish this, *CDS Setup* does the following:

Analyte/ Analyte Grp Code	Effective Begin Date	Effective End Date	Sample Count Unit Code	Initial MP Begin Date	Assigned or Not Assigned and Key Reason(s)
3100	1/1/1993	open	YR	7/1/1993	Not assigned (Analyte Code = 3100)
VOC	7/1/1997	open	YR	7/1/1997	Assigned (7/1/2001 minus 7/1/1997 divided by year = 4 a positive whole number)
VOC	7/1/1997	open	YR	1/1/1998	Not assigned (7/1/2001 minus 1/1/1998 divided by year = 3.5 not a positive whole number)
VOC	7/1/1997	open	QT	7/1/1997	Not assigned (Sample Schedule's Periodicity is not the same as the duration of the Monitoring Period)
HAA5	2/1/2000	open	YR	7/1/2002	Not assigned (7/1/2001 minus 7/1/2002 divided by year = -1 not a positive whole number)
PBCU	7/1/1998	7/1/2001	YR	7/1/1998	Assigned*
PBCU	7/1/1998	6/30/2001	YR	7/1/1998	Not assigned (6/30/2001 is not greater than or equal to MP Begin Date)
TTHM	10/1/2001	open	YR	7/1/2001	Assigned**

*   You probably would not intend for this Monitoring Period to be applied to this Sample Schedule. However, even if a Sample Schedule is in effect for one day of a Monitoring Period, the CDS software assigns it if all other criteria are met.

**   Though it is unlikely that the Effective Begin Date for a Sample Schedule would be later than the Initial Monitoring Period Begin Date, you could enter such a schedule.

Exhibit 5-16. Example of the Associate Monitoring Periods to Sample Schedules Process

- If a MCL or a FANL Max is added or modified, set the Last Update Timestamp to the current date and time for every SSMPA record where the Analyte referenced by the SSMPA (through Sample Schedule to Monitoring Requirement) is the same as the Analyte for MCL.

- If a MCL, ACL or TRL record is added or modified, reset the Monitoring Assessment Flag to spaces for every Sample Schedule that references (through its Monitoring Requirement) the same analyte as the ACL or TRL unless the flag is set to "X." (By setting the Monitoring Assessment flag to "X," you specify that *CDS Setup* should not reevaluate that schedule.)

By updating the SSMPA records that reference these levels, succeeding CDS Setup processes reevaluate every situation involving the given analyte and level.

Disassociate Sample Analytical Results From Sample Schedule Monitoring Period Assignments and Sampling Point Sub-SSMPAs

This *CDS Setup* process triggers in the event that you change a sample result, sample schedule, or monitoring period that previously qualified the result for association to an SSMPA record but that now may disqualify it from this association. This process is essentially the reverse of the Associate Sample Analytical Result to Sample Schedule Monitoring Period Assignments process.

Calculate Total Trihalomethane, Total Haloacetic Acid, Combined Nitrate + Nitrite, Individual Nitrate, Individual Nitrite, Combined Radium, and Gross Alpha Excluding Uranium Results

The Maximum Contaminant Level (MCL) for the trihalomethanes is a single level for the sum of the four trihalomethanes. Similarly, the MCL for the haloacetic acids is a single level for the sum of five haloacetic acids. Sometimes, when results for one set or the other are reported, the sum is not reported. Because CDS is designed to determine compliance by matching analyte code to analyte code (the analyte code referenced indirectly by a Sample Schedule must match the analyte code referenced by a result in order for CDS to count the result as satisfying the Sample Schedule), and since it is intended that users use analyte codes 2950 (total trihalomethane) and 2456 (total haloacetic acid) when creating sample schedules for these disinfection byproducts, it is necessary to have a process that calculates and creates results for totals when they are not reported.

If there were not already analyte codes that represent these totals (i.e., 2950 for total trihalomethane and 2456 for total haloacetic acids), this process might instead create Sample Summaries and Sample Summary Results for these totals. However, because individual analyte codes already represent these totals, this process instead creates sample analytical result records (table TSASAR) using these two existing analyte codes.

For nitrate and nitrite, there are three MCLs, one for nitrate, one for nitrite, and one for them combined. Because laboratories report these in every conceivable combination, this process calculates the missing result when the other two results are reported:

• 1038 (nitrate + nitrite as N) when 1040 and 1041 are reported;
• 1040 (nitrate as N) when 1038 and 1041 are reported; and
• 1041 (nitrite as N) when 1038 and 1040 are reported.

For radium, this process calculates a result for combined radium 226 and 228 (analyte code 4010) when both individual results have been reported (analyte codes 4020 and 4030). For gross alpha, this process calculates a result for gross alpha excluding uranium (analyte code 4000) when results for both gross alpha including uranium (analyte code 4002) and combined uranium (analyte code 4006) have been reported.

As with Sample Summaries for Lead and Copper 90th percentiles, this process creates a result only if one does not already exist and modifies an existing result only if the existing result was created by *CDS Setup*. This means that if you add a result for one of these analytes (using online *Sampling*, *Sampling via EDI*, or *Migration to SDWIS/STATE: Sampling*), this process neither checks nor replaces it. If you modify a result for one of these analytes, this process does not change it. If you delete a result for one of these analytes (3100, 2950, 2456, 1038, 1040, 1041, 4000, or 4010) that *CDS Setup* created, this process does not recalculate and recreate the total result. (This happens by not updating the Last Update Timestamp of the associated SSMPA prior to deleting the result.) A result of less than detection is treated as zero when used to calculate another result.

To distinguish a trihalomethane result that has been obtained in response to the TThm Rule or the Disinfection By-Products (DBP) Rule from one obtained for the Unregulated Contaminant Monitoring Rule (UCMR), the process looks at the Water System Facility to which the result is associated. If the Water System Facility is a distribution system, *CDS Setup* assumes the result was collected in response to the TThm or DBP Rule, and therefore, calculates a total trihalomethane result, assuming that a total was not already entered by a user, by *Sampling via EDI*, or by *Migration to SDWIS/STATE*. If the related Water System Facility is not a distribution system, *CDS Setup* assumes the trihalomethane results were collected for the UCMR; therefore, it does not calculate a total trihalomethane result.

Since only the DBP Rule calls for haloacetic acid monitoring, *CDS Setup* assumes that a total haloacetic acid result is appropriate whenever there is a result for one or more of the five haloacetic acids that comprise the total haloacetic acid. Accordingly, this process creates a total haloacetic acid result (for analyte code 2456) if:

- A result exists for one or more of the five haloacetic acids and
- Either
  - A result for total haloacetic acids does not already exist or
  - A total result exists that was created by *CDS Setup*.

Note: These processes calculate and create these results whether there are corresponding sample schedules and monitoring periods in place or not. This means that even if a state has not yet entered all the sample schedules and monitoring periods for full CDS functionality, the Results Alert Report identifies a total trihalomethane, or total haloacetic acid, combined nitrate and nitrite, nitrate, nitrite, combined radium, or gross alpha excluding uranium result that exceeds a selected level (e.g., MCL, trigger level). This process runs before the next process so that these calculated results will be associated to SSMPA records.

Associate Sample Analytical Results to Sample Schedule Monitoring Period Assignments and Sampling Point Sub-SSMPAs

This process consists of two independent but overlapping processes. The first is driven by a change to a Sample or a Sample Analytical Result since the last time *CDS Setup* ran. The second is driven by a change to a Sample Schedule Monitoring Period Assignment (SSMPA) since the last time *CDS Setup* ran.

In particular, the first subprocess identifies results associated to "for compliance" samples where either the sample or a result has been newly added or modified. For each result that meets this criteria, the process assesses whether that result satisfies a sample schedule for a particular monitoring period, and if so, associates the result to the previously discussed SSMPA record (that links the schedule and monitoring period). If a result is from an entry point sampling point, this process only associates the result to a Sample Schedule associated to that same sampling point. If,

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on the other hand, a result is not from an entry point sampling point, the process associates the result to a sample schedule for the same water system facility. In both cases, the sample schedule and result must be for the same analyte.

Each time this subprocess makes an association between a result and an SSMPA, it also determines the next appropriate monitoring period for the sample schedule and creates an SSMPA between the monitoring period and sample schedule. If the next appropriate monitoring period does not exist, it creates it and then associates it to the sample schedule. By doing this, you generally do not need to create monitoring periods because they are created by the software at least one monitoring period into the future for each sequence of monitoring periods.

The second subprocess identifies SSMPAs that have a Last Update Timestamp greater than the last time *CDS Setup* ran. For each identified SSMPA, the process then assesses whether there is a result that satisfies the Sample Schedule and Monitoring Period referenced using the same criteria as the first subprocess. If there is a match, it creates the association between the result and the SSMPA and, in the same way, creates an SSMPA between the sample schedule and its next appropriate monitoring period.

The only time these subprocesses do not overwrite an existing association between a result and an SSMPA is when you create the association using online *Sampling*. So, for instance, if *CDS Setup* associates the results for a sample collected in early April to the second calendar quarter of the year and subsequently you change the associations so they are now associated to the first calendar quarter of the year, this process will not overwrite the association you specified. The fact that you explicitly designated the associated monitoring period (and indirectly the associated SSMPA) is recorded (value set to "Y") in attribute User_Assigned_SSMPA of entity Sample_Analytical_Result.

Once results have been associated to their corresponding SSMPA records, determining M&R compliance and calculating MCL values is a relatively straightforward process.

Associate CDS Setup-Created Monitoring Periods to Sample Schedules

As described in the Associate Sample Analytical Results to Sample Schedule Monitoring Period Assignments process, *CDS Setup* may create monitoring periods. Since the Associate Sample Analytical Results to Sample Schedule Monitoring Period Assignments process runs after the Associate Monitoring Periods to Sample Schedules process, it is necessary to rerun the latter process at this time.

To distinguish this process from the earlier process, it is called the Associate CDS Setup-Created Monitoring Periods to Sample Schedules process. The only difference is that the Associate CDS Setup-Created Monitoring Periods to Sample Schedules process reads only Monitoring Period records whose:

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- Last Update Timestamp is greater than the last time *CDS Setup* was run AND
- User ID is equal to CDSSETUP.

Aggregate Lead (Pb) and Copper (Cu) 90th Percentile Data

Lead (Pb) and Copper (Cu) Tap Water samples (i.e., samples collected to determine compliance with the lead and copper action levels) can be stored in SDWIS/STATE as both individual results (in entities Sample and Sample Analytical Result) and summary results (entities Sample Summary and Sample Summary Result). Some primacy agencies require that SDWIS/STATE calculate Pb90 and Cu90 summaries based on individual results while others want to enter 90th percentile summaries that they have calculated. CDS supports both requirements through this process.

This process calculates and creates or modifies Pb90 and Cu90 summaries if the following have been entered:

- Lead and copper tap water sample schedules; and
- Monitoring periods; and
- Individual lead and copper samples and results; and

Either no sample summary for the water system facility and monitoring period exists or, if one exists, it was created by this process.

These calculations are done by water system facility and monitoring period. By virtue of being related to the same SSMPA record, the samples used to calculate 90th percentile values are already related to the same water system facility and same monitoring period (see description of the Associate Sample Analytical Results to Sample Schedule Monitoring Period Assignments process). Therefore, lead tap sample results associated to the same SSMPA record are summarized together; copper results associated to the same SSMPA record also are summarized together.

This process first identifies any changes made to lead or copper samples or results that reference an SSMPA record whose Last Update Timestamp is on/after the last time *CDS Setup* was run. Note that, by virtue of being associated to a SSMPA record, a lead or copper tap sample and result already satisfy the following conditions: Data Quality Code is Accepted or Validated; Sample Type is Routine; Sample Lead Copper Sample Type Code is blank or First Draw (FSD); and Sample Rejection Reason Code is blank. The existing association also means there is a Sample Schedule in effect for lead or copper Initial, Routine, or Follow-up Tap monitoring for the water system facility. You can easily determine which is the offending result by looking at the identifying information about a sample result with an improper unit of measure that is written to the CDS Setup Processing Report. Results whose "Less Than Indicator" is marked "Y" (and whose Unit of Measure field is not valued) are not recorded in the CDS Setup Processing Report.

If the process encounters an improper unit of measure for a lead result, thus preventing it from performing the 90th percentile aggregation, it reports this to the CDS Setup Processing Report. Selection of lead and copper tap sample schedules is based on the schedule's monitoring requirement's non-association to violation types 03 or 56 (including no association to a violation type at all) not on its Sample Type.

Associate Sample Summaries to Sample Schedule Monitoring Period Assignments

If all Sample Summaries were created by the Aggregate Lead and Copper 90th Percentile Data Aggregation process, the Associate Sample Summaries to Sample Schedule Monitoring Period Assignments process would not be needed. However, you may wish to enter your own lead and copper 90th percentile sample summary records. In order for the Lead and Copper Tap M&R Compliance Check function to work properly and for the Possible Increased and Decreased Monitoring Assessment Report to accurately assess lead and copper tap schedules, these user-entered sample summaries also need to be related to the appropriate Sample Schedule Monitoring Period Assignment (SSMPA) records which they satisfy.

As with the process that associates Sample Analytical Results to SSMPAs, this process consists of two subprocesses. The first subprocess is driven by the Last Update Timestamp of Sample Summary Results. The second is driven by the Last Update Timestamp of SSMPAs.

Note: The selection of lead and copper tap sample schedules is now based on the schedule's monitoring requirement's non-association to violation types 03 or 56 (including no association to a violation type at all).

Calculate Monitoring Period Averages

Sometimes the value that should be checked for Maximum Contaminant Level (MCL) compliance is based on the average for a single monitoring period (e.g., nitrate regardless of the monitoring frequency, Volatile Organic Compounds (VOC) if the monitoring frequency is annual or less frequent). Other times it is based on a running annual average (e.g., VOCs on quarterly monitoring, total trihalomethanes on quarterly monitoring). For both cases, process Calculate Monitoring Period Averages accomplishes the first step, which is to calculate monitoring period averages. Once monitoring period averages are calculated and stored, process Calculate MCL Values runs. This process calculates a Monitoring Period Average whether there is an MCL (or FANL Max for total trihalomethanes and total haloacetic acids) or not. When creating a Monitoring Period Average where there is no MCL (or FANL Max for total trihaolmethanes and total haloacetic acids), it sets the value in UOM Code to the UOM of the first result used to calculate the average.

In addition, the Calculate Monitoring Period Averages process calculates Precursor Achieved Removal Ratios for the Monitoring Period based on the average of raw TOC and Alkalinity results and the average of finished TOC results for schedule packages. A Precursor Achieved Removal

Ratio is in the entity Monitoring_Period_Averages and also in entity MCL Value that is associated to the Finished TOC schedule for each set of packaged, precursor, schedules. The value stored with the Monitoring Period Average is used to calculate the ratio for the MCL Value (i.e., running annual average).

To calculate monitoring period averages, the Calculate Monitoring Period Averages process retrieves SSMPA records for which monitoring period averages may need to be calculated. Candidate SSMPA records are newly created SSMPAs or those associated to new sample analytical results, modified samples/results, new schedules, etc. The process identifies these by checking the Last Update Timestamp of SSMPA records whose Last Update Timestamp is on/after the last time *CDS Setup* ran.

For each retrieved result, the process retrieves all Confirmation sample results that are associated to the result's parent sample. If the sample analytical result is not in the same unit as the analyte's current MCL, the process converts the result to the MCL's units (these conversions are not actually made to the data in the sample analytical result (TSASAR) table; the data in this table remain as originally entered). If there is no MCL and the sample analytical result is not in the same units as the current FANL Max for the analyte and facility, the process converts to the UOM of FANL Max. If there is neither a MCL or FANL Max, the process converts to the UOM of the first result for a given SSMPA. If the process encounters a sample analytical result that it cannot convert, this information is printed in the CDS Setup Processing Report.

The process calculates an average by adding all the retrieved results and dividing the sum by the number of results. Note that when there is more than one confirmation result or one confirmation result and more than one routine result (both uncommon situations), the average will not be precisely correct but, once rounded in the next process, the calculated average will be the same as the precise average.

Note that this process creates a Monitoring Period Average even when there is no result for a given SSMPA. It does this so that:

- When calculating MCL Values using the running annual average method, a value is calculated for a monitoring period during which no result was collected; and

- When a result for a monitoring period (e.g., a quarter) is added to the database late, and the running annual average method applies, the Calculate MCL Values process does not only know to recalculate the MCL value for that monitoring period but also for any subsequent periods to which that Monitoring Period Average applies.

The results of these calculations are stored in the entity Monitoring_Period_Average (table TMNMPAVG). Where the software encounters an existing Monitoring Period Average for an SSMPA that needs to be recalculated, it checks whether its USERID is equal to "CDSSETUP." If it is, it recalculates the values and updates the record. If USERID is other than CDSSETUP, it does

nothing and moves on. (This prevents the Monitoring Period Average from being recalculated if you have explicitly entered a value using the Results Averages Maintenance function in online *Sampling*.)

Calculate MCL Values

Once *CDS Setup* has calculated the monitoring period averages, it next starts process Calculate MCL Values. This process calculates the values that need to be compared against Maximum Contaminant Levels (MCL) to determine whether a water system facility is in compliance with the MCL that is in effect during a given Monitoring Period. Two principal questions must be answered for this process to know how to calculate this value.

First, is compliance to be determined at an entry point to the distribution system? Second, is compliance to be determined based on a running annual average or monitoring period average?

The first question is answered by the way the Sample Schedule is stored. The second question is answered by an additional question: Is this Water System Facility on quarterly or more frequent monitoring (e.g., monthly, weekly) for the given analyte? If the answer is "No," then Calculated MCL Value is to be based on a Monitoring Period Average rather than a running annual average, because the latter only comes into play when the monitoring frequency is quarterly or more frequent. If the answer is "Yes," a new question emerges: Do the regulations for this analyte call for a running annual average when it is on quarterly or more frequent monitoring? The information to answer this question is maintained as part of the MCL in attribute MCL Compliance Method of entity Analyte Level Rule Assmt (table TMNALRA); it can be entered using the Analyte Level Maintenance window in the *System Administration* component. This attribute stores whether the analyte's MCL should use a running annual average (RAA) or monitoring period average (MPA) when it is on quarterly or more frequent monitoring. This column is pre-populated in the TMNALRA table in accordance with the NPDWR. Right now, the only non-microbiological analytes for which Monitoring Period Average is expected to be calculated, when on quarterly or more frequent monitoring, are nitrate (Analyte Code 1040), nitrite (Analyte Code 1041), and nitrate combined with nitrite (Analyte Code 1038). Each time the Calculate Monitoring Period Averages process creates a record, it also stores MCL Compliance Method in the Monitoring_Period_Average entity to improve the performance of the Calculate MCL Values process.

If the process determines that the MCL Value is to be determined based on a single monitoring period average, it retrieves the Monitoring Period Average for the given SSMPA and rounds it to the same number of significant digits as are used with the MCL, then stores that value in entity MCL_Value. The number of significant digits to be used in rounding is derived from the placement of the decimal in attribute Measure_Text in table TMNALRA. If there is no MCL for the analyte, this process does not round the value.

An MCL Value whose UserID is other than CDSSETUP is not recalculated in this process, so that MCL Values you entered are not overridden when you have explicitly entered the values (using the Results Averages Maintenance window).

Assess Chemical/Radionuclide MCL Compliance

CDS Setup determines MCL violations so that compliance officers know as soon as possible when an MCL violation has occurred, rather than having to remember to run a compliance report. There are two outcomes of the Assess Chemical/Radionuclide MCL Compliance process: first, a CDS Candidate MCL Violation is created; second, the CDS Setup Processing Report states that an MCL violation has been determined.

This process then creates records in four CDS reporting entities. You can review the records and determine the appropriate course of action using the Migrate CDS Candidate Violations function in online *Monitoring and Noncompliance*. Appropriate courses of action include ordering confirmation samples, contacting the water system owner to confirm the operating status of the treatment plant or sources of water involved, issuing a violation notice, and/or migrating the candidate violation to the SDWIS/STATE database as an actual violation (in table TMNVIOL).

This process is somewhat similar in execution to the Results Alert Report. However, this process has the following significant differences:

*   It compares calculated MCL Values (rather than individual results) against MCLs in entity ANALYTE_LEVEL_RULE_ASGMT (table TMNALRA), except for analyte code 2950 (TTHM, Total Trihalomethanes) and 2456 (HAA5, Five Haloacetic Acids) where it compares them with MCLs in entity FACILITY_ANALYTE_LEVEL (table TMNFANL) (MCLs are stored as Control Level Type MAX).

*   It only compares against MCLs (whereas the Results Alert Report allows you to select one or many threshold levels).

*   It creates candidate MCL violations in entity CDS_CANDIDATE_VIOLATION (the Results Alert Report does not). It specifies within the candidate CDS violation the Analyte Code for the analyte related to the Calculated MCL Value that exceeds the MCL (located either in entity ANALYTE_LEVEL_RULE_ASGMT (table TMNALRA) or FACILITY_ANALYTE_LEVEL (table TMNFANL). This process involves two distinct action blocks as follows:

    -   Chemical/Radionuclide MCL Compliance Determination.
    -   Create Candidate CDS Violations.

This process is triggered when the Last Update Timestamp for an MCL Value is greater than the date and time this process last ran. This means that anytime a result is added or modified, this process reevaluates all MCL Values based on the new or modified result.

For each MCL Value selected, the process compares its MCL against the MCL that was in effect on the first day of the monitoring period and for the analyte referenced in the MCL Value (through the SSMPA). Some MCL Value records will not have matching MCL records. SDWIS/STATE creates an MCL value record even if an MCL (or Max in the case of 2950 and 2456) FANL does not exist. Where no MCL (or FANL Max exists, this process bypasses that MCL value.

- If the MCL Value is greater than the MCL (in either table TMNALRA or table TMNFANL), the process:

    - Deletes any existing CDS Candidate Violations that are based on the same MCL Value and then

    - Passes a Candidate MCL Violation (type 01 or 02 as indicated by the MCL Value record) to the Create Candidate Violation action block. The Create Candidate Violation action block values the Data Origin Code based on the Government Agency Type of the primacy agency. (If primacy agency type is ST, SDWIS/STATE sets Data Origin Code to "S." If primacy agency type is RG, SDWIS/STATE sets Data Origin Code to "R.")

    - Creates a record in the CDS Setup Processing Report.

    - For the first candidate MCL violation determined, creates a record in the CDS Report Log, populating the following attributes as indicated below.

Attribute	*Value*
REPORT_RUN_TS	current timestamp
REPORT_RUN_USERID	CDSSETUP
REPORT_TYPE	MCL
TCDSRLOG_IS_NUMBER	One up
TCDSRLOG_ST_CODE	State/EPA Region Code

    - For other candidate MCL violations determined in the same run of CDS Setup, associates them to the CDS Report Log record created when the first candidate MCL violation was determined.

- If the MCL Value is less than or equal to the MCL, the process determines whether there is an existing Candidate Violation based on the same MCL Value.

    - If there is, the process creates a record in the CDS Setup Processing Report to indicate that a previous candidate MCL violation has been deleted because the Water System Facility no longer exceeds the MCL, and then the process deletes the CDS Candidate MCL Violation and all its related CDS reporting records.

    - If there is no existing CDS candidate MCL violation, the process moves to the next MCL Value.

- If there is no MCL (or, in the case of 2950 and 2456, no FANL Max), the process moves to the next MCL Value.

Assess Sample Schedule Monitoring

The Assess Sample Schedule Monitoring process supports the two CDS reports: Possible Increased/Decreased Monitoring Assessment Report. This process categorizes sample schedules as:

- Candidates to be changed to more frequent monitoring.
- Candidates to be changed to less frequent monitoring.
- Candidates where monitoring should not change.
- Schedules for which an assessment is not possible because appropriate trigger levels for the analyte do not exist in the database.

This process categorizes each non-TCR schedule as one of the above based on the data that exist at the time *CDS Setup* runs. When any of the data that affect the categorization of a schedule are changed (e.g., a new sample result, new trigger level, a changed result that no longer exceeds the trigger level, etc.), and the schedule is not marked as one that is not to be reevaluated ("x"), the new or changed data may cause process Assess Sample Schedule Monitoring to change the category of a schedule the next time *CDS Setup* runs.

To categorize Sample Schedules, the Sample Schedule's Monitoring Assessment Flag is set with one of the following values:

Space Sample Schedule has never been assessed by the Sample Schedule Monitoring Assessment Process. This is the value for newly created Sample Schedules and all Sample Schedules prior to the first time *CDS Setup* is run.

N Sample Schedule cannot be assessed because no TRL, MCL and/or ACL is defined for the analyte referenced by the Sample Schedule.

S Sample Schedule has been evaluated and does not qualify as a candidate for either increased or decreased monitoring.

I Sample schedule has been evaluated and has been determined to be a candidate for increased monitoring.

D Sample schedule has been evaluated and has been determined to be a candidate for Decreased monitoring.

A   Schedule has been assessed and is a candidate for Increased/Decreased monitoring, but the user has elected for it not to show on future reports. If any circumstances change that trigger reassessment (i.e., modified results, sample schedules, or monitoring periods) ,the schedule is reassessed the next time that *CDS Setup* is run.

X   Schedule has been assessed and user has elected for it not to show on future reports. If the user marked the Schedule's Monitoring Assessment Flag with X, the schedule is not reassessed when *CDS Setup* executes.

Note that the only candidate schedules for increased monitoring that this process does not identify are those where a sampling point should be scheduled to monitor for vinyl chloride because a related volatile organic chemical has been detected. Assessing the need to increase/decrease monitoring for vinyl chloride cannot be handled in this process because it is possible that no schedule exists for this analyte. Assessing the need to increase/decrease monitoring for vinyl chloride is done as part of the Possible Increased Monitoring Assessment Report.

The process now has added checks for evaluating:

- If the user has marked the schedule so that it should not be reassessed once it has been assessed.

- If the schedule has already been assessed by the process to improve performance.

- The need to assess increased/decreased scheduling based on the Running Annual Average (RAA) (stored in entity MCL_VALUE (table TMNCMCLV)) for source water TOC, finished water TOC and source water Bromide.

  - Changes to source water TOC RAA levels indicate the need to evaluate or reevaluate a sample schedule for TTHM/HAA.

  - Changes to finished water TOC RAA levels indicate the need to evaluate or reevaluate a sample schedule for DBP precursors.
  - Changes to source water Bromide RAA levels indicate the need to evaluate or reevaluate a sample schedule for Bromate.

The criteria that is used to mark a Sample Schedule as a candidate for increased monitoring is outlined in the table below (Exhibit 5-17). The criteria used to mark a Sample Schedule as a candidate for decreased monitoring is outlined in the table below (Exhibit 5-18).

Identify High Chlorite and Chlorine Dioxide Results

This process identifies new or modified sample results that exceed either the chlorite MCL or chlorine dioxide MRDL. These are needed because:

- Determining candidate MCL/MRDL violations for these two contaminants is too complex to fully automate and
- Both are associated to acute health effects and so warrant more than the ad hoc, Results Alert Report.

This new *CDS Setup* process is supported by three distinct subprocesses, which are described in more detail in the sections below.

Analyte Referenced by Schedule	PWS Type	Water Type Code For WSF	Periodicity of Current Schedule	Monitoring Results
IOC except Nitrate and Nitrite	CWS or NTNC	Any	> Quarterly (e.g., annual, triennial, once every 9 yrs)	Routine result > TRL for Analyte. If no TRL, then > MCL.
Nitrate	CWS or NTNC	Any	> Quarterly (e.g., annual, triennial, once every 9 yrs, one time)	Routine result >= TRL for Nitrate. If no TRL, then >= 50 % of MCL.
Nitrate	NC	Any	> Quarterly (e.g., annual, triennial, once every 9 yrs, one time)	Routine result > MCL.
Nitrite	CWS NTNC NC	Any	> Quarterly (e.g., annual, triennial, once every 9 yrs, one time)	Routine result >= TRL for Nitrite. If no TRL, then >= 50 % of MCL.
Volatile Organic Chemicals [141.61(a)]	CWS or NTNC	Any	> Quarterly (e.g., annual, triennial, once every 9 yrs, one time)	Routine result > TRL (SDWIS/STATE Team to pre-populate from NPDWR)
Synthetic Organic Chemicals	CWS or NTNC	Any	> Quarterly (e.g., annual, triennial, once every 9 yrs, one time)	Routine result > TRL (SDWIS/STATE Team to pre-populate TRLs from NPDWR)
Lead or Copper	CWS or NTNC	Any	> Semiannually	> Either Action Level
Radioactive Chemicals	CWS or NTNC	Any	> Quarterly (e.g., annual, every 4 years)	> TRL for Analyte. If no TRL, then > MCL (Enter a TRL for gross alpha = 5 pci/liter)
Chlorite	CWS, NCNT	Any	Quarterly, Set of 3	Any chlorite sample > 1.0 mg/l during current or last quarter
TTHM / HAA	CWS, NCNT	All Types	less frequent than 4 per quarter: (e.g., 1/QT, x/YR, x/3Y, x/9Y)	RAA TTHM >0.080 mg/l or RAA HAA > 0.060 mg/l
	CWS, NCNT >= 10,000	Fed Prim Src Cd = SW, SWP, GU, or GUP	Quarterly, 1 sample / qtr	RAA TTHM >0.060 mg/l or RAA HAA > 0.045 mg/l or RAA Source Water TOC > 4.0 mg/l
	CWS, NCNT >= 500	Fed Prim Src Cd = SW, SWP, GU, or GUP	> Quarterly (i.e. annual, triennial, once every nine years)	RAA TTHM >0.060 mg/l or RAA HAA > 0.045 mg/l or RAA Source Water TOC > 4.0 mg/l
	CWS, NCNT >= 10,000	Fed Prim Src Cd <> SW, SWP, GU, or GUP	> Quarterly (i.e. annual, triennial, once every nine years)	RAA TTHM >0.060 mg/l or RAA HAA > 0.040 mg/l
	CWS, NCNT < 10,000	Fed Prim Src Cd <> SW, SWP, GU, or GUP	> Annual (i.e. triennial, once every nine years)	RAA TTHM >0.060 mg/l or RAA HAA > 0.040 mg/l
Bromate	CWS, NCNT	Any	Quarterly	RAA Source Water Bromide >= 0.05 mg/l
TOC/Alkalinity	CWS, NCNT	Subpart H (no criteria used)	Quarterly, Paired	RAA Treated Water TOC >= 2.0

Exhibit 5-17. Criteria for Marking a Sample Schedule as a Candidate for Increased Monitoring

Analyte Referenced by Schedule	PWS Type	Water Type Code For WSF	Periodicity of Current Schedule	Monitoring Results
Type = OC or IOC (except lead, copper, nitrate, TThm, and HAA)	CWS, NTNC	SW or GU	Quarterly	4 consecutive quarterly results all <= MCL.
Type = OC or IOC (except lead, copper, nitrate, TThm-2950 and HAA-2435)	CWS			all <= MCL.
Nitrate	CWS, NTNC	SW or GU	Quarterly	4 consecutive quarterly results all < 50 % of MCL(< 5 or 5.0 or 4.5?).
Nitrate	CWS, NTNC	GW or blank	Quarterly	4 consecutive quarterly results all <= MCL.
Nitrate	NC	Any	Quarterly	< MCL.
Type = IOC (except nitrate/lead/copper)	CWS NTNC	Any	Annually	3 consecutive annual results all <= MCL.
Type = OC	CWS NTNC	Any	Annually	3 consecutive annual results all less than detection.
Lead or Copper (1022, 1030 versus PB90, CU90 or 5000)	CWS NTNC	Any	Semiannually	2 consecutive six month rounds with both lead and copper 90th % <= Action Level.
Lead or Copper	CWS NTNC	Any	Annual	3 consecutive years with both lead and copper 90th % <= Action levels (counting samples collected under six month periodicity).
Radioactive Chemicals	CWS or NTNC	Any	Quarterly	4 consecutive quarterly results all <= MCL.
Chlorite	CWS, NCNT	Any	Monthly, Set of 3	Previous twelve months no chlorite >1.0
TTHM / HAA	CWS, NCNT	SW or GU	Quarterly, 4 samples / qtr	Results for four consecutive quarters and RAA Source Water TOC <= 4.0 mg/l and RAA TTHM <= 0.040 mg/l and RAA HAA<= 0.030 mg/l
		Not SW or GU	Quarterly, 4 samples / qtr	Results for four consecutive quarters and RAA TTHM <= 0.040 mg/l and RAA HAA<= 0.030 mg/l
		SW or GU < 10,000	Quarterly, 1 sample / qtr	Results for four consecutive quarters and RAA Source Water TOC <= 4.0 mg/l and RAA TTHM <= 0.040 mg/l and RAA HAA <= 0.030 mg/l
		Not SW or GU >=10,000	Quarterly, 1 sample / qtr	Results for four consecutive quarters and RAA TTHM <= 0.040 mg/l and RAA HAA<= 0.030 mg/l
		Not SW or GU, <10,000	Annual	Results for one year and RAA TTHM <= 0.020 mg/l and RAA HAA<= 0.015 mg/l
				Results for two consecutive years and RAA TTHM <= 0.040 mg/l and RAA HAA<= 0.030 mg/l

Exhibit 5-18. Criteria for Marking a Sample Schedule as a Candidate for Decreased Monitoring

Analyte Referenced by Schedule	PWS Type	Water Type Code For WSF	Periodicity of Current Schedule	Monitoring Results
Bromate	CWS, NCNT	Any	Monthly	After twelve consecutive months of Source Water monitoring, RAA Source Water Bromide <TRL
TOC	CWS, NCNT	Subpart H	Monthly, Paired	After twelve consecutive months of Source Water Monitoring, RAA Treated Water TOC < 1.0
				After twenty-four consecutive months of Source Water Monitoring, RAA Treated Water TOC < 2.0

Exhibit 5-18. Criteria for Marking a Sample Schedule as a Candidate for Decreased Monitoring (Continued)

- Clear Previous CDS Exceedence Records, that clears records from the Oracle reporting entities if there is a candidate result for the TSASAR being evaluated.

- Level Exceedence Check, that checks Sample Analytical Result records for chlorite and chlorine dioxide (stored in table TSASAR) against the current MCL (chlorite) or MRDL (chlorine dioxide) stored in entity ANALYTE_LEVEL_RULE_ASGMT (table TMNALRA).

- Create Candidate Exceedences, that creates records in entities CDS_CANDIDATE_ EXCEEDENCES and CDS_RESULT.

Chlorite and Chlorine Dioxide Level Exceedence Check

The Chlorite and Chlorine Dioxide Level Exceedence Check subprocess is based on the logic used in the Threshold Level Exceedence Check process. It works very much like two separate runs of the Threshold Level Exceedence Check against the MCL for chlorite and the MRDL for chlorine dioxide. However, the selection criteria is hard-coded rather than user-entered. The hard-coded criteria are as follows:

- Analyte is equal to chlorite in the first run and equal to chlorine dioxide in the second run.

- It is not limited to an set of water systems (i.e., it is not based on the selected regulating agency).

- The Period of Time (this phrase is used in the Results Alert Report to define the time criteria selected) is based on the Data Entry Date Range method with the data entry date range being defined as the time from the last time the process ran to the current time.

- The ALRA record to compare against is the chlorite MCL for chlorite results and the MRDL for chlorine dioxide for chlorine dioxide results.

Unlike the Threshold Level Exceedence Check, however, this process only checks "for compliance" results. Before checking for level exceedence, the process first checks to see if there is a current MCL/MRDL. (Current at this point means the Begin Date of the MCL/MRDL in entity ANALYTE_LEVEL is equal to or less than (earlier than) the current date and the End Date is null or is greater than or equal to the current date.) If there is no MCL for chlorite, it sends a message to the CDS Setup Processing Report. If there is no MRDL for chlorine dioxide, it sends a message to the CDS Setup Processing Report.

Next, this process selects results (stored in entity SAMPLE_ANALYTICAL_RESULTS (table TSASAR)) for chlorine dioxide or chlorite that have been added or modified since the last time *CDS Setup* ran and that are "for compliance" results. For each result identified, the process first determines whether a candidate exceedence record has already been created for it or not. If one was previously created for the selected result (by this process or the Results Alert Report), it deletes the candidate exceedence record and its related CDS Reporting data. This both prevents duplicate records from existing in the CDS Reporting tables and enables CDS to remove an exceedence if a changed result no longer exceeds.

Create Candidate Exceedence

The Chlorite and Chlorine Dioxide Level Exceedence Check process compares the selected results against the MCL/MRDL. If a chlorite result exceeds the chlorite MCL or a chlorine dioxide result exceeds the chlorine dioxide MRDL, it passes data to the Create Candidate Exceedence process. If the UOM for a result is different than the UOM for the threshold level and the result is not less than detect (Less Than Indicator is not equal to "Y"—if the Less Than Indicator is equal to "Y," no conversion will be necessary—use zero as the value), the process first converts the result to the same UOM as the MCL/MRDL using the conversion table in Exhibit 5-19 below.

If the UOM for a result is not equal to any of the unit of measures in column two, then the process cannot compare the result to the threshold level. Instead, it sends a message to the CDS Setup Processing Report identifying the result that could not be converted and stating that its UOM could not be converted.

From UOM	To UOM	Multiplier
MG/L	UG/L	1000
MG/L	NG/L	1000000
UG/L	MG/L	0.001
UG/L	NG/L	1000
NG/L	MG/L	0.000001
NG/L	UG/L	0.001

Exhibit 5-19. Conversion Table

Appendix A: Structure Sets

CONTENTS

1.0   STRUCTURE SET B_Legal_Entity

1.1   B_Legal_Entity File Layout

FIELD NO	FIELD	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_LEGAL_ENTITY				
1. *	B_TYPE_CODE	AN	2	1 - 2	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_TYPE_CODE) and field 2 (B_NAME)**. If fields 1 and 2 contain the same values as a previously supplied legal entity and fields 13 - 32 are not valued, this would be a true duplicate. When migrating legal entities using a SDWIS/FED extract, you will need to manually populate the mandatory B_Type_Code field in the TMGLENT staging table after you have imported your legal entity extract data from the legal entity structure set formatted file (into the B_Legal_Entity/TMGLGENT staging table). SDWIS/FED does not maintain type as a field in its legal entity table, so this field will be empty when you run Import Text to Staging Table.

					B_LEGAL_ENTITY
FIELD NO	FIELD	DOMAIN	SIZE	POSITION	OPTIONALITY
2.	B_NAME	AN	40	3 - 42	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_TYPE_CODE) and field 2 (B_NAME), unless field 1 (B_TYPE_CODE) is IN, in which case Uniqueness/Duplicate check is on the combination of field 17 (B_FIRST_NAME), field 18 (B_LAST_NAME), field 20 (B_ORGANIZATION_NAME), and field 26 (B_MAIL_STOP_TEXT).** If fields 1 and 2 contain the same values as a previously supplied legal entity and fields 13 - 32 are not valued, this would be a true duplicate. If field 1 (B_TYPE_CODE) = 'IN,' format should be LASTNAME, FIRSTNAME (example: LOGAN, WILLIAM). There is a space following the comma.
3.	B_ALIAS_NAME	AN	15	43 - 57	OPTIONAL
4.	B_ADDRESS_LINE_ONE_TEXT	AN	40	58 - 97	OPTIONAL
5.	B_ADDRESS_LINE_TWO_TEXT	AN	40	98 - 137	OPTIONAL
6.	B_ADDRESS_CITY_NAME	AN	40	138 - 177	OPTIONAL
7.	B_COUNTY_FIPS_CODE	AN	3	178 - 180	OPTIONAL
8. *	B_ADDRESS_STATE_CODE	AN	2	181 - 182	OPTIONAL - If the value in field 36 (B_COUNTRY_CODE) is "CA" (Canada) and a value is supplied for this field, it must be one of the valid Canadian province abbreviations.
9.	B_STATE_FIPS_CODE	AN	2	183 - 184	OPTIONAL
10.	B_ADDRESS_ZIP_CODE	AN	10	185 - 194	OPTIONAL, FORMAT 99999 OR 999999999 OR 99999-9999
11.	B_PHONE_NUMBER	AN	12	195 - 206	OPTIONAL - Must be formatted as 999-999-9999
12.	B_EMPLOYER_ID_NUMBER	AN	15	207 - 221	OPTIONAL

		B_LEGAL_ENTITY				
FIELD NO	FIELD	DOMAIN	SIZE	POSITION	OPTIONALITY	
13. *	B_LAB_INDICATOR_CODE	AN	1	222	CONDITIONALLY MANDATORY - Must value with a "**Y**" if the entity named in field 2 (B_NAME) is a Laboratory. If this field is valued with a "**Y**," *Migration to SDWIS/STATE* will create a row of the same "name" in both the Laboratory/TSALAB and Legal_Entity/TINLGENT tables, unless a legal entity of the same name and type code already exists. In that case, only a lab would be created. (No association between Laboratory and Legal_Entity will be made at this time; the information used to create this association resides in a separate structure set.) This field will only be recognized if the value is "**Y**."	
14.	B_LAB_STATE_ID_NUMBER	AN	10	223 - 232	CONDITIONALLY MANDATORY - Must value if field 13 (B_LAB_INDICATOR_CODE) = "Y." The value in this field will only be recognized if field 13 = "Y." **For table Laboratory/TSALAB, uniqueness/duplicate check is on field 14 (B_LAB_STATE_ID_NUMBER)**.	
15.	B_LAB_ FED_ID_NUMBER	AN	10	233 - 242	OPTIONAL - The value in this field will only be recognized if field 13 (B_LAB_INDICATOR_CODE) = "**Y**."	
16. *	B_SALUTATION_CODE	ANmc	3	243 - 245	OPTIONAL - The value in this field will only be recognized if field 1 (B_TYPE_CODE) = "IN."	
17.	B_FIRST_NAME	AN	20	246 - 265	CONDITIONALLY MANDATORY - Must value if field 1 (B_TYPE_CODE) = "IN." The value in this field will only be recognized if field 1 = "IN." **For table Individual/TININDIV, uniqueness/duplicate check is on the combination of field 1 (B_TYPE_CODE), field 17 (B_FIRST_NAME), field 18 (B_LAST_NAME), field 20 (B_ORGANIZATION_NAME), and field 26 (B_MAIL_STOP_TEXT)**.	

* Designates field with permitted values.   A-3   + Shaded gray blocks designate changes to previously published Structure Sets.

B_LEGAL_ENTITY					
FIELD NO	FIELD	DOMAIN	SIZE	POSITION	OPTIONALITY
18.	B_LAST_NAME	AN	20	266 - 285	CONDITIONALLY MANDATORY - Must value if field 1 (B_TYPE_CODE) = "IN." The value in this field will only be recognized if field 1 = "IN." **For table Individual/TININDIV, uniqueness/duplicate check is on the combination of field 1 (B_TYPE_CODE), field 17 (B_FIRST_NAME), field 18 (B_LAST_NAME), field 20 (B_ORGANIZATION_NAME), and field 26 (B_MAIL_STOP_TEXT)**.
19.	B_PROFESSIONAL_QUAL_TEXT	AN	4	286 - 289	OPTIONAL - The value in this field will only be recognized if field 1 (B_TYPE_CODE) = "IN."
20.	B_ORGANIZATION_NAME	AN	30	290 - 319	OPTIONAL - The value in this field will only be recognized if field 1 (B_TYPE_CODE) = "IN." **For table Individual/TININDIV, uniqueness/duplicate check is on the combination of field 1 (B_TYPE_CODE), field 17 (B_FIRST_NAME), field 18 (B_LAST_NAME), field 20 (B_ORGANIZATION_NAME), and field 26 (B_MAIL_STOP_TEXT)**.
21.	B_JOB_TITLE_TEXT	AN	20	320 - 339	OPTIONAL - The value in this field will only be recognized if, field 1 (B_TYPE_CODE) = "IN."
22.	B_BUSINESS_PHONE_NUMBER	AN	12	340 - 351	OPTIONAL - The value in this field will only be recognized if, field 1 (B_TYPE_CODE) = "IN." Must be formatted as 999-999-9999.
23.	B_BUSINESS_PHONE_EXTENSION	AN	4	352 - 355	OPTIONAL - The value in this field will only be recognized if field 1 (B_TYPE_CODE) = "IN."
24.	B_FAX_NUMBER	AN	12	356 - 367	OPTIONAL - The value in this field will only be recognized if field 1 (B_TYPE_CODE) = "IN."

B_LEGAL_ENTITY					
FIELD NO	FIELD	DOMAIN	SIZE	POSITION	OPTIONALITY
25.	B_EMERGENCY_PHONE_NUMBER	AN	12	368 - 379	OPTIONAL - The value in this field will only be recognized if field 1 (B_TYPE_CODE) = "IN." Must be formatted as 999-999-9999.
26.	B_MAIL_STOP_TEXT	AN	10	380 - 389	OPTIONAL - The value in this field will only be recognized if field 1 (B_TYPE_CODE) = "IN." **For table Individual/TININDIV, uniqueness/duplicate check is on the combination of field 1 (B_TYPE_CODE), field 17 (B_FIRST_NAME), field 18 (B_LAST_NAME), field 20 (B_ORGANIZATION_NAME), and field 26 (B_MAIL_STOP_TEXT).**
27. *	B_GOVT_AGENCY_TYPE_CODE	AN	2	390 - 391	OPTIONAL - The value in this field will only be recognized if field 1 (B_TYPE_CODE) = "GA."
28.	B_ADMINISTRATIVE_ID_NUM	AN	7	392 - 398	OPTIONAL - The value in this field will only be recognized if field 1 (B_TYPE_CODE) = "GA."
29. *	B_EPA_REGION_CODE	AN	2	399 - 400	OPTIONAL - The value in this field will only be recognized if field 1 (B_TYPE_CODE) = "GA" and field 27 (B_GOVT_AGENCY_TYPE_CODE) = "ST."
30. *	B_PRIMACY_INDICATOR_CODE	AN	1	401	OPTIONAL - The value in this field will only be recognized if field 1 (B_TYPE_CODE) = "GA." **Only one of a state's government agencies may have primacy, but at least one should be marked as having primacy. (Only one of a state's government agencies may have field 30 set to "Y." If more than one agency has field 30 set to "Y,"** *Migration to SDWIS/STATE* **will accept the first government agency supplied as having primacy and ignore any subsequent primacy indicators valued as "Y".)**

B_LEGAL_ENTITY					
FIELD NO	FIELD	DOMAIN	SIZE	POSITION	OPTIONALITY
31.	B_SDWIS_USERID	AN	8	402 - 409	CONDITIONALLY MANDATORY - Must value if the entity named in field 1 (B_TYPE_CODE), field 2 (B_NAME), field 17 (B_FIRST_NAME), and field 18 (B_LAST_NAME) is considered a valid SDWIS/STATE user. The value in this field will only be recognized if field 1 (B_TYPE_CODE) = "IN" and fields 2, 17, and 18 are valued. If field 31 is valued, *Migration to SDWIS/STATE* will create a row in the D_USER/TINUSER, Individual/TININDIV, and Legal_Entity/TINLGENT tables and link the individual supplied in fields 17 and 18 with the value for Government Agency supplied in field 33 (B_SDWIS_USER_GOVT_AGENCY). **For table D_USER/TINUSER, uniqueness/duplicate check is on the combination of field 1 (B_TYPE_CODE), field 2 (B_NAME), field 17 (B_FIRST_NAME), field 18 (B_LAST_NAME), field 31 (B_SDWIS_USERID), and field 33 (B_SDWIS_USER_GOVT_AGENCY)**.
32. *	B_SDWIS_USERID_CATEGORY	AN	1	410	OPTIONAL - The value in this field will only be recognized if field 31 (B_SDWIS_USERID) is valued. If field 31 is valued and this field is not valued, *Migration to SDWIS/STATE* defaults the value in this field to "D" which is defined as "Data Entry."

B_LEGAL_ENTITY					
FIELD NO	FIELD	DOMAIN	SIZE	POSITION	OPTIONALITY
33.	B_SDWIS_USER_GOVT_AGENCY	AN	40	411 - 450	CONDITIONALLY MANDATORY - Must value if field 31 (B_SDWIS_USERID) is valued. This field will only be recognized if field 31 is valued. The government agency supplied in this field must be a valid Legal Entity that already exists in the database with the same NAME whose TYPE_CODE = "GA." A SDWIS/STATE user may be associated with more than one Government Agency. **NOTE: Government Agencies should be created prior to creating individual SDWIS/STATE users.**
34. *	B_COLLECTOR_INDICATOR_CODE	AN	1	451	OPTIONAL - Indicates that the Individual is also a "sample collector." The value in this field will only be recognized if field 1 (B_TYPE_CODE) = "IN."
35.	B_EMAIL_ADDRESS	AN	40	452 - 491	OPTIONAL
36. *	B_COUNTRY_CODE	AN	2	492 - 493	OPTIONAL - [*Developer's Note*: Pass into action block **Validate Text Permitted Value** the following value for entity CODE, attribute CODE_NAME: **TINLGENT1**.] Ensure that B_COUNTRY_CODE supplied is a valid entry in attribute TEXT_VALUE of entity PERMITTED VALUE/table TINPVALS where entity CODE/table TINCODE, attribute CODE_NAME is **TINLGENT1**.]
37. *	B_INTERNATIONAL_POSTAL_CODE	AN	14	494 - 507	OPTIONAL - Will only be recognized if value in field 36 (B_COUNTRY_CODE) is other than US.

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

1.2 B_Legal_Entity Permitted Value List

B_LEGAL_ENTITY		
FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
1.	B_TYPE_CODE	**CM** Company **CP** Cooperative **CR** Corporation **GA** Government Agency **HA** Homeowners Association **IN** Individual **NP** Non-Profit **OT** Other **RU** Rate-Set Utility **TP** Treatment Plant **TR** Trust (1.2 A)
8.	B_ADDRESS_STATE_CODE	The following codes are valid if value in field 36 (B_Country_Code) is CA (Canada); otherwise, use standard 2-character U.S. state code. **AL** Alberta **BC** British Columbia **MB** Manitoba **NB** New Brunswick **NF** Newfoundland **NT** Northwest Territories **NS** Nova Scotia **ON** Ontario **PE** Prince Edward Island **PQ** Quebec **SK** Saskatchewan **YT** Yukon Territory

B_LEGAL_ENTITY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
13.	B_LAB_INDICATOR_CODE	**Y** Yes
16.	B_SALUTATION_CODE	**Dr.** Doctor **Mr.** **Ms.**
27.	B_GOVT_AGENCY_TYPE_CODE	**AR** Alaskan Remote Village **AT** Authority **BR** Borough **CM** Commission **CN** County **CT** City **DS** District **FD** Federal **MN** Municipality **NA** Native American Tribe **PR** Parish **RG** Region **SA** State Administrative District **SD** School District **SR** State Administrative Region **ST** State **TW** Town **WD** Water District

B_LEGAL_ENTITY	
FIELD NO **ATTRIBUTE NAME**	**PERMITTED VALUES**
29. B_EPA_REGION_CODE	**01** **02** **03** **04** **05** **06** **07** **08** **09** **10**
30. B_PRIMACY_INDICATOR_CODE	**Y** Yes **N** No
32. B_SDWIS_USERID_CATEGORY	**C** Compliance **D** Data Entry **P** Public **S** System Administrator
34. B_COLLECTOR_INDICATOR_CODE	**Y**
36. B_COUNTRY_CODE	**AA** Aruba **AC** Antigua and Barbuda **AF** Afghanistan **AG** Algeria **AJ** Azerbaijan **AL** Albania **AM** Armenia **AN** Andorra **AO** Angola **AR** Argentina

B_LEGAL_ENTITY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		AS Australia
		AT Ashmore and Cartier Islands
		AU Austria
		AV Anguilla
		AY Antarctica
		BA Bahrain
		BB Barbados
		BC Botswana
		BD Bermuda
		BE Belgium
		BF The Bahamas
		BG Bangladesh
		BH Belize
		BK Bosnia and Herzegovina
		BM Burma
		BN Benin
		BO Belarus
		BP Solomon Islands
		BR Brazil
		BS Bassas da India
		BT Bhutan
		BU Bulgaria
		BV Bouvet Island
		BX Brunei
		BY Burundi
		CA Canada
		CB Cambodia
		CD Chad

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

B_LEGAL_ENTITY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		CE Sri Lanka
		CF Congo
		CG Zaire
		CH China
		CI Chile
		CJ Cayman Islands
		CK Cocos (Keeling) Islands
		CM Cameroon
		CN Comoros
		CO Colombia
		CR Coral Sea Islands
		CS Costa Rica
		CT Central African Republic
		CU Cuba
		CV Cape Verde
		CW Cook Islands
		CY Cyprus
		DA Denmark
		DJ Djibouti
		DO Dominica
		DR Dominican Republic
		EC Ecuador
		EG Egypt
		EI Ireland
		EK Equatorial Guinea
		EN Estonia
		ER Eritrea
		ES El Salvador

B_LEGAL_ENTITY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		ET Ethiopia EU Europa Island EZ Czech Republic FG French Guiana FI Finland FJ Fiji FK Falkland Islands (Islas Malvinas) FO Faroe Islands FP French Polynesia FR France FS French Southern and Antarctic Lands GA The Gambia GB Gabon GG Georgia GH Ghana GI Gibraltar GJ Grenada GK Guernsey GL Greenland GM Germany GO Glorioso Islands GP Guadeloupe GR Greece GT Guatemala GV Guinea GY Guyana GZ Gaza Strip HA Haiti

* Designates field with permitted values.

A-13

+ Shaded gray blocks designate changes to previously published Structure Sets.

B_LEGAL_ENTITY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		HK Hong Kong **HM** Heard Island and McDonald Islands **HO** Honduras **HR** Croatia **HU** Hungary **IC** Iceland **ID** Indonesia **IM** Isle of Man **IN** India **IO** British Indian Ocean Territory **IP** Clipperton Island **IR** Iran **IS** Israel **IT** Italy **IV** Cote D'Ivoire **IZ** Iraq **JA** Japan **JE** Jersey **JM** Jamaica **JN** Jan Mayen **JO** Jordan **JU** Juan de Nova Island **KE** Kenya **KG** Kyrgyzstan **KN** Korea, Democratic People's Republic of **KQ** Kingman Reef **KR** Kiribati **KS** Korea, Republic of

* Designates field with permitted values.
A-14
+ Shaded gray blocks designate changes to previously published Structure Sets.

B_LEGAL_ENTITY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		KT Christmas Island **KU** Kuwait **KZ** Kazakhstan **LA** Laos **LE** Lebanon **LG** Latvia **LH** Lithuania **LI** Liberia **LO** Slovakia **LS** Liechtenstein **LT** Lesotho **LU** Luxembourg **LY** Libya **NE** Niue **MA** Madagascar **MB** Martinique **MC** Macau **MD** Moldova **MF** Mayotte **MG** Mongolia **MH** Montserrat **MI** Malawi **MK** Macedonia **ML** Mali **MN** Monaco **MO** Morocco **MP** Mauritius **MR** Mauritania

* Designates field with permitted values.   A-15   + Shaded gray blocks designate changes to previously published Structure Sets.

B_LEGAL_ENTITY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		MT Malta
		MU Oman
		MV Maldives
		MW Montenegro
		MX Mexico
		MY Malaysia
		MZ Mozambique
		NC New Caledonia
		NF Norfolk Island
		NG Niger
		NH Vanuatu
		NI Nigeria
		NL Netherlands
		NO Norway
		NP Nepal
		NR Nauru
		NS Suriname
		NT Netherlands Antilles
		NU Nicaragua
		NZ New Zealand
		PA Paraguay
		PC Pitcairn Islands
		PE Peru
		PF Paracel Islands
		PG Spratly Islands
		PK Pakistan
		PL Poland
		PM Panama

* Designates field with permitted values.

A-16

+ Shaded gray blocks designate changes to previously published Structure Sets.

B_LEGAL_ENTITY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		PO Portugal
		PP Papua New Guinea
		PU Guinea-Bissau
		QA Qatar
		RE Reunion
		RO Romania
		RP Philippines
		RS Russia
		RW Rwanda
		SA Saudi Arabia
		SB St. Pierre and Miquelon
		SC St. Kitts and Nevis
		SE Seychelles
		SF South Africa
		SG Senegal
		SH St. Helena
		SI Slovenia
		SL Sierra Leone
		SM San Marino
		SN Singapore
		SO Somalia
		SP Spain
		SR Serbia
		ST St. Lucia
		SU Sudan
		SV Svalbard
		SW Sweden
		SX South Georgia and South Sandwich Islands

B_LEGAL_ENTITY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		SY Syria
		SZ Switzerland
		TC United Arab Emirates
		TD Trinidad and Tobago
		TE Tromelin Island
		TH Thailand
		TI Tajikistan
		TK Turks and Caicos Islands
		TL Tokelau
		TN Tonga
		TO Togo
		TP Sao Tome and Principe
		TS Tunisia
		TU Turkey
		TV Tuvalu
		TW Taiwan
		TX Turkmenistan
		TZ Tanzania
		UG Uganda
		UK United Kingdom
		UP Ukraine
		US United States
		UV Burkina
		UY Uruguay
		UZ Uzbekistan
		VC St. Vincent and the Grenadines
		VE Venezuela
		VI British Virgin Islands

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

B_LEGAL_ENTITY		
FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
		VM Vietnam **VT** Vatican City **WA** Namibia **WE** West Bank **WF** Wallis and Futuna **WI** Western Sahara **WS** Western Samoa **WZ** Swaziland **YM** Yemen **ZA** Zambia **ZI** Zimbabwe

1.3 B_Legal_Entity Mapping to SDWIS/STATE Entities

		B_LEGAL_ENTITY			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
1.	B_Legal_Entity	B_TYPE_CODE	TINLGENT	Legal Entity	TYPE_CODE
2.	B_Legal_Entity	B_NAME	TINLGENT	Legal Entity & Laboratory	NAME (*sometimes foreign key*)
3.	B_Legal_Entity	B_ALIAS_NAME	TINLGENT	Legal Entity	ALIAS_NAME
4.	B_Legal_Entity	B_ADDRESS_LINE_ONE_TEXT	TINLGENT	Legal Entity	ADDRESS_LINE_ONE_TEXT
5.	B_Legal_Entity	B_ADDRESS_LINE_TWO_TEXT	TINLGENT	Legal Entity	ADDRESS_LINE_TWO_TEXT
6.	B_Legal_Entity	B_ADDRESS_CITY_NAME	TINLGENT	Legal Entity	ADDRESS_CITY_NAME
7.	B_Legal_Entity	B_COUNTY_FIPS_CODE	TINLGENT	Legal Entity	COUNTY_FIPS_CODE
8.	B_Legal_Entity	B_ADDRESS_STATE_CODE	TINLGENT	Legal Entity	ADDRESS_STATE_CODE
9.	B_Legal_Entity	B_STATE_FIPS_CODE	TINLGENT	Legal Entity	STATE_FIPS_CODE
10.	B_Legal_Entity	B_ADDRESS_ZIP_CODE	TINLGENT	Legal Entity	ADDRESS_ZIP_CODE
11.	B_Legal_Entity	B_PHONE_NUMBER	TINLGENT	Legal Entity	PHONE_NUMBER
12.	B_Legal_Entity	B_EMPLOYER_ID_NUMBER	TINLGENT	Legal Entity	EMPLOYER_IDENTIFICATION_NUMBER
13.	B_Legal_Entity	B_LAB_INDICATOR_CODE			
14.	B_Legal_Entity	B_LAB_STATE_ID_NUMBER	TSALAB	Laboratory	STATE_ASSIGNED_ID_NUMBER
15.	B_Legal_Entity	B_LAB_FED_ID_NUMBER	TSALAB	Laboratory	FEDERAL_IDENTIFICATION_NUMBER
16.	B_Legal_Entity	B_SALUTATION_CODE	TININDIV	Individual	SALUTATION_CODE
17.	B_Legal_Entity	B_FIRST_NAME	TININDIV	Individual	FIRST_NAME_TEXT
18.	B_Legal_Entity	B_LAST_NAME	TININDIV	Individual	LAST_NAME
19.	B_Legal_Entity	B_PROFESSIONAL_QUAL_TEXT	TININDIV	Individual	PROFESSIONAL_QUALIFICATION_TEXT
20.	B_Legal_Entity	B_ORGANIZATION_NAME	TININDIV	Individual	ORGANIZATION_NAME
21.	B_Legal_Entity	B_JOB_TITLE_TEXT	TININDIV	Individual	JOB_TITLE_TEXT
22.	B_Legal_Entity	B_BUSINESS_PHONE_NUMBER	TININDIV	Individual	BUSINESS_PHONE_NUMBER

* Designates field with permitted values.   A-20   + Shaded gray blocks designate changes to previously published Structure Sets.

			B_LEGAL_ENTITY		
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
23.	B_Legal_Entity	B_BUSINESS_PHONE_EXTENSION	TININDIV	Individual	BUSINESS_PHONE_NUMBER_EXTENSION
24.	B_Legal_Entity	B_FAX_NUMBER	TININDIV	Individual	FAX_NUMBER
25.	B_Legal_Entity	B_EMERGENCY_PHONE_NUMBER	TININDIV	Individual	EMERGENCY_PHONE_NUMBER
26.	B_Legal_Entity	B_MAIL_STOP_TEXT	TININDIV	Individual	MAIL_STOP_TEXT
27.	B_Legal_Entity	B_GOVT_AGENCY_TYPE_CODE	TINGOVAG	Government Agency	TYPE_CODE
28.	B_Legal_Entity	B_ADMINISTRATIVE_ID_NUM	TINGOVAG	Government Agency	ADMINISTRATIVE_ID_NUMBER
29.	B_Legal_Entity	B_EPA_REGION_CODE	TINGOVAG	Government Agency	EPA_REGION_CODE
30.	B_Legal_Entity	B_PRIMACY_INDICATOR_CODE	TINGOVAG	Government Agency	PRIMARY_INDICATOR_CODE
31.	B_Legal_Entity	B_SDWIS_USERID	TINUSER	D_User	USERID
32.	B_Legal_Entity	B_SDWIS_USERID_CATEGORY	TINUSER	D_User	CATEGORY
33.	B_Legal_Entity	B_SDWIS_USER_GOVT_AGENCY	TINLGENT	Legal Entity	NAME (*foreign key*)
34.	B_Legal_Entity	B_COLLECTOR_INDICATOR_CODE	TININDIV	Individual	COLLECTOR_INDICATOR_CODE
35.	B_Legal_Entity	B_EMAIL_ADDRESS	TININDIV	Individual	EMAIL ADDRESS
36.	B_Legal_Entity	B_COUNTRY_CODE	TINLGENT	Legal Entity	COUNTRY_CODE
37.	B_Legal Entity	B_INTERNATIONAL_POSTAL_CODE	TINLGENT	Legal Entity	INTERNATIONAL_POSTAL_CODE

1.4   B_Legal_Entity Structure Set to Staging Table Mapping

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
		B_LEGAL_ENTITY		
1.	B_Legal_Entity	B_TYPE_CODE	TMGLGENT	B_TYPE_CD
2.	B_Legal_Entity	B_NAME	TMGLGENT	B_NAME
3.	B_Legal_Entity	B_ALIAS_NAME	TMGLGENT	B_ALIAS_NAME
4.	B_Legal_Entity	B_ADDRESS_LINE_ONE_TEXT	TMGLGENT	B_ADDR_LIN_1_TXT
5.	B_Legal_Entity	B_ADDRESS_LINE_TWO_TEXT	TMGLGENT	B_ADDR_LIN_2_TXT
6.	B_Legal_Entity	B_ADDRESS_CITY_NAME	TMGLGENT	B_ADDR_CITY_NAM
7.	B_Legal_Entity	B_COUNTY_FIPS_CODE	TMGLGENT	B_CNTY_FIPS_CD
8.	B_Legal_Entity	B_ADDRESS_STATE_CODE	TMGLGENT	B_ADDR_ST_CD
9.	B_Legal_Entity	B_STATE_FIPS_CODE	TMGLGENT	B_ST_FIPS_CD
10.	B_Legal_Entity	B_ADDRESS_ZIP_CODE	TMGLGENT	B_ADDR_ZIP_CD
11.	B_Legal_Entity	B_PHONE_NUMBER	TMGLGENT	B_PHONE_NUM
12.	B_Legal_Entity	B_EMPLOYER_ID_NUMBER	TMGLGENT	B_EMPLOYER_ID_NUM
13.	B_Legal_Entity	B_LAB_INDICATOR_CODE	TMGLGENT	B_LAB_IND_CD
14.	B_Legal_Entity	B_LAB_STATE_ID_NUMBER	TMGLGENT	B_LAB_ST_ID_NUM
15.	B_Legal_Entity	B_LAB_FED_ID_NUMBER	TMGLGENT	B_LAB_FED_ID_NUM
16.	B_Legal_Entity	B_SALUTATION_CODE	TMGLGENT	B_SALUTATION_CD
17.	B_Legal_Entity	B_FIRST_NAME	TMGLGENT	B_FIRST_NAME
18.	B_Legal_Entity	B_LAST_NAME	TMGLGENT	B_LAST_NAME
19.	B_Legal_Entity	B_PROFESSIONAL_QUAL_TEXT	TMGLGENT	B_PROF_QUAL_TXT
20.	B_Legal_Entity	B_ORGANIZATION_NAME	TMGLGENT	B_ORG_NAME
21.	B_Legal_Entity	B_JOB_TITLE_TEXT	TMGLGENT	B_JOB_TITLE_TXT
22.	B_Legal_Entity	B_BUSINESS_PHONE_NUMBER	TMGLGENT	B_BUS_PHONE_NUM

	B_LEGAL_ENTITY			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
23.	B_Legal_Entity	B_BUSINESS_PHONE_EXTENSION	TMGLGENT	B_BUS_PHONE_EXT
24.	B_Legal_Entity	B_FAX_NUMBER	TMGLGENT	B_FAX_NUMBER
25.	B_Legal_Entity	B_EMERGENCY_PHONE_NUMBER	TMGLGENT	B_EMERG_PHON_NUM
26.	B_Legal_Entity	B_MAIL_STOP_TEXT	TMGLGENT	B_MAIL_STOP_TXT
27.	B_Legal_Entity	B_GOVT_AGENCY_TYPE_CODE	TMGLGENT	B_GOVT_AGCY_TYP_CD
28.	B_Legal_Entity	B_ADMINISTRATIVE_ID_NUM	TMGLGENT	B_ADMIN_ID_NUM
29.	B_Legal_Entity	B_EPA_REGION_CODE	TMGLGENT	B_EPA_REGION_CD
30.	B_Legal_Entity	B_PRIMACY_INDICATOR_CODE	TMGLGENT	B_PRIMACY_IND_CD
31.	B_Legal_Entity	B_SDWIS_USERID	TMGLGENT	B_SDWIS_USERID
32.	B_Legal_Entity	B_SDWIS_USERID_CATEGORY	TMGLGENT	B_SDWIS_USERID_CAT
33.	B_Legal_Entity	B_SDWIS_USER_GOVT_AGENCY	TMGLGENT	B_SDWIS_USER_GOVAG
34.	B_Legal_Entity	B_COLLECTOR_INDICATOR_CODE	TMGLGENT	B_COLLECTOR_IND_CD
35.	B_Legal_Entity	B_EMAIL_ADDRESS	TMGLGENT	B_EMAIL_ADDRESS
36.	B_Legal_Entity	B_COUNTRY_CODE	TMGLGENT	B_COUNTRY_CODE
37.	B_Legal Entity	B_INTERNATONAL_POSTAL_CODE	TMGLGENT	B_INT_POST_CD

2.0   STRUCTURE SET B_Water_System

2.1   B_Water_System File Layout

B_WATER_SYSTEM
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
1.	B_NUMBER	AN	9	1 - 9	MANDATORY - **Uniqueness/Duplicate check is on field 1 (B_NUMBER)**. Composed of the state code (two characters) and an alphanumeric value between one and seven characters long (typically all numbers). The state code is optional; if it is not included, *Migration to SDWIS/STATE* will set it. The one-to-seven-character alphanumeric string cannot have any special characters or embedded spaces and *is not optional*.
2.	B_ALTERNATE_STATE_NUMBER	AN	5	10 - 14	OPTIONAL
3.	B_NAME	AN	40	15 - 54	MANDATORY
4.	B_LOCAL_NAME	AN	40	55 - 94	OPTIONAL
5.	B_OPERATING_CATEGORY_CODE	AN	5	95 - 99	OPTIONAL
6. *	B_ACTIVITY_STATUS_CODE	AN	1	100	MANDATORY
7.	B_ACTIVITY_DATE	DT	8	101 - 108	OPTIONAL
8.	B_ACTIVITY_REASON_TEXT	ANmc	120	109 - 228	OPTIONAL
9.	B_MEMO_TEXT	ANmc	120	229 - 348	OPTIONAL
10.	B_LAST_SANITARY_SURVEY_DATE	DT	8	349 - 356	OPTIONAL
11.	B_SURFACE_WATER_RATIO	N	6 (5(2))	357 - 362	OPTIONAL - If any of fields 11 through 16 are valued, the sum must equal 100.
12.	B_SURFACE_WATER_PURCHASED_RATIO	N	6 (5(2))	363 - 368	OPTIONAL - If any of fields 11 through 16 are valued, the sum must equal 100.
13.	B_GROUND_WATER_RATIO	N	6 (5(2))	369 - 374	OPTIONAL - If any of fields 11 through 16 are valued, the sum must equal 100.

					B_WATER_SYSTEM
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
14.	B_GROUND_WATER_PURCHASED_RATIO	N	6 (5(2))	375 - 380	OPTIONAL - If any of fields 11 through 16 are valued, the sum must equal 100.
15.	B_GROUND_WATER_UDI_RATIO	N	6 (5(2))	381 - 386	OPTIONAL - If any of fields 11 through 16 are valued, the sum must equal 100.
16.	B_GND_WATER_UDI_PURCHASED_RATIO	N	6 (5(2))	387 - 392	OPTIONAL - If any of fields 11 through 16 are valued, the sum must equal 100.
17.	B_AVG_DAILY_PRODUCTION_MEASURE	N	11	393 - 403	OPTIONAL
18.	B_TOTAL_DESIGN_CAPACITY_MEASURE	N	11	404 - 414	OPTIONAL
19.	B_TOTAL_EMERG_CAPACITY_MEASURE	N	11	415 - 425	OPTIONAL
20. *	B_OWNER_TYPE_CODE	AN	1	426	OPTIONAL
21. *	B_FED_PRIMARY_SOURCE_CODE	AN	3	427 - 429	OPTIONAL
22. *	B_STATE_PRIMARY_SOURCE_CODE	AN	3	430 - 432	OPTIONAL
23. *	B_PWS_STATE_TYPE_CODE	AN	4	433 - 436	OPTIONAL
24. *	B_PWS_FEDERAL_TYPE_CODE	AN	4	437 - 440	OPTIONAL
25. *	B_PROTECTD_GW_SOURCE_INDCTR_CODE	AN	1	441	OPTIONAL
26.	B_REGULATING_AGENCY_NAME	AN	40	442 - 481	CONDITIONALLY MANDATORY - If the Water_System is considered public. If field 1 (B_NUMBER) is repeated and field 26 (B_REGULATING_AGENCY_NAME) is not valued, this would be a true duplicate. If field 26 is valued, it would be understood that an association should be created between the Water_System supplied in field 1 and the regulating Government_Agency supplied in field 26.
27.	B_REG_AGENCY_PURPOSE	AN	30	482 - 511	OPTIONAL
28. *	B_REG_AGENCY_ACTIVE_IND_CD	AN	1	512	CONDITIONALLY MANDATORY - If field 26 (B_REGULATING_AGENCY_NAME) is valued; otherwise, OPTIONAL.

* Designates field with permitted values.   A-25   + Shaded gray blocks designate changes to previously published Structure Sets.

B_WATER_SYSTEM				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
29.	B_REG_AGENCY_ESTABLISHMENT_NUM	AN	10	513 - 522	OPTIONAL

2.2   B_Water_System Permitted Value List

B_WATER_SYSTEM	
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
6.	B_ACTIVITY_STATUS_CODE	**A** Active **I** Inactive **P** Proposed
20.	B_OWNER_TYPE_CODE	**F** Federal Government **L** Local **M** Mixed **N** Native American **P** Private **S** State Government
21. 22.	B_FED_PRIMARY_SOURCE_CODE and B_STATE_PRIMARY_SOURCE_CODE	**GU** Groundwater under the Direct Influence **GUP** Groundwater under the Direct Influence, Purchased Water **GW** Groundwater **GWP** Groundwater Purchased **SW** Surface Water **SWP** Surface Water Purchased
23. 24.	B_PWS_STATE_TYPE_CODE and B_PWS_FEDERAL_TYPE_CODE	**C** Community **NC** Non-Community (Transient) **NP** Non-Public **NTNC** Non-Transient Non-Community

25.	B_PROTECTD_GW_SOURCE_INDCTR_CODE	**Y**	Yes
		N	No
28.	B_REG_AGENCY_ACTIVE_IND_CD	**A**	Active
		I	Inactive

2.3   B_Water_System Mapping to SDWIS/STATE Entities

B_WATER_SYSTEM					
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_WATER_SYSTEM	B_NUMBER	TINWSYS	Water System	NUMBER
2.	B_WATER_SYSTEM	B_ALTERNATE_STATE_NUMBER	TINWSYS	Water System	ALTERNATE_STATE_NUMBER
3.	B_WATER_SYSTEM	B_NAME	TINWSYS	Water System	NAME
4.	B_WATER_SYSTEM	B_LOCAL_NAME	TINWSYS	Water System	LOCAL_NAME
5.	B_WATER_SYSTEM	B_OPERATING_CATEGORY_CODE	TINWSYS	Water System	OPERATING_CATEGORY_CODE
6.	B_WATER_SYSTEM	B_ACTIVITY_STATUS_CODE	TINWSYS	Water System	ACTIVITY_STATUS_CODE
7.	B_WATER_SYSTEM	B_ACTIVITY_DATE	TINWSYS	Water System	ACTIVITY_DATE
8.	B_WATER_SYSTEM	B_ACTIVITY_REASON_TEXT	TINWSYS	Water System	ACTIVITY_REASON_TEXT
9.	B_WATER_SYSTEM	B_MEMO_TEXT	TINWSYS	Water System	MEMO_TEXT
10.	B_WATER_SYSTEM	B_LAST_SANITARY_SURVEY_DATE	TINWSYS	Water System	LAST_SANITARY_SURVEY_DATE
11.	B_WATER_SYSTEM	B_SURFACE_WATER_RATIO	TINWSYS	Water System	SURFACE_WATER_RATIO
12.	B_WATER_SYSTEM	B_SURFACE_WATER_PURCHASED_RATIO	TINWSYS	Water System	SURFACE_WATER_PURCHASED_RATIO

* Designates field with permitted values.   A-28   + Shaded gray blocks designate changes to previously published Structure Sets.

	B_WATER_SYSTEM				
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
13.	B_WATER_SYSTEM	B_GROUND_WATER_RATIO	TINWSYS	Water System	GROUND_WATER_RATIO
14.	B_WATER_SYSTEM	B_GROUND_WATER_PURCHASED_RATIO	TINWSYS	Water System	GROUND_WATER_PURCHASED_RATIO
15.	B_WATER_SYSTEM	B_GROUND_WATER_UDI_RATIO	TINWSYS	Water System	GROUND_WATER_UDI_RATIO
16.	B_WATER_SYSTEM	B_GND_WATER_UDI_PURCHASED_RATIO	TINWSYS	Water System	GROUND_WATER_UDI_PURCHASED_RATIO
17.	B_WATER_SYSTEM	B_AVG_DAILY_PRODUCTION_MEASURE	TINWSYS	Water System	AVG_DAILY_PRODUCTION_MEASURE
18.	B_WATER_SYSTEM	B_TOTAL_DESIGN_CAPACITY_MEASURE	TINWSYS	Water System	TOTAL_DESIGN_CAPACITY_MEASURE
19.	B_WATER_SYSTEM	B_TOTAL_EMERG_CAPACITY_MEASURE	TINWSYS	Water System	TOTAL_EMERG_CAPACITY_MEASURE
20.	B_WATER_SYSTEM	B_OWNER_TYPE_CODE	TINWSYS	Water System	OWNER_TYPE_CODE
21.	B_WATER_SYSTEM	*SDWIS/STATE CALCULATES*	TINWSYS	Water System	D_FED_PRIMARY_SOURCE_CODE
22.	B_WATER_SYSTEM	B_STATE_PRIMARY_SOURCE_CODE	TINWSYS	Water System	D_STATE_PRIMARY_SOURCE_CODE
23.	B_WATER_SYSTEM	B_PWS_STATE_TYPE_CODE	TINWSYS	Water System	D_PWS_STATE_TYPE_CODE
24.	B_WATER_SYSTEM	*SDWIS/STATE CALCULATES*	TINWSYS	Water System	D_PWS_FEDERAL_TYPE_CODE
25.	B_WATER_SYSTEM	B_PROTECTD_GW_SOURCE_INDCTR_CODE	TINWSYS	Water System	D_PROTECTD_GW_SOURCE_INDCTR_CODE

* Designates field with permitted values.   A-29   + Shaded gray blocks designate changes to previously published Structure Sets.

	B_WATER_SYSTEM				
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
26.	B_WATER_SYSTEM	B_REGULATING_AGENCY_NAME	TINLGENT	Legal Entity	NAME (*Foreign Key)*
27.	B_WATER_SYSTEM	B_REG_AGENCY_PURPOSE	TINRAA	Regulating Agency Asgmt	REG_AGENCY_PURPOSE_TEXT
28.	B_WATER_SYSTEM	B_REG_AGENCY_ACTIVE_IND_CD	TINRAA	Regulating Agency Asgmt	REG_AGENCY_ACTIVE_IND_CD
29.	B_WATER_SYSTEM	B_REG_AGENCY_ESTABLISHMENT_NUM	TINRAA	Regulating Agency Asgmt	REG_AGENCY_ESTABLISHMENT_NUMBER
30.	B_WATER_SYSTEM	*SDWIS/STATE CALCULATES*	TINWSYS	Water System	D_PRINCIPAL_CITY_SERVED_NAME
31.	B_WATER_SYSTEM	*SDWIS/STATE CALCULATES*	TINWSYS	Water System	D_PRINCIPAL_COUNTY_SERVED_NAME
32.	B_WATER_SYSTEM	*SDWIS/STATE CALCULATES*	TINWSYS	Water System	D_POPULATION_COUNT
33.	B_WATER_SYSTEM	*SDWIS/STATE CALCULATES*	TINWSYS	Water System	D_TOTAL_STORAGE_CAPACITY_MEASURE

2.4 B_Water_System Structure Set to Staging Table Mapping

	B_WATER_SYSTEM			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
1.	B_Water_System	B_NUMBER	TMGWSYS	B_NUMBER
2.	B_Water_System	B_ALTERNATE_STATE_NUMBER	TMGWSYS	B_ALT_STATE_NUM
3.	B_Water_System	B_NAME	TMGWSYS	B_NAME
4.	B_Water_System	B_LOCAL_NAME	TMGWSYS	B_LOCAL_NAME
5.	B_Water_System	B_OPERATING_CATEGORY_CODE	TMGWSYS	B_OPTG_CAT_CD
6.	B_Water_System	B_ACTIVITY_STATUS_CODE	TMGWSYS	B_ACTVTY_STATUS_CD
7.	B_Water_System	B_ACTIVITY_DATE	TMGWSYS	B_ACTVTY_DATE
8.	B_Water_System	B_ACTIVITY_REASON_TEXT	TMGWSYS	B_ACTVTY_TEXT
9.	B_Water_System	B_MEMO_TEXT	TMGWSYS	B_MEMO_TEXT
10.	B_Water_System	B_LAST_SANITARY_SURVEY_DATE	TMGWSYS	B_LAST_SAN_SUR_DT
11.	B_Water_System	B_SURFACE_WATER_RATIO	TMGWSYS	B_SURF_WTR_RT
12.	B_Water_System	B_SURFACE_WATER_PURCHASED_RATIO	TMGWSYS	B_SRF_WTR_PUR_RT
13.	B_Water_System	B_GROUND_WATER_RATIO	TMGWSYS	B_GND_WTR_RT
14.	B_Water_System	B_GROUND_WATER_PURCHASED_RATIO	TMGWSYS	B_GND_WTR_PUR_RT
15.	B_Water_System	B_GROUND_WATER_UDI_RATIO	TMGWSYS	B_GND_WTR_UDI_RT
16.	B_Water_System	B_GND_WATER_UDI_PURCHASED_RATIO	TMGWSYS	B_GDWTR_UDPUR_RT
17.	B_Water_System	B_AVG_DAILY_PRODUCTION_MEASURE	TMGWSYS	B_AVG_DLY_PROD_MSR
18.	B_Water_System	B_TOTAL_DESIGN_CAPACITY_MEASURE	TMGWSYS	B_TOT_DSGN_CAP_MSR
19.	B_Water_System	B_TOTAL_EMERG_CAPACITY_MEASURE	TMGWSYS	B_TOT_EMRG_CAP_MSR
20.	B_Water_System	B_OWNER_TYPE_CODE	TMGWSYS	B_OWNER_TYPE_CD
21.	B_Water_System	B_FED_PRIMARY_SOURCE_CODE	TMGWSYS	B_FED_PRIM_SRC_CD
22.	B_Water_System	B_STATE_PRIMARY_SOURCE_CODE	TMGWSYS	B_STA_PRIM_SRC_CD

* Designates field with permitted values.　　　　　　　　　　　　A-31　　　　　　　　+ Shaded gray blocks designate changes to previously published Structure Sets.

B_WATER_SYSTEM				
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
23.	B_Water_System	B_PWS_STATE_TYPE_CODE	TMGWSYS	B_PWS_ST_TYPE_CD
24.	B_Water_System	B_PWS_FEDERAL_TYPE_CODE	TMGWSYS	B_PWS_FED_TYPE_CD
25.	B_Water_System	B_PROTECTD_GW_SOURCE_INDCTR_CODE	TMGWSYS	B_PR_GW_SRC_IND_CD
26.	B_Water_System	B_REGULATING_AGENCY_NAME	TMGWSYS	B_REG_AGENCY_NM
27.	B_Water_System	B_REG_AGENCY_PURPOSE	TMGWSYS	B_REG_AGCY_PRP_TXT
28.	B_Water_System	B_REG_AGENCY_ACTIVE_IND_CD	TMGWSYS	B_RG_AG_ACT_IND_CD
29.	B_Water_System	B_REG_AGENCY_ESTABLISHMENT_NUM	TMGWSYS	B_REG_AGCY_EST_NUM

3.0 STRUCTURE SET B_Service_Connection_Category

3.1 B_Service_Connection_Category File Layout

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
					B_SERVICE_CONNECTION_CATEGORY
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - **Uniqueness/Duplicate Check is on the combination of field 1 (B_PWS_NUMBER) and field 2 (B_TYPE_CODE)**.
2.*	B_TYPE_CODE	AN	2	10 - 11	MANDATORY - **Uniqueness/Duplicate Check is on the combination of field 1 (B_PWS_NUMBER) and field 2 (B_TYPE_CODE)**. This means that there can be only one of each specific type of service connection (i.e., Agricultural, Combined, Commercial, Industrial, Power Production, or Residential) per water system.
3.*	B_METER_TYPE_CODE	AN	2	12 - 13	MANDATORY
4.	B_METER_SIZE_MEASURE	N	9 (8(3))	14 - 22	OPTIONAL
5.*	B_COUNT	N	7	23 - 29	OPTIONAL - Absence of a value in B_COUNT may reclassify the federal typing of a water system.

3.2   B_Service_Connection_Category Permitted Value List

B_SERVICE_CONNECTION_CATEGORY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
2.	B_TYPE_CODE	**AG** Agricultural **CB** Combined **CM** Commercial **IN** Industrial **PP** Power Production **RS** Residential
3.	B_METER_TYPE_CODE	**ME** Metered **MU** Metered and Unmetered **UM** Unmetered **UN** Unknown
5.	B_COUNT	**0 to 9999999**

3.3 B_Service_Connection_Category Mapping to SDWIS/STATE Entities

		B_SERVICE_CONNECTION_CATEGORY			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_Service_Connection_Category	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Service_Connection_Category	B_TYPE_CODE	TINSCC	Service Connection Category	TYPE_CODE
3.	B_Service_Connection_Category	B_METER_TYPE_CODE	TINSCC	Service Connection Category	METER_TYPE_CODE
4.	B_Service_Connection_Category	B_METER_SIZE_MEASURE	TINSCC	Service Connection Category	METER_SIZE_MEASURE
5.	B_Service_Connection_Category	B_COUNT	TINSCC	Service Connection Category	COUNT

3.4 B_Service_Connection_Category Structure Set to Staging Table Mapping

	B_SERVICE_CONNECTION_CATEGORY			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
1.	B_Service_Connection_Category	B_PWS_NUMBER	TMGSCC	B_PWS_NUMBER
2.	B_Service_Connection_Category	B_TYPE_CODE	TMGSCC	B_TYPE_CD
3.	B_Service_Connection_Category	B_METER_TYPE_CODE	TMGSCC	B_METER_TYPE_CD
4.	B_Service_Connection_Category	B_METER_SIZE_MEASURE	TMGSCC	B_METER_SZ_MSR
5.	B_Service_Connection_Category	B_COUNT	TMGSCC	B_COUNT

4.0 STRUCTURE SET B_WS_POP_Served_Annual_OP_Period

4.1 B_WS_POP_Served_Annual_OP_Period File Layout

					B_WS_POP_SERVED_ANNUAL_OP_PERIOD
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY
2. *	B_START_DAY	N	2	10 - 11	MANDATORY - **Uniqueness/Duplicate check for a Water System's Annual Operating Period is on the combination of field 2 (B_START_DAY), field 3 (B_START_MONTH), field 4 (B_END_DAY), field 5 (B_END_MONTH), and field 6 (B_EFFECTIVE_BEGIN_DATE)**.
3. *	B_START_MONTH	N	2	12 - 13	MANDATORY - **Uniqueness/Duplicate check for a Water System's Annual Operating Period is on the combination of field 2 (B_START_DAY), field 3 (B_START_MONTH), field 4 (B_END_DAY), field 5 (B_END_MONTH), and field 6 (B_EFFECTIVE_BEGIN_DATE)**.
4. *	B_END_DAY	N	2	14 - 15	MANDATORY - **Uniqueness/Duplicate check for a Water System's Annual Operating Period is on the combination of field 2 (B_START_DAY), field 3 (B_START_MONTH), field 4 (B_END_DAY), field 5 (B_END_MONTH), and field 6 (B_EFFECTIVE_BEGIN_DATE)**.
5. *	B_END_MONTH	N	2	16 - 17	MANDATORY - **Uniqueness/Duplicate check for a Water System's Annual Operating Period is on the combination of field 2 (B_START_DAY), field 3 (B_START_MONTH), field 4 (B_END_DAY), field 5 (B_END_MONTH), and field 6 (B_EFFECTIVE_BEGIN_DATE)**.

B_WS_POP_SERVED_ANNUAL_OP_PERIOD					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
6.	B_EFFECTIVE_BEGIN_DATE	DT	8	18 - 25	MANDATORY - **Uniqueness/Duplicate check for a Water System's Annual Operating Period is on the combination of field 2 (B_START_DAY), field 3 (B_START_MONTH), field 4 (B_END_DAY), field 5 (B_END_MONTH), and field 6 (B_EFFECTIVE_BEGIN_DATE)**.
7.	B_EFFECTIVE_END_DATE	DT	8	26 - 33	OPTIONAL
8. *	B_POP_TYPE_CODE	AN	2	34 - 35	MANDATORY - **Uniqueness/Duplicate check for Population Served is on field 8 (B_POP_TYPE_CODE)**. There may be only one population type per Annual Operating Period for each Water System. If field 8 (B_POP_TYPE_CODE) = "R" (Residential), field 2 (B_START_DAY) must = 1, field 3 (B_START_MONTH) must = 1, field 4 (B_END_DAY) must = 31, and field 5 (B_END_MONTH) must = 12.
9. *	B_AVERAGE_DAILY_COUNT	N	9	36 - 44	MANDATORY - Must be greater than 0 (zero).

4.2   B_WS_POP_Served_Annual_OP_Period Permitted Value List

FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
B_WS_POP_SERVED_ANNUAL_OP_PERIOD	
2.	B_START_DAY	**1 to 31**
3.	B_START_MONTH	**1 to 12**
4.	B_END_DAY	**1 to 31**
5.	B_END_MONTH	**1 to 12**
8.	B_POP_TYPE_CODE	**NT** Non-Transient **R** Residential **T** Transient **W** Wholesale
9.	B_AVERAGE_DAILY_COUNT	**1 to 50000000**

4.3   B_WS_POP_Served_Annual_OP_Period Mapping to SDWIS/STATE Entities

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_WS_POP_Served_Annual_OP_Period	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_WS_POP_Served_Annual_OP_Period	B_START_DAY	TINAOPRD	Annual Operating Period	START_DAY
3.	B_WS_POP_Served_Annual_OP_Period	B_START_MONTH	TINAOPRD	Annual Operating Period	START_MONTH
4.	B_WS_POP_Served_Annual_OP_Period	B_END_DAY	TINAOPRD	Annual Operating Period	END_DAY
5.	B_WS_POP_Served_Annual_OP_Period	B_END_MONTH	TINAOPRD	Annual Operating Period	END_MONTH
6.	B_WS_POP_Served_Annual_OP_Period	B_EFFECTIVE_BEGIN_DATE	TINAOPRD	Annual Operating Period	EFFECTIVE_BEGIN_DATE
7.	B_WS_POP_Served_Annual_OP_Period	B_EFFECTIVE_END_DATE	TINAOPRD	Annual Operating Period	EFFECTIVE_END_DATE
8.	B_WS_POP_Served_Annual_OP_Period	B_POP_TYPE_CODE	TINPOPSV	Population Served	TYPE_CODE
9.	B_WS_POP_Served_Annual_OP_Period	B_AVERAGE_DAILY_COUNT	TINPOPSV	Population Served	AVERAGE_DAILY_COUNT

Table title: B_WS_POP_SERVED_ANNUAL_OP_PERIOD

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

4.4   B_WS_POP_Served_Annual_OP_Period Structure Set to Staging Table Mapping

	B_WS_POP_SERVED_ANNUAL_OP_PERIOD			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
1.	B_WS_POP_Served_Annual_OP_Period	B_PWS_NUMBER	TMGAOP	B_PWS_NUMBER
2.	B_WS_POP_Served_Annual_OP_Period	B_START_DAY	TMGAOP	B_START_DAY
3.	B_WS_POP_Served_Annual_OP_Period	B_START_MONTH	TMGAOP	B_START_MONTH
4.	B_WS_POP_Served_Annual_OP_Period	B_END_DAY	TMGAOP	B_END_DAY
5.	B_WS_POP_Served_Annual_OP_Period	B_END_MONTH	TMGAOP	B_END_MONTH
6.	B_WS_POP_Served_Annual_OP_Period	B_EFFECTIVE_BEGIN_DATE	TMGAOP	B_EFFCT_BEGIN_DAT
7.	B_WS_POP_Served_Annual_OP_Period	B_EFFECTIVE_END_DATE	TMGAOP	B_EFFCT_END_DAT
8.	B_WS_POP_Served_Annual_OP_Period	B_POP_TYPE_CODE	TMGAOP	B_POP_TYPE_COD
9.	B_WS_POP_Served_Annual_OP_Period	B_AVERAGE_DAILY_COUNT	TMGAOP	B_AVG_DAILY_CNT

5.0   STRUCTURE SET B_Geographic_Area

5.1   B_Geographic_Area File Layout

	B_GEOGRAPHIC_AREA				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_NAME	AN	30	1 - 30	MANDATORY – **Uniqueness/Duplicate check is on the combination of field 1 (B_NAME) and field 2 (B_TYPE_CODE)**.
2. *	B_TYPE_CODE	AN	3	31 - 33	MANDATORY – **Uniqueness/Duplicate check is on the combination of field 1 (B_NAME) and field 2 (B_TYPE_CODE)**.
3.	B_FIPS_CODE	AN	8	34 - 41	OPTIONAL
4.	B_STATE_DEFINED_CODE	AN	4	42 - 45	OPTIONAL
5.	B_PRINCIPAL_COUNTY_OF_CITY	AN	30	46 - 75	OPTIONAL but only can be valued if field 2 (B_TYPE_CODE) = "CT" (city). [Note: Counties should be specified in the text file before cities and must have a type code of "CN" (county). If the counties have not been created by the time that they are referenced as the "Principle County of City," the program will be unable to create this assignment.]
6.	B_PWS_NUMBER	AN	9	76 - 84	CONDITIONALLY MANDATORY - Must value if there is a value in field 7, 8, or 9. If valued, *Migration to SDWIS/STATE* understands there is an association between the Geographic_Area supplied in fields 1 and 2 and the Water_System supplied in field 6. (If the combination of field 1 (B_NAME) and field 2 (B_TYPE_CODE) is repeated and field 6 (B_PWS_NUMBER) is not valued, this would be a true duplicate; however, if field 6 is valued, the appropriate association between Geographic_Area and Water_System will be created.)

B_GEOGRAPHIC_AREA					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
7. *	B_PRINCIPAL_COUNTY_INDICATOR_CODE	AN	1	85	OPTIONAL - However, only one principal county per water system. For example, a Water_System may be associated with several counties, but only one county may be "principal." If field 7 (B_PRINCIPAL_COUNTY_INDICATOR_CODE) is valued, then field 2 (B_TYPE_CODE) must = "CN."
8. *	B_PRINCIPAL_CITY_INDICATOR_CODE	AN	1	86	OPTIONAL - However, only one principal city per water system. For example, a Water_System may be associated with several cities, but only one city may be "principal." If field 8 (B_PRINCIPAL_CITY_INDICATOR_CODE) is valued, then field 2 (B_TYPE_CODE) must = "CT."
9. *	B_PRIMARY_INDICATOR_CODE	AN	1	87	OPTIONAL - Unless Y is specified, *Migration to SDWIS/STATE* software will default to value N. If Water System has only one Geographic Area, it should be considered primary. This reflects how the online IBS Water System - Geographic Area pairing works.

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

5.2 B_Geographic_Area Permitted Value List

B_GEOGRAPHIC_AREA		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
2.	B_TYPE_CODE	**ARV** Alaskan Remote Village **CD** Congress District **CN** County **CS** Census Tract **CT** City **DS** District **FA** Franchise Area **HU** Hydrologic Unit **IR** Indian Reservation **MSA** Metropolitan Statistical Area **NRD** Natural Resource District **RG** Region **SD** Subdivision **SHD** State House District **SS** State Senate District **ST** State **TW** Township **UA** Unincorporated Area **WD** Water District
7.	B_PRINCIPAL_COUNTY_INDICATOR_CODE	**Y** Yes **N** No
8.	B_PRINCIPAL_CITY_INDICATOR_CODE	**Y** Yes **N** No
9.	B_PRIMARY_INDICATOR_CODE	**Y** Yes **N** No

5.3   B_Geographic_Area Mapping to SDWIS/STATE Entities

		B_GEOGRAPHIC_AREA			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_Geographic_Area	B_NAME	TINGEOAR	Geographic Area	NAME
2.	B_Geographic_Area	B_TYPE_CODE	TINGEOAR	Geographic Area	TYPE_CODE
3.	B_Geographic_Area	B_FIPS_CODE	TINGEOAR	Geographic Area	FIPS_CODE
4.	B_Geographic_Area	B_STATE_DEFINED_CODE	TINGEOAR	Geographic Area	STATE_DEFINED_CODE
5.	B_Geographic_Area	B_PRINCIPAL_COUNTY_OF_CITY	TINGEOAR	Geographic Area	NAME (*Foreign Key*)
6.	B_Geographic_Area	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
7.	B_Geographic_Area	B_PRINCIPAL_COUNTY_INDICATOR_CODE	TINWSGAA	Water System Geographic Area Assignment	PRINCIPAL_INDICATOR_CODE
8.	B_Geographic_Area	B_PRINCIPAL_CITY_INDICATOR_CODE	TINWSGAA	Water System Geographic Area Assignment	PRINCIPAL_INDICATOR_CODE
9.	B_Geographic Area	B_PRIMARY_INDICATOR_CODE	TINWSGAA	Water System Geographic Area Assignment	PRIMARY_INDICATOR_CODE

* Designates field with permitted values.   A-46   + Shaded gray blocks designate changes to previously published Structure Sets.

5.4 B_Geographic_Area Structure Set to Staging Table Mapping

		B_GEOGRAPHIC_AREA		
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
1.	B_Geographic_Area	B_NAME	TMGGEOAR	B_NAME
2.	B_Geographic_Area	B_TYPE_CODE	TMGGEOAR	B_TYPE_CD
3.	B_Geographic_Area	B_FIPS_CODE	TMGGEOAR	B_FIPS_CD
4.	B_Geographic_Area	B_STATE_DEFINED_CODE	TMGGEOAR	B_STATE_DEFINED_CD
5.	B_Geographic_Area	B_PRINCIPAL_COUNTY_OF_CITY	TMGGEOAR	B_PRINC_CNTY_CITY
6.	B_Geographic_Area	B_PWS_NUMBER	TMGGEOAR	B_PWS_NUMBER
7.	B_Geographic_Area	B_PRINCIPAL_COUNTY_INDICATOR_CODE	TMGGEOAR	B_PRNC_CNTY_IND_CD
8.	B_Geographic_Area	B_PRINCIPAL_CITY_INDICATOR_CODE	TMGGEOAR	B_PRNC_CITY_IND_CD
9.	B_Geographic_Area	B_PRIMARY_INDICATOR_CODE	TMGGEOAR	B_PRIMARY_IND_CD

6.0   STRUCTURE SET B_Service_Area_Type

6.1   B_Service_Area_Type File Layout

B_SERVICE_AREA_TYPE					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_NAME	AN	30	1 - 30	MANDATORY
2.	B_NAME_CODE	AN	2	31 - 32	MANDATORY - **Uniqueness/Duplicate check on field 2 (B_NAME_CODE)**.
3. *	B_CLASS_CODE	AN	2	33 - 34	MANDATORY
4.	B_PWS_NUMBER	AN	9	35 - 43	CONDITIONALLY MANDATORY - If field 5 (B_PRIMARY_INDICATOR_CODE) is populated, then field 4 (B_PWS_NUMBER) is MANDATORY. If field 2 (B_NAME_CODE) is repeated and field 4 (B_PWS_NUMBER) is not valued, this would be a true duplicate; however, if field 4 is valued, it would be understood that an association should be created between the Water_System supplied in field 4 and the Service_Area_Type supplied in field 2.
5. *	B_PRIMARY_INDICATOR_CODE	AN	1	44	OPTIONAL - Only one Service_Area_Type can be primary per Water_System. Unless Y is specified, MTS software will default to value N. If Water System has only one Service Area Type, it should be considered primary. This reflects how the online IBS Water System - Service Area pairing works.

* Designates field with permitted values.   A-44   + Shaded gray blocks designate changes to previously published Structure Sets.

6.2   B_Service_Area_Type Permitted Value List

B_SERVICE_AREA		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
3.	B_ CLASS_CODE	**NT** Non-Transient **O** Other **R** Residential **T** Transient
5.	B_PRIMARY_INDICATOR_CODE	**Y** Yes **N** No

The following Service Area Type records will already exist in your SDWIS/STATE database as part of the federal reference data:

B_SERVICE_AREA		
Service Area Name Code	**Service Area Class Code**	**Service Area Name**
DC	NT	Day Care Center
IA	NT	Industrial/Agricultural
IN	NT	Institution
MF	NT	Medical Facility
ON	NT	Other Non-Transient Area
SC	NT	School
WH	O	Wholesaler (Sells Water)
DI	O	Dispenser
IC	O	Interstate Carrier
OA	O	Other Area
WB	O	Water Bottler
HA	R	Homeowners Association

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published Structure Sets.

B_SERVICE_AREA		
Service Area Name Code	**Service Area Class Code**	**Service Area Name**
MH	R	Mobile Home Park
MP	R	Mobil Home Park, Principle Residence
MU	R	Municipality
OR	R	Other Residential Area
RA	R	Residential Area
SI	R	Sanitary Improvement District
SU	R	Subdivision
HM	T	Hotel/Motel
HR	T	Highway Rest Area
OT	T	Other Transient Area
PA	T	Recreation Area
RE	T	Retail Employees
RS	T	Restaurant
SK	T	Summer Camp
SR	T	Secondary Residences
SS	T	Service Station

6.3   B_Service_Area_Type Mapping to SDWIS/STATE Entities

B_SERVICE_AREA					
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
1.	B_Service_Area_Type	B_NAME	TINSAT	Service Area Type	NAME
2.	B_Service_Area_Type	B_NAME_CODE	TINSAT	Service Area Type	TINSAT_NAME_CODE
3.	B_Service_Area_Type	B_CLASS_CODE	TINSAT	Service Area Type	TINSAT_CLASS_CODE
4.	B_Service_Area_Type	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
5.	B_Service_Area_Type	B_PRIMARY_INDICATOR_CODE	TINWSSAA	Water System Service Area Asgmt	PRIMARY_INDICATOR_CODE

6.4   B_Service_Area_Type Structure Set to Staging Table Mapping

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
1.	B_Service_Area_Type	B_NAME	TMGSAT	B_NAME
2.	B_Service_Area_Type	B_NAME_CODE	TMGSAT	B_NAME_CD
3.	B_Service_Area_Type	B_CLASS_CODE	TMGSAT	B_CLASS_CD
4.	B_Service_Area_Type	B_PWS_NUMBER	TMGSAT	B_PWS_NUMBER
5.	B_Service_Area_Type	B_PRIMARY_INDICATOR_CODE	TMGSAT	B_PRIME_IND_CD

(Table header: B_SERVICE_AREA_TYPE)

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

7.0   STRUCTURE SET B_Storage_Facility

7.1   B_Storage_Facility File Layout

	B_STORAGE_FACILITY				
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER) and field 4 (B_STATE_ASGN_IDENTIFICATION_CODE).**
2.	B_WSF_NAME	AN	40	10 - 49	OPTIONAL
3.	B_WSF_LOCAL_NAME	AN	40	50 - 89	OPTIONAL
4.	B_STATE_ASGN_IDENTIFICATION_CODE	AN	12	90 - 101	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER) and field 4 (B_STATE_ASGN_IDENTIFICATION_CODE).**
5. *	B_STORAGE_TYPE_CODE	AN	2	102 - 103	MANDATORY
6.	B_EFFECTIVE_VOLUME_MEASURE	N	11	104 - 114	OPTIONAL
7. *	B_EFFECTIVE_VOLUME_MEASURE_UNIT	AN	3	115 - 117	OPTIONAL
8.	B_OVERFLOW_ELEVATION_MEASURE	N	6	118 - 123	OPTIONAL
9.	B_TOTAL_ELEVATION_HEAD_MEASURE	N	7(6(1))	124 - 130	OPTIONAL
10. *	B_CONSTRUCTION_MATERIAL_TYPE_CD	AN	2	131 - 132	OPTIONAL
11. *	B_COATING_TYPE_CODE	AN	2	133 - 134	OPTIONAL
12. *	B_COVERED_INDICATOR_CODE	AN	1	135	OPTIONAL
13. *	B_ALTITUDE_VALVE_INDICATOR_CODE	AN	1	136	OPTIONAL
14. *	B_PRESSURIZED_INDICATOR_CODE	AN	1	137	OPTIONAL
15. *	B_PUMP_TYPE_CODE	AN	2	138 - 139	OPTIONAL
16.	B_TOTAL_DYNAMIC_HEAD_MEASURE	N	4	140 - 143	OPTIONAL
17.	B_FINDS_NUMBER	AN	12	144 - 155	OPTIONAL

* Designates field with permitted values.   A-49   + Shaded gray blocks designate changes to previously published Structure Sets.

					B_STORAGE_FACILITY	
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
18.	B_CONSTRUCTED_DATE	DT	8	156 - 163	OPTIONAL
19. *	B_ACTIVITY_STATUS_CODE	AN	1	164	OPTIONAL - If field is not valued, *Migration to SDWIS/STATE* will set to "A."
20.	B_ACTIVITY_DATE	DT	8	165 - 172	OPTIONAL
21.	B_ACTIVITY_REASON_TEXT	ANmc	120	173 - 292	OPTIONAL
22. *	B_WATER_TYPE_CODE	AN	3	293 - 295	OPTIONAL
23.	B_APPROVED_DESIGN_CAPACITY_GAL	N	11	296 - 306	OPTIONAL
24. *	B_AVAILABILITY_CODE	AN	1	307	OPTIONAL
25. *	B_EMERGENCY_POWER_INDICATOR_CODE	AN	1	308	OPTIONAL
26.	B_WATER_BODY_NAME_TEXT	AN	40	309 - 348	OPTIONAL
27.	B_USGS_HYDROLOGIC_UNIT_CODE	AN	8	349 - 356	OPTIONAL
28.	B_STORET_EXTENSION_HYDRO_UNIT_CD	AN	3	357 - 359	OPTIONAL
29.	B_RIVER_REACH_MILES_QUANTITY	N	7(6(1))	360 - 366	OPTIONAL
30.	B_DIRECTIONS_TEXT	ANmc	120	367 - 486	OPTIONAL
31.	B_CLD_MERIDIAN_NAME_TEXT	AN	40	487 - 526	CONDITIONALLY MANDATORY - Must be valued if field 32 (B_CLD_TOWNSHIP_NUMBER), or field 33 (B_CLD_RANGE_NUMBER), or field 34 (B_CLD_SECTION_NUMBER), or field 35 (B_CLD_QUARTER_SECTION_CODE), or field 36 (B_CLD_QUARTER_QTR_SECTION_CODE), or field 37 B_CLD_QUARTER_QTR_QTR_SCTN_CODE), or field 38 (B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.

B_STORAGE_FACILITY					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
32.	B_CLD_TOWNSHIP_NUMBER	AN	4	527 - 530	CONDITIONALLY MANDATORY - Must be valued if field 34 (B_CLD_SECTION_NUMBER) is valued. The permitted values should follow the TTTD format. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
33.	B_CLD_RANGE_NUMBER	AN	4	531 - 534	CONDITIONALLY MANDATORY - Must be valued if field 32 (B_CLD_TOWNSHIP_NUMBER) is valued. The permitted values should follow the TTTD format. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
34. *	B_CLD_SECTION_NUMBER	AN	2	535 - 536	CONDITIONALLY MANDATORY - Must be valued if field 35 (B_CLD_QUARTER_SECTION_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
35. *	B_CLD_QUARTER_SECTION_CODE	AN	2	537 - 538	CONDITIONALLY MANDATORY - Must be valued if field 36 (B_CLD_QUARTER_QTR_SECTION_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
36. *	B_CLD_QUARTER_QTR_SECTION_CODE	AN	2	539 - 540	CONDITIONALLY MANDATORY - Must be valued if field 37 B_CLD_QUARTER_QTR_QTR_SCTN_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.

B_STORAGE_FACILITY					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
37. *	B_CLD_QUARTER_QTR_QTR_SCTN_CODE	AN	2	541 - 542	CONDITIONALLY MANDATORY - Must be valued if field 38 (B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
38. *	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	AN	2	543 - 544	OPTIONAL

7.2   B_Storage_Facility Permitted Value List

B_STORAGE_FACILITY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
5.	B_STORAGE_TYPE_CODE	**BL** Bladder **EL** Elevated **GR** Ground **HD** Hydropneumatic **RS** Reservoir **ST** Standpipe **UN** Underground
7.	B_EFFECTIVE_VOLUME_MEASURE_UNIT	**ACF** Acre-Feet **CFT** Cubic Feet **GAL** Gallons **MGA** Million Gallons
10.	B_CONSTRUCTION_MATERIAL_TYPE_CD	**AC** Asbestos Cement **AS** Asphalt **CC** Concrete **CP** Copper **ER** Earth **FG** Fiberglass **PL** Plastic **ST** Steel **WD** Wood

B_STORAGE_FACILITY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
11.	B_COATING_TYPE_CODE	**AP** Approved Paint **ER** Epoxy Resin **FG** Fiberglass **GR** Greased **GS** Glass-lined Steel **NP** Not Approved Paint **PL** Plastic **UN** Unlined
12.	B_COVERED_INDICATOR_CODE	**Y** Yes **N** No
13.	B_ALTITUDE_VALVE_INDICATOR_CODE	**Y** Yes **N** No
14.	B_PRESSURIZED_INDICATOR_CODE	**Y** Yes **N** No
15.	B_PUMP_TYPE_CODE	**CF** Centrifugal **HP** Hand Pump **JT** Jet **PD** Positive Displacement **SC** Screw **SU** Submersible **VT** Vertical Turbine
19.	B_ACTIVITY_STATUS_CODE	**A** Active **I** Inactive
22.	B_WATER_TYPE_CODE	**GW** Groundwater **GU** Groundwater under the Direct Influence of Surface Water **SW** Surface Water

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

	B_STORAGE_FACILITY	
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
24.	B_AVAILABILITY_ CODE	**E** Emergency **I** Interim **O** Other **P** Permanent **S** Seasonal
25.	B_EMERGENCY_POWER_INDICATOR_CODE	**Y** Yes **N** No
34.	B_CLD_SECTION_NUMBER	**01 to 36**
35.	B_CLD_QUARTER_SECTION_CODE and 36. B_CLD_QUARTER_QTR_SECTION_CODE and 37. B_CLD_QUARTER_QTR_QTR_SCTN_CODE and 38. B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	**NE** Northeast Quarter **NW** Northwest Quarter **SE** Southeast Quarter **SW** Southwest Quarter

* Designates field with permitted values. A-55 + Shaded gray blocks designate changes to previously published Structure Sets.

7.3 B_Storage_Facility Mapping to SDWIS/STATE Entities

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
		B_STORAGE_FACILITY			
1.	B_Storage_Facility	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Storage_Facility	B_WSF_NAME	TINWSF	Water System Facility	NAME
3.	B_Storage_Facility	B_WSF_LOCAL_NAME	TINWSF	Water System Facility	LOCAL_NAME
4.	B_Storage_Facility	B_STATE_ASGN_IDENTIFICATION_CODE	TINWSF	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE
5.	B_Storage_Facility	B_STORAGE_TYPE_CODE	TINSTRG	Storage	TYPE_CODE
6.	B_Storage_Facility	B_EFFECTIVE_VOLUME_MEASURE	TINSTRG	Storage	EFFECTIVE_VOLUME_MEASURE
7.	B_Storage_Facility	B_EFFECTIVE_VOLUME_MEASURE_UNIT	TINSTRG	Storage	EFFECTIVE_VOLUME_MEASURE_UNIT
8.	B_Storage_Facility	B_OVERFLOW_ELEVATION_MEASURE	TINSTRG	Storage	OVERFLOW_ELEVATION_MEASURE
9.	B_Storage_Facility	B_TOTAL_ELEVATION_HEAD_MEASURE	TINSTRG	Storage	TOTAL_ELEVATION_HEAD_MEASURE
10.	B_Storage_Facility	B_CONSTRUCTION_MATERIAL_TYPE_CD	TINSTRG	Storage	CONSTRUCTION_MATERIAL_TYPE_CODE
11.	B_Storage_Facility	B_COATING_TYPE_CODE	TINSTRG	Storage	COATING_TYPE_CODE
12.	B_Storage_Facility	B_COVERED_INDICATOR_CODE	TINSTRG	Storage	COVERED_INDICATOR_CODE
13.	B_Storage_Facility	B_ALTITUDE_VALVE_INDICATOR_CODE	TINSTRG	Storage	ALTITUDE_VALVE_INDICATOR_CODE
14.	B_Storage_Facility	B_PRESSURIZED_INDICATOR_CODE	TINSTRG	Storage	PRESSURIZED_INDICATOR_CODE
15.	B_Storage_Facility	B_PUMP_TYPE_CODE	TINWSF	Water System Facility	PUMP_TYPE_CODE
16.	B_Storage_Facility	B_TOTAL_DYNAMIC_HEAD_MEASURE	TINWSF	Water System Facility	TOTAL_DYNAMIC_HEAD_MEASURE

		B_STORAGE_FACILITY			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
17.	B_Storage_Facility	B_FINDS_NUMBER	TINWSF	Water System Facility	FINDS_NUMBER
18.	B_Storage_Facility	B_CONSTRUCTED_DATE	TINWSF	Water System Facility	CONSTRUCTED_DATE
19.	B_Storage_Facility	B_ACTIVITY_STATUS_CODE	TINWSF	Water System Facility	ACTIVITY_STATUS_CODE
20.	B_Storage_Facility	B_ACTIVITY_DATE	TINWSF	Water System Facility	ACTIVITY_DATE
21.	B_Storage_Facility	B_ACTIVITY_REASON_TEXT	TINWSF	Water System Facility	ACTIVITY_REASON_TEXT
22.	B_Storage_Facility	B_WATER_TYPE_CODE	TINWSF	Water System Facility	WATER_TYPE_CODE
23.	B_Storage_Facility	B_APPROVED_DESIGN_CAPACITY_GAL	TINWSF	Water System Facility	APPROVED_DESIGN_CAPACITY_MEASURE
24.	B_Storage_Facility	B_AVAILABILITY_CODE	TINWSF	Water System Facility	AVAILABILITY_CODE
25.	B_Storage_Facility	B_EMERGENCY_POWER_INDICATOR_CODE	TINWSF	Water System Facility	EMERGENCY_POWER_INDICATOR_CODE
26.	B_Storage_Facility	B_WATER_BODY_NAME_TEXT	TINWSF	Water System Facility	WATER_BODY_NAME_TEXT
27.	B_Storage_Facility	B_USGS_HYDROLOGIC_UNIT_CODE	TINWSF	Water System Facility	USGS_HYDROLOGIC_UNIT_CODE
28.	B_Storage_Facility	B_STORET_EXTENSION_HYDRO_UNIT_CD	TINWSF	Water System Facility	STORET_EXTENSION_HYDRO_UNIT_CODE
29.	B_Storage_Facility	B_RIVER_REACH_MILES_QUANTITY	TINWSF	Water System Facility	RIVER_REACH_MILES_QUANTITY

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

		B_STORAGE_FACILITY			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
30.	B_Storage_Facility	B_DIRECTIONS_TEXT	TINWSF	Water System Facility	DIRECTIONS_TEXT
31.	B_Storage_Facility	B_CLD_MERIDIAN_NAME_TEXT	TINCLD	Cadastral Legal Description	MERIDIAN_NAME_TEXT
32.	B_Storage_Facility	B_CLD_TOWNSHIP_NUMBER	TINCLD	Cadastral Legal Description	TOWNSHIP_NUMBER
33.	B_Storage_Facility	B_CLD_RANGE_NUMBER	TINCLD	Cadastral Legal Description	RANGE_NUMBER
34.	B_Storage_Facility	B_CLD_SECTION_NUMBER	TINCLD	Cadastral Legal Description	SECTION_NUMBER
35.	B_Storage_Facility	B_CLD_QUARTER_SECTION_CODE	TINCLD	Cadastral Legal Description	QUARTER_SECTION_CODE
36.	B_Storage_Facility	B_CLD_QUARTER_QTR_SECTION_CODE	TINCLD	Cadastral Legal Description	QUARTER_QUARTER_SECTION_CODE
37.	B_Storage_Facility	B_CLD_QUARTER_QTR_QTR_SCTN_CODE	TINCLD	Cadastral Legal Description	QUARTER_QUARTER_QTR_SCTN_CODE
38.	B_Storage_Facility	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	TINCLD	Cadastral Legal Description	QTR_QTR_QTR_QTR_SECTION_CODE
39.	B_Storage_Facility	*SDWIS/STATE CALCULATES*	TINWSF	Water System Facility	TYPE_CODE
40.	B_Storage_Facility	*SDWIS/STATE CALCULATES*	TINWSF	Water System Facility	APPD_DESIGN_CAP_MEAS_UNIT_CODE
41.	B_Storage_Facility	*SDWIS/STATE CALCULATES*	TINWSF	Water System Facility	CADASTRAL_INDICATOR_CODE
42.	B_Storage_Facility	*SDWIS/STATE CALCULATES*	TINWSF	Water System Facility	ON_RIVER_REACH_INDICATOR_CODE

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published Structure Sets.

7.4   B_Storage_Facility Structure Set to Staging Table Mapping

	B_STORAGE_FACILITY			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
1.	B_Storage_Facility	B_PWS_NUMBER	TMGSTRG	B_PWS_NUMBER
2.	B_Storage_Facility	B_WSF_NAME	TMGSTRG	B_WSF_NAME
3.	B_Storage_Facility	B_WSF_LOCAL_NAME	TMGSTRG	B_WSF_LOCAL_NAME
4.	B_Storage_Facility	B_STATE_ASGN_IDENTIFICATION_CODE	TMGSTRG	B_ST_ASGN_ID_CD
5.	B_Storage_Facility	B_STORAGE_TYPE_CODE	TMGSTRG	B_STORAGE_TYPE_CD
6.	B_Storage_Facility	B_EFFECTIVE_VOLUME_MEASURE	TMGSTRG	B_EFFECTIV_VOL_MSR
7.	B_Storage_Facility	B_EFFECTIVE_VOLUME_MEASURE_UNIT	TMGSTRG	B_EFTV_VOL_MSR_UOM
8.	B_Storage_Facility	B_OVERFLOW_ELEVATION_MEASURE	TMGSTRG	B_OFLOW_ELEV_MSR
9.	B_Storage_Facility	B_TOTAL_ELEVATION_HEAD_MEASURE	TMGSTRG	B_TOTELEV_HEAD_MSR
10.	B_Storage_Facility	B_CONSTRUCTION_MATERIAL_TYPE_CD	TMGSTRG	B_CONST_MAT_TYP_CD
11.	B_Storage_Facility	B_COATING_TYPE_CODE	TMGSTRG	B_COATING_TYPE_CD
12.	B_Storage_Facility	B_COVERED_INDICATOR_CODE	TMGSTRG	B_COVERED_IND_CD
13.	B_Storage_Facility	B_ALTITUDE_VALVE_INDICATOR_CODE	TMGSTRG	B_ALT_VALVE_IND_CD
14.	B_Storage_Facility	B_PRESSURIZED_INDICATOR_CODE	TMGSTRG	B_PRESSUR_IND_CD
15.	B_Storage_Facility	B_PUMP_TYPE_CODE	TMGSTRG	B_PUMP_TYPE_CD
16.	B_Storage_Facility	B_TOTAL_DYNAMIC_HEAD_MEASURE	TMGSTRG	B_TOT_DYN_HEAD_MSR
17.	B_Storage_Facility	B_FINDS_NUMBER	TMGSTRG	B_FINDS_NUMBER
18.	B_Storage_Facility	B_CONSTRUCTED_DATE	TMGSTRG	B_CONSTRUCTED_DT
19.	B_Storage_Facility	B_ACTIVITY_STATUS_CODE	TMGSTRG	B_ACTIV_STATUS_CD
20.	B_Storage_Facility	B_ACTIVITY_DATE	TMGSTRG	B_ACTIVITY_DT
21.	B_Storage_Facility	B_ACTIVITY_REASON_TEXT	TMGSTRG	B_ACTIV_REASON_TXT
22.	B_Storage_Facility	B_WATER_TYPE_CODE	TMGSTRG	B_WATER_TYPE_CD

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
		B_STORAGE_FACILITY		
23.	B_Storage_Facility	B_APPROVED_DESIGN_CAPACITY_GAL	TMGSTRG	B_APP_DSGN_CAP_GAL
24.	B_Storage_Facility	B_AVAILABILITY_CODE	TMGSTRG	B_AVAILABILITY_CD
25.	B_Storage_Facility	B_EMERGENCY_POWER_INDICATOR_CODE	TMGSTRG	B_EMGCY_POW_IND_CD
26.	B_Storage_Facility	B_WATER_BODY_NAME_TEXT	TMGSTRG	B_WTR_BODY_NM_TXT
27.	B_Storage_Facility	B_USGS_HYDROLOGIC_UNIT_CODE	TMGSTRG	B_USGS_HYDRO_UN_CD
28.	B_Storage_Facility	B_STORET_EXTENSION_HYDRO_UNIT_CD	TMGSTRG	B_STOR_EX_HY_UN_CD
29.	B_Storage_Facility	B_RIVER_REACH_MILES_QUANTITY	TMGSTRG	B_RIV_REACH_MI_QTY
30.	B_Storage_Facility	B_DIRECTIONS_TEXT	TMGSTRG	B_DIRECTIONS_TXT
31.	B_Storage_Facility	B_CLD_MERIDIAN_NAME_TEXT	TMGSTRG	B_CLD_MERID_NM_TXT
32.	B_Storage_Facility	B_CLD_TOWNSHIP_NUMBER	TMGSTRG	B_CLD_TOWNSHIP_NUM
33.	B_Storage_Facility	B_CLD_RANGE_NUMBER	TMGSTRG	B_CLD_RANGE_NUM
34.	B_Storage_Facility	B_CLD_SECTION_NUMBER	TMGSTRG	B_CLD_SECTION_NUM
35.	B_Storage_Facility	B_CLD_QUARTER_SECTION_CODE	TMGSTRG	B_CLD_1QRTR_SEC_CD
36.	B_Storage_Facility	B_CLD_QUARTER_QTR_SECTION_CODE	TMGSTRG	B_CLD_2QRTR_SEC_CD
37.	B_Storage_Facility	B_CLD_QUARTER_QTR_QTR_SCTN_CODE	TMGSTRG	B_CLD_3QRTR_SEC_CD
38.	B_Storage_Facility	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	TMGSTRG	B_CLD_4QRTR_SEC_CD

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

8.0   STRUCTURE SET B_Treatment_Plant

8.1   B_Treatment_Plant File Layout

	B_TREATMENT_PLANT				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER) and field 4 (B_STATE_ASGN_IDENTIFICATION_CODE).**
2.	B_WSF_NAME	AN	40	10 - 49	OPTIONAL
3.	B_WSF_LOCAL_NAME	AN	40	50 - 89	OPTIONAL
4.	B_STATE_ASGN_IDENTIFICATION_CODE	AN	12	90 - 101	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER) and field 4 (B_STATE_ASGN_IDENTIFICATION_CODE).**
5. *	B_PUMP_TYPE_CODE	AN	2	102 - 103	OPTIONAL
6.	B_TOTAL_DYNAMIC_HEAD_MEASURE	N	4	104 - 107	OPTIONAL
7.	B_FINDS_NUMBER	AN	12	108 - 119	OPTIONAL
8.	B_CONSTRUCTED_DATE	DT	8	120 - 127	OPTIONAL
9. *	B_ACTIVITY_STATUS_CODE	AN	1	128	OPTIONAL - If field is not valued, *Migration to SDWIS/STATE* will set to "A."
10.	B_ACTIVITY_DATE	DT	8	129 - 136	OPTIONAL
11.	B_ACTIVITY_REASON_TEXT	ANmc	120	137 - 256	OPTIONAL
12. *	B_WATER_TYPE_CODE	AN	3	257 - 259	OPTIONAL
13.	B_APPROVED_DESIGN_CAPACITY_MSR	N	11	260 - 270	OPTIONAL
14. *	B_APPD_DESIGN_CAP_MEAS_UNIT_CODE	AN	3	271 - 273	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_APPROVED_DESIGN_CAPACITY_MSR) is valued.
15. *	B_AVAILABILITY_CODE	AN	1	274	OPTIONAL

* Designates field with permitted values.   A-61   + Shaded gray blocks designate changes to previously published Structure Sets.

B_TREATMENT_PLANT					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
16. *	B_EMERGENCY_POWER_INDICATOR_CODE	AN	1	275	OPTIONAL
17.	B_WATER_BODY_NAME_TEXT	AN	40	276 - 315	OPTIONAL
18.	B_USGS_HYDROLOGIC_UNIT_CODE	AN	8	316 - 323	OPTIONAL
19.	B_STORET_EXTENSION_HYDRO_UNIT_CD	AN	3	324 - 326	OPTIONAL
20.	B_RIVER_REACH_MILES_QUANTITY	N	7(6(1))	327 - 333	OPTIONAL
21.	B_DIRECTIONS_TEXT	ANmc	120	334 - 453	OPTIONAL
22.	B_CLD_MERIDIAN_NAME_TEXT	AN	40	454 - 493	CONDITIONALLY MANDATORY - Must be valued if field 23 (B_CLD_TOWNSHIP_NUMBER), or field 24 (B_CLD_RANGE_NUMBER), or field 25 (B_CLD_SECTION_NUMBER), or field 26 (B_CLD_QUARTER_SECTION_CODE), or field 27 (B_CLD_QUARTER_QTR_SECTION_CODE), or field 28 B_CLD_QUARTER_QTR_QTR_SCTN_CODE), or field 29 (B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
23.	B_CLD_TOWNSHIP_NUMBER	AN	4	494 - 497	CONDITIONALLY MANDATORY - Must be valued if field 25 (B_CLD_SECTION_NUMBER) is valued. The permitted values should follow the TTTD format. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.

| B_TREATMENT_PLANT |
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
24.	B_CLD_RANGE_NUMBER	AN	4	498 - 501	CONDITIONALLY MANDATORY - Must be valued if field 23 (B_CLD_TOWNSHIP_NUMBER) is valued. The permitted values should follow the TTTD format. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
25. *	B_CLD_SECTION_NUMBER	AN	2	502 - 503	CONDITIONALLY MANDATORY - Must be valued if field 26 (B_CLD_QUARTER_SECTION_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
26. *	B_CLD_QUARTER_SECTION_CODE	AN	2	504 - 505	CONDITIONALLY MANDATORY - Must be valued if field 27 (B_CLD_QUARTER_QTR_SECTION_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
27. *	B_CLD_QUARTER_QTR_SECTION_CODE	AN	2	506 - 507	CONDITIONALLY MANDATORY - Must be valued if field 28 B_CLD_QUARTER_QTR_QTR_SCTN_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
28. *	B_CLD_QUARTER_QTR_QTR_SCTN_CODE	AN	2	508 - 509	CONDITIONALLY MANDATORY - Must be valued if field 29 (B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
29. *	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	AN	2	510 - 511	OPTIONAL

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published Structure Sets.

B_TREATMENT_PLANT				
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
30.	B_CONTACT_TIME	AN	6	512 - 517	OPTIONAL - A value supplied for any one of the 18 fields in this structure set that map to entity Treatment Plant/table TINTRPLT will result in the creation of a Treatment Plant/table TINTRPLT record that is associated with the supplied WSF of type TP.
31.	B_CONTACT_TIME_DETERMINATION_DATE	DT	8	518 - 525	OPTIONAL - If valued, must be less than or equal to the current date.
32.	B_DISINFECTANT_CONCENTRATION	AN	6	526 - 531	OPTIONAL
33.	B_CT_VALUE	AN	6	532 - 537	OPTIONAL
34.	B_DISINFECT_BENCHMRK_GIARDIA_INACT	AN	6	538 - 543	OPTIONAL
35.	B_DISINFECTION_BENCHMARK_DTRM_DATE	DT	8	544 - 551	OPTIONAL - If valued, must be less than or equal to the current date.
36.	B_GIARDIA_REMOVAL_GRTD_FILTRATION	AN	6	552 - 557	OPTIONAL
37.	B_GIARDIA_INACTIVATION_NEEDED	AN	6	558 - 563	OPTIONAL
38.	B_GIARDIA_INACTIVATION_ACHIEVED	AN	6	564 - 569	OPTIONAL
39.	B_CRYPTOSPORIDIUM_INACT_ACHIEVED	AN	6	570 - 575	OPTIONAL
40.	B_VIRUS_INACTIVATION_ACHIEVED	AN	6	576 - 581	OPTIONAL
41. *	B_FILTER_TYPE	AN	2	582 - 583	OPTIONAL - For a Filter Type, see federally defined list in permitted values section of this structure set. For a state-defined Filter Type, the type must already exist in the database. System Administrators may add state-defined filter types to Code Name **TINTRPLT1** using the online Permitted Values function in the *System Administration* component.
42.	B_DSGN_PRCT_FLTR_BCKWSH_RTN_INFL	AN	5	584 - 588	OPTIONAL
43. *	B_FILTER_BACKWASH_SCHEMA_RQD_IND	AN	1	589	OPTIONAL
44.	B_FILTER_BACKWASH_SCHEMA_RCVD_DATE	DT	8	590 - 597	OPTIONAL

* Designates field with permitted values.   A-64   + Shaded gray blocks designate changes to previously published Structure Sets.

B_TREATMENT_PLANT					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
45.	B_FILTER_BACKWASH_SCHEMA_RVWD_DATE	DT	8	598 - 605	OPTIONAL
46.	B_CONTACT_TIME_REASON	AN	120	606 - 725	OPTIONAL
47.	B_DISINFECTION_BENCHMARK_REASON	AN	120	726 - 845	OPTIONAL

8.2 B_Treatment_Plant Permitted Value List

B_TREATMENT_PLANT		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
5.	B_PUMP_TYPE_CODE	**CF** Centrifugal **HP** Hand Pump **JT** Jet **PD** Positive Displacement **SC** Screw **SU** Submersible **VT** Vertical Turbine
9.	B_ACTIVITY_STATUS_CODE	**A** Active **I** Inactive **P** Proposed
12.	B_WATER_TYPE_CODE	**GW** Groundwater **GU** Groundwater under the Direct Influence of Surface Water **SW** Surface Water
14.	B_APPD_DESIGN_CAP_MEAS_UNIT_CODE	**GAL** Gallons **GPD** Gallons per Day **GPM** Gallons per Minute **MGD** Million Gallons per Day
15.	B_AVAILABILITY_ CODE	**E** Emergency **I** Interim **O** Other **P** Permanent **S** Seasonal
16.	B_EMERGENCY_POWER_INDICATOR_CODE	**Y** Yes **N** No

B_TREATMENT_PLANT		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
25.	B_CLD_SECTION_NUMBER	**01 to 36**
26. 27. 28. 29.	B_CLD_QUARTER_SECTION_CODE and B_CLD_QUARTER_QTR_SECTION_CODE and B_CLD_QUARTER_QTR_QTR_SCTN_CODE and B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	**NE** Northeast Quarter **NW** Northwest Quarter **SE** Southeast Quarter **SW** Southwest Quarter
41.	B_FILTER_TYPE	For a state-defined Filter Type, the type must already exist in the database. System Administrators may add state-defined filter types to Code Name **TINTRPLT1** using the online Permitted Values function in the *System Administration* component. The following is a list of federally owned permitted values that already exist in the database: **UF** Unfiltered **CF** Conventional Filtration **DF** Direct Filtration **DE** Diatomaecious Earth **OT** Other
43.	B_FILTER_BACKWASH_SCHEMA_RQD_IND	Y Yes N No

8.3   B_Treatment_Plant Mapping to SDWIS/STATE Entities

		B_TREATMENT_PLANT			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_Treatment_Plant	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Treatment_Plant	B_WSF_NAME	TINWSF	Water System Facility	NAME
3.	B_Treatment_Plant	B_WSF_LOCAL_NAME	TINWSF	Water System Facility	LOCAL_NAME
4.	B_Treatment_Plant	B_STATE_ASGN_IDENTIFICATION_CODE	TINWSF	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE
5.	B_Treatment_Plant	B_PUMP_TYPE_CODE	TINWSF	Water System Facility	PUMP_TYPE_CODE
6.	B_Treatment_Plant	B_TOTAL_DYNAMIC_HEAD_MEASURE	TINWSF	Water System Facility	TOTAL_DYNAMIC_HEAD_MEASURE
7.	B_Treatment_Plant	B_FINDS_NUMBER	TINWSF	Water System Facility	FINDS_NUMBER
8.	B_Treatment_Plant	B_CONSTRUCTED_DATE	TINWSF	Water System Facility	CONSTRUCTED_DATE
9.	B_Treatment_Plant	B_ACTIVITY_STATUS_CODE	TINWSF	Water System Facility	ACTIVITY_STATUS_CODE
10.	B_Treatment_Plant	B_ACTIVITY_DATE	TINWSF	Water System Facility	ACTIVITY_DATE
11.	B_Treatment_Plant	B_ACTIVITY_REASON_TEXT	TINWSF	Water System Facility	ACTIVITY_REASON_TEXT
12.	B_Treatment_Plant	B_WATER_TYPE_CODE	TINWSF	Water System Facility	WATER_TYPE_CODE

* Designates field with permitted values.   A-68   + Shaded gray blocks designate changes to previously published Structure Sets.

B_TREATMENT_PLANT				
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
13.	B_Treatment_Plant	B_APPROVED_DESIGN_CAPACITY_MSR	TINWSF	Water System Facility	APPROVED_DESIGN_CAPACITY_MEASURE
14.	B_Treatment_Plant	B_APPD_DESIGN_CAP_MEAS_UNIT_CODE	TINWSF	Water System Facility	APPD_DESIGN_CAP_MEAS_UNIT_CODE
15.	B_Treatment_Plant	B_AVAILABILITY_CODE	TINWSF	Water System Facility	AVAILABILITY_CODE
16.	B_Treatment_Plant	B_EMERGENCY_POWER_INDICATOR_CODE	TINWSF	Water System Facility	EMERGENCY_POWER_INDICATOR_CODE
17.	B_Treatment_Plant	B_WATER_BODY_NAME_TEXT	TINWSF	Water System Facility	WATER_BODY_NAME_TEXT
18.	B_Treatment_Plant	B_USGS_HYDROLOGIC_UNIT_CODE	TINWSF	Water System Facility	USGS_HYDROLOGIC_UNIT_CODE
19.	B_Treatment_Plant	B_STORET_EXTENSION_HYDRO_UNIT_CD	TINWSF	Water System Facility	STORET_EXTENSION_HYDRO_UNIT_CODE
20.	B_Treatment_Plant	B_RIVER_REACH_MILES_QUANTITY	TINWSF	Water System Facility	RIVER_REACH_MILES_QUANTITY
21.	B_Treatment_Plant	B_DIRECTIONS_TEXT	TINWSF	Water System Facility	DIRECTIONS_TEXT
22.	B_Treatment_Plant	B_CLD_MERIDIAN_NAME_TEXT	TINCLD	Cadastral Legal Description	MERIDIAN_NAME_TEXT
23.	B_Treatment_Plant	B_CLD_TOWNSHIP_NUMBER	TINCLD	Cadastral Legal Description	TOWNSHIP_NUMBER
24.	B_Treatment_Plant	B_CLD_RANGE_NUMBER	TINCLD	Cadastral Legal Description	RANGE_NUMBER
25.	B_Treatment_Plant	B_CLD_SECTION_NUMBER	TINCLD	Cadastral Legal Description	SECTION_NUMBER

* Designates field with permitted values.　　　　　　　　　　A-69　　　　　　　+ Shaded gray blocks designate changes to previously published Structure Sets.

		B_TREATMENT_PLANT			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
26.	B_Treatment_Plant	B_CLD_QUARTER_SECTION_CODE	TINCLD	Cadastral Legal Description	QUARTER_SECTION_CODE
27.	B_Treatment_Plant	B_CLD_QUARTER_QTR_SECTION_CODE	TINCLD	Cadastral Legal Description	QUARTER_QUARTER_SECTION_CODE
28.	B_Treatment_Plant	B_CLD_QUARTER_QTR_QTR_SCTN_CODE	TINCLD	Cadastral Legal Description	QUARTER_QUARTER_QTR_SCTN_CODE
29.	B_Treatment_Plant	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	TINCLD	Cadastral Legal Description	QTR_QTR_QTR_QTR_SECTION_CODE
30.	B_Treatment_Plant	B_CONTACT _TIME	TINTRPLT	Treatment Plant	CONTACT_TIME
31.	B_Treatment_Plant	B_CONTACT_TIME_DETERMINATION_DATE	TINTRPLT	Treatment Plant	CONTACT_TIME_DETERMINATION_DATE
32.	B_Treatment_Plant	B_DISINFECTANT_CONCENTRATION	TINTRPLT	Treatment Plant	DISINFECTANT_CONCENTRATION
33.	B_Treatment_Plant	B_CT_VALUE	TINTRPLT	Treatment Plant	CT_VALUE
34.	B_Treatment_Plant	B_DISINFECT_BENCHMRK_GIARDIA_INACT	TINTRPLT	Treatment Plant	DISINFECT_BENCHMRK_GIARDIA_INACT
35.	B_Treatment_Plant	B_DISINFECTION_BENCHMARK_DTRM_DATE	TINTRPLT	Treatment Plant	DISINFECTION_BENCHMARK_DTRM_DATE
36.	B_Treatment_Plant	B_GIARDIA_REMOVAL_GRTD_FILTRATION	TINTRPLT	Treatment Plant	GIARDIA_REMOVAL_GRTD_FILTRATION
37.	B_Treatment_Plant	B_GIARDIA_INACTIVATION_NEEDED	TINTRPLT	Treatment Plant	GIARDIA_INACTIVATION_NEEDED
38.	B_Treatment_Plant	B_GIARDIA_INACTIVATION_ACHIEVED	TINTRPLT	Treatment Plant	GIARDIA_INACTIVATION_ACHIEVED
39.	B_Treatment_Plant	B_CRYPTOSPORIDIUM_INACT_ACHIEVED	TINTRPLT	Treatment Plant	CRYPTOSPORIDIUM_INACT_ACHIEVED
40.	B_Treatment_Plant	B_VIRUS_INACTIVATION_ACHIEVED	TINTRPLT	Treatment Plant	VIRUS_INACTIVATION_ACHIEVED
41.	B_Treatment_Plant	B_FILTER_TYPE	TINTRPLT	Treatment Plant	FILTER_TYPE
42.	B_Treatment_Plant	B_DSGN_PRCT_FLTR_BCKWSH_RTN_INFL	TINTRPLT	Treatment Plant	DSGN_PRCT_FLTR_BCKWSH_RTN_INFL
43.	B_Treatment_Plant	B_FILTER_BACKWASH_SCHEMA_RQD_IND	TINTRPLT	Treatment Plant	FILTER_BACKWASH_SCHEMA_RQD_IND

* Designates field with permitted values.
+ Shaded gray blocks designate changes to previously published Structure Sets.

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
		B_TREATMENT_PLANT			
44.	B_Treatment_Plant	B_FILTER_BACKWASH_SCHEMA_RCVD_DATE	TINTRPLT	Treatment Plant	FILTER_BACKWASH_SCHEMA_RCVD_DATE
45.	B_Treatment_Plant	B_FILTER_BACKWASH_SCHEMA_RVWD_DATE	TINTRPLT	Treatment Plant	FILTER_BACKWASH_SCHEMA_RVWD_DATE
46.	B_Treatment_Plant	B_CONTACT_TIME_REASON	TINTRPLT	Treatment Plant	CONTACT_TIME_REASON
47.	B_Treatment_Plant	B_DISINFECTION_BENCHMARK_REASON	TINTRPLT	Treatment Plant	DISINFECTION_BENCHMARK_REASON
48.	B_Treatment_Plant	*SDWIS/STATE CALCULATES*	TINWSF	Water System Facility	TYPE_CODE
49.	B_Treatment_Plant	*SDWIS/STATE CALCULATES*	TINWSF	Water System Facility	CADASTRAL_INDICATOR_CODE
50.	B_Treatment_Plant	*SDWIS/STATE CALCULATES*	TINWSF	Water System Facility	ON_RIVER_REACH_INDICATOR_CODE

8.4   B_Treatment_Plant Structure Set to Staging Table Mapping

		B_TREATMENT_PLANT		
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
1.	B_Treatment_Plant	B_PWS_NUMBER	TMGTPLNT	B_PWS_NUMBER
2.	B_Treatment_Plant	B_WSF_NAME	TMGTPLNT	B_WSF_NAME
3.	B_Treatment_Plant	B_WSF_LOCAL_NAME	TMGTPLNT	B_WSF_LOCAL_NAME
4.	B_Treatment_Plant	B_STATE_ASGN_IDENTIFICATION_CODE	TMGTPLNT	B_ST_ASGN_ID_CD
5.	B_Treatment_Plant	B_PUMP_TYPE_CODE	TMGTPLNT	B_PUMP_TYP_CD
6.	B_Treatment_Plant	B_TOTAL_DYNAMIC_HEAD_MEASURE	TMGTPLNT	B_TOT_DYN_HEAD_MSR
7.	B_Treatment_Plant	B_FINDS_NUMBER	TMGTPLNT	B_FINDS_NUMBER
8.	B_Treatment_Plant	B_CONSTRUCTED_DATE	TMGTPLNT	B_CONSTRUCTED_DT
9.	B_Treatment_Plant	B_ACTIVITY_STATUS_CODE	TMGTPLNT	B_ACTIV_STATUS_CD
10.	B_Treatment_Plant	B_ACTIVITY_DATE	TMGTPLNT	B_ACTIVITY_DT
11.	B_Treatment_Plant	B_ACTIVITY_REASON_TEXT	TMGTPLNT	B_ACTIVTY_REA_TXT
12.	B_Treatment_Plant	B_WATER_TYPE_CODE	TMGTPLNT	B_WATER_TYPE_CD
13.	B_Treatment_Plant	B_APPROVED_DESIGN_CAPACITY_MSR	TMGTPLNT	B_APP_DSGN_CAP_MSR
14.	B_Treatment_Plant	B_APPD_DESIGN_CAP_MEAS_UNIT_CODE	TMGTPLNT	B_APDSGN_CP_MSR_CD
15.	B_Treatment_Plant	B_AVAILABILITY_CODE	TMGTPLNT	B_AVAILABILITY_CD
16.	B_Treatment_Plant	B_EMERGENCY_POWER_INDICATOR_CODE	TMGTPLNT	B_EMGCY_POW_IND_CD
17.	B_Treatment_Plant	B_WATER_BODY_NAME_TEXT	TMGTPLNT	B_WTR_BODY_NM_TXT
18.	B_Treatment_Plant	B_USGS_HYDROLOGIC_UNIT_CODE	TMGTPLNT	B_USGS_HYDRO_UN_CD
19.	B_Treatment_Plant	B_STORET_EXTENSION_HYDRO_UNIT_CD	TMGTPLNT	B_STOR_EX_HY_UN_CD
20.	B_Treatment_Plant	B_RIVER_REACH_MILES_QUANTITY	TMGTPLNT	B_RIV_REACH_MI_QTY
21.	B_Treatment_Plant	B_DIRECTIONS_TEXT	TMGTPLNT	B_DIRECTIONS_TXT
22.	B_Treatment_Plant	B_CLD_MERIDIAN_NAME_TEXT	TMGTPLNT	B_CLD_MERID_NM_TXT

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
		B_TREATMENT_PLANT		
23.	B_Treatment_Plant	B_CLD_TOWNSHIP_NUMBER	TMGTPLNT	B_CLD_TOWNSHIP_NUM
24.	B_Treatment_Plant	B_CLD_RANGE_NUMBER	TMGTPLNT	B_CLD_RANGE_NUM
25.	B_Treatment_Plant	B_CLD_SECTION_NUMBER	TMGTPLNT	B_CLD_SECTION_NUM
26.	B_Treatment_Plant	B_CLD_QUARTER_SECTION_CODE	TMGTPLNT	B_CLD_QUART_SEC_CD
27.	B_Treatment_Plant	B_CLD_QUARTER_QTR_SECTION_CODE	TMGTPLNT	B_CLD_2QRTR_SEC_CD
28.	B_Treatment_Plant	B_CLD_QUARTER_QTR_QTR_SCTN_CODE	TMGTPLNT	B_CLD_3QRTR_SEC_CD
29.	B_Treatment_Plant	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	TMGTPLNT	B_CLD_4QRTR_SEC_CD
30.	B_Treatment_Plant	B_CONTACT_TIME	TMGTPLNT	B_CONTACT_TIME
31.	B_Treatment_Plant	B_CONTACT_TIME_DETERMINATION_DATE	TMGTPLNT	B_CT_TIM_DETRM_DAT
32.	B_Treatment_Plant	B_DISINFECTANT_CONCENTRATION	TMGTPLNT	B_DISINFCT_CONCENT
33.	B_Treatment_Plant	B_CT_VALUE	TMGTPLNT	B_CT_VALUE
34.	B_Treatment_Plant	B_DISINFECT_BENCHMRK_GIARDIA_INACT	TMGTPLNT	B_DSN_BMRK_GIAR_IN
35.	B_Treatment_Plant	B_DISINFECTION_BENCHMARK_DTRM_DATE	TMGTPLNT	B_DSN_BMRK_DTRM_DT
36.	B_Treatment_Plant	B_GIARDIA_REMOVAL_GRTD_FILTRATION	TMGTPLNT	B_GIARDI_RMVL_FLTR
37.	B_Treatment_Plant	B_GIARDIA_INACTIVATION_NEEDED	TMGTPLNT	B_GIARDI_INAC_NEED
38.	B_Treatment_Plant	B_GIARDIA_INACTIVATION_ACHIEVED	TMGTPLNT	B_GIARDI_INACT_ACH
39.	B_Treatment_Plant	B_CRYPTOSPORIDIUM_INACT_ACHIEVED	TMGTPLNT	B_CRYP_INACT_ACHV
40.	B_Treatment_Plant	B_VIRUS_INACTIVATION_ACHIEVED	TMGTPLNT	B_VIRUS_INACT_ACHV
41.	B_Treatment_Plant	B_FILTER_TYPE	TMGTPLNT	B_FILTER_TYPE
42.	B_Treatment_Plant	B_DSGN_PRCT_FLTR_BCKWSH_RTN_INFL	TMGTPLNT	B_DSG_PCT_FLTR_BCK
43.	B_Treatment_Plant	B_FILTER_BACKWASH_SCHEMA_RQD_IND	TMGTPLNT	B_FBW_SCHM_RQD_IND
44.	B_Treatment_Plant	B_FILTER_BACKWASH_SCHEMA_RCVD_DATE	TMGTPLNT	B_FBW_SCHM_RCV_DAT
45.	B_Treatment_Plant	B_FILTER_BACKWASH_SCHEMA_RVWD_DATE	TMGTPLNT	B_BW_SCHM_RVW_DAT
46.	B_Treatment_Plant	B_CONTACT_TIME_REASON	TMGTPLNT	B_CONTACT_TIM_RSN

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published Structure Sets.

B_TREATMENT_PLANT				
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
47.	B_Treatment_Plant	B_DISINFECTION_BENCHMARK_REASON	TMGTPLNT	B_DSNF_BMRK_RSN

9.0   STRUCTURE SET B_Well

9.1   B_Well File Layout

B_WELL					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER) and field 4 (B_STATE_ASGN_IDENTIFICATION_CODE).
2.	B_WSF_NAME	AN	40	10 - 49	OPTIONAL
3.	B_WSF_LOCAL_NAME	AN	40	50 - 89	OPTIONAL
4.	B_STATE_ASGN_IDENTIFICATION_CODE	AN	12	90 - 101	MANDATORY - Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER) and field 4 (B_STATE_ASGN_IDENTIFICATION_CODE).
5.	B_WELL_IDENTIFICATION_NUMBER	AN	15	102 -116	OPTIONAL
6. *	B_WELL_TYPE_CODE	AN	3	117 -119	OPTIONAL
7.	B_WELL_COVERING	AN	20	120 - 139	OPTIONAL
8.	B_WELL_DIAMETER_MEASURE	N	3	140 - 142	OPTIONAL
9.	B_GROUT_DEPTH_MEASURE	N	6(5(1))	143 - 148	OPTIONAL
10.	B_DRAW_DOWN_WATER_DEPTH_MEASURE	N	6(5(1))	149 - 154	OPTIONAL
11.	B_DEPTH_AT_COMPLETION_MEASURE	N	6(5(1))	155 - 160	OPTIONAL
12.	B_GALLONS_PER_MINUTE_MEASURE	N	5	161 - 165	OPTIONAL
13.	B_STATIC_WATER_LEVEL_DEPTH_MSR	N	6(5(1))	166 - 171	OPTIONAL
14.	B_STATIC_WTR_LVL_DPTH_OBSRVTN_DT	DT	8	172 - 179	OPTIONAL
15.	B_PUMP_TYPE_NAME	AN	12	180 - 191	OPTIONAL
16.	B_PUMP_CAPACITY	N	6	192 - 197	OPTIONAL
17.	B_WELL_USE_TEXT	AN	40	198 - 237	OPTIONAL

* Designates field with permitted values.   A-75   + Shaded gray blocks designate changes to previously published Structure Sets.

					B_WELL
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
18.	B_CASING_DIAMETER_MEASURE	N	3	238 -240	OPTIONAL
19.	B_CASING_DEPTH_MEASURE	N	6(5(1))	241 - 246	OPTIONAL
20.	B_CASING_TYPE_NAME	AN	20	247 - 266	OPTIONAL
21. *	B_ACOUSTIC_LOG_INDICATOR_CODE	AN	1	267	OPTIONAL
22. *	B_CALIPER_LOG_INDICATOR_CODE	AN	1	268	OPTIONAL
23. *	B_DRILLERS_LOG_INDICATOR_CODE	AN	1	269	OPTIONAL
24. *	B_ELECTRICAL_LOG_INDICATOR_CODE	AN	1	270	OPTIONAL
25. *	B_GEOLOGIST_LOG_INDICATOR_CODE	AN	1	271	OPTIONAL
26. *	B_RADIOACTIVE_LOG_INDICATOR_CODE	AN	1	272	OPTIONAL
27. *	B_TEMPERATURE_LOG_INDICATOR_CODE	AN	1	273	OPTIONAL
28. *	B_VIDEO_LOG_INDICATOR_CODE	AN	1	274	OPTIONAL
29. *	B_PUMP_TYPE_CODE	AN	2	275 - 276	OPTIONAL
30.	B_TOTAL_DYNAMIC_HEAD_MEASURE	N	4	277 - 280	OPTIONAL
31.	B_FINDS_NUMBER	AN	12	281 - 292	OPTIONAL
32.	B_CONSTRUCTED_DATE	DT	8	293 - 300	OPTIONAL
33. *	B_ACTIVITY_STATUS_CODE	AN	1	301	OPTIONAL - If field is not valued, *Migration to SDWIS/STATE* will set to "A."
34.	B_ACTIVITY_DATE	DT	8	302 - 309	OPTIONAL
35.	B_ACTIVITY_REASON_TEXT	ANmc	120	310 - 429	OPTIONAL
36. *	B_WATER_TYPE_CODE	AN	3	430 - 432	MANDATORY - Must be equal to "GW" or "GU."
37.	B_APPROVED_DESIGN_CAPACITY_MSR	N	11	433 - 443	OPTIONAL
38. *	B_APPD_DESIGN_CAP_MEAS_UNIT_CODE	AN	3	444 - 446	CONDITIONALLY MANDATORY - Must be valued if field 37 (B_APPROVED_DESIGN_CAPACITY_MSR) is valued.

* Designates field with permitted values.   + Shaded gray blocks designate changes to previously published Structure Sets.

				B_WELL	
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
39. *	B_AVAILABILITY_CODE	AN	1	447	OPTIONAL - Recommend that this value be populated. If left unpopulated and no state or federal primary water source is supplied for the Water System (B_FED_PRIMARY_SOURCE_CODE attribute in B_WATER_SYSTEM structure set), SDWIS/STATE cannot calculate the Water System's federal primary water source, which in turn would preclude generation of a TCR sampling schedule for the Water System.
40. *	B_EMERGENCY_POWER_INDICATOR_CODE	AN	1	448	OPTIONAL
41.	B_WATER_BODY_NAME_TEXT	AN	40	449 - 488	OPTIONAL
42.	B_USGS_HYDROLOGIC_UNIT_CODE	AN	8	489 - 496	OPTIONAL
43.	B_STORET_EXTENSION_HYDRO_UNIT_CD	AN	3	497 - 499	OPTIONAL
44.	B_RIVER_REACH_MILES_QUANTITY	N	7(6(1))	500 - 506	OPTIONAL
45. *	B_NO_TREATMENT_INDICATOR	AN	1	507	OPTIONAL - For community water systems, recommend that this be valued. In order to meet revised inventory reporting guidance.
46.	B_DIRECTIONS_TEXT	ANmc	120	508 - 627	OPTIONAL
47.	B_CLD_MERIDIAN_NAME_TEXT	AN	40	628 - 667	CONDITIONALLY MANDATORY - Must be valued if field 48 (B_CLD_TOWNSHIP_NUMBER), or field 49 (B_CLD_RANGE_NUMBER), or field 50 (B_CLD_SECTION_NUMBER), or field 51 (B_CLD_QUARTER_SECTION_CODE), or field 52 (B_CLD_QUARTER_QTR_SECTION_CODE), or field 53 B_CLD_QUARTER_QTR_QTR_SCTN_CODE), or field 54 (B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.

B_WELL					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
48.	B_CLD_TOWNSHIP_NUMBER	AN	4	668 - 671	CONDITIONALLY MANDATORY - Must be valued if field 50 (B_CLD_SECTION_NUMBER) is valued. The permitted values should follow the TTTD format. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
49.	B_CLD_RANGE_NUMBER	AN	4	672 - 675	CONDITIONALLY MANDATORY - Must be valued if field 48 (B_CLD_TOWNSHIP_NUMBER) is valued. The permitted values should follow the TTTD format. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
50. *	B_CLD_SECTION_NUMBER	AN	2	676 - 677	CONDITIONALLY MANDATORY - Must be valued if field 51 (B_CLD_QUARTER_SECTION_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
51. *	B_CLD_QUARTER_SECTION_CODE	AN	2	678 - 679	CONDITIONALLY MANDATORY - Must be valued if field 52 (B_CLD_QUARTER_QTR_SECTION_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
52. *	B_CLD_QUARTER_QTR_SECTION_CODE	AN	2	680 - 681	CONDITIONALLY MANDATORY - Must be valued if field 53 (B_CLD_QUARTER_QTR_QTR_SCTN_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.

B_WELL					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
53. *	B_CLD_QUARTER_QTR_QTR_SCTN_CODE	AN	2	682 - 683	CONDITIONALLY MANDATORY - Must be valued if field 54 (B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
54. *	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	AN	2	684 - 685	OPTIONAL

9.2   B_Well Permitted Value List

B_WELL		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
6.	B_WELL_TYPE_CODE	**DR** Drilled **HG** Horizontal Gallery **OE** Open End **OH** Open Hole **OT** Other **SP** Sand Point **WL** Walled
21.	B_ACOUSTIC_LOG_INDICATOR_CODE	**Y** Yes **N** No
22.	B_CALIPER_LOG_INDICATOR_CODE	**Y** Yes **N** No
23.	B_DRILLERS_LOG_INDICATOR_CODE	**Y** Yes **N** No
24.	B_ELECTRICAL_LOG_INDICATOR_CODE	**Y** Yes **N** No
25.	B_GEOLOGIST_LOG_INDICATOR_CODE	**Y** Yes **N** No
26.	B_RADIOACTIVE_LOG_INDICATOR_CODE	**Y** Yes **N** No
27.	B_TEMPERATURE_LOG_INDICATOR_CODE	**Y** Yes **N** No
28.	B_VIDEO_LOG_INDICATOR_CODE	**Y** Yes **N** No

* Designates field with permitted values.   A-80   + Shaded gray blocks designate changes to previously published Structure Sets.

B_WELL		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
29.	B_PUMP_TYPE_CODE	**CF** Centrifugal **HP** Hand Pump **JT** Jet **PD** Positive Displacement **SC** Screw **SU** Submersible **VT** Vertical Turbine
33.	B_ACTIVITY_STATUS_CODE	**A** Active **I** Inactive
36.	B_WATER_TYPE_CODE	**GW** Groundwater **GU** Groundwater under the Direct Influence of Surface Water
38.	B_APPD_DESIGN_CAP_MEAS_UNIT_CODE	**GAL** Gallons **GPD** Gallons per Day **GPM** Gallons per Minute **MGD** Million Gallons per Day
39.	B_AVAILABILITY_ CODE	**E** Emergency **I** Interim **O** Other **P** Permanent **S** Seasonal
40.	B_EMERGENCY_POWER_INDICATOR_CODE	**Y** Yes **N** No
45.	B_NO_TREATMENT_INDICATOR	**N** No **Blank**
50.	B_CADASTRAL_SECTION	**01 to 36**

B_WELL		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
51.	B_CLD_QUARTER_SECTION_CODE and	**NE** Northeast Quarter **NW** Northwest Quarter **SE** Southeast Quarter **SW** Southwest Quarter
52.	B_CLD_QUARTER_QTR_SECTION_CODE and	
53.	B_CLD_QUARTER_QTR_QTR_SCTN_CODE and	
54.	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	

9.3 B_Well Mapping to SDWIS/STATE Entities

		B_WELL			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_Well	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Well	B_WSF_NAME	TINWSF	Water System Facility	NAME
3.	B_Well	B_WSF_LOCAL_NAME	TINWSF	Water System Facility	LOCAL_NAME
4.	B_Well	B_STATE_ASGN_IDENTIFICATION_CODE	TINWSF	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE
5.	B_Well	B_WELL_IDENTIFICATION_NUMBER	TINWELL	Well	IDENTIFICATION_NUMBER
6.	B_Well	B_WELL_TYPE_CODE	TINWELL	Well	TYPE_CODE
7.	B_Well	B_WELL_COVERING	TINWELL	Well	WELL_COVERING
8.	B_Well	B_WELL_DIAMETER_MEASURE	TINWELL	Well	WELL_DIAMETER_MEASURE
9.	B_Well	B_GROUT_DEPTH_MEASURE	TINWELL	Well	GROUT_DEPTH_MEASURE
10.	B_Well	B_DRAW_DOWN_WATER_DEPTH_MEASURE	TINWELL	Well	DRAW_DOWN_WATER_DEPTH_MEASURE
11.	B_Well	B_DEPTH_AT_COMPLETION_MEASURE	TINWELL	Well	DEPTH_AT_COMPLETION_MEASURE
12.	B_Well	B_GALLONS_PER_MINUTE_MEASURE	TINWELL	Well	GALLONS_PER_MINUTE_MEASURE
13.	B_Well	B_STATIC_WATER_LEVEL_DEPTH_MSR	TINWELL	Well	STATIC_WATER_LEVEL_DEPTH_MEASURE
14.	B_Well	B_STATIC_WTR_LVL_DPTH_OBSRVTN_DT	TINWELL	Well	STATIC_WTR_LVL_DPTH_OBSRVTN_DATE
15.	B_Well	B_PUMP_TYPE_NAME	TINWELL	Well	PUMP_TYPE_NAME
16.	B_Well	B_PUMP_CAPACITY	TINWELL	Well	PUMP_CAPACITY
17.	B_Well	B_WELL_USE_TEXT	TINWELL	Well	WELL_USE_TEXT
18.	B_Well	B_CASING_DIAMETER_MEASURE	TINWELL	Well	CASING_DIAMETER_MEASURE
19.	B_Well	B_CASING_DEPTH_MEASURE	TINWELL	Well	CASING_DEPTH_MEASURE
20.	B_Well	B_CASING_TYPE_NAME	TINWELL	Well	CASING_TYPE_NAME

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

		B_WELL			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
21.	B_Well	B_ACOUSTIC_LOG_INDICATOR_CODE	TINWELL	Well	ACOUSTIC_LOG_INDICATOR_CODE
22.	B_Well	B_CALIPER_LOG_INDICATOR_CODE	TINWELL	Well	CALIPER_LOG_INDICATOR_CODE
23.	B_Well	B_DRILLERS_LOG_INDICATOR_CODE	TINWELL	Well	DRILLERS_LOG_INDICATOR_CODE
24.	B_Well	B_ELECTRICAL_LOG_INDICATOR_CODE	TINWELL	Well	ELECTRICAL_LOG_INDICATOR_CODE
25.	B_Well	B_GEOLOGIST_LOG_INDICATOR_CODE	TINWELL	Well	GEOLOGIST_LOG_INDICATOR_CODE
26.	B_Well	B_RADIOACTIVE_LOG_INDICATOR_CODE	TINWELL	Well	RADIOACTIVE_LOG_INDICATOR_CODE
27.	B_Well	B_TEMPERATURE_LOG_INDICATOR_CODE	TINWELL	Well	TEMPERATURE_LOG_INDICATOR_CODE
28.	B_Well	B_VIDEO_LOG_INDICATOR_CODE	TINWELL	Well	VIDEO_LOG_INDICATOR_CODE
29.	B_Well	B_PUMP_TYPE_CODE	TINWSF	Water System Facility	PUMP_TYPE_CODE
30.	B_Well	B_TOTAL_DYNAMIC_HEAD_MEASURE	TINWSF	Water System Facility	TOTAL_DYNAMIC_HEAD_MEASURE
31.	B_Well	B_FINDS_NUMBER	TINWSF	Water System Facility	FINDS_NUMBER
32.	B_Well	B_CONSTRUCTED_DATE	TINWSF	Water System Facility	CONSTRUCTED_DATE
33.	B_Well	B_ACTIVITY_STATUS_CODE	TINWSF	Water System Facility	ACTIVITY_STATUS_CODE
34.	B_Well	B_ACTIVITY_DATE	TINWSF	Water System Facility	ACTIVITY_DATE
35.	B_Well	B_ACTIVITY_REASON_TEXT	TINWSF	Water System Facility	ACTIVITY_REASON_TEXT
36.	B_Well	B_WATER_TYPE_CODE	TINWSF	Water System Facility	WATER_TYPE_CODE
37.	B_Well	B_APPROVED_DESIGN_CAPACITY_MSR	TINWSF	Water System Facility	APPROVED_DESIGN_CAPACITY_MEASURE

* Designates field with permitted values.   A-84   + Shaded gray blocks designate changes to previously published Structure Sets.

B_WELL					
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
38.	B_Well	B_APPD_DESIGN_CAP_MEAS_UNIT_CODE	TINWSF	Water System Facility	APPD_DESIGN_CAP_MEAS_UNIT_CODE
39.	B_Well	B_AVAILABILITY_CODE	TINWSF	Water System Facility	AVAILABILITY_CODE
40.	B_Well	B_EMERGENCY_POWER_INDICATOR_CODE	TINWSF	Water System Facility	EMERGENCY_POWER_INDICATOR_CODE
41.	B_Well	B_WATER_BODY_NAME_TEXT	TINWSF	Water System Facility	WATER_BODY_NAME_TEXT
42.	B_Well	B_USGS_HYDROLOGIC_UNIT_CODE	TINWSF	Water System Facility	USGS_HYDROLOGIC_UNIT_CODE
43.	B_Well	B_STORET_EXTENSION_HYDRO_UNIT_CD	TINWSF	Water System Facility	STORET_EXTENSION_HYDRO_UNIT_CODE
44.	B_Well	B_RIVER_REACH_MILES_QUANTITY	TINWSF	Water System Facility	RIVER_REACH_MILES_QUANTITY
45.	B_Well	B_NO_TREATMENT_INDICATOR	TINWSF	Water System Facility	NO_TREATMENT_IND
46.	B_Well	B_DIRECTIONS_TEXT	TINWSF	Water System Facility	DIRECTIONS_TEXT
47.	B_Well	B_CLD_MERIDIAN_NAME_TEXT	TINCLD	Cadastral Legal Description	MERIDIAN_NAME_TEXT
48.	B_Well	B_CLD_TOWNSHIP_NUMBER	TINCLD	Cadastral Legal Description	TOWNSHIP_NUMBER
49.	B_Well	B_CLD_RANGE_NUMBER	TINCLD	Cadastral Legal Description	RANGE_NUMBER
50.	B_Well	B_CLD_SECTION_NUMBER	TINCLD	Cadastral Legal Description	SECTION_NUMBER

B_WELL					
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
51.	B_Well	B_CLD_QUARTER_SECTION_CODE	TINCLD	Cadastral Legal Description	QUARTER_SECTION_CODE
52.	B_Well	B_CLD_QUARTER_QTR_SECTION_CODE	TINCLD	Cadastral Legal Description	QUARTER_QUARTER_SECTION_CODE
53.	B_Well	B_CLD_QUARTER_QTR_QTR_SCTN_CODE	TINCLD	Cadastral Legal Description	QUARTER_QUARTER_QTR_SCTN_CODE
54.	B_Well	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	TINCLD	Cadastral Legal Description	QTR_QTR_QTR_QTR_SECTION_CODE
55.	B_Well	*SDWIS/STATE CALCULATES*	TINWSF	Water System Facility	TYPE_CODE
56.	B_Well	*SDWIS/STATE CALCULATES*	TINWSF	Water System Facility	CADASTRAL_INDICATOR_CODE
57.	B_Well	*SDWIS/STATE CALCULATES*	TINWSF	Water System Facility	ON_RIVER_REACH_INDICATOR_CODE

* Designates field with permitted values.   A-86   + Shaded gray blocks designate changes to previously published Structure Sets.

9.4   B_Well Structure Set to Staging Table Mapping

		B_WELL		
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
1.	B_Well	B_PWS_NUMBER	TMGWELL	B_PWS_NUMBER
2.	B_Well	B_WSF_NAME	TMGWELL	B_WSF_NAME
3.	B_Well	B_WSF_LOCAL_NAME	TMGWELL	B_WSF_LOCAL_NAME
4.	B_Well	B_STATE_ASGN_IDENTIFICATION_CODE	TMGWELL	B_ST_ASGN_ID_CD
5.	B_Well	B_WELL_IDENTIFICATION_NUMBER	TMGWELL	B_WELL_IDENT_NUM
6.	B_Well	B_WELL_TYPE_CODE	TMGWELL	B_WELL_TYPE_CD
7.	B_Well	B_WELL_COVERING	TMGWELL	B_WELL_COVERING
8.	B_Well	B_WELL_DIAMETER_MEASURE	TMGWELL	B_WELL_DIAMTR_MSR
9.	B_Well	B_GROUT_DEPTH_MEASURE	TMGWELL	B_GROUT_DEPTH_MSR
10.	B_Well	B_DRAW_DOWN_WATER_DEPTH_MEASURE	TMGWELL	B_DRW_DWN_WTR_MSR
11.	B_Well	B_DEPTH_AT_COMPLETION_MEASURE	TMGWELL	B_DEPTH_COMPLT_MSR
12.	B_Well	B_GALLONS_PER_MINUTE_MEASURE	TMGWELL	B_GAL_PER_MIN_MSR
13.	B_Well	B_STATIC_WATER_LEVEL_DEPTH_MSR	TMGWELL	B_STTC_WTR_LVL_MSR
14.	B_Well	B_STATIC_WTR_LVL_DPTH_OBSRVTN_DT	TMGWELL	B_ST_WTR_LVL_OB_DT
15.	B_Well	B_PUMP_TYPE_NAME	TMGWELL	B_PUMP_TYPE_NAME
16.	B_Well	B_PUMP_CAPACITY	TMGWELL	B_PUMP_CAPACITY
17.	B_Well	B_WELL_USE_TEXT	TMGWELL	B_WELL_USE_TEXT
18.	B_Well	B_CASING_DIAMETER_MEASURE	TMGWELL	B_CASING_DIAM_MSR
19.	B_Well	B_CASING_DEPTH_MEASURE	TMGWELL	B_CASING_DEPTH_MSR
20.	B_Well	B_CASING_TYPE_NAME	TMGWELL	B_CASING_TYPE_NAME
21.	B_Well	B_ACOUSTIC_LOG_INDICATOR_CODE	TMGWELL	B_ACSTC_LOG_IND_CD
22.	B_Well	B_CALIPER_LOG_INDICATOR_CODE	TMGWELL	B_CALPR_LOG_IND_CD
23.	B_Well	B_DRILLERS_LOG_INDICATOR_CODE	TMGWELL	B_DRLLR_LOG_IND_CD

	B_WELL			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
24.	B_Well	B_ELECTRICAL_LOG_INDICATOR_CODE	TMGWELL	B_ELECT_LOG_IND_CD
25.	B_Well	B_GEOLOGIST_LOG_INDICATOR_CODE	TMGWELL	B_GEOLG_LOG_IND_CD
26.	B_Well	B_RADIOACTIVE_LOG_INDICATOR_CODE	TMGWELL	B_RADIO_LG_IND_CD
27.	B_Well	B_TEMPERATURE_LOG_INDICATOR_CODE	TMGWELL	B_TEMP_LOG_IND_CD
28.	B_Well	B_VIDEO_LOG_INDICATOR_CODE	TMGWELL	B_VIDEO_LOG_IND_CD
29.	B_Well	B_PUMP_TYPE_CODE	TMGWELL	B_PUMP_TYP_CD
30.	B_Well	B_TOTAL_DYNAMIC_HEAD_MEASURE	TMGWELL	B_TOT_DYN_HEAD_MSR
31.	B_Well	B_FINDS_NUMBER	TMGWELL	B_FINDS_NUMBER
32.	B_Well	B_CONSTRUCTED_DATE	TMGWELL	B_CONSTRUCTED_DT
33.	B_Well	B_ACTIVITY_STATUS_CODE	TMGWELL	B_ACTIV_STATUS_CD
34.	B_Well	B_ACTIVITY_DATE	TMGWELL	B_ACTIVITY_DT
35.	B_Well	B_ACTIVITY_REASON_TEXT	TMGWELL	B_ACTIVTY_REA_TXT
36.	B_Well	B_WATER_TYPE_CODE	TMGWELL	B_WATER_TYPE_CD
37.	B_Well	B_APPROVED_DESIGN_CAPACITY_MSR	TMGWELL	B_APP_DSGN_CAP_MSR
38.	B_Well	B_APPD_DESIGN_CAP_MEAS_UNIT_CODE	TMGWELL	B_APDSGN_CP_MSR_CD
39.	B_Well	B_AVAILABILITY_CODE	TMGWELL	B_AVAILABILITY_CD
40.	B_Well	B_EMERGENCY_POWER_INDICATOR_CODE	TMGWELL	B_EMGCY_POW_IND_CD
41.	B_Well	B_WATER_BODY_NAME_TEXT	TMGWELL	B_WTR_BODY_NM_TXT
42.	B_Well	B_USGS_HYDROLOGIC_UNIT_CODE	TMGWELL	B_USGS_HYDRO_UN_CD
43.	B_Well	B_STORET_EXTENSION_HYDRO_UNIT_CD	TMGWELL	B_STOR_EX_HY_UN_CD
44.	B_Well	B_RIVER_REACH_MILES_QUANTITY	TMGWELL	B_RIV_REACH_MI_QTY
45.	B_Well	B_NO_TREATMENT_INDICATOR	TMGWELL	B_NO_TREATMENT_IND
46.	B_Well	B_DIRECTIONS_TEXT	TMGWELL	B_DIRECTIONS_TXT
47.	B_Well	B_CLD_MERIDIAN_NAME_TEXT	TMGWELL	B_CLD_MERID_NM_TXT
48.	B_Well	B_CLD_TOWNSHIP_NUMBER	TMGWELL	B_CLD_TOWNSHIP_NUM

* Designates field with permitted values.   A-88   + Shaded gray blocks designate changes to previously published Structure Sets.

B_WELL				
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
49.	B_Well	B_CLD_RANGE_NUMBER	TMGWELL	B_CLD_RANGE_NUM
50.	B_Well	B_CLD_SECTION_NUMBER	TMGWELL	B_CLD_SECTION_NUM
51.	B_Well	B_CLD_QUARTER_SECTION_CODE	TMGWELL	B_CLD_QUART_SEC_CD
52.	B_Well	B_CLD_QUARTER_QTR_SECTION_CODE	TMGWELL	B_CLD_2QRTR_SEC_CD
53.	B_Well	B_CLD_QUARTER_QTR_QTR_SCTN_CODE	TMGWELL	B_CLD_3QRTR_SEC_CD
54.	B_Well	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	TMGWELL	B_CLD_4QRTR_SEC_CD

10.0   STRUCTURE SET B_Well_Screen

10.1   B_Well_Screen File Layout

B_WELL_SCREEN
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_STATE_ASGN_IDENTIFICATION_CODE), and field 3 (B_WELL_SCREEN_IDENTIFICATION_CODE).**
2.	B_STATE_ASGN_IDENTIFICATION_CODE	AN	12	10 - 21	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_STATE_ASGN_IDENTIFICATION_CODE), and field 3 (B_WELL_SCREEN_IDENTIFICATION_CODE).**
3.	B_WELL_SCREEN_IDENTIFICATION_CODE	AN	15	22 - 36	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_STATE_ASGN_IDENTIFICATION_CODE), and field 3 (B_WELL_SCREEN_IDENTIFICATION_CODE).**
4.	B_STATE_AQUIFER_CODE	AN	8	37 - 44	OPTIONAL
5.	B_SCREEN_TYPE	AN	10	45 - 54	OPTIONAL
6. *	B_AQUIFER_TYPE_CODE	AN	2	55 - 56	OPTIONAL
7.	B_USGS_AQUIFER_CODE	AN	12	57 - 68	OPTIONAL
8.	B_USGS_AQUIFER_NAME	AN	15	69 - 83	OPTIONAL
9.	B_DEPTH_TO_TOP_MEASURE	N	6(5(1))	84 - 89	MANDATORY
10.	B_DEPTH_TO_BOTTOM_MEASURE	N	6(5(1))	90 - 95	MANDATORY - Must be greater than field 9 (B_DEPTH_TO_TOP_MEASURE)
11.	B_DEPTH_TO_TOP_OF_AQUIFER_MSR	N	6(5(1))	96 - 101	OPTIONAL
12.	B_AQUIFER_THICKNESS_MEASURE	N	6(5(1))	102 - 107	OPTIONAL
13.	B_LITHOLOGY_TYPE	AN	10	108 - 117	OPTIONAL

* Designates field with permitted values.   A-90   + Shaded gray blocks designate changes to previously published Structure Sets.

B_WELL_SCREEN					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
14. *	B_CONFINEMENT_INDICATOR_CODE	AN	1	118	OPTIONAL

10.2   B_Well_Screen Permitted Value List

B_WELL_SCREEN		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
6.	B_AQUIFER_TYPE_CODE	**A** Artesian **C** Confined **F** Flowing Artesian **U** Not Identified **P** Perched **UC** Unconfined
14.	B_CONFINEMENT_INDICATOR_CODE	**Y** Yes **N** No

10.3   B_Well_Screen Mapping to SDWIS/STATE Entities

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
B_WELL_SCREEN				
1.	B_Well_Screen	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Well_Screen	B_STATE_ASGN_IDENTIFICATION_CODE	TINWSF	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE (*Foreign Key*)
3.	B_Well_Screen	B_WELL_SCREEN_IDENTIFICATION_CODE	TINSCRN	Screen	IDENTIFICATION_CODE
4.	B_Well_Screen	B_STATE_AQUIFER_CODE	TINSCRN	Screen	STATE_AQUIFER_CODE
5.	B_Well_Screen	B_SCREEN_TYPE	TINSCRN	Screen	TYPE_NAME
6.	B_Well_Screen	B_AQUIFER_TYPE_CODE	TINSCRN	Screen	AQUIFER_TYPE_CODE
7.	B_Well_Screen	B_USGS_AQUIFER_CODE	TINSCRN	Screen	USGS_AQUIFER_CODE
8.	B_Well_Screen	B_USGS_AQUIFER_NAME	TINSCRN	Screen	USGS_AQUIFER_NAME
9.	B_Well_Screen	B_DEPTH_TO_TOP_MEASURE	TINSCRN	Screen	DEPTH_TO_TOP_MEASURE
10.	B_Well_Screen	B_DEPTH_TO_BOTTOM_MEASURE	TINSCRN	Screen	DEPTH_TO_BOTTOM_MEASURE
11.	B_Well_Screen	B_DEPTH_TO_TOP_OF_AQUIFER_MSR	TINSCRN	Screen	DEPTH_TO_TOP_OF_AQUIFER_MEASURE
12.	B_Well_Screen	B_AQUIFER_THICKNESS_MEASURE	TINSCRN	Screen	AQUIFER_THICKNESS_MEASURE
13.	B_Well_Screen	B_LITHOLOGY_TYPE	TINSCRN	Screen	LITHOLOGY_NAME
14.	B_Well_Screen	B_CONFINEMENT_INDICATOR_CODE	TINSCRN	Screen	CONFINEMENT_INDICATOR_CODE

10.4   B_Well_Screen Structure Set to Staging Table Mapping

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
		B_WELL_SCREEN		
1.	B_Well_Screen	B_PWS_NUMBER	TMGSCRN	B_PWS_NUMBER
2.	B_Well_Screen	B_STATE_ASGN_IDENTIFICATION_CODE	TMGSCRN	B_ST_ASGN_ID_CD
3.	B_Well_Screen	B_WELL_SCREEN_IDENTIFICATION_CODE	TMGSCRN	B_WELL_SCRN_ID_CD
4.	B_Well_Screen	B_STATE_AQUIFER_CODE	TMGSCRN	B_STATE_AQUIFER_CD
5.	B_Well_Screen	B_SCREEN_TYPE	TMGSCRN	B_SCREEN_TYPE
6.	B_Well_Screen	B_AQUIFER_TYPE_CODE	TMGSCRN	B_AQUIFER_TYPE_CD
7.	B_Well_Screen	B_USGS_AQUIFER_CODE	TMGSCRN	B_USGS_AQUIFER_CD
8.	B_Well_Screen	B_USGS_AQUIFER_NAME	TMGSCRN	B_USGS_AQUIFER_NAM
9.	B_Well_Screen	B_DEPTH_TO_TOP_MEASURE	TMGSCRN	B_DPTH_TO_TOP_MSR
10.	B_Well_Screen	B_DEPTH_TO_BOTTOM_MEASURE	TMGSCRN	B_DPTH_TO_BTTM_MSR
11.	B_Well_Screen	B_DEPTH_TO_TOP_OF_AQUIFER_MSR	TMGSCRN	B_DPTH_TP_AQFR_MSR
12.	B_Well_Screen	B_AQUIFER_THICKNESS_MEASURE	TMGSCRN	B_AQUIFR_THCK_MSR
13.	B_Well_Screen	B_LITHOLOGY_TYPE	TMGSCRN	B_LITHOLOGY_TYPE
14.	B_Well_Screen	B_CONFINEMENT_INDICATOR_CODE	TMGSCRN	B_CONFINMNT_IND_CD

* Designates field with permitted values.   A-94   + Shaded gray blocks designate changes to previously published Structure Sets.

11.0   STRUCTURE SET B_Other_Water_System_Facility

11.1   B_Other_Water_System_Facility File Layout

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_OTHER_WATER_SYSTEM_FACILITY				
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER) and field 4 (B_STATE_ASGN_IDENTIFICATION_CODE)**.
2.	B_WSF_NAME	AN	40	10 - 49	OPTIONAL
3.	B_WSF_LOCAL_NAME	AN	40	50 - 89	OPTIONAL
4.	B_STATE_ASGN_IDENTIFICATION_CODE	AN	12	90 - 101	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER) and field 4 (B_STATE_ASGN_IDENTIFICATION_CODE)**.
5. *	B_OTHER_WSF_TYPE_CODE	AN	2	102 - 103	MANDATORY
6. *	B_PUMP_TYPE_CODE	AN	2	104 - 105	OPTIONAL
7. *	B_NON_PIPED_FACILITY_TYPE_CODE	AN	2	106 - 107	CONDITIONALLY MANDATORY - Must be valued if field 5 (B_OTHER_WSF_TYPE_CODE) = "NP."
8.	B_TOTAL_DYNAMIC_HEAD_MEASURE	N	4	108 - 111	OPTIONAL
9.	B_FINDS_NUMBER	AN	12	112 - 123	OPTIONAL
10.	B_CONSTRUCTED_DATE	DT	8	124 - 131	OPTIONAL
11. *	B_ACTIVITY_STATUS_CODE	AN	1	132	OPTIONAL - If field is not valued, *Migration to SDWIS/STATE* will set to "A."
12.	B_ACTIVITY_DATE	DT	8	133 - 140	OPTIONAL
13.	B_ACTIVITY_REASON_TEXT	ANmc	120	141 - 260	OPTIONAL

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_OTHER_WATER_SYSTEM_FACILITY				
14. *	B_WATER_TYPE_CODE	AN	3	261 - 263	CONDITIONALLY MANDATORY if field 5 (B_OTHER_WSF_TYPE_CODE) = "CC," or "IG," or "IN," or "NP," or "RC," or "RS," or "SP." If field 5 is other than one of these, recommend that this value be populated. If left unpopulated and no state or federal primary water source is supplied for the Water System (B_FED_PRIMARY_SOURCE_CODE attribute in B_WATER_SYSTEM structure set), SDWIS/STATE cannot calculate the Water System's federal primary water source, which in turn would preclude generation of a TCR sampling schedule for the Water System.
15.	B_APPROVED_DESIGN_CAPACITY_MSR	N	11	264 - 274	OPTIONAL
16. *	B_APPD_DESIGN_CAP_MEAS_UNIT_CODE	AN	3	275 - 277	CONDITIONALLY MANDATORY - Must be valued if field 15 (B_APPROVED_DESIGN_CAPACITY_MSR) is valued.
17. *	B_AVAILABILITY_CODE	AN	1	278	OPTIONAL - Recommend that this value be populated. If left unpopulated and no state or federal primary water source is supplied for the Water System (B_FED_PRIMARY_SOURCE_CODE attribute in B_WATER_SYSTEM structure set), SDWIS/STATE cannot calculate the Water System's federal primary water source, which in turn would preclude generation of a TCR sampling schedule for the Water System.
18. *	B_EMERGENCY_POWER_INDICATOR_CODE	AN	1	279	OPTIONAL
19.	B_WATER_BODY_NAME_TEXT	AN	40	280 - 319	OPTIONAL
20.	B_USGS_HYDROLOGIC_UNIT_CODE	AN	8	320 - 327	OPTIONAL
21.	B_STORET_EXTENSION_HYDRO_UNIT_CD	AN	3	328 - 330	OPTIONAL
22.	B_RIVER_REACH_MILES_QUANTITY	N	7(6(1))	331 - 337	OPTIONAL

	B_OTHER_WATER_SYSTEM_FACILITY				
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
23. *	B_NO_TREATMENT_INDICATOR	AN	1	338	OPTIONAL - This field will only be read if field 5 (B_OTHER_WSF_TYPE_CODE) = "CC," "IG," "IN," "NP," "RC," "RS," or "SP."
24. *	B_SELLER_TREATMENT_INDICATOR	AN	1	339	OPTIONAL - This field will only be read if field 5 (B_OTHER_WSF_TYPE_CODE) = "CC."
25.	B_DIRECTIONS_TEXT	ANmc	120	340 - 459	OPTIONAL
26.	B_CLD_MERIDIAN_NAME_TEXT	AN	40	460 - 499	CONDITIONALLY MANDATORY - Must be valued if field 27 (B_CLD_TOWNSHIP_NUMBER), or field 28 (B_CLD_RANGE_NUMBER), or field 29 (B_CLD_SECTION_NUMBER), or field 30 (B_CLD_QUARTER_SECTION_CODE), or field 31 (B_CLD_QUARTER_QTR_SECTION_CODE), or field 32 B_CLD_QUARTER_QTR_QTR_SCTN_CODE), or field 33 (B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
27.	B_CLD_TOWNSHIP_NUMBER	AN	4	500 - 503	CONDITIONALLY MANDATORY - Must be valued if field 29 (B_CLD_SECTION_NUMBER) is valued. The permitted values should follow the TTTD format. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.

B_OTHER_WATER_SYSTEM_FACILITY					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
28.	B_CLD_RANGE_NUMBER	AN	4	504 - 507	CONDITIONALLY MANDATORY - Must be valued if field 27 (B_CLD_TOWNSHIP_NUMBER) is valued. The permitted values should follow the TTTD format. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
29. *	B_CLD_SECTION_NUMBER	AN	2	508 - 509	CONDITIONALLY MANDATORY - Must be valued if field 30 (B_CLD_QUARTER_SECTION_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
30. *	B_CLD_QUARTER_SECTION_CODE	AN	2	510 - 511	CONDITIONALLY MANDATORY - Must be valued if field 31 (B_CLD_QUARTER_QTR_SECTION_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
31. *	B_CLD_QUARTER_QTR_SECTION_CODE	AN	2	512 - 513	CONDITIONALLY MANDATORY - Must be valued if field 32 B_CLD_QUARTER_QTR_QTR_SCTN_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.
32. *	B_CLD_QUARTER_QTR_QTR_SCTN_CODE	AN	2	514 - 515	CONDITIONALLY MANDATORY - Must be valued if field 33 (B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE) is valued. Conditionally mandatory means that if the condition is not met, the Cadastral Legal Description will not be created and associated with the supplied water system facility.

B_OTHER_WATER_SYSTEM_FACILITY				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
33. *	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	AN	2	516 - 517	OPTIONAL

11.2   B_Other_Water_System_Facility Permitted Value List

FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES	
		B_OTHER_WATER_SYSTEM_FACILITY	
5.	B_OTHER_WSF_TYPE_CODE	**CC**	Consecutive Connection
		CH	Common Headers
		CS	Cistern
		CW	Clear Well
		DS	Distribution System/Zone
		IG	Infiltration Gallery
		IN	Intake
		NP	Non-Piped
		OT	Other
		PC	Pressure Control
		PF	Pump Facility
		RC	Roof Catchment
		RS	Reservoir
		SP	Spring
		SS	Sampling Station
		TM	Transmission Main (Manifold)
		WH	Well Head
6.	B_PUMP_TYPE_CODE	**CF**	Centrifugal
		HP	Hand Pump
		JT	Jet
		PD	Positive Displacement
		SC	Screw
		SU	Submersible
		VT	Vertical Turbine

B_OTHER_WATER_SYSTEM_FACILITY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
7.	B_NON_PIPED_FACILITY_TYPE_CODE	**BL** Bulk **BT** Bottled **RT** Retail **VN** Vended
11.	B_ACTIVITY_STATUS_CODE	**A** Active **I** Inactive
14.	B_WATER_TYPE_CODE	**GW** Groundwater **GU** Groundwater under the Direct Influence of Surface Water **SW** Surface Water
16.	B_APPD_DESIGN_CAP_MEAS_UNIT_CODE	**GAL** Gallons **GPD** Gallons per Day **GPM** Gallons per Minute **MGD** Million Gallons per Day
17.	B_AVAILABILITY_ CODE	**E** Emergency **I** Interim **O** Other **P** Permanent **S** Seasonal
18.	B_EMERGENCY_POWER_INDICATOR_CODE	**Y** Yes **N** No
23.	B_NO_TREATMENT_INDICATOR	**N** No **Blank**
24.	B_SELLER_TREATMENT_INDICATOR	**Y** Yes **N** No **Blank**
29.	B_CLD_SECTION_NUMBER	**01 to 36**

* Designates field with permitted values.   A-101   + Shaded gray blocks designate changes to previously published Structure Sets.

B_OTHER_WATER_SYSTEM_FACILITY	
FIELD NO / **ATTRIBUTE NAME**	**PERMITTED VALUES**

FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
30.	B_CLD_QUARTER_SECTION_CODE and	**NE** Northeast Quarter **NW** Northwest Quarter **SE** Southeast Quarter **SW** Southwest Quarter
31.	B_CLD_QUARTER_QTR_SECTION_CODE and	
32.	B_CLD_QUARTER_QTR_QTR_SCTN_CODE and	
33.	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	

11.3   B_Other_Water_System_Facility Mapping to SDWIS/STATE Entities

		B_OTHER_WATER_SYSTEM_FACILITY			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_Other_Water_System_Facility	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Other_Water_System_Facility	B_WSF_NAME	TINWSF	Water System Facility	NAME
3.	B_Other_Water_System_Facility	B_WSF_LOCAL_NAME	TINWSF	Water System Facility	LOCAL_NAME
4.	B_Other_Water_System_Facility	B_STATE_ASGN_IDENTIFICATION_CODE	TINWSF	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE
5.	B_Other_Water_System_Facility	B_OTHER_WSF_TYPE_CODE	TINWSF	Water System Facility	TYPE_CODE
6.	B_Other_Water_System_Facility	B_PUMP_TYPE_CODE	TINWSF	Water System Facility	PUMP_TYPE_CODE
7.	B_Other_Water_System_Facility	B_NON_PIPED_FACILITY_TYPE_CODE	TINWSF	Water System Facility	NON_PIPED_FACILITY_TYPE_CODE
8.	B_Other_Water_System_Facility	B_TOTAL_DYNAMIC_HEAD_MEASURE	TINWSF	Water System Facility	TOTAL_DYNAMIC_HEAD_MEASURE
9.	B_Other_Water_System_Facility	B_FINDS_NUMBER	TINWSF	Water System Facility	FINDS_NUMBER
10.	B_Other_Water_System_Facility	B_CONSTRUCTED_DATE	TINWSF	Water System Facility	CONSTRUCTED_DATE
11.	B_Other_Water_System_Facility	B_ACTIVITY_STATUS_CODE	TINWSF	Water System Facility	ACTIVITY_STATUS_CODE
12.	B_Other_Water_System_Facility	B_ACTIVITY_DATE	TINWSF	Water System Facility	ACTIVITY_DATE

		B_OTHER_WATER_SYSTEM_FACILITY			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
13.	B_Other_Water_ System_Facility	B_ACTIVITY_REASON_TEXT	TINWSF	Water System Facility	ACTIVITY_REASON_TEXT
14.	B_Other_Water_ System_Facility	B_WATER_TYPE_CODE	TINWSF	Water System Facility	WATER_TYPE_CODE
15.	B_Other_Water_ System_Facility	B_APPROVED_DESIGN_CAPACITY_MSR	TINWSF	Water System Facility	APPROVED_DESIGN_CAPACITY_MEASURE
16.	B_Other_Water_ System_Facility	B_APPD_DESIGN_CAP_MEAS_UNIT_COD E	TINWSF	Water System Facility	APPD_DESIGN_CAP_MEAS_UIT_CODE
17.	B_Other_Water_ System_Facility	B_AVAILABILITY_CODE	TINWSF	Water System Facility	AVAILABILITY_CODE
18.	B_Other_Water_ System_Facility	B_EMERGENCY_POWER_INDICATOR_ CODE	TINWSF	Water System Facility	EMERGENCY_POWER_INDICATOR_CODE
19.	B_Other_Water_ System_Facility	B_WATER_BODY_NAME_TEXT	TINWSF	Water System Facility	WATER_BODY_NAME_TEXT
20.	B_Other_Water_ System_Facility	B_USGS_HYDROLOGIC_UNIT_CODE	TINWSF	Water System Facility	USGS_HYDROLOGIC_UNIT_CODE
21.	B_Other_Water_ System_Facility	B_STORET_EXTENSION_HYDRO_UNIT_ CD	TINWSF	Water System Facility	STORET_EXTENSION_HYDRO_UNIT_CODE
22.	B_Other_Water_ System_Facility	B_RIVER_REACH_MILES_QUANTITY	TINWSF	Water System Facility	RIVER_REACH_MILES_QUANTITY
23.	B_Other_Water_ System_Facility	B_NO_TREATMENT_INDICATOR	TINWSF	Water System Facility	NO_TREATMENT_IND
24.	B_Other_Water_ System_Facility	B_SELLER_TREATMENT_INDICATOR	TINWSF	Water System Facility	SELLER_TREATMENT_IND
25.	B_Other_Water_ System_Facility	B_DIRECTIONS_TEXT	TINWSF	Water System Facility	DIRECTIONS_TEXT

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
		B_OTHER_WATER_SYSTEM_FACILITY			
26.	B_Other_Water_System_Facility	B_CLD_MERIDIAN_NAME_TEXT	TINCLD	Cadastral Legal Description	MERIDIAN_NAME_TEXT
27.	B_Other_Water_System_Facility	B_CLD_TOWNSHIP_NUMBER	TINCLD	Cadastral Legal Description	TOWNSHIP_NUMBER
28.	B_Other_Water_System_Facility	B_CLD_RANGE_NUMBER	TINCLD	Cadastral Legal Description	RANGE_NUMBER
29.	B_Other_Water_System_Facility	B_CLD_SECTION_NUMBER	TINCLD	Cadastral Legal Description	SECTION_NUMBER
30.	B_Other_Water_System_Facility	B_CLD_QUARTER_SECTION_CODE	TINCLD	Cadastral Legal Description	QUARTER_SECTION_CODE
31.	B_Other_Water_System_Facility	B_CLD_QUARTER_QTR_SECTION_CODE	TINCLD	Cadastral Legal Description	QUARTER_QUARTER_SECTION_CODE
32.	B_Other_Water_System_Facility	B_CLD_QUARTER_QTR_QTR_SCTN_CODE	TINCLD	Cadastral Legal Description	QUARTER_QUARTER_QTR_SCTN_CODE
33.	B_Other_Water_System_Facility	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	TINCLD	Cadastral Legal Description	QTR_QTR_QTR_QTR_SCTN_CODE
34.	B_Other_Water_System_Facility	*SDWIS/STATE CALCULATES*	TINWSF	Water System Facility	CADASTRAL_INDICATOR_CODE
35.	B_Other_Water_System_Facility	*SDWIS/STATE CALCULATES*	TINWSF	Water System Facility	ON_RIVER_REACH_INDICATOR_CODE

11.4   B_Other_Water_System_Facility Structure Set to Staging Table Mapping

	B_OTHER_WATER_SYSTEM_FACILITY			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
1.	B_Other_Water_System_Facility	B_PWS_NUMBER	TMGOWSF	B_PWS_NUMBER
2.	B_Other_Water_System_Facility	B_WSF_NAME	TMGOWSF	B_WSF_NAME
3.	B_Other_Water_System_Facility	B_WSF_LOCAL_NAME	TMGOWSF	B_WSF_LOCAL_NAME
4.	B_Other_Water_System_Facility	B_STATE_ASGN_IDENTIFICATION_CODE	TMGOWSF	B_ST_ASGN_ID_CD
5.	B_Other_Water_System_Facility	B_OTHER_WSF_TYPE_CODE	TMGOWSF	B_OTHR_WSF_TYPE_CD
6.	B_Other_Water_System_Facility	B_PUMP_TYPE_CODE	TMGOWSF	B_PUMP_TYP_CD
7.	B_Other_Water_System_Facility	B_NON_PIPED_FACILITY_TYPE_CODE	TMGOWSF	B_NON_PIPE_FAC_TYP
8.	B_Other_Water_System_Facility	B_TOTAL_DYNAMIC_HEAD_MEASURE	TMGOWSF	B_TOT_DYN_HEAD_MSR
9.	B_Other_Water_System_Facility	B_FINDS_NUMBER	TMGOWSF	B_FINDS_NUMBER
10.	B_Other_Water_System_Facility	B_CONSTRUCTED_DATE	TMGOWSF	B_CONSTRUCTED_DT
11.	B_Other_Water_System_Facility	B_ACTIVITY_STATUS_CODE	TMGOWSF	B_ACTIV_STATUS_CD
12.	B_Other_Water_System_Facility	B_ACTIVITY_DATE	TMGOWSF	B_ACTIVITY_DT
13.	B_Other_Water_System_Facility	B_ACTIVITY_REASON_TEXT	TMGOWSF	B_ACTIVTY_RES_TXT
14.	B_Other_Water_System_Facility	B_WATER_TYPE_CODE	TMGOWSF	B_WATER_TYPE_CD
15.	B_Other_Water_System_Facility	B_APPROVED_DESIGN_CAPACITY_MSR	TMGOWSF	B_APP_DSGN_CAP_MSR
16.	B_Other_Water_System_Facility	B_APPD_DESIGN_CAP_MEAS_UNIT_CODE	TMGOWSF	B_APDSGN_CP_MSR_CD
17.	B_Other_Water_System_Facility	B_AVAILABILITY_CODE	TMGOWSF	B_AVAILABILITY_CD
18.	B_Other_Water_System_Facility	B_EMERGENCY_POWER_INDICATOR_CODE	TMGOWSF	B_EMGCY_POW_IND_CD
19.	B_Other_Water_System_Facility	B_WATER_BODY_NAME_TEXT	TMGOWSF	B_WTR_BODY_NM_TXT
20.	B_Other_Water_System_Facility	B_USGS_HYDROLOGIC_UNIT_CODE	TMGOWSF	B_USGS_HYDRO_UN_CD
21.	B_Other_Water_System_Facility	B_STORET_EXTENSION_HYDRO_UNIT_CD	TMGOWSF	B_STOR_EX_HY_UN_CD
22.	B_Other_Water_System_Facility	B_RIVER_REACH_MILES_QUANTITY	TMGOWSF	B_RIV_REACH_MI_QTY
23.	B_Other_Water_ System_Facility	B_NO_TREATMENT_INDICATOR	TMGOWSF	B_NO_TREATMENT_IND

* Designates field with permitted values.   A-106   + Shaded gray blocks designate changes to previously published Structure Sets.

		B_OTHER_WATER_SYSTEM_FACILITY		
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
24.	B_Other_Water_ System_Facility	B_SELLER_TREATMENT_INDICATOR	TMGOWSF	B_SELLER_TREAT_IND
25.	B_Other_Water_System_Facility	B_DIRECTIONS_TEXT	TMGOWSF	B_DIRECTIONS_TXT
26.	B_Other_Water_System_Facility	B_CLD_MERIDIAN_NAME_TEXT	TMGOWSF	B_CLD_MERID_NM_TXT
27.	B_Other_Water_System_Facility	B_CLD_TOWNSHIP_NUMBER	TMGOWSF	B_CLD_TOWNSHIP_NUM
28.	B_Other_Water_System_Facility	B_CLD_RANGE_NUMBER	TMGOWSF	B_CLD_RANGE_NUM
29.	B_Other_Water_System_Facility	B_CLD_SECTION_NUMBER	TMGOWSF	B_CLD_SECTION_NUM
30.	B_Other_Water_System_Facility	B_CLD_QUARTER_SECTION_CODE	TMGOWSF	B_CLD_QUART_SEC_CD
31.	B_Other_Water_System_Facility	B_CLD_QUARTER_QTR_SECTION_CODE	TMGOWSF	B_CLD_2QRTR_SEC_CD
32.	B_Other_Water_System_Facility	B_CLD_QUARTER_QTR_QTR_SCTN_CODE	TMGOWSF	B_CLD_3QRTR_SEC_CD
33.	B_Other_Water_System_Facility	B_CLD_QTR_QTR_QTR_QTR_SCTN_CODE	TMGOWSF	B_CLD_4QRTR_SEC_CD

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

12.0   STRUCTURE SET B_Locational_Detail

12.1   B_Locational_Detail File Layout

This structure set contains the fields for locational detail that comply with the new reporting guidance.

	B_LOCATIONAL_DETAIL				
FIELD NO	**FIELD NAME/**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY
2.	B_STATE_ASGN_IDENTIFICATION_CODE	AN	12	10 - 21	MANDATORY
3. *	B_LATITUDE_DMS_MEASURE	N	11(10(4))	22 - 32	CONDITIONALLY MANDATORY - A value must be supplied in either this field, field 4 (B_LATITUDE_DEC_DEG_MEASURE), field 5 (B_LONGITUDE_DMS_MEASURE) or field 6 (B_LONGITUDE_DEC_DEG_MEASURE) for *Migration to SDWIS/STATE* to create a Locational Detail/TINLOC record. If value is supplied in this field but not in field 4 (B_LATITUDE_DEC_DEG_MEASURE), *Migration to SDWIS/STATE* will populate the DMS field of Locational Detail and also convert the DMS value to a decimal and populate the decimal field of Locational Detail using the algorithm specified at the end of the File Layout for B_Locational_Detail. If value is supplied in this field and also in field 4 (B_LATITUDE_DEC_DEG_MEASURE), there is no edit check to ensure that the values are synchronized. Note to Developer: When creating a new Locational Detail

B_LOCATIONAL_DETAIL				
FIELD NO	**FIELD NAME/**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
	B_LATITUDE_DMS_MEASURE (cont.)				(TINLOC) record, update the associated WATER_SYSTEM_FACILITY's Locational Data Indicator Code to **Y** (to indicate that the TINWSF record has an associated TINLOC record).
4. *	B_LATITUDE_DEC_DEG_MEASURE	N	9(8(6))	33 - 41	CONDITIONALLY MANDATORY - A value must be supplied in either this field, field 3 (B_LATITUDE_DMS_MEASURE), field 5 (B_LONGITUDE_DMS_MEASURE) or field 6 (B_LONGITUDE_DEC_DEG_MEASURE) for *Migration to SDWIS/STATE* to create a Locational Detail/TINLOC record. If value is supplied in this field but not in field 3 (B_LATITUDE_DMS_MEASURE), *Migration to SDWIS/STATE* does not convert the value to DMS; that is, field 3 would remain unpopulated. If value is supplied in this field and also in field field 3 (B_LATITUDE_DMS_MEASURE), there is no edit check to ensure that the values are synchronized. Note to Developer: When creating a new Locational Detail (TINLOC) record, update the associated WATER_SYSTEM_FACILITY's Locational Data Indicator Code to **Y** (to indicate that the TINWSF record has an associated TINLOC record).
5. *	B_LONGITUDE_DMS_MEASURE	N	12(11(4))	42 - 53	CONDITIONALLY MANDATORY - A value must be supplied in either this field, field 3 (B_LATITUDE_DMS_MEASURE), field 4 (B_LATITUDE_DEC_DEG_MEASURE), or field 6

FIELD NO	FIELD NAME/	DOMAIN	SIZE	POSITION	OPTIONALITY
			B_LOCATIONAL_DETAIL		
	B_LONGITUDE_DMS_MEASURE (cont.)				(B_LONGITUDE_DEC_DEG_MEASURE) for *Migration to SDWIS/STATE* to create a Locational Detail/TINLOC record.
					If value is supplied in this field but not in field 6 (B_LONGITUDE_DEC_DEG_MEASURE), *Migration to SDWIS/STATE* will populate the DMS field of Locational Detail and also convert the DMS value to a decimal and populate the decimal field of Locational Detail using the algorithm specified at the end of the File Layout for B_Locational_Detail.
					If value is supplied in this field and also in field 6 (B_LONGITUDE_DEC_DEG_MEASURE), there is no edit check to ensure that the values are synchronized.
					Note to Developer: When creating a new Locational Detail (TINLOC) record, update the associated WATER_SYSTEM_FACILITY's Locational Data Indicator Code to **Y** (to indicate that the TINWSF record has an associated TINLOC record).
6. *	B_LONGITUDE_DEC_DEG_MEASURE	N	10(9(6))	54 - 63	CONDITIONALLY MANDATORY - A value must be supplied in either this field, field 3 (B_LATITUDE_DMS_MEASURE), field 4 (B_LATITUDE_DEC_DEG_MEASURE), or field 5 (B_LONGITUDE_DMS_MEASURE) for *Migration to SDWIS/STATE* to create a Locational Detail/TINLOC record.
					If value is supplied in this field but not in field 5

B_LOCATIONAL_DETAIL
FIELD NO	**FIELD NAME/**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
	B_LONGITUDE_DEC_DEG_MEASURE (cont.)				(B_LONGITUDE_DMS_MEASURE), *Migration to SDWIS/STATE* does not convert the value to DMS; that is, field 5 would remain unpopulated. If value is supplied in this field and also in field 5 (B_LONGITUDE_DMS_MEASURE), there is no edit check to ensure that the values are synchronized. Note to Developer: When creating a new Locational Detail (TINLOC) record, update the associated WATER_SYSTEM_FACILITY's Locational Data Indicator Code to **Y** (to indicate that the TINWSF record has an associated TINLOC record).
7. *	B_LAT_LONG_COLLECTION_METH_CD	AN	3	64 - 66	OPTIONAL
8.	B_LAT_LONG_ACCURACY_MEASURE	N	8(7(2))	67 - 74	OPTIONAL
9. *	B_LAT_LONG_DESCRIPTION_CAT_CD	AN	3	75 - 77	OPTIONAL
10. *	B_LAT_LONG_HORIZ_DATUM_CD	AN	3	78 - 80	OPTIONAL
11. *	B_LAT_LONG_SOURCE_SCALE_CD	AN	2	81 - 82	OPTIONAL
12. *	B_LAT_LONG_PT_LINE_AREA_CD	AN	3	83 - 85	OPTIONAL
13.	B_LAT_LONG_COLLECTION_DATE	DT	8	86 - 93	OPTIONAL
14. *	B_LAT_LONG_SOURCE_CD	AN	2	94 - 95	OPTIONAL
15. *	B_LAT_LONG_VERIFICATION_CD	AN	3	96 - 98	OPTIONAL
16.	B_LOC_DESC_COMMENT_TXT	ANmc	150	99 - 248	OPTIONAL
17. *	B_VERTICAL_MEASURE_SIGN	AN	1	249	OPTIONAL
18.	B_VERTICAL_MEASURE	N	8(7(2))	250 - 257	OPTIONAL
19. *	B_VERTICAL_COL_METH_CD	AN	3	258 - 260	OPTIONAL
20.	B_VERTICAL_ACCURACY_MEASURE	N	8(7(2))	261 - 268	OPTIONAL

* Designates field with permitted values.   A-111   + Shaded gray blocks designate changes to previously published Structure Sets.

FIELD NO	FIELD NAME/	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_LOCATIONAL_DETAIL				
21. *	B_VERTICAL_DATUM_CD	AN	1	269	OPTIONAL
22. *	B_DATA_ORIGIN_CODE	AN	1	270	OPTIONAL - If field is not valued, *Migration to SDWIS/STATE* will set to "S."

If value is supplied in field 3 B_LATITUDE_DMS_MEASURE but not in field 4 (B_LATITUDE_DEC_DEG_MEASURE), *Migration to SDWIS/STATE* will populate the DMS field of Locational Detail and also convert the DMS value to a decimal and populate the decimal field of Locational Detail using the following algorithm:

Formula: Decimal Degrees = Degrees + (Minutes / 60) + (Seconds / 3600) rounded to 6 decimal places

Decimal Degrees = X + (Y / 60) + (Z / 3600) rounded to 6 decimal places

Where: LAT_DEGREES_NUM = X
LAT_MINUTES_NUM = Y
LAT_SECONDS_NUM = Z.0000

Example: LAT_DEGREES_NUM = 42
LAT_MINUTES_NUM = 15
LAT_SECONDS_NUM = 50.0000

Step 1.   Decimal Degrees = 42 + (15 / 60) + (50 / 3600)
Step 2.   Decimal Degrees = 42 + 0.25 + 0.01388888
Step 3.   Decimal Degrees = 42.26388888, or 42.263889 rounded to 6 decimal places

If value is supplied in field 5 (B_LONGITUDE_DMS_MEASURE) but not in field 6 (B_LONGITUDE_DEC_DEG_MEASURE), *Migration to SDWIS/STATE* will populate the DMS field of Locational Detail and also convert the DMS value to a decimal and populate the decimal field of Locational Detail using the following algorithm:

Formula: Decimal Degrees = Degrees + (Minutes / 60) + (Seconds / 3600) rounded to 6 decimal places

Decimal Degrees = X + (Y / 60) + (Z / 3600) rounded to 6 decimal places

Where: LONG_DEGREES_NUM = X
                LONG_MINUTES_NUM = Y
                LONG_SECONDS_NUM = Z.0000

Example: LONG_DEGREES_NUM = 88
                LONG_MINUTES_NUM = 50
                LONG_SECONDS_NUM = 39.0000

        Step 1.   Decimal Degrees = 88 + (50 / 60) + (39 / 3600)
        Step 2.   Decimal Degrees = 88 + 0.8333333 + 0.0108333
        Step 3.   Decimal Degrees = 88.8441666, or 88.844167 rounded to 6 decimal places

12.2 B_Locational_Detail Permitted Value List

	B_LOCATIONAL_DETAIL	
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
3.	B_LATITUDE_DMS_MEASURE	00º00'00.0001" to 90º00'00.0000"
4.	B_LATITUDE_DEC_DEG_MEASURE	00.000000 to 90.000000
5.	B_LONGITUDE_DMS_MEASURE	000º00'00.0000" to 180º00'00.0000"
6.	B_LONGITUDE_DEC_DEG_MEASURE	000.000000 to 180.000000
7.	B_LAT_LONG_COLLECTION_METH_CD	**001** Address matching - house number **002** Address matching - block face **003** Address matching - street centerline **004** Address matching - nearest intersection **005** Address matching - primary name **006** Address matching - digitized **007** Address matching - other **008** Census block - 1990 - centroid **009** Census block/group - 1990 - centroid **010** Census block/tract - 1990 - centroid **011** Census - other **012** Global positioning system (GPS) carrier phase static relative positioning technique **013** GPS carrier phase kinematic relative positioning technique **014** GPS code measurements (pseudo range) differentially corrected **015** GPS code measurements (pseudo range) precise positioning service **016** GPS code measurements (pseudo range) standard positioning service SA off **017** GPS code measurements (pseudo range) standard positioning service SA on **018** Interpolation - map **019** Interpolation - photo **020** Interpolation - satellite **021** Interpolation - other **022** LORAN C

B_LOCATIONAL_DETAIL		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
7.	B_LAT_LONG_COLLECTION_METH_CD (continued)	**023** Public land survey - quarter section **024** Public land survey - section **025** Classical surveying techniques **026** ZIP code - centroid **027** Unknown **028** GPS - unspecified **029** GPS code measurements (pseudo range) standard positioning service corrected using Canadian active control system **030** Interpolation - digital map source (TIGER) **031** Interpolation - SPOT **032** Interpolation - MSS (multi-spectral scanner) **033** Interpolation - TM (thematic mapper) **034** Public land survey - eighth section **035** Public land survey - sixteenth section **036** Public land survey - footing **037** ZIP+4 code - centroid **038** ZIP+2 code - centroid
9.	B_LAT_LONG_DESCRIPTION_CAT_CD	**001** Unknown **002** Plant entrance (general) **003** Other **004** Plant entrance (personnel) **005** Plant entrance (freight) **006** Air release stack **007** Air release vent **008** Storage tank **009** Pipe release to water **010** Lagoon or settling pond **011** Liquid waste treatment unit **012** Atmospheric emissions treatment unit

B_LOCATIONAL_DETAIL		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
9.	B_LAT_LONG_DESCRIPTION_CAT_CD (continued)	**013** Solid waste treatment/disposal unit **014** Solid waste storage area **015** Loading facility **016** Loading area centroid **017** Process unit **018** Process unit area centroid **019** Administrative building **020** Facility centroid **021** NE corner of land parcel **022** SE corner of land parcel **023** NW corner of land parcel **024** SW corner of land parcel **025** Center of facility **026** Well **027** Well protection area **028** Water monitiring station **029** Air monitoring station **030** Intake pipe
10.	B_LAT_LONG_HORIZ_DATUM_CD	**001** NAD 27 **002** NAD 83 **003** WGS 84 **004** Unknown
11.	B_LAT_LONG_SOURCE_SCALE_CD	**1** > =1:500 **2** Between 1:500 and 1:5,000 **3** Between 1:5,000 and 1:10,000 **4** Between 1:10,000 and 1:15,000 **5** Between 1:15,000 and 1:20,000 **6** Between 1:20,000 and 1:25,000 **7** Between 1:25,000 and 1:50,000

* Designates field with permitted values.   A-116   + Shaded gray blocks designate changes to previously published Structure Sets.

B_LOCATIONAL_DETAIL		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		8 Between 1:50,000 and 1:100,000
11.	B_LAT_LONG_SOURCE_SCALE_CD (continued)	**9** < 1:100,000 **A** 1:10,000 **B** 1:12,000 **C** 1:15,840 **D** 1:20,000 **E** 1:24,000 **F** 1:25,000 **G** 1:50,000 **H** 1:62,500 **I** 1:63,360 **J** 1:100,000 **K** 1:125,000 **L** 1:250,000 **M** 1:500,000 **NA** Scale not applicable to collection method **U** Unknown
12.	B_LAT_LONG_PT_LINE_AREA_CD	**001** Point **002** Line **003** Area **004** Region **005** Route
14.	B_LAT_LONG_SOURCE_CD	**01** Alabama **02** Alaska **04** Arizona **05** Arkansas **06** California **08** Colorado

B_LOCATIONAL_DETAIL	
FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES

FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
		09 Connecticut **10** Delaware
14.	B_LAT_LONG_SOURCE_CD (continued)	**11** District of Columbia **12** Florida **13** Georgia **15** Hawaii **16** Idaho **17** Illinois **18** Indiana **19** Iowa **20** Kansas **21** Kentucky **22** Louisiana **23** Maine **24** Maryland **25** Massachusetts **26** Michigan **27** Minnesota **28** Mississippi **29** Missouri **30** Montana **31** Nebraska **32** Nevada **33** New Hampshire **34** New Jersey **35** New Mexico **36** New York **37** North Carolina

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

B_LOCATIONAL_DETAIL		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		38 North Dakota **39** Ohio **40** Oklahoma **41** Oregon **42** Pennsylvania
14.	B_LAT_LONG_SOURCE_CD (Continued)	**44** Rhode Island **45** South Carolina **46** South Dakota **47** Tennessee **48** Texas **49** Utah **50** Vermont **51** Virginia **53** Washington **54** West Virginia **55** Wisconsin **56** Wyoming **60** American Samoa **64** Federated States of Micronesia **66** Guam **68** Marshall Islands **69** Northern Mariana Islands **70** Palua **71** Tribe **72** Puerto Rico **73** Dunn & Bradstreet **74** U.S. Minor Outlying Islands **75** Other Federal Agency **76** Unknown

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

B_LOCATIONAL_DETAIL		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		77 Other **78** Virgin Islands of the United States **79** EPA Region 2 **80** Contractor **81** EPA Region 4 **82** EPA Headquarters **83** EPA Region 6
14.	B_LAT_LONG_SOURCE_CD (Continued)	**84** EPA Region 7 **85** Private **86** EPA Region 9 **87** EPA Region 10 **88** EPA Region 1 **91** EPA Region 3 **93** EPA Region 5 **96** EPA Region 8 **NN** Navajo Nation
15.	B_LAT_LONG_VERIFICATION_CD	**001** Proximity to polygon centroid (county) **002** Proximity to alternative facility coordinate **003** Proximity to polygon centroid (other) **004** Point in polygon (other) **005** Point in polygon (county) **006** Point in polygon (zip) **007** Verified relative to map features (1:24,000) **008** Verified relative to map features (1:100,000 or TIGER) **009** Verified relative to map features (other) **010** Verified, unknown method **011** Ground truth conducted **012** Proximity to polygon centroid (zip code) **013** Point in bounding box (zip)

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

	B_LOCATIONAL_DETAIL	
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		014 Point in bounding box (county) **015** Not verified
17.	B_VERTICAL_MEASURE_SIGN	**+** Above the Vertical Datum **!** Below the Vertical Datum
19.	B_VERTICAL_COL_METH_CD	**001** GPS carrier phase static relative positioning technique **002** GPS carrier phase kinematic relative positioning technique **003** GPS code measurements (pseudo range) differentially corrected **004** GPS code measurements (pseudo range) precise positioning service **005** GPS code measurements (pseudo range) standard positioning service (SA off) **006** GPS code measurements (pseudo range) standard positioning service (SA on) **007** Classical surveying techniques **008** Other **009** Altimetry **010** Precise leveling from a benchmark **011** Leveling between non-benchmark control points **012** Trigonometric leveling **013** Photogrammetric **014** Topographic map interpolation **015** Unspecified
21.	B_VERTICAL_DATUM_CD	**1** NAVD 88 **2** NGVD 29 **3** Elevation from mean sea-level **4** Local tidal datum **U** Unknown
22.	B_DATA_ORIGIN_CODE	**H** Headquarters **R** Region **S** State

12.3 B_Locational_Detail Mapping to SDWIS/STATE Entities

			B_LOCATIONAL_DETAIL		
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_Locational_Detail	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Locational_Detail	B_STATE_ASGN_IDENTIFICATION_CODE	TINWSF	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE *(Foreign Key)*
3.	B_Locational_Detail	B_LATITUDE_DMS_MEASURE	TINLOC	Locational Detail	LAT_DMS_MSR
4.	B_Locational_Detail	B_LATITUDE_DEC_DEG_MEASURE	TINLOC	Locational Detail	LAT_DEC_DEG_MSR
5.	B_Locational_Detail	B_LONGITUDE_DMS_MEASURE	TINLOC	Locational Detail	LONG_DMS_MSR
6.	B_Locational_Detail	B_LONGITUDE_DEC_DEG_MEASURE	TINLOC	Locational Detail	LONG_DEC_DEG_MSR
7.	B_Locational_Detail	B_LAT_LONG_COLLECTION_METH_CD	TINLOC	Locational Detail	LL_COLLECT_METH_CD
8.	B_Locational_Detail	B_LAT_LONG_ACCURACY_MEASURE	TINLOC	Locational Detail	LL_ACCURACY_MSR
9.	B_Locational_Detail	B_LAT_LONG_DESCRIPTION_CAT_CD	TINLOC	Locational Detail	LL_DESC_CAT_CD
10.	B_Locational_Detail	B_LAT_LONG_HORIZ_DATUM_CD	TINLOC	Locational Detail	LL_HORIZ_DATUM_CD
11.	B_Locational_Detail	B_LAT_LONG_SOURCE_SCALE_CD	TINLOC	Locational Detail	LL_SOURCE_SCALE_CD
12.	B_Locational_Detail	B_LAT_LONG_PT_LINE_AREA_CD	TINLOC	Locational Detail	LL_PNT_LIN_AREA_CD

		B_LOCATIONAL_DETAIL			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
13.	B_Locational_Detail	B_LAT_LONG_DETERMINATION_DATE	TINLOC	Locational Detail	LAT_LONG_DETERM_DT
14.	B_Locational_Detail	B_LAT_LONG_SOURCE_CD	TINLOC	Locational Detail	LL_SOURCE_CD
15.	B_Locational_Detail	B_LAT_LONG_VERIFICATION_CD	TINLOC	Locational Detail	LL_VERIFICATION_CD
16.	B_Locational_Detail	B_LOC_DESC_COMMENT_TXT	TINLOC	Locational Detail	LOC_DESC_CMNT_TXT
17.	B_Locational_Detail	B_VERTICAL_MEASURE_SIGN	TINLOC	Locational Detail	VERT_MSR_SIGN
18.	B_Locational_Detail	B_VERTICAL_MEASURE	TINLOC	Locational Detail	VERTICAL_MEASURE
19.	B_Locational_Detail	B_VERTICAL_COL_METH_CD	TINLOC	Locational Detail	VER_COL_METH_CD
20.	B_Locational_Detail	B_VERTICAL_ACCURACY_MSR	TINLOC	Locational Detail	VERT_ACCURACY_MSR
21.	B_Locational_Detail	B_VERTICAL_DATUM_CD	TINLOC	Locational Detail	VERT_DATUM_CD
22.	B_Locational_Detail	B_DATA_ORIGIN_CODE	TINLOC	Locational Detail	B_DATA_ORIGIN_CODE

12.4   B_Locational_Detail Structure Set to Staging Table Mapping

		B_LOCATIONAL_DETAIL		
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
1.	B_Locational_Detail	B_PWS_NUMBER	TMGLOC	B_PWS_NUMBER

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
		B_LOCATIONAL_DETAIL		
2.	B_Locational_Detail	B_STATE_ASGN_IDENTIFICATION_CODE	TMGLOC	B_ST_ASGN_ID_CD
3.	B_Locational_Detail	B_LATITUDE_DMS_MEASURE	TMGLOC	B_LAT_DMS_MSR
4.	B_Locational_Detail	B_LATITUDE_DEC_DEG_MEASURE	TMGLOC	B_LAT_DEC_DEG_MSR
5.	B_Locational_Detail	B_LONGITUDE_DMS_MEASURE	TMGLOC	B_LONG_DMS_MSR
6.	B_Locational_Detail	B_LONGITUDE_DEC_DEG_MEASURE	TMGLOC	B_LONG_DEC_DEG_MSR
7.	B_Locational_Detail	B_LAT_LONG_COLLECTION_METH_CD	TMGLOC	B_LL_CLCTN_METH_CD
8.	B_Locational_Detail	B_LAT_LONG_ACCURACY_MEASURE	TMGLOC	B_LL_ACCURACY_MSR
9.	B_Locational_Detail	B_LAT_LONG_DESCRIPTION_CAT_CD	TMGLOC	B_LL_DESC_CAT_CD
10.	B_Locational_Detail	B_LAT_LONG_HORIZ_DATUM_CD	TMGLOC	B_LL_HORIZ_DATM_CD
11.	B_Locational_Detail	B_LAT_LONG_SOURCE_SCALE_CD	TMGLOC	B_LL_SRCE_SCALE_CD
12.	B_Locational_Detail	B_LAT_LONG_PT_LINE_AREA_CD	TMGLOC	B_LL_PNT_LIN_AR_CD
13.	B_Locational_Detail	B_LAT_LONG_COLLECTION_DATE	TMGLOC	B_LL_COLLECT_DATE
14.	B_Locational_Detail	B_LAT_LONG_SOURCE_CD	TMGLOC	B_LL_SOURCE_CD
15.	B_Locational_Detail	B_LAT_LONG_VERIFICATION_CD	TMGLOC	B_LL_VERIF_CD
16.	B_Locational_Detail	B_LOC_DESC_COMMENT_TXT	TMGLOC	B_LOC_DSC_CMNT_TXT
17.	B_Locational_Detail	B_VERTICAL_MEASURE_SIGN	TMGLOC	B_VERTICL_MSR_SIGN
18.	B_Locational_Detail	B_VERTICAL_MEASURE	TMGLOC	B_VERTICL_MEASURE
19.	B_Locational_Detail	B_VERTICAL_COL_METH_CD	TMGLOC	B_VERT_COL_METH_CD
20.	B_Locational_Detail	B_VERTICAL_ACCURACY_MSR	TMGLOC	B_VRTICL_ACRCY_MSR
21.	B_Locational_Detail	B_VERTICAL_DATUM_CD	TMGLOC	B_VERTICL_DATUM_CD
22.	B_Locational_Detail	B_DATA_ORIGIN_CODE	TMGLOC	B_DATA_ORIGIN_CD

13.0   STRUCTURE SET B_WS_WSF_Legent_Lab_Contact

13.1   B_WS_WSF_Legent_Lab_Contact File Layout

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_WS_WSF_LEGENT_LAB_CONTACT				
1.	B_LEGAL_ENTITY_NAME	AN	40	1 - 40	MANDATORY - If field 2 (B_LEGAL_ENTITY_TYPE_CODE) = "IN," format should be LASTNAME, FIRSTNAME. (Example: LOGAN, WILLIAM.) There is a space following the comma.
2. *	B_LEGAL_ENTITY_TYPE_CODE	AN	2	41 - 42	MANDATORY
3.	B_ PWS_NUMBER	AN	9	43 - 51	CONDITIONALLY MANDATORY - Must be valued if field 10 (B_WATER_SYSTEM_LEGAL_CONTACT_IND) = "Y," or field 11 (B_FACILITY_CONTACT_INDICATOR) = "Y."
4.	B_STATE_ASGN_IDENTIFICATION_CODE	AN	12	52 - 63	CONDITIONALLY MANDATORY - Must be valued if field 11 (B_FACILITY_CONTACT_INDICATOR) = "Y."
5.	B_LAB_STATE_ID_NUMBER	AN	10	64 - 73	CONDITIONALLY MANDATORY - Must be valued if field 12 (B_LAB_LEGAL_CONTACT_INDICATOR) = "Y."
6. *	B_CONTACT_TYPE_CODE	AN	3	74 - 76	MANDATORY
7. *	B_ACTIVE_INDICATOR_CODE	AN	1	77	OPTIONAL - If this field is not valued, *Migration to SDWIS/STATE* will set it to "A" (Active).
8.	B_BEGIN_DATE	DT	8	78 - 85	OPTIONAL
9.	B_ESTABLISHMENT_NUMBER	AN	10	86 - 95	OPTIONAL

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_WS_WSF_LEGENT_LAB_CONTACT				
10. *	B_WATER_SYSTEM_LEGAL_CONTACT_IND	AN	1	96	OPTIONAL - **If this field = "Y," Uniqueness/Duplicate check is on the combination of field 1 (B_LEGAL_ENTITY_NAME), field 2 (B_LEGAL_ENTITY_TYPE_CODE), field 3 (B_PWS_NUMBER), and field 6 (B_CONTACT_TYPE_CODE)**. For each record, one of fields 10, 11, or 12 must be valued; however, only one of fields 10, 11, or 12 should be valued. *Migration to SDWIS/STATE* will assume that only one of these three fields is valued. The record will be rejected if none of the fields is valued. This field will only be recognized if the value is "Y."
11. *	B_FACILITY_CONTACT_INDICATOR	AN	1	97	OPTIONAL - **If this field = "Y," Uniqueness/Duplicate check is on the combination of field 1 (B_LEGAL_ENTITY_NAME), field 2 (B_LEGAL_ENTITY_TYPE_CODE), field 3 (B_PWS_NUMBER), field 4 (B_STATE_ASGN_IDENTIFICATION_CODE), and field 6 (B_CONTACT_TYPE_CODE)**. For each record, one of fields 10, 11, or 12 must be valued; however, only one of fields 10, 11, or 12 should be valued. *Migration to SDWIS/STATE* will assume that only one of these three fields is valued. The record will be rejected if none of the fields is valued. This field will only be recognized if the value is "Y."

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_WS_WSF_LEGENT_LAB_CONTACT				
12. *	B_LAB_LEGAL_CONTACT_INDICATOR	AN	1	98	OPTIONAL - **If this field = "Y," Uniqueness/Duplicate check is on the combination of field 1 (B_LEGAL_ENTITY_NAME), field 2 (B_LEGAL_ENTITY_TYPE_CODE), field 5 (B_LAB_STATE_ID_NUMBER), and field 6 (B_CONTACT_TYPE_CODE).** For each record, one of fields 10, 11, or 12 must be valued; however, only one of fields 10, 11, or 12 should be valued. *Migration to SDWIS/STATE* will assume that only one of these three fields is valued. The record will be rejected if none of the fields is valued. This field will only be recognized if the value is "Y."
13.	B_PURPOSE_TEXT	AN	30	99 - 128	OPTIONAL
14.	B_INDIV_ORG_NAME	AN	30	129 - 158	OPTIONAL - Only recognized if field 2 (B_LEGAL_ENTITY_TYPE_CODE) = IN. If more than one Individual record in Legal Entities exists with the same First Name and Last Name, users should either populate this field and/or field 15, whichever was used to uniquely identify the desired Individual record. If the user does not, the software will link to the first Individual record that matches based on First Name and Last Name.
15.	B_INDIV_MAIL_STOP_TEXT	AN	10	159 - 168	OPTIONAL - Only recognized if field 2 (B_LEGAL_ENTITY_TYPE_CODE) = IN. If more than one Individual record in Legal Entities exists with the same First Name and Last Name, users should either populate this field and/or field 14, whichever was used to uniquely identify the desired Individual record. If the user does not, the software will link to the first Individual record that matches based on First Name and Last Name.

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

13.2   B_WS_WSF_Legent_Lab_Contact Permitted Value List

B_WS_WSF_LEGENT_LAB_CONTACT		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
2.	B_LEGAL_ENTITY_TYPE_CODE	**CM** Company **CP** Cooperative **CR** Corporation **GA** Government Agency **HA** Homeowners Association **IN** Individual **NP** Non-Profit **OT** Other **RU** Rate-Set Utility **TP** Treatment Plant **TR** Trust

B_WS_WSF_LEGENT_LAB_CONTACT		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
6.	B_CONTACT_TYPE_CODE **For a Water System Contact**	**AC** Administrative Contact **AL** All of the Above **BI** Bureau of Indian Affairs Representative **DO** Designated Operator in Direct Charge **EC** Emergency Contact **FC** Financial Contact **HC** Health Clinic Representative **IE** Indian Health Service Engineer **IS** Indian Health Service Sanitarian **LC** Legal Contact **LE** Lead Engineer **OP** Operator **OT** Other **OW** Owner **SA** Sampling **TC** Tribal Chairman **TE** Tribal Environmental Dept. Representative **TG** Tribal Government Representative **TH** Tribal Health Dept. Representative **UN** Utility Representative (Non-tribal) **UT** Utility Representative (Tribal)
6.	B_CONTACT_TYPE_CODE **For a Water System Facility Contact**	**DOP** Designated Operator in Charge **EC** Emergency Contact **PL** Physical Location **LE** Lead Engineer

B_WS_WSF_LEGENT_LAB_CONTACT		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
6.	B_CONTACT_TYPE_CODE **For a Laboratory Legal Entity Assignment**	**AC** Administrative Contact **AL** All of the Above **EC** Emergency Contact **FC** Financial Contact **LC** Legal Contact **OP** Operator **OW** Owner **SA** Sampling
7.	B_ACTIVE_INDICATOR_CODE	**A** Active **I** Inactive
10.	B_WATER_SYSTEM_LEGAL_CONTACT_IND	**Y** Yes
11.	B_FACILITY_CONTACT_INDICATOR	**Y** Yes
12.	B_LAB_LEGAL_CONTACT_INDICATOR	**Y** Yes

13.3   B_WS_WSF_Legent_Lab_Contact Mapping to SDWIS/STATE Entities

		B_WS_WSF_LEGENT_LAB			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
1.	B_WS_WSF_Legent_ Lab_Contact	B_LEGAL_ENTITY_NAME	TINLGENT	Legal Entity	NAME (*Foreign Key*)
2.	B_WS_WSF_Legent_ Lab_Contact	B_LEGAL_ENTITY_TYPE_CODE	TINLGENT	Legal Entity	TYPE_CODE (*Foreign Key*)
3.	B_WS_WSF_Legent_ Lab_Contact	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
4.	B_WS_WSF_Legent_ Lab_Contact	B_STATE_ASGN_IDENTIFICATION_CODE	TINWSF	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE (*Foreign Key*)
5.	B_WS_WSF_Legent_ Lab_Contact	B_LAB_STATE_ID_NUMBER	TSALAB	Laboratory	STATE_ASSIGNED_ID_NUMBER (*Foreign Key*)
6.	B_WS_WSF_Legent_ Lab_Contact	B_CONTACT_TYPE_CODE	TINWSLEC TSALLEA TINWSFC	Water Sys Legal Entity Contact/ Lab Legal Entity Asgmt/ Water System Facility Contact	TYPE_CODE TINWSF_TYPE_CODE
7.	B_WS_WSF_Legent_ Lab_Contact	B_ACTIVE_INDICATOR_CODE	TINWSLEC TSALLEA TINWSFC	Water Sys Legal Entity Contact/ Lab Legal Entity Asgmt/ Water System Facility Contact	ACTIVE_INDICATOR_CODE

* Designates field with permitted values.   A-131   + Shaded gray blocks designate changes to previously published Structure Sets.

		B_WS_WSF_LEGENT_LAB			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
8.	B_WS_WSF_Legent_ Lab_Contact	B_BEGIN_DATE	TINWSLEC TSALLEA	Water Sys Legal Entity Contact/ Lab Legal Entity Asgmt	BEGIN_DATE
9.	B_WS_WSF_Legent_ Lab_Contact	B_ESTABLISHMENT_NUMBER	TSALLEA	Lab Legal Entity Asgmt	ESTABLISHMENT_NUMBER
10.	B_WS_WSF_Legent_ Lab_Contact	B_WATER_SYSTEM_LEGAL_CONTACT_IN D			
11.	B_WS_WSF_Legent_ Lab_Contact	B_FACILITY_CONTACT_INDICATOR			
12.	B_WS_WSF_Legent_ Lab_Contact	B_LAB_LEGAL_CONTACT_INDICATOR			
13.	B_WS_WSF_Legent_ Lab_Contact	B_PURPOSE_TEXT	TSALLEA	Lab Legal Entity Asgmt	PURPOSE_TEXT
14.	B_WS_WSF_Legent_ Lab_Contact	B_INDIV_ORG_NAME	TININDIV	Individual	ORGANIZATION_NAME
15.	B_WS_WSF_Legent_ Lab_Contact	B_INDIV_MAIL_STOP_TEXT	TININDIV	Individual	MAIL_STOP_TEXT

13.4   B_WS_WSF_Legent_Lab_Contact Structure Set to Staging Table Mapping

		B_WS_WSF_LEGENT_LAB		
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
1.	B_WS_WSF_Legent_Lab_Contact	B_LEGAL_ENTITY_NAME	TMGCNTCT	B_LEGAL_ENT_NAME
2.	B_WS_WSF_Legent_Lab_Contact	B_LEGAL_ENTITY_TYPE_CODE	TMGCNTCT	B_LEGAL_ENT_TYP_CD
3.	B_WS_WSF_Legent_Lab_Contact	B_PWS_NUMBER	TMGCNTCT	B_PWS_NUMBER
4.	B_WS_WSF_Legent_Lab_Contact	B_STATE_ASGN_IDENTIFICATION_CODE	TMGCNTCT	B_ST_ASGN_ID_CD
5.	B_WS_WSF_Legent_Lab_Contact	B_LAB_STATE_ID_NUMBER	TMGCNTCT	B_LAB_ST_ID_NUM
6.	B_WS_WSF_Legent_Lab_Contact	B_CONTACT_TYPE_CODE	TMGCNTCT	B_CONTACT_TYP_CD
7.	B_WS_WSF_Legent_Lab_Contact	B_ACTIVE_INDICATOR_CODE	TMGCNTCT	B_ACTIVE_IND_CD
8.	B_WS_WSF_Legent_Lab_Contact	B_BEGIN_DATE	TMGCNTCT	B_BEGIN_DATE
9.	B_WS_WSF_Legent_Lab_Contact	B_ESTABLISHMENT_NUMBER	TMGCNTCT	B_ESTABLISH_NUM
10.	B_WS_WSF_Legent_Lab_Contact	B_WATER_SYSTEM_LEGAL_CONTACT_IND	TMGCNTCT	B_WS_LEG_CNTCT_IND
11.	B_WS_WSF_Legent_Lab_Contact	B_FACILITY_CONTACT_INDICATOR	TMGCNTCT	B_FAC_CONTCT_IND
12.	B_WS_WSF_Legent_Lab_Contact	B_LAB_LEGAL_CONTACT_INDICATOR	TMGCNTCT	B_LABLEG_CNTCT_IND
13.	B_WS_WSF_Legent_Lab_Contact	B_PURPOSE_TEXT	TMGCNTCT	B_PURPOSE_TEXT
14.	B_WS_WSF_Legent_Lab_Contact	B_INDIV_ORG_NAME	TMGCNTCT	B_INDIV_ORG_NAME
15.	B_WS_WSF_Legent_Lab_Contact	B_INDIV_MAIL_STOP_TEXT	TMGCNTCT	B_IND_MAIL_STP_TXT

* Designates field with permitted values.   A-133   + Shaded gray blocks designate changes to previously published Structure Sets.

14.0 STRUCTURE SET B_Valid_Pair_TT_TO_Unit_Process

14.1 B_Valid_Pair_TT_TO_Unit_Process File Layout

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_VALID_PAIR_TT_TO_UNIT_PROCESS				
1.	B_PWS_NUMBER	AN	9	1 - 9	CONDITIONALLY MANDATORY - Must be valued if any one of fields 2 through 34 is valued. Fields 1-4 must be valued in order to create a Unit Process, a Unit Process Flow, or a Treatment Objective Process Assignment.
2.	B_STATE_ASGN_IDENTIFICATION_CODE	AN	12	10 - 21	CONDITIONALLY MANDATORY - Must be valued if any one of fields 3 through 34 is valued. Must be a Water System Facility of type "TP" (Treatment Plant). Fields 1-4 must be valued in order to create a Unit Process, a Unit Process Flow, or a Treatment Objective Process Assignment.
3.	B_TRTMNT_UNIT_PROCESS_NAME	AN	15	22 - 36	CONDITIONALLY MANDATORY - Must be valued if any one of fields 4 through 34 is valued. **Uniqueness/Duplicate check is on the combination of field 3 (B_TRTMNT_UNIT_PROCESS_NAME) and field 4 (B_TRTMNT_UNIT_PROCESS_TYPE_CODE) per treatment plant per water system**. Fields 1-4 must be valued in order to create a Unit Process, a Unit Process Flow, or a Treatment Objective Process Assignment.
4. *	B_TRTMNT_UNIT_PROCESS_TYPE_CODE	AN	3	37 - 39	CONDITIONALLY MANDATORY - Must be valued if field 3 or any one of fields 5 through 34 is valued. **Uniqueness/Duplicate check is on the combination of field 3 (B_TRTMNT_UNIT_PROCESS_NAME) and field 4 (B_TRTMNT_UNIT_PROCESS_TYPE_CODE) per treatment plant per water system**. Fields 1-4 must be valued in order to create a Unit Process, a Unit Process Flow, or a Treatment Objective Process Assignment.

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
B_VALID_PAIR_TT_TO_UNIT_PROCESS
5. *	B_AERATOR_TYPE_CODE	AN	2	40 - 41	OPTIONAL
6. *	B_SLUDGE_REMOVAL_TYPE_CODE	AN	2	42 - 43	OPTIONAL
7.	B_CNTNS_DISINFECT_MON_TYPE_NAME	AN	20	44 - 63	OPTIONAL
8. *	B_BAFFLING_CONDITION_CODE	AN	2	64 - 65	OPTIONAL
9.	B_FILTER_MEDIA_TYPE_CODE	AN	2	66 - 67	OPTIONAL
10.	B_FILTER_MEDIA_DEPTH_MEASURE	N	4	68 - 71	OPTIONAL
11.	B_DESIGN_FLOW_RATE	N	9	72 - 80	OPTIONAL - Value is reported in gallons per day.
12.	B_SURFACE_OVERFLOW_RATE	N	7	81 - 87	OPTIONAL - Value is reported in million gallons per day per square foot.
13.	B_OVERFLOW_RATE	N	3	88 - 90	OPTIONAL - Value is reported in gallons per minute per foot.
14.	B_LOADING_RATE	N	3	91 - 93	OPTIONAL - Value is reported in pounds per square foot.
15.	B_PADDLE_SPEED_RATE	N	4	94 - 97	OPTIONAL
16.	B_DOSAGE_OR_FEED_RATE	N	10(9(3))	98 - 107	OPTIONAL - Value is reported in pounds per milligram.
17.	B_VELOCITY_GRADIENT_MEASURE	N	6(5(2))	108 - 113	OPTIONAL - Value is reported in "g" or feet per minute.
18. *	B_WASHWATER_RECYCLED_INDICATR_CD	AN	1	114	OPTIONAL
19. *	B_BYPASS_CAPABILITY_INDICATOR_CD	AN	2	115 - 116	OPTIONAL
20.	B_RETENTION_TIME	N	4	117 - 120	OPTIONAL
21.	B_CONTACT_TIME	N	4	121 - 124	OPTIONAL
22.	B_BASIN_COUNT	N	4	125 - 128	OPTIONAL
23.	B_SUBUNIT_COUNT	N	4	129 - 132	OPTIONAL
24.	B_CT_VALUE	N	4	133 - 136	OPTIONAL
25.	B_DIAMETER_MEASURE	N	4	137 - 140	OPTIONAL
26.	B_WIDTH_MEASURE	N	6	141 - 146	OPTIONAL
27.	B_DEPTH_MEASURE	N	6	147 - 152	OPTIONAL
28.	B_DESCRIPTION_TEXT	ANmc	120	153 - 272	OPTIONAL

* Designates field with permitted values.   A-135   + Shaded gray blocks designate changes to previously published Structure Sets.

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_VALID_PAIR_TT_TO_UNIT_PROCESS				
29.	B_DESTINED_FOR_TRT_PROCESS_NAME	AN	15	273 - 287	CONDITIONALLY MANDATORY - Must be valued if field 33 (B_CONECTION_TYPE_CODE) is valued.
30. *	B_DESTINED_FOR_TRT_UNIT_P_TYP_CD	AN	3	288 - 290	CONDITIONALLY MANDATORY - Must be valued if field 33 (B_CONECTION_TYPE_CODE) is valued.
31.	B_SUPPLIED_BY_TRT_PROCESS_NAME	AN	15	291 - 305	CONDITIONALLY MANDATORY - Must be valued if field 33 (B_CONECTION_TYPE_CODE) is valued.
32. *	B_SUPPLIED_BY_TRT_UNIT_P_TYP_CD	AN	3	306 - 308	CONDITIONALLY MANDATORY - Must be valued if field 33 (B_CONECTION_TYPE_CODE) is valued.
33. *	B_CONNECTION_TYPE_CODE	AN	1	309	OPTIONAL
34. *	B_PRIMARY_TREATMENT_INDICATOR_CD	AN	1	310	OPTIONAL - There can be only one primary valid treatment objective process per Treatment Plant's Unit Process.
35.	B_TR_OBJECTIVE_CODE	AN	5	311 - 315	CONDITIONALLY MANDATORY - Must be valued if field 34 (B_PRIMARY_TREAMENT_INDICATOR _CD) is valued or, if the intent is to create a Treatment Objective Process Assignment, or to create a Valid Treat Obj Proc Asgmt.
36.	B_TR_OBJECTIVE_NAME	AN	30	316 - 345	OPTIONAL
37.	B_TR_PROCESS_CODE	AN	5	346 - 350	CONDITIONALLY MANDATORY - Must be valued if field 34 (B_PRIMARY_TREAMENT_INDICATOR _CD) is valued or, if the intent is to create a Treatment Objective Process Assignment, or to create a Valid Treat Obj Proc Asgmt.
38.	B_TR_PROCESS_NAME	AN	30	351 - 380	OPTIONAL

* Designates field with permitted values.   A-136   + Shaded gray blocks designate changes to previously published Structure Sets.

14.2   B_Valid_Pair_TT_TO_Unit_Process Permitted Value List

B_VALID_PAIR_TT_TO_UNIT_PROCESS		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
4.	B_TRTMNT_UNIT_PROCESS_TYPE_CODE	**AR** Aerator **CF** Chemical Feeder **CW** Clearwell **DI** Disinfection **DS** Distribution System Treatment **FI** Filter **FL** Flocculation **FM** Flash Mix **GU** Generic Unit **PU** Package Unit **SE** Sedimentation **SL** Sludge Handling **TS** Tube Settlers
5.	B_AERATOR_TYPE_CODE	**DI** Diffused Air **PA** Paddle
6.	B_SLUDGE_REMOVAL_TYPE_CODE	**SC** Scraper (bottom) **SK** Skimmer (surface)
8.	B_BAFFLING_CONDITION_CODE	**AV** Average **PE** Perfect **PO** Poor **SU** Superior **UN** Unbaffled
18.	B_WASHWATER_RECYCLED_INDICATR_CD	**Y** Yes **N** No
19.	B_BYPASS_CAPABILITY_INDICATOR_CD	**Y** Yes **N** No

B_VALID_PAIR_TT_TO_UNIT_PROCESS	
FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES

FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES	
30.	B_DESTINED_FOR_TRT_UNIT_P_TYP_CD	AR	Aerator
		CF	Chemical Feeder
		CW	Clearwell
		DI	Disinfection
		DS	Distribution System Treatment
		FI	Filter
		FL	Flocculation
		FM	Flash Mix
		GU	Generic Unit
		PU	Package Unit
		SE	Sedimentation
		SL	Sludge Handling
		TS	Tube Settlers
32.	B_SUPPLIED_BY_TRT_UNIT_P_TYP_CD	AR	Aerator
		CF	Chemical Feeder
		CW	Clearwell
		DI	Disinfection
		DS	Distribution System Treatment
		FI	Filter
		FL	Flocculation
		FM	Flash Mix
		GU	Generic Unit
		PU	Package Unit
		SE	Sedimentation
		SL	Sludge Handling
		TS	Tube Settlers
33.	B_CONNECTION_TYPE_CODE	D	Direct
		I	Indirect

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

B_VALID_PAIR_TT_TO_UNIT_PROCESS	
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
34.	B_PRIMARY_TREATMENT_INDICATOR_CD	**Y** Yes **N** No

14.3 B_Valid_Pair_TT_TO_Unit_Process Mapping to SDWIS/STATE Entities

B_VALID_PAIR_TT_TO_UNIT_PROCESS					
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
1.	B_Valid_Pair_TT_TO_Unit_Process	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Valid_Pair_TT_TO_Unit_Process	B_STATE_ASGN_IDENTIFICATION_CODE	TINWSF	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE (*Foreign Key*)
3.	B_Valid_Pair_TT_TO_Unit_Process	B_TRTMNT_UNIT_PROCESS_NAME	TINUNPRO	Unit Process	NAME
4.	B_Valid_Pair_TT_TO_Unit_Process	B_TRTMNT_UNIT_PROCESS_TYPE_CODE	TINUNPRO	Unit Process	TYPE_CODE
5.	B_Valid_Pair_TT_TO_Unit_Process	B_AERATOR_TYPE_CODE	TINUNPRO	Unit Process	AERATOR_TYPE_CODE
6.	B_Valid_Pair_TT_TO_Unit_Process	B_SLUDGE_REMOVAL_TYPE_CODE	TINUNPRO	Unit Process	SLUDGE_REMOVAL_TYPE_CODE
7.	B_Valid_Pair_TT_TO_Unit_Process	B_CNTNS_DISINFECT_MON_TYPE_NAME	TINUNPRO	Unit Process	CNTNS_DISINFECT_MON_TYPE_NAME
8.	B_Valid_Pair_TT_TO_Unit_Process	B_BAFFLING_CONDITION_CODE	TINUNPRO	Unit Process	BAFFLING_CONDITION_CODE
9.	B_Valid_Pair_TT_TO_Unit_Process	B_FILTER_MEDIA_TYPE_CODE	TINUNPRO	Unit Process	FILTER_MEDIA_TYPE_CODE
10.	B_Valid_Pair_TT_TO_Unit_Process	B_FILTER_MEDIA_DEPTH_MEASURE	TINUNPRO	Unit Process	FILTER_MEDIA_DEPTH_MEASURE

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
		B_VALID_PAIR_TT_TO_UNIT_PROCESS			
11.	B_Valid_Pair_TT_TO_Unit_Process	B_DESIGN_FLOW_RATE	TINUNPRO	Unit Process	DESIGN_FLOW_RATE
12.	B_Valid_Pair_TT_TO_Unit_Process	B_SURFACE_OVERFLOW_RATE	TINUNPRO	Unit Process	SURFACE_OVERFLOW_RATE
13.	B_Valid_Pair_TT_TO_Unit_Process	B_OVERFLOW_RATE	TINUNPRO	Unit Process	OVERFLOW_RATE
14.	B_Valid_Pair_TT_TO_Unit_Process	B_LOADING_RATE	TINUNPRO	Unit Process	LOADING_RATE
15.	B_Valid_Pair_TT_TO_Unit_Process	B_PADDLE_SPEED_RATE	TINUNPRO	Unit Process	PADDLE_SPEED_RATE
16.	B_Valid_Pair_TT_TO_Unit_Process	B_DOSAGE_OR_FEED_RATE	TINUNPRO	Unit Process	DOSAGE_OR_FEED_RATE
17.	B_Valid_Pair_TT_TO_Unit_Process	B_VELOCITY_GRADIENT_MEASURE	TINUNPRO	Unit Process	VELOCITY_GRADIENT_MEASURE
18.	B_Valid_Pair_TT_TO_Unit_Process	B_WASHWATER_RECYCLED_INDICATR_CD	TINUNPRO	Unit Process	WASHWATER_RECYCLED_INDICATR_CODE
19.	B_Valid_Pair_TT_TO_Unit_Process	B_BYPASS_CAPABILITY_INDICATOR_CD	TINUNPRO	Unit Process	BYPASS_CAPABILITY_INDICATOR_CODE
20.	B_Valid_Pair_TT_TO_Unit_Process	B_RETENTION_TIME	TINUNPRO	Unit Process	RETENTION_TIME
21.	B_Valid_Pair_TT_TO_Unit_Process	B_CONTACT_TIME	TINUNPRO	Unit Process	CONTACT_TIME
22.	B_Valid_Pair_TT_TO_Unit_Process	B_BASIN_COUNT	TINUNPRO	Unit Process	BASIN_COUNT
23.	B_Valid_Pair_TT_TO_Unit_Process	B_SUBUNIT_COUNT	TINUNPRO	Unit Process	SUBUNIT_COUNT
24.	B_Valid_Pair_TT_TO_Unit_Process	B_CT_VALUE	TINUNPRO	Unit Process	CT_VALUE

* Designates field with permitted values.

\+ Shaded gray blocks designate changes to previously published Structure Sets.

		B_VALID_PAIR_TT_TO_UNIT_PROCESS			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
25.	B_Valid_Pair_TT_TO_Unit_Process	B_DIAMETER_MEASURE	TINUNPRO	Unit Process	DIAMETER_MEASURE
26.	B_Valid_Pair_TT_TO_Unit_Process	B_WIDTH_MEASURE	TINUNPRO	Unit Process	WIDTH_MEASURE
27.	B_Valid_Pair_TT_TO_Unit_Process	B_DEPTH_MEASURE	TINUNPRO	Unit Process	DEPTH_MEASURE
28.	B_Valid_Pair_TT_TO_Unit_Process	B_DESCRIPTION_TEXT	TINUNPRO	Unit Process	DESCRIPTION_TEXT
29.	B_Valid_Pair_TT_TO_Unit_Process	B_DESTINED_FOR_TRT_PROCESS_NAME	TINUNPRO	Unit Process	UNIT_PROCESS_NAME
30.	B_Valid_Pair_TT_TO_Unit_Process	B_DESTINED_FOR_TRT_UNIT_P_TYP_CD	TINUNPRO	Unit Process	UNIT_PROCESS_TYPE_CODE
31.	B_Valid_Pair_TT_TO_Unit_Process	B_SUPPLIED_BY_TRT_PROCESS_NAME	TINUNPRO	Unit Process	UNIT_PROCESS_NAME
32.	B_Valid_Pair_TT_TO_Unit_Process	B_SUPPLIED_BY_TRT_UNIT_P_TYP_CD	TINUNPRO	Unit Process	UNIT_PROCESS_TYPE_CODE
33.	B_Valid_Pair_TT_TO_Unit_Process	B_CONECTION_TYPE_CODE	TINUPF	Unit Process Flow	CONNECTION_TYPE_CODE
34.	B_Valid_Pair_TT_TO_Unit_Process	B_PRIMARY_TREATMENT_INDICATOR_CD	TINTOPA	Treatment Obj Process Asgmt	PRIMARY_TREATMENT_INDICATOR_CODE
35.	B_Valid_Pair_TT_TO_Unit_Process	B_TR_OBJECTIVE_CODE	TINTROBJ	D Treatment Objective	TINTROBJ_CODE (*Foreign Key*)
36.	B_Valid_Pair_TT_TO_Unit_Process	B_TR_OBJECTIVE_NAME	TINTROBJ	D Treatment Objective	NAME (*Foreign Key*)
37.	B_Valid_Pair_TT_TO_Unit_Process	B_TR_PROCESS_CODE	TINTRPRO	D Treatment Process	TINTRPRO_CODE (*Foreign Key*)
38.	B_Valid_Pair_TT_TO_Unit_Process	B_TR_PROCESS_NAME	TINTRPRO	D Treatment Process	NAME (*Foreign Key*)

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

14.4 List of Values for the Treatment Objective - Treatment Process Pairing

35. TREATMENT OBJECTIVE CODE	36. TREATMENT OBJECTIVE NAME	37. TREATMENT PROCESS CODE	38. TREATMENT PROCESS NAME
A	ADDITIONAL TREATMENT ELSEWHERE	141	AERATION, CASCADE
A	ADDITIONAL TREATMENT ELSEWHERE	121	ACTIVATED CARBON, GRANULAR
B	DISINFECTION BY-PRODUCTS CONTROL	660	SEDIMENTATION
B	DISINFECTION BY-PRODUCTS CONTROL	742	PH ADJUSTMENT, PRE
B	DISINFECTION BY-PRODUCTS CONTROL	720	ULTRAVIOLET RADIATION
B	DISINFECTION BY-PRODUCTS CONTROL	640	REVERSE OSMOSIS
B	DISINFECTION BY-PRODUCTS CONTROL	600	RAPID MIX
B	DISINFECTION BY-PRODUCTS CONTROL	543	OZONATION, PRE
B	DISINFECTION BY-PRODUCTS CONTROL	541	OZONATION, POST
B	DISINFECTION BY-PRODUCTS CONTROL	500	LIME - SODA ASH ADDITION
B	DISINFECTION BY-PRODUCTS CONTROL	360	FLOCCULATION
B	DISINFECTION BY-PRODUCTS CONTROL	345	FILTRATION, RAPID SAND
B	DISINFECTION BY-PRODUCTS CONTROL	344	FILTRATION, PRESSURE SAND
B	DISINFECTION BY-PRODUCTS CONTROL	121	ACTIVATED CARBON, GRANULAR
B	DISINFECTION BY-PRODUCTS CONTROL	240	COAGULATION
B	DISINFECTION BY-PRODUCTS CONTROL	125	ACTIVATED CARBON, POWDERED
B	DISINFECTION BY-PRODUCTS CONTROL	741	PH ADJUSTMENT, POST
B	DISINFECTION BY-PRODUCTS CONTROL	141	AERATION, CASCADE
B	DISINFECTION BY-PRODUCTS CONTROL	143	AERATION, DIFFUSED
B	DISINFECTION BY-PRODUCTS CONTROL	145	AERATION, PACKED TOWER
B	DISINFECTION BY-PRODUCTS CONTROL	147	AERATION, SLAT TRAY
B	DISINFECTION BY-PRODUCTS CONTROL	149	AERATION, SPRAY
B	DISINFECTION BY-PRODUCTS CONTROL	160	ALGAE CONTROL
B	DISINFECTION BY-PRODUCTS CONTROL	200	CHLORAMINES

35. TREATMENT OBJECTIVE CODE	36. TREATMENT OBJECTIVE NAME	37. TREATMENT PROCESS CODE	38. TREATMENT PROCESS NAME
B	DISINFECTION BY-PRODUCTS CONTROL	220	CHLORINE DIOXIDE
C	CORROSION CONTROL	443	INHIBITOR, HEXAMETAPHOSPHATE
C	CORROSION CONTROL	740	PH ADJUSTMENT
C	CORROSION CONTROL	680	SEQUESTRATION
C	CORROSION CONTROL	473	CONVERTED (FRDS-1.5)
C	CORROSION CONTROL	741	PH ADJUSTMENT, POST
C	CORROSION CONTROL	449	INHIBITOR, SILICATE
C	CORROSION CONTROL	445	INHIBITOR, ORTHOPHOSPHATE
C	CORROSION CONTROL	441	INHIBITOR, BIMETALLIC PHOSPHATE
C	CORROSION CONTROL	141	AERATION, CASCADE
C	CORROSION CONTROL	447	INHIBITOR, POLYPHOSPHATE
D	DISINFECTION	421	HYPOCHLORINATION, POST
D	DISINFECTION	543	OZONATION, PRE
D	DISINFECTION	720	ULTRAVIOLET RADIATION
D	DISINFECTION	541	OZONATION, POST
D	DISINFECTION	461	CHLORINATION (FRDS-1.5)
D	DISINFECTION	455	IODINE
D	DISINFECTION	423	HYPOCHLORINATION, PRE
D	DISINFECTION	401	GASEOUS CHLORINATION, POST
D	DISINFECTION	380	FLUORIDATION
D	DISINFECTION	346	FILTRATION, SLOW SAND
D	DISINFECTION	220	CHLORINE DIOXIDE
D	DISINFECTION	200	CHLORAMINES
D	DISINFECTION	145	AERATION, PACKED TOWER
D	DISINFECTION	190	BROMINIZATION (SPECIAL USE)
D	DISINFECTION	403	GASEOUS CHLORINATION, PRE

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

35. TREATMENT OBJECTIVE CODE	36. TREATMENT OBJECTIVE NAME	37. TREATMENT PROCESS CODE	38. TREATMENT PROCESS NAME
E	DECHLORINATION	149	AERATION, SPRAY
E	DECHLORINATION	627	REDUCING AGENT, SULFUR DIOXIDE
E	DECHLORINATION	625	REDUCING AGENT, SODIUM SULFITE
E	DECHLORINATION	100	ACTIVATED ALUMINA
E	DECHLORINATION	620	REDUCING AGENTS
E	DECHLORINATION	145	AERATION, PACKED TOWER
E	DECHLORINATION	143	AERATION, DIFFUSED
E	DECHLORINATION	141	AERATION, CASCADE
E	DECHLORINATION	121	ACTIVATED CARBON, GRANULAR
E	DECHLORINATION	147	AERATION, SLAT TRAY
E	DECHLORINATION	623	REDUCING AGENT, SODIUM BISULFATE
F	IRON REMOVAL	680	SEQUESTRATION
F	IRON REMOVAL	742	PH ADJUSTMENT, PRE
F	IRON REMOVAL	543	OZONATION, PRE
F	IRON REMOVAL	560	PERMANGANATE
F	IRON REMOVAL	580	PEROXIDE
F	IRON REMOVAL	660	SEDIMENTATION
F	IRON REMOVAL	700	SLUDGE TREATMENT
F	IRON REMOVAL	740	PH ADJUSTMENT
F	IRON REMOVAL	345	FILTRATION, RAPID SAND
F	IRON REMOVAL	640	REVERSE OSMOSIS
F	IRON REMOVAL	141	AERATION, CASCADE
F	IRON REMOVAL	344	FILTRATION, PRESSURE SAND
F	IRON REMOVAL	343	FILTRATION, GREENSAND
F	IRON REMOVAL	300	DISTILLATION
F	IRON REMOVAL	149	AERATION, SPRAY

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

35. TREATMENT OBJECTIVE CODE	36. TREATMENT OBJECTIVE NAME	37. TREATMENT PROCESS CODE	38. TREATMENT PROCESS NAME
F	IRON REMOVAL	147	AERATION, SLAT TRAY
F	IRON REMOVAL	145	AERATION, PACKED TOWER
F	IRON REMOVAL	143	AERATION, DIFFUSED
F	IRON REMOVAL	423	HYPOCHLORINATION, PRE
F	IRON REMOVAL	403	GASEOUS CHLORINATION, PRE
I	INORGANICS REMOVAL	360	FLOCCULATION
I	INORGANICS REMOVAL	460	ION EXCHANGE
I	INORGANICS REMOVAL	500	LIME - SODA ASH ADDITION
I	INORGANICS REMOVAL	345	FILTRATION, RAPID SAND
I	INORGANICS REMOVAL	680	SEQUESTRATION
I	INORGANICS REMOVAL	141	AERATION, CASCADE
I	INORGANICS REMOVAL	600	RAPID MIX
I	INORGANICS REMOVAL	344	FILTRATION, PRESSURE SAND
I	INORGANICS REMOVAL	320	ELECTRODIALYSIS
I	INORGANICS REMOVAL	300	DISTILLATION
I	INORGANICS REMOVAL	180	BONE CHAR
I	INORGANICS REMOVAL	121	ACTIVATED CARBON, GRANULAR
I	INORGANICS REMOVAL	100	ACTIVATED ALUMINA
I	INORGANICS REMOVAL	660	SEDIMENTATION
I	INORGANICS REMOVAL	240	COAGULATION
I	INORGANICS REMOVAL	640	REVERSE OSMOSIS
I	INORGANICS REMOVAL	700	SLUDGE TREATMENT
I	INORGANICS REMOVAL	742	PH ADJUSTMENT, PRE
M	MANGANESE REMOVAL	300	DISTILLATION
M	MANGANESE REMOVAL	343	FILTRATION, GREENSAND
M	MANGANESE REMOVAL	403	GASEOUS CHLORINATION, PRE

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published Structure Sets.

35. TREATMENT OBJECTIVE CODE	36. TREATMENT OBJECTIVE NAME	37. TREATMENT PROCESS CODE	38. TREATMENT PROCESS NAME
M	MANGANESE REMOVAL	423	HYPOCHLORINATION, PRE
M	MANGANESE REMOVAL	543	OZONATION, PRE
M	MANGANESE REMOVAL	640	REVERSE OSMOSIS
M	MANGANESE REMOVAL	680	SEQUESTRATION
O	ORGANICS REMOVAL	360	FLOCCULATION
O	ORGANICS REMOVAL	403	GASEOUS CHLORINATION, PRE
O	ORGANICS REMOVAL	423	HYPOCHLORINATION, PRE
O	ORGANICS REMOVAL	543	OZONATION, PRE
O	ORGANICS REMOVAL	560	PERMANGANATE
O	ORGANICS REMOVAL	580	PEROXIDE
O	ORGANICS REMOVAL	345	FILTRATION, RAPID SAND
O	ORGANICS REMOVAL	660	SEDIMENTATION
O	ORGANICS REMOVAL	640	REVERSE OSMOSIS
O	ORGANICS REMOVAL	620	REDUCING AGENTS
O	ORGANICS REMOVAL	125	ACTIVATED CARBON, POWDERED
O	ORGANICS REMOVAL	240	COAGULATION
O	ORGANICS REMOVAL	160	ALGAE CONTROL
O	ORGANICS REMOVAL	149	AERATION, SPRAY
O	ORGANICS REMOVAL	147	AERATION, SLAT TRAY
O	ORGANICS REMOVAL	145	AERATION, PACKED TOWER
O	ORGANICS REMOVAL	143	AERATION, DIFFUSED
O	ORGANICS REMOVAL	141	AERATION, CASCADE
O	ORGANICS REMOVAL	121	ACTIVATED CARBON, GRANULAR
O	ORGANICS REMOVAL	742	PH ADJUSTMENT, PRE
O	ORGANICS REMOVAL	300	DISTILLATION
P	PARTICULATE REMOVAL	348	FILTERED

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published Structure Sets.

35. TREATMENT OBJECTIVE CODE	36. TREATMENT OBJECTIVE NAME	37. TREATMENT PROCESS CODE	38. TREATMENT PROCESS NAME
P	PARTICULATE REMOVAL	520	MICROSCREENING
P	PARTICULATE REMOVAL	600	RAPID MIX
P	PARTICULATE REMOVAL	660	SEDIMENTATION
P	PARTICULATE REMOVAL	742	PH ADJUSTMENT, PRE
P	PARTICULATE REMOVAL	347	FILTRATION, ULTRAFILTRATION
P	PARTICULATE REMOVAL	700	SLUDGE TREATMENT
P	PARTICULATE REMOVAL	345	FILTRATION, RAPID SAND
P	PARTICULATE REMOVAL	344	FILTRATION, PRESSURE SAND
P	PARTICULATE REMOVAL	342	FILTRATION, DIATOMACEOUS EARTH
P	PARTICULATE REMOVAL	341	FILTRATION, CARTRIDGE
P	PARTICULATE REMOVAL	300	DISTILLATION
P	PARTICULATE REMOVAL	240	COAGULATION
P	PARTICULATE REMOVAL	346	FILTRATION, SLOW SAND
P	PARTICULATE REMOVAL	360	FLOCCULATION
R	RADIONUCLIDES REMOVAL	700	SLUDGE TREATMENT
R	RADIONUCLIDES REMOVAL	360	FLOCCULATION
R	RADIONUCLIDES REMOVAL	460	ION EXCHANGE
R	RADIONUCLIDES REMOVAL	500	LIME - SODA ASH ADDITION
R	RADIONUCLIDES REMOVAL	600	RAPID MIX
R	RADIONUCLIDES REMOVAL	640	REVERSE OSMOSIS
R	RADIONUCLIDES REMOVAL	141	AERATION, CASCADE
R	RADIONUCLIDES REMOVAL	680	SEQUESTRATION
R	RADIONUCLIDES REMOVAL	742	PH ADJUSTMENT, PRE
R	RADIONUCLIDES REMOVAL	345	FILTRATION, RAPID SAND
R	RADIONUCLIDES REMOVAL	660	SEDIMENTATION
R	RADIONUCLIDES REMOVAL	121	ACTIVATED CARBON, GRANULAR

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

35. TREATMENT OBJECTIVE CODE	36. TREATMENT OBJECTIVE NAME	37. TREATMENT PROCESS CODE	38. TREATMENT PROCESS NAME
R	RADIONUCLIDES REMOVAL	344	FILTRATION, PRESSURE SAND
R	RADIONUCLIDES REMOVAL	145	AERATION, PACKED TOWER
R	RADIONUCLIDES REMOVAL	100	ACTIVATED ALUMINA
R	RADIONUCLIDES REMOVAL	143	AERATION, DIFFUSED
R	RADIONUCLIDES REMOVAL	147	AERATION, SLAT TRAY
R	RADIONUCLIDES REMOVAL	149	AERATION, SPRAY
R	RADIONUCLIDES REMOVAL	180	BONE CHAR
R	RADIONUCLIDES REMOVAL	240	COAGULATION
R	RADIONUCLIDES REMOVAL	300	DISTILLATION
R	RADIONUCLIDES REMOVAL	320	ELECTRODIALYSIS
S	SOFTENING (HARDNESS REMOVAL)	640	REVERSE OSMOSIS
S	SOFTENING (HARDNESS REMOVAL)	500	LIME - SODA ASH ADDITION
S	SOFTENING (HARDNESS REMOVAL)	700	SLUDGE TREATMENT
S	SOFTENING (HARDNESS REMOVAL)	660	SEDIMENTATION
S	SOFTENING (HARDNESS REMOVAL)	600	RAPID MIX
S	SOFTENING (HARDNESS REMOVAL)	742	PH ADJUSTMENT, PRE
S	SOFTENING (HARDNESS REMOVAL)	360	FLOCCULATION
S	SOFTENING (HARDNESS REMOVAL)	345	FILTRATION, RAPID SAND
S	SOFTENING (HARDNESS REMOVAL)	344	FILTRATION, PRESSURE SAND
S	SOFTENING (HARDNESS REMOVAL)	300	DISTILLATION
S	SOFTENING (HARDNESS REMOVAL)	240	COAGULATION
S	SOFTENING (HARDNESS REMOVAL)	100	ACTIVATED ALUMINA
S	SOFTENING (HARDNESS REMOVAL)	460	ION EXCHANGE
S	SOFTENING (HARDNESS REMOVAL)	680	SEQUESTRATION
T	TASTE / ODOR CONTROL	141	AERATION, CASCADE
T	TASTE / ODOR CONTROL	580	PEROXIDE

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

35. TREATMENT OBJECTIVE CODE	36. TREATMENT OBJECTIVE NAME	37. TREATMENT PROCESS CODE	38. TREATMENT PROCESS NAME
T	TASTE / ODOR CONTROL	560	PERMANGANATE
T	TASTE / ODOR CONTROL	543	OZONATION, PRE
T	TASTE / ODOR CONTROL	423	HYPOCHLORINATION, PRE
T	TASTE / ODOR CONTROL	403	GASEOUS CHLORINATION, PRE
T	TASTE / ODOR CONTROL	160	ALGAE CONTROL
T	TASTE / ODOR CONTROL	149	AERATION, SPRAY
T	TASTE / ODOR CONTROL	147	AERATION, SLAT TRAY
T	TASTE / ODOR CONTROL	143	AERATION, DIFFUSED
T	TASTE / ODOR CONTROL	125	ACTIVATED CARBON, POWDERED
T	TASTE / ODOR CONTROL	121	ACTIVATED CARBON, GRANULAR
T	TASTE / ODOR CONTROL	100	ACTIVATED ALUMINA
T	TASTE / ODOR CONTROL	145	AERATION, PACKED TOWER
Z	OTHER	380	FLUORIDATION

14.5   B_Valid_Pair_TT_TO_Unit_Process Structure Set to Staging Table Mapping

		B_VALID_PAIR_TT_TO_UNIT_PROCESS		
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
1.	B_Valid_Pair_TT_TO_Unit_Process	B_PWS_NUMBER	TMGVPAIR	B_PWS_NUMBER
2.	B_Valid_Pair_TT_ST_TO_Unit_Process	B_STATE_ASGN_IDENTIFICATION_CODE	TMGVPAIR	B_ST_ASGN_ID_CD
3.	B_Valid_Pair_TT_TO_Unit_Process	B_UNIT_PROCESS_NAME	TMGVPAIR	B_TR_UN_PRC_NAME
4.	B_Valid_Pair_TT_TR_Unit_Process	B_UNIT_PROCESS_TYPE_CODE	TMGVPAIR	B_TR_UN_PRC_TYP_CD
5.	B_Valid_Pair_TT_TO_Unit_Process	B_AERATOR_TYPE_CODE	TMGVPAIR	B_AERATOR_TYP_CD
6.	B_Valid_Pair_TT_SLUDGE_Unit_Process	B_SLUDGE_REMOVAL_TYPE_CODE	TMGVPAIR	B_SLUDG_RMVL_TP_CD
7.	B_Valid_Pair_TT_TO_Unit_Process	B_CNTNS_DISINFECT_MON_TYPE_NAME	TMGVPAIR	B_CT_DSNFCT_MON_NM
8.	B_Valid_Pair_TT_TO_Unit_Process	B_BAFFLING_CONDITION_CODE	TMGVPAIR	B_BAFFLING_COND_CD
9.	B_Valid_Pair_TT_TO_Unit_Process	B_FILTER_MEDIA_TYPE_CODE	TMGVPAIR	B_FLTR_MEDIA_TP_CD
10.	B_Valid_Pair_TT_TO_Unit_Process	B_FILTER_MEDIA_DEPTH_MEASURE	TMGVPAIR	B_FLT_MDIA_DPT_MSR
11.	B_Valid_Pair_TT_TO_Unit_Process	B_DESIGN_FLOW_RATE	TMGVPAIR	B_DESIGN_FLOW_RATE
12.	B_Valid_Pair_TT_TO_Unit_Process	B_SURFACE_OVERFLOW_RATE	TMGVPAIR	B_SURFC_OVERFLW_RT
13.	B_Valid_Pair_TT_TO_Unit_Process	B_OVERFLOW_RATE	TMGVPAIR	B_OVERFLOW_RATE
14.	B_Valid_Pair_TT_TO_Unit_Process	B_LOADING_RATE	TMGVPAIR	B_LOADING_RATE
15.	B_Valid_Pair_TT_TO_Unit_Process	B_PADDLE_SPEED_RATE	TMGVPAIR	B_PADL_SPEED_RATE
16.	B_Valid_Pair_TT_TO_Unit_Process	B_DOSAGE_OR_FEED_RATE	TMGVPAIR	B_DOSGE_OR_FEED_RT
17.	B_Valid_Pair_TT_TO_Unit_Process	B_VELOCITY_GRADIENT_MEASURE	TMGVPAIR	B_VEL_GRADIENT_MSR
18.	B_Valid_Pair_TT_TO_Unit_Process	B_WASHWATER_RECYCLED_INDICATR_CD	TMGVPAIR	B_WSH_RCYCL_IND_CD
19.	B_Valid_Pair_TT_TO_Unit_Process	B_BYPASS_CAPABILITY_INDICATOR_CD	TMGVPAIR	B_BYPSS_CAP_IND_CD
20.	B_Valid_Pair_TT_TO_Unit_Process	B_RETENTION_TIME	TMGVPAIR	B_RETENTION_TIME
21.	B_Valid_Pair_TT_TO_Unit_Process	B_CONTACT_TIME	TMGVPAIR	B_CONTACT_TIME
22.	B_Valid_Pair_TT_TO_Unit_Process	B_BASIN_COUNT	TMGVPAIR	B_BASIN_COUNT
23.	B_Valid_Pair_TT_TO_Unit_Process	B_SUBUNIT_COUNT	TMGVPAIR	B_SUBUNIT_COUNT

	B_VALID_PAIR_TT_TO_UNIT_PROCESS			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
24.	B_Valid_Pair_TT_TO_Unit_Process	B_CT_VALUE	TMGVPAIR	B_CT_VALUE
25.	B_Valid_Pair_TT_TO_Unit_Process	B_DIAMETER_MEASURE	TMGVPAIR	B_DIAMETER_MSR
26.	B_Valid_Pair_TT_TO_Unit_Process	B_WIDTH_MEASURE	TMGVPAIR	B_WIDTH_MSR
27.	B_Valid_Pair_TT_TO_Unit_Process	B_DEPTH_MEASURE	TMGVPAIR	B_DEPTH_MSR
28.	B_Valid_Pair_TT_TO_Unit_Process	B_DESCRIPTION_TEXT	TMGVPAIR	B_DESCRIPTION_TXT
29.	B_Valid_Pair_TT_TO_Unit_Process	B_DESTINED_FOR_TRT_PROCESS_NAME	TMGVPAIR	B_DSTND_TRTPRC_NM
30.	B_Valid_Pair_TT_TO_Unit_Process	B_DESTINED_FOR_TRT_UNIT_P_TYP_CD	TMGVPAIR	B_DSTND_TRTPRC_TYP
31.	B_Valid_Pair_TT_TO_Unit_Process	B_SUPPLIED_BY_TRT_PROCESS_NAME	TMGVPAIR	B_SUPBY_TRTPRC_NM
32.	B_Valid_Pair_TT_TO_Unit_Process	B_SUPPLIED_BY_TRT_UNIT_P_TYP_CD	TMGVPAIR	B_SUPBY_TRTPRC_TYP
33.	B_Valid_Pair_TT_TO_Unit_Process	B_CONECTION_TYPE_CODE	TMGVPAIR	B_CONNECT_TYP_CD
34.	B_Valid_Pair_TT_TO_Unit_Process	B_PRIMARY_TREATMENT_INDICATOR_CD	TMGVPAIR	B_PRIM_TRT_IND_CD
35.	B_Valid_Pair_TT_TO_Unit_Process	B_TR_OBJECTIVE_CODE	TMGVPAIR	B_TRT_OBJ_CD
36.	B_Valid_Pair_TT_TO_Unit_Process	B_TR_OBJECTIVE_NAME	TMGVPAIR	B_TRT_OBJECTIVE_NA
37.	B_Valid_Pair_TT_TO_Unit_Process	B_TR_PROCESS_CODE	TMGVPAIR	B_TRT_PROC_CD
38.	B_Valid_Pair_TT_TO_Unit_Process	B_TR_PROCESS_NAME	TMGVPAIR	B_TRT_PROCESS_NAM

* Designates field with permitted values.   A-152   + Shaded gray blocks designate changes to previously published Structure Sets.

15.0   STRUCTURE SET B_Water_System_Facility_Flow

15.1   B_Water_System_Facility_Flow File Layout

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_WATER_SYSTEM_FACILITY_FLOW				
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - Water System Facility flow can only occur between facilities within the same water system.
2.	B_DESTINED_FOR_WSF_STATE_ASGN_ID	AN	12	10 - 21	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_DESTINED_FOR_WSF_STATE_ASGN_ID), and field 3 (B_SUPPLIED_BY_WSF_STATE_ASGN_ID)**. Water system facilities must be within the same water system. Facility flow cannot be from a water system facility to itself; however, the flow can be in both directions between two facilities.
3.	B_SUPPLIED_BY_WSF_STATE_ASGN_ID	AN	12	22 - 33	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_DESTINED_FOR_WSF_STATE_ASGN_ID), and field 3 (B_SUPPLIED_BY_WSF_STATE_ASGN_ID)**. Water system facilities must be within the same water system. Facility flow cannot be from a water system facility to itself; however, the flow can be in both directions between two facilities.
4.	B_WATER_QUANTITY_MEASURE	N	11	34 - 44	OPTIONAL
5. *	B_WATER_QUANTITY_MEASURE_UNIT	AN	3	45 - 47	OPTIONAL
6. *	B_CONNECTION_TYPE_CODE	AN	1	48	OPTIONAL
7.	B_CONNECTION_DATE	DT	8	49 - 56	OPTIONAL
8.	B_DISCONNECTION_DATE	DT	8	57 - 64	OPTIONAL

15.2 B_Water_System_Facility_Flow Permitted Value List

B_WATER_SYSTEM_FACILITY_FLOW		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
5.	B_WATER_QUANTITY_MEASURE_UNIT	**GAL** Gallons **GPD** Gallons per Day **GPM** Gallons per Minute
6.	B_CONNECTION_TYPE_CODE	**D** Direct - a direct physical connection between two water system facilities. **I** Indirect - an indirect connection between two water system facilities (e.g., water is trucked from one Water System Facility to another).

15.3   B_Water_System_Facility_Flow Mapping to SDWIS/STATE Entities

		B_WATER_SYSTEM_FACILITY_FLOW			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_Water_System _Facility_Flow	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Water_System _Facility_Flow	B_DESTINED_FOR_WSF_STATE_ASGN_ID	TINWSF	Water System Facility	STATE_ASSGN_IDENTIFICATION_CODE (*Foreign Key*)
3.	B_Water_System _Facility_Flow	B_SUPPLIED_BY_WSF_STATE_ASGN_ID	TINWSF	Water System Facility	STATE_ASSGN_IDENTIFICATION_CODE (*Foreign Key*)
4.	B_Water_System _Facility_Flow	B_WATER_QUANTITY_MEASURE	TINWSFF	Water Sys Facility Flow	WATER_QUANTITY_MEASURE
5.	B_Water_System _Facility_Flow	B_WATER_QUANTITY_MEASURE_UNIT	TINWSFF	Water Sys Facility Flow	WATER_QUANTITY_MEASURE_UNIT
6.	B_Water_System _Facility_Flow	B_CONNECTION_TYPE_CODE	TINWSFF	Water Sys Facility Flow	CONNECTION_TYPE_CODE
7.	B_Water_System _Facility_Flow	B_CONNECTION_DATE	TINWSFF	Water Sys Facility Flow	CONNECTION_DATE
8.	B_Water_System _Facility_Flow	B_DISCONNECTION_DATE	TINWSFF	Water Sys Facility Flow	DISCONNECTION_DATE

15.4   B_Water_System_Facility_Flow Structure Set to Staging Table Mapping

		B_WATER_SYSTEM_FACILITY_FLOW		
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
1.	B_Water_System_Facility_Flow	B_PWS_NUMBER	TMGWSFF	B_PWS_NUMBER
2.	B_Water_System_Facility_Flow	B_DESTINED_FOR_WSF_STATE_ASGN_ID	TMGWSFF	B_DST_WSF_STASG_ID
3.	B_Water_System_Facility_Flow	B_SUPPLIED_BY_WSF_STATE_ASGN_ID	TMGWSFF	B_SUP_WSF_STASG_ID
4.	B_Water_System_Facility_Flow	B_WATER_QUANTITY_MEASURE	TMGWSFF	B_WATER_QTY_MSR
5.	B_Water_System_Facility_Flow	B_WATER_QUANTITY_MEASURE_UNIT	TMGWSFF	B_WTR_QTY_UOM
6.	B_Water_System_Facility_Flow	B_CONNECTION_TYPE_CODE	TMGWSFF	B_CNTCT_TYP_CD
7.	B_Water_System_Facility_Flow	B_CONNECTION_DATE	TMGWSFF	B_CONNECTION_DATE
8.	B_Water_System_Facility_Flow	B_DISCONNECTION_DATE	TMGWSFF	B_DISCONNECT_DATE

16.0 STRUCTURE SET B_Sampling_Point

16.1 B_Sampling_Point File Layout

B_SAMPLING_POINT
FIELD NO.	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_STATE_ASGN_IDENTIFICATION_CODE) and field 4 (B_SAMPLING_POINT_ID_CODE).**
2.	B_STATE_ASGN_IDENTIFICATION_CODE	AN	12	10 - 21	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_STATE_ASGN_IDENTIFICATION_CODE) and field 4 (B_SAMPLING_POINT_ID_CODE).**
3. *	B_SAMPLING_POINT_TYPE_CODE	AN	2	22 - 23	OPTIONAL
4.	B_SAMPLING_POINT_ID_CODE	AN	11	24 - 34	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_STATE_ASGN_IDENTIFICATION_CODE) and field 4 (B_SAMPLING_POINT_ID_CODE).**
5.	B_LOCATION_DESCRIPTION_TEXT	AN	20	35 - 54	OPTIONAL
6. *	B_SOURCE_WATER_TYPE_CODE	AN	2	55 - 56	OPTIONAL
7. *	B_POST_DISINFECTION_INDICATOR_CD	AN	1	57	OPTIONAL
8. *	B_REPRESENTATIVE_INDICATOR_CODE	AN	1	58	OPTIONAL
9. *	B_LEAD_AND_COPPER_TIER_LEVEL_TXT	AN	1	59	OPTIONAL - If value supplied for this field that does not equal any of the permitted values, *Migration to SDWIS/STATE* will accept the sampling point but change the value of Tier_Level_Text to blank.

					B_SAMPLING_POINT
FIELD NO.	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
10. *	B_LEAD_AND_COPPER_TIER_LEVEL_TXT	AN	6	60 - 65	OPTIONAL - If value supplied for this field that does not equal any of the permitted values, *Migration to SDWIS/STATE* will accept the sampling point but change the value of Tier_Type_Text to blank.
11. *	B_PROCESS_PHASE_INDICATOR_CODE	AN	1	66	OPTIONAL
12. *	B_ACTIVITY_STATUS_CD	AN	1	67	MANDATORY - If value supplied for this field does not equal any of the permitted values, *Migration to SDWIS/STATE* will reject the sampling point.
13.	B_ACTIVITY_DATE	DT	8	68 - 75	MANDATORY - If this field is not valued, *Migration to SDWIS/STATE* will reject the sampling point.
14.	B_ACTIVITY_REASON_TEXT	ANmc	120	76 - 195	OPTIONAL
15.	B_NOTE_1	ANmc	40	196 - 235	OPTIONAL
16.	B_NOTE_2	ANmc	40	236 - 275	OPTIONAL
17.	B_NOTE_3	ANmc	40	276 - 315	OPTIONAL
18.	B_SDWIS_FED_NAME	AN	40	316 - 355	OPTIONAL
19. *	B_DATA_ORIGIN_CD	AN	1	356	OPTIONAL - If not valued, *Migration to SDWIS/STATE* will set it to "S" (State). If valued with other than a permitted value, *Migration to SDWIS/STATE* will accept the sampling point but change the value of D_Data_Origin_Cd to S.

* Designates field with permitted values.   A-158   + Shaded gray blocks designate changes to previously published Structure Sets.

16.2 B_Sampling_Point Permitted Value List

B_SAMPLING_POINT		
FIELD NO.	**ATTRIBUTE NAME**	**PERMITTED VALUES**
3.	B_SAMPLING_POINT_TYPE_CODE	**DS** Distribution System Point **EP** Entry Point - The location at which raw (untreated) or finished (treated) water enters the distribution system of a PWS. **LD** Lowest disinfectant residual - The location where the disinfectant residual is the lowest as approved by the State for THM (DPB) and/or Total Coliform Sampling. **MD** Midpoint in the distribution system - The location at which the chlorine residual would be expected to be typical for the system, such as the location for Total Coliform sampling as described in 40 CFR 141.21, Chapter 1 (7-1-99 edition). **MR** Point of Maximum Retention - The location furthest from the entry point to the distribution system as approved by the State for THM (DPB) and/or Total Coliform Sampling. **SR** Source - The location at which untreated water is collected at the source. **PC** Process Control **RW** Raw Water Source **UP** Unit Process Point **WS** Water System Facility Point **FC** First Customer – After the entry point into the distribution system.
6.	B_SOURCE_WATER_TYPE_CODE	**FN** Finished, Treated **RW** Raw, Untreated
7.	B_POST_DISINFECTION_INDICATOR_CD	**Y** Yes **N** No
8.	B_REPRESENTATIVE_INDICATOR_CODE	**Y** Yes **N** No
9.	B_LEAD_AND_COPPER_TIER_LEVEL_TXT	**1** Tier 1 **2** Tier 2 **3** Tier 3 **N** Non-Tier

B_SAMPLING_POINT		
FIELD NO.	**ATTRIBUTE NAME**	**PERMITTED VALUES**
10.	B_LEAD AND_COPPER_TIER_TYPE_TEXT	**CU<83** Single family structure that contains copper pipes with lead solder installed before 1983. **CU>82M** Multiple family structure that contains copper pipes with lead solder installed after 1982. **CU>82S** Single family structure that contains copper pipes with lead solder installed after 1982. **LSLM** Multiple family structure served by a lead service line. **LSLS** Single family structure served by a lead service line. **PBPM** Multiple family structure containing lead pipes. **PBPS** Single family structure containing lead pipes. **CU>82N** Non-residential structure that contains copper pipes with lead solder installed after 1982. **PBP-NR** Non-residential structure containing lead pipes. **LSL-NR** Non-residential structure served by a lead service line. **CU<83N** Non-residential structure that contains copper pipes with lead solder installed before 1983. **NT-NR** Non-residential structure, Non-tier. **NT-M** Multiple Family structure, Non-tier. **NT-S** Single Family structure, Non-tier.
11.	B_PROCESS_PHASE_INDICATOR_CODE	**A** After **B** Before **D** During
12.	B_ACTIVITY_ STATUS_CD	**A** Active **I** Inactive **P** Proposed
19.	B_DATA_ORIGIN_CD	**H** Headquarters (EPA) **R** Regional Office (EPA) **S** State

16.3   B_Sampling_Point Mapping to SDWIS/STATE Entities

		B_SAMPLING_POINT			
FIELD NO.	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
1.	B_Sampling_Point	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Sampling_Point	B_STATE_ASGN_IDENTIFICATION_CODE	TINWSF	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE (*Foreign Key*)
3.	B_Sampling_Point	B_SAMPLING_POINT_TYPE_CODE	TSASMPPT	Sampling Point	TYPE_CODE
4.	B_Sampling_Point	B_SAMPLING_POINT_ID_CODE	TSASMPPT	Sampling Point	IDENTIFICATION_CODE
5.	B_Sampling_Point	B_LOCATION_DESCRIPTION_TEXT	TSASMPPT	Sampling Point	DESCRIPTION_TEXT
6.	B_Sampling_Point	B_SOURCE_WATER_TYPE_CODE	TSASMPPT	Sampling Point	SOURCE_TYPE_CODE
7.	B_Sampling_Point	B_POST_DISINFECTION_INDICATOR_CD	TSASMPPT	Sampling Point	POST_DISINFECTION_INDICATOR_CODE
8.	B_Sampling_Point	B_REPRESENTATIVE_INDICATOR_CODE	TSASMPPT	Sampling Point	REPRESENTATIVE_INDICATOR_CODE
9.	B_Sampling_Point	B_LEAD_AND_COPPER_TIER_LEVEL_TXT	TSASMPPT	Sampling Point	LEAD_AND_COPPER_TIER_LEVEL_TEXT
10.	B_Sampling_Point	B_LEAD_AND_COPPER_TIER_TYPE_TEXT	TSASMPPT	Sampling Point	LEAD_AND_COPPER_TIER_TYPE_TEXT
11.	B_Sampling_Point	B_PROCESS_PHASE_INDICATOR_CODE	TSASMPPT	Sampling Point	PROCESS_PHASE_INDICATOR_CODE
12.	B_Sampling_Point	B_ACTIVITY_STATUS_CD	TSASMPPT	Sampling Point	ACTIVITY_STATUS_CODE
13.	B_Sampling_Point	B_ACTIVITY_DATE	TSASMPPT	Sampling Point	ACTIVITY_DATE
14.	B_Sampling_Point	B_ACTIVITY_REASON_TEXT	TSASMPPT	Sampling Point	ACTIVITY_REASON_TEXT
15.	B_Sampling_Point	B_NOTE_1	TSASMPPT	Sampling Point	NOTE_1
16.	B_Sampling_Point	B_NOTE_2	TSASMPPT	Sampling Point	NOTE_2
17.	B_Sampling_Point	B_NOTE_3	TSASMPPT	Sampling Point	NOTE_3
18.	B_Sampling_Point	B_SDWIS_FED_NAME	TSASMPPT	Sampling Point	SDWIS_FED_NAME
19.	B_Sampling_Point	B_DATA_ORIGIN_CD	TSASMPPT	Sampling Point	DATA_ORIGIN_CODE

16.4 B_Sampling_Point Structure Set to Staging Table Mapping

		B_SAMPLING_POINT		
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
1.	B_Sampling_Point	B_PWS_NUMBER	TMGSMPPT	B_PWS_NUMBER
2.	B_Sampling_Point	B_STATE_ASGN_IDENTIFICATION_CODE	TMGSMPPT	B_ST_ASGN_ID_CD
3.	B_Sampling_Point	B_SAMPLING_POINT_TYPE_CODE	TMGSMPPT	B_SMPLNG_PT_TYP_CD
4.	B_Sampling_Point	B_SAMPLING_POINT_ID_CODE	TMGSMPPT	B_SMPLNG_PT_ID_CD
5.	B_Sampling_Point	B_LOCATION_DESCRIPTION_TEXT	TMGSMPPT	B_LOCAT_DSCPT_TXT
6.	B_Sampling_Point	B_SOURCE_WATER_TYPE_CODE	TMGSMPPT	B_SCR_WTR_TYP_CD
7.	B_Sampling_Point	B_POST_DISINFECTION_INDICATOR_CD	TMGSMPPT	B_PST_DSINF_IND_CD
8.	B_Sampling_Point	B_REPRESENTATIVE_INDICATOR_CODE	TMGSMPPT	B_REPRESENT_IND_CD
9.	B_Sampling_Point	B_LEAD_AND_COPPER_TIER_LEVEL_TXT	TMGSMPPT	B_PBCU_TIER_LVL_TX
10.	B_Sampling_Point	B_LEAD_AND_COPPER_TIER_TYPE_TEXT	TMGSMPPT	B_PBCU_TIER_TYP_TX
11.	B_Sampling_Point	B_PROCESS_PHASE_INDICATOR_CODE	TMGSMPPT	B_PRC_PHASE_IND_CD
12.	B_Sampling_Point	B_ACTIVITY_STATUS_CD	TMGSMPPT	B_ACTVTY STATUS_CD
13.	B_Sampling_Point	B_ACTIVITY_DATE	TMGSMPPT	B_ACTVTY_DATE
14.	B_Sampling_Point	B_ACTIVITY_REASON_TEXT	TMGSMPPT	B_ACTVTY_TEXT
15.	B_Sampling_Point	B_NOTE_1	TMGSMPPT	B_NOTE_1
16.	B_Sampling_Point	B_NOTE_2	TMGSMPPT	B_NOTE_2
17.	B_Sampling_Point	B_NOTE_3	TMGSMPPT	B_NOTE_3
18.	B_Sampling_Point	B_SDWIS_FED_NAME	TMGSMPPT	B_SDWIS_FED_NAME
19.	B_Sampling_Point	B_DATA_ORIGIN_CD	TMGSMPPT	B_DATA_ORIGIN_CD

17.0   STRUCTURE SET B_Water_Purchase

17.1   B_Water_Purchase File Layout

B_WATER_PURCHASE					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_BUYER_PWS_NUMBER	AN	9	1 - 9	MANDATORY
2.	B_BUYER_WSF_STATE_ASGN_ID_CODE	AN	12	10 - 21	OPTIONAL - Must be a Water System Facility of type Consecutive Connection ("CC"). The Water System Facility of type "CC" that is supplied in this field may only be used once per Water Purchase, even if the second purchase is for the same purchaser Water System.
3.	B_SELLER_PWS_NUMBER	AN	9	22 - 30	MANDATORY
4.	B_SELLER_WSF_STATE_ASGN_ID_CODE	AN	12	31 - 42	OPTIONAL - May not be a Water System Facility of type "CC."
5. *	B_WATER_TYPE_CODE	AN	3	43 - 45	OPTIONAL
6.	B_WATER_QUANTITY_MEASURE	N	11	46 - 56	OPTIONAL
7. *	B_WATER_QUANTITY_MEASURE_UNIT	AN	3	57 - 59	OPTIONAL
8.	B_MAXIMUM_DAILY_PURCHASE_RATE	N	11	60 - 70	OPTIONAL
9. *	B_MAX_DAILY_PURCHASE_RATE_UNIT	AN	3	71 - 73	OPTIONAL
10. *	B_WATER_FINISH_TYPE_CODE	AN	1	74	OPTIONAL
11. *	B_TREATED_BY_SELLER_INDICATOR_CD	AN	1	75	OPTIONAL
12.	B_ACTIVE_DATE	DT	8	76 - 83	OPTIONAL - An Activity Date must be included for any purchases intended for migration to SDWIS/FED. The *Migrate to SDWIS/FED* software will not create the purchase in the DTF without an Activity Date.
13.	B_INACTIVE_DATE	DT	8	84 - 91	OPTIONAL
14. *	B_PURPOSE_TYPE_CODE	AN	1	92	OPTIONAL

17.2 B_Water_Purchase Permitted Value List

		B_WATER_PURCHASE	
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**	
5.	B_WATER_TYPE_CODE	**GU**	Ground Water under the Direct Influence of Surface Water
		GW	Ground Water
		SW	Surface Water
7.	B_WATER_QUANTITY_MEASURE_UNIT	**ACF**	Acre Feet
		GAL	Gallons
	and	**GPD**	Gallons per Day
		GPM	Gallons per Minute
9.	B_MAX_DAILY_PURCHASE_RATE_UNIT	**MGD**	Million Gallons per Day
10.	B_WATER_FINISH_TYPE_CODE	**F**	Finished
		P	Partial
		R	Raw
11.	B_TREATED_BY_SELLER_INDICATOR_CD	**Y**	Yes
		N	No
14.	B_PURPOSE_TYPE_CODE	**E**	Emergency
		I	Interim
		P	Primary
		R	Partial
		S	Seasonal

17.3   B_Water_Purchase Mapping to SDWIS/STATE Entities

			B_WATER_PURCHASE			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_Water_Purchase	B_BUYER_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Water_Purchase	B_BUYER_WSF_STATE_ASGN_ID_CODE	TINWSF	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE (*Foreign Key*)
3.	B_Water_Purchase	B_SELLER_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
4.	B_Water_Purchase	B_SELLER_WSF_STATE_ASGN_ID_CODE	TINWSF	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE (*Foreign Key*)
5.	B_Water_Purchase	B_WATER_TYPE_CODE	TINWPURC	Water Purchase	WATER_TYPE_CODE
6.	B_Water_Purchase	B_WATER_QUANTITY_MEASURE	TINWPURC	Water Purchase	WATER_QUANTITY_MEASURE
7.	B_Water_Purchase	B_WATER_QUANTITY_MEASURE_UNIT	TINWPURC	Water Purchase	WATER_QUANTITY_MEASURE_UNIT
8.	B_Water_Purchase	B_MAXIMUM_DAILY_PURCHASE_RATE	TINWPURC	Water Purchase	MAXIMUM_DAILY_PURCHASE_RATE
9.	B_Water_Purchase	B_MAX_DAILY_PURCHASE_RATE_UNIT	TINWPURC	Water Purchase	MAX_DAILY_PURCHASE_RATE_UNIT
10.	B_Water_Purchase	B_WATER_FINISH_TYPE_CODE	TINWPURC	Water Purchase	WATER_FINISH_TYPE_CODE
11.	B_Water_Purchase	B_TREATED_BY_SELLER_INDICATOR_CD	TINWPURC	Water Purchase	TREATED_BY_SELLER_INDICATOR_CODE
12.	B_Water_Purchase	B_ACTIVE_DATE	TINWPURC	Water Purchase	ACTIVE_DATE
13.	B_Water_Purchase	B_INACTIVE_DATE	TINWPURC	Water Purchase	INACTIVE_DATE
14.	B_Water_Purchase	B_PURPOSE_TYPE_CODE	TINWPURC	Water Purchase	PURPOSE_TYPE_CODE

17.4   B_Water_Purchase Structure Set to Staging Table Mapping

		B_WATER_PURCHASE		
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
1.	B_Water_Purchase	B_BUYER_PWS_NUMBER	TMGWPURC	B_BUY_PWS_NUMBER
2.	B_Water_Purchase	B_BUYER_STATE_ASGN_ID_CODE	TMGWPURC	B_BUY_ST_ASG_ID_CD
3.	B_Water_Purchase	B_SELLER_PWS_NUMBER	TMGWPURC	B_SELL_PWS_NUMBER
4.	B_Water_Purchase	B_SELLER_STATE_ASGN_ID_CODE	TMGWPURC	B_SEL_ST_ASG_ID_CD
5.	B_Water_Purchase	B_WATER_TYPE_CODE	TMGWPURC	B_WATER_TYPE_CD
6.	B_Water_Purchase	B_WATER_QUANTITY_MEASURE	TMGWPURC	B_WATER_QTY_MSR
7.	B_Water_Purchase	B_WATER_QUANTITY_MEASURE_UNIT	TMGWPURC	B_WAT_QTY_MSR_UNIT
8.	B_Water_Purchase	B_MAXIMUM_DAILY_PURCHASE_RATE	TMGWPURC	B_MAX_DAILY_PUR_RT
9.	B_Water_Purchase	B_MAX_DAILY_PURCHASE_RATE_UNIT	TMGWPURC	B_MAX_DAY_PUR_RT_U
10.	B_Water_Purchase	B_WATER_FINISH_TYPE_CODE	TMGWPURC	B_WAT_FINISH_TP_CD
11.	B_Water_Purchase	B_TREATED_BY_SELLER_INDICATOR_CD	TMGWPURC	B_TRTED_BY_SEL_IND
12.	B_Water_Purchase	B_ACTIVE_DATE	TMGWPURC	B_ACTIVE_DATE
13.	B_Water_Purchase	B_INACTIVE_DATE	TMGWPURC	B_INACTIVE_DATE
14.	B_Water_Purchase	B_PURPOSE_TYPE_CODE	TMGWPURC	B_PURPOSE_TYPE_CD

18.0   STRUCTURE SET B_Sample_Sample_Summary

Note that edit rules listed in the Optionality column and in the Permitted Value List (where certain values are only accepted as stated) apply to "for compliance" samples; that is, samples where field 13 (B_Compliance_Indicator) is "Y." Setting this indicator to "N" bypasses most of the edit checks imposed on "for compliance" samples except those noted in field 13 as well as the permitted value edit checks for fields that have permitted values (that simply ensure that the permitted value supplied is one of the valid values for that field.)

See note (Item 5) at the end of file layout (18.4) for detailed description of sample/result uniqueness evaluation. *Sampling via EDI* Release 8.0 evaluates uniqueness *exactly* as it did in Release 7.0. Uniqueness information for sample/result has been removed from the Optionality column of the pertinent sample/result fields for File Layouts 18/19.1, 18/19.2, 18/19.3, and 18/19.4 and moved to the single location at the end of file layout 18.4 in order to clarify how the software evaluates uniqueness for individual samples/results.

18.1   B_Sample_Sample_Summary File Layout for Total Coliform

			B_SAMPLE_SAMPLE_SUMMARY		
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_RECORD_NAME	AN	3	1 - 3	MANDATORY - Field must = HDR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T
3.	B_TRANSACTION_NUMBER	AN	10	5 - 14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15 - 34	MANDATORY
5.	B_STATE_SAMPLE_NUMBER	AN	20	35 - 54	OPTIONAL
6.	B_WATER_SYSTEM_NUMBER	AN	11	55 - 65	MANDATORY
6.A *	B_REPLACEMENT_INDICATOR	AN	1	66	OPTIONAL
7.	B_STATE_LABORATORY_NUMBER	AN	10	67 - 76	CONDITIONALLY MANDATORY - Must be valued if field 8 (B_FEDERAL_LABORATORY_NUMBER) is not valued.
8.	B_FEDERAL_LABORATORY_NUMBER	AN	10	77 - 86	CONDITIONALLY MANDATORY - Must be valued if field 7 (B_STATE_LABORATORY_NUMBER) is not valued.

					B_SAMPLE_SAMPLE_SUMMARY
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
9.	B_WATER_FACILITY_STATE_CODE	AN	12	87 - 98	MANDATORY - Must belong to the Water System supplied in field 6 (B_WATER_SYSTEM_NUMBER).
10.	B_SAMPLING_POINT	AN	11	99 - 109	CONDITIONALLY MANDATORY - Must be valued if field 11 (B_SAMPLING_LOCATION) is not valued.
11.	B_SAMPLING_LOCATION	AN	20	110 - 129	CONDITIONALLY MANDATORY - Must be valued if field 10 (B_SAMPLING_POINT) is not valued.
12.*	B_SAMPLE_CATEGORY	AN	2	130 - 131	MANDATORY - Must equal "TC" or "MB."
13.*	B_COMPLIANCE_INDICATOR	AN	1	132	MANDATORY - If not valued, *Migration to SDWIS/STATE* will set to "Y." If set to N, sample only needs to have field 4 B_LAB_SAMPLE_NUMBER, field 7 B_STATE_LABORATORY_NUMBER, field 12 B_SAMPLE_CATEGORY, field 14 B_COLLECTION_DATE, and field 16 B_SAMPLE_TYPE valued to create the sample. If other data are supplied with the sample, they should be accepted with the sample, but the above are all that is necessary to enter a "not for compliance" sample.
14.	B_COLLECTION_DATE	DT	8	133 - 140	MANDATORY - Value must be less than or equal to the current date.
15.	B_COLLECTION_TIME	TM	6	141 - 146	OPTIONAL
16.*	B_SAMPLE_TYPE	AN	2	147 - 148	MANDATORY - If this field is not valued, *Migration to SDWIS/STATE* will set to "RT" which is defined as "Routine."
17.*	B_REPEAT_LOCATION_CODE	AN	2	149 - 150	OPTIONAL
18.	B_LAB_RECEIPT_DATE_SAMPLE	DT	8	151 - 158	OPTIONAL

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

| B_SAMPLE_SAMPLE_SUMMARY |
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
19.	B_COLLECTOR_IDENTIFICATION_NUMBER	AN	5	159 - 163	NOT USED (Blank Fill)
20.	B_COLLECTOR_NAME	AN	40	164 - 203	OPTIONAL - If supplied, format must be: LASTNAME, FIRSTNAME (There is a single space after the comma) if collector is an Individual (Legal Entity). Otherwise, value is stored with Sample as Informal Collector.
21.*	B_SAMPLE_VOLUME	AN	9	204 - 212	OPTIONAL
22.*	B_LEAD_COPPER_SAMPLE_TYPE	AN	3	213 - 215	NOT USED (Blank Fill)
23.*	B_SAMPLE_REJECTION_REASON	AN	2	216 - 217	OPTIONAL - If this field is valued (e.g., for a rejected sample), the sample may be inserted without the sample result. This is the only condition where a sample may be inserted without a result.
24.	B_COLLECTION_METHOD_CODE	AN	12	218 - 229	OPTIONAL
25.	B_ORIGINAL_LAB_SAMPLE_NUMBER	AN	20	230 - 249	CONDITIONALLY MANDATORY - This field must be valued if field 16 (B_SAMPLE_TYPE) = "RP" or if field 6.A (B_REPLACEMENT_INDICATOR) = "Y."
26.	B_LAB_COMPOSITE_NUMBER	AN	20	250 - 269	NOT USED (Blank Fill)
27.	B_COMPOSITE_DATE	DT	8	270 - 277	NOT USED (Blank Fill)
28.*	B_COMPOSITE_INDICATOR	AN	1	278	NOT USED (Blank Fill)
29.*	B_COMPOSITE_QUARTER	AN	1	279	NOT USED (Blank Fill)
30.	B_ANALYTE_CODE	AN	4	280 - 283	NOT USED (Blank Fill)
31.	B_CAS_NUMBER	AN	10	284 - 293	NOT USED (Blank Fill)
32.	B_MONITORING_PERIOD_START_DATE	DT	8	294 - 301	NOT USED (Blank Fill)
33.	B_MONITORING_PERIOD_END_DATE	DT	8	302 - 309	NOT USED (Blank Fill)
34.	B_ANALYSIS_METHOD_CODE	AN	12	310 - 321	NOT USED (Blank Fill)

B_SAMPLE_SAMPLE_SUMMARY				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
35.	B_FREE_CHLORINE_RESIDUAL	N	5 (4(2))	322 - 326	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FF_CHLOR_RES_MSR with null.
36.	B_TOTAL_CHLORINE_RESIDUAL	N	5 (4(2))	327 - 331	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FLDTOT_CHL_RES_MSR with null.
37.	B_SAMPLE_WATER_TEMPERATURE	N	4 (3(1))	332 - 335	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_TEMP_MSR with null.
38.*	B_TEMPERATURE_UNIT_MEASURE	AN	1	336	CONDITIONALLY MANDATORY - This field must be valued if field 37 (B_SAMPLE_WATER_TEMPERATURE) is valued.
39.	B_TURBIDITY_MEASURE	N	6 (5(2))	337 - 342	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_TURBID_MSR with null.
40.	B_PH_MEASURE	N	5 (4(1))	343 - 347	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_PH_MEASURE with null.
41.	B_FLOW_RATE	N	8 (7(4))	348 - 355	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_FLOW_RATE with null.
	FILLER		20	356 - 375	Blank fill to make fixed record length of 375.

18.2   B_Sample_Sample_Summary File Layout for Chemical and Lead & Copper

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_SAMPLE_SAMPLE_SUMMARY				
1.	B_RECORD_NAME	AN	3	1 - 3	MANDATORY - Field must = HDR.
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T.
3.	B_TRANSACTION_NUMBER	AN	10	5 - 14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15 - 34	MANDATORY
5.	B_STATE_SAMPLE_NUMBER	AN	20	35 - 54	OPTIONAL
6.	B_WATER_SYSTEM_NUMBER	AN	11	55 - 65	MANDATORY
6.A *	B_REPLACEMENT_INDICATOR	AN	1	66	OPTIONAL
7.	B_STATE_LABORATORY_NUMBER	AN	10	67 - 76	CONDITIONALLY MANDATORY - Must be valued if field 8 (B_FEDERAL_LABORATORY_NUMBER) is not valued.
8.	B_FEDERAL_LABORATORY_NUMBER	AN	10	77 - 86	CONDITIONALLY MANDATORY - Must be valued if field 7 (B_STATE_LABORATORY_NUMBER) is not valued.
9.	B_WATER_FACILITY_STATE_CODE	AN	12	87 - 98	MANDATORY - Must belong to the Water System supplied in field 6 (B_WATER_SYSTEM_NUMBER).
10.	B_SAMPLING_POINT	AN	11	99 - 109	CONDITIONALLY MANDATORY - Must be valued if field 11 (B_SAMPLING_LOCATION) is not valued.
11.	B_SAMPLING_LOCATION	AN	20	110 - 129	CONDITIONALLY MANDATORY - Must be valued if field 10 (B_SAMPLING_POINT) is not valued.
12.*	B_SAMPLE_CATEGORY	AN	2	130 - 131	MANDATORY - Field must = "PB" or "CH."

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* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_SAMPLE_SAMPLE_SUMMARY				
13.*	B_COMPLIANCE_INDICATOR	AN	1	132	MANDATORY - If not valued, *Migration to SDWIS/STATE* will set to "Y." If set to N, sample only needs to have field 4 B_LAB_SAMPLE_NUMBER, field 7 B_STATE_LABORATORY_NUMBER, field 12 B_SAMPLE_CATEGORY, field 14 B_COLLECTION_DATE, and field 16 B_SAMPLE_TYPE valued to create the sample. If other data are supplied with the sample, they should be accepted with the sample, but the above are all that is necessary to enter a "not for compliance" sample.
14.	B_COLLECTION_DATE	DT	8	133 - 140	MANDATORY
15.	B_COLLECTION_TIME	TM	6	141 - 146	OPTIONAL
16.*	B_SAMPLE_TYPE	AN	2	147 - 148	MANDATORY - If this field is not valued, *Migration to SDWIS/STATE* will set to "RT" which is defined as "Routine."
17.*	B_REPEAT_LOCATION_CODE	AN	2	149 - 150	NOT USED (Blank Fill)
18.	B_LAB_RECEIPT_DATE_SAMPLE	DT	8	151 - 158	OPTIONAL
19.	B_COLLECTOR_IDENTIFICATION_NUMB	AN	5	159 - 163	NOT USED (Blank Fill)
20.	B_COLLECTOR_NAME	AN	40	164 - 203	OPTIONAL - If supplied, format must be: LASTNAME, FIRSTNAME (there is a single space after the comma) if collector is an Individual (Legal Entity). Otherwise, value is stored with Sample as Informal Collector.
21.*	B_SAMPLE_VOLUME	AN	9	204 - 212	NOT USED (Blank Fill)
22.*	B_LEAD_COPPER_SAMPLE_TYPE	AN	3	213 - 215	OPTIONAL

	B_SAMPLE_SAMPLE_SUMMARY				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
23.*	B_SAMPLE_REJECTION_REASON	AN	2	216 - 217	OPTIONAL - If this field is valued (e.g., for a rejected sample), the sample may be inserted without the sample result. This is the only condition where a sample may be inserted without a result.
24.	B_COLLECTION_METHOD_CODE	AN	12	218 - 229	OPTIONAL
25.	B_ORIGINAL_LAB_SAMPLE_NUMBER	AN	20	230 - 249	CONDITIONALLY MANDATORY - This field must be valued if field 16 (B_SAMPLE_TYPE) = "CO" or "RP" and field 30 (B_ANALYTE_CODE) = "1040" (Nitrate) or "1041" (Nitrite).
26.	B_LAB_COMPOSITE_NUMBER	AN	20	250 - 269	NOT USED (Blank Fill)
27.	B_COMPOSITE_DATE	DT	8	270 - 277	NOT USED (Blank Fill)
28.*	B_COMPOSITE_INDICATOR	AN	1	278	NOT USED (Blank Fill)
29.*	B_COMPOSITE_QUARTER	AN	1	279	NOT USED (Blank Fill)
30.	B_ANALYTE_CODE	AN	4	280 - 283	NOT USED (Blank Fill)
31.	B_CAS_NUMBER	AN	10	284 - 293	NOT USED (Blank Fill)
32.	B_MONITORING_PERIOD_START_DATE	DT	8	294 - 301	NOT USED (Blank Fill)
33.	B_MONITORING_PERIOD_END_DATE	DT	8	302 - 309	NOT USED (Blank Fill)
34.	B_ANALYSIS_METHOD_CODE	AN	12	310 - 321	NOT USED (Blank Fill)
35.	B_FREE_CHLORINE_RESIDUAL	N	5 (4(2))	322 - 326	NOT USED (Blank Fill)
36.	B_TOTL_CHLORINE_RESIDUAL	N	5 (4(2))	327 - 331	NOT USED (Blank Fill)
37.	B_SAMPLE_WATER_TEMPERATURE	N	4 (3(1))	332 - 335	NOT USED (Blank Fill)
38.*	B_TEMPERATURE_UNIT_MEASURE	AN	1	336	NOT USED (Blank Fill)
39.	B_TURBIDITY_MEASURE	N	6 (5(2))	337-342	NOT USED (Blank Fill)
40.	B_PH_MEASURE	N	5 (4(1))	343-347	NOT USED (Blank Fill)

B_SAMPLE_SAMPLE_SUMMARY					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
41.	B_FLOW_RATE	N	8 (7(4))	348-355	NOT USED (Blank Fill)
	FILLER		20	356 - 375	Blank fill to make fixed record length of 375.

18.3   B_Sample_Sample_Summary File Layout for Radionuclide

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_SAMPLE_SAMPLE_SUMMARY				
1.	B_RECORD_NAME	AN	3	1 - 3	MANDATORY - Field must = HDR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must =T
3.	B_TRANSACTION_NUMBER	AN	10	5 - 14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15 - 34	MANDATORY - If B_COMPOSITE_INDICATOR = Y the uniqueness check described at the end of file layout 18.4 additionally checks if the value in field 29 (B_COMPOSITE_QUARTER) is either 1, 2, 3, or 4 to ensure that a composite sample of the quarter supplied does not already exist for the Rad Composite Group.
5.	B_STATE_SAMPLE_NUMBER	AN	20	35 - 54	OPTIONAL
6.	B_WATER_SYSTEM_NUMBER	AN	11	55 - 65	MANDATORY - If B_COMPOSITE_INDICATOR = Y the uniqueness check described at the end of file layout 18.4 additionally checks if the value in field 29 (B_COMPOSITE_QUARTER) is either 1, 2, 3, or 4 to ensure that a composite sample of the quarter supplied does not already exist for the Rad Composite Group.
6.A *	B_REPLACEMENT_INDICATOR	AN	1	66	OPTIONAL
7.	B_STATE_LABORATORY_NUMBER	AN	10	67 - 76	CONDITIONALLY MANDATORY - Must be valued if field 8 (B_FEDERAL_LABORATORY_NUMBER) is not valued. If (B_COMPOSITE_INDICATOR) = Y the uniqueness check described at the end of file layout 18.4 additionally checks if the value in field 29 (B_COMPOSITE_QUARTER) is either 1, 2, 3, or 4 to ensure that a composite sample of the quarter supplied does not already exist for the Rad Composite Group.

* Designates field with permitted values.   A-171   + Shaded gray blocks designate changes to previously published structure sets.

B_SAMPLE_SAMPLE_SUMMARY					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
8.	B_FEDERAL_LABORATORY_NUMBER	AN	10	77 - 86	CONDITIONALLY MANDATORY - Must be valued if field 7 (B_STATE_LABORATORY_NUMBER) is not valued. If (B_COMPOSITE_INDICATOR) = Y the uniqueness check described at the end of file layout 18.4 additionally checks if the value in field 29 (B_COMPOSITE_QUARTER) is either 1, 2, 3, or 4 to ensure that a composite sample of the quarter supplied does not already exist for the Rad Composite Group.
9.	B_WATER_FACILITY_STATE_CODE	AN	12	87 - 98	MANDATORY - Must belong to the Water System supplied in field 6 (B_WATER_SYSTEM_NUMBER).
10.	B_SAMPLING_POINT	AN	11	99 - 109	CONDITIONALLY MANDATORY - Must be valued if field 11 (B_SAMPLING_LOCATION) is not valued.
11.	B_SAMPLING_LOCATION	AN	20	110 - 129	CONDITIONALLY MANDATORY - Must be valued if field 10 (B_SAMPLING_POINT) is not valued.
12.*	B_SAMPLE_CATEGORY	AN	2	130 - 131	MANDATORY - Must equal "RA."
13.*	B_COMPLIANCE_INDICATOR	AN	1	132	MANDATORY - If not valued, *Migration to SDWIS/STATE* will set to "Y." If set to N, sample only needs to have field 4 B_LAB_SAMPLE_NUMBER, field 7 B_STATE_LABORATORY_NUMBER, field 12 B_SAMPLE_CATEGORY, field 14 B_COLLECTION_DATE, and field 16 B_SAMPLE_TYPE valued to create the sample. If other data are supplied with the sample, they should be accepted with the sample, but the above are all that is necessary to enter a "not for compliance" sample.

	B_SAMPLE_SAMPLE_SUMMARY				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
14.	B_COLLECTION_DATE	DT	8	133 - 140	MANDATORY - If (B_COMPOSITE_INDICATOR) = Y the uniqueness check described at the end of file layout 18.4 additionally checks if the value in field 29 (B_COMPOSITE_QUARTER) is either 1, 2, 3, or 4 to ensure that a composite sample of the quarter supplied does not already exist for the Rad Composite Group.
15.	B_COLLECTION_TIME	TM	6	141 - 146	OPTIONAL
16.*	B_SAMPLE_TYPE	AN	2	147 - 148	MANDATORY - If this field is not valued, *Migration to SDWIS/STATE* will set to "RT" which is defined as "Routine."
17.*	B_REPEAT_LOCATION_CODE	AN	2	149 - 150	NOT USED (Blank Fill)
18.	B_LAB_RECEIPT_DATE_SAMPLE	DT	8	151 - 158	OPTIONAL
19.	B_COLLECTOR_IDENTIFICATION_NUMB	AN	5	159 - 163	NOT USED (Blank Fill)
20.	B_COLLECTOR_NAME	AN	40	164 - 203	OPTIONAL - If supplied, format must be: LASTNAME, FIRSTNAME (there is a single space after the comma) if collector is an Individual (Legal Entity). Otherwise, value is stored with Sample as Informal Collector.
21.*	B_SAMPLE_VOLUME	AN	9	204 - 212	NOT USED (Blank Fill)
22.*	B_LEAD_COPPER_SAMPLE_TYPE	AN	3	213 - 215	NOT USED (Blank Fill)
23.*	B_SAMPLE_REJECTION_REASON	AN	2	216 - 217	OPTIONAL - If this field is valued (e.g., for a rejected sample), the sample may be inserted without the sample result. This is the only condition where a sample may be inserted without a result.
24.	B_COLLECTION_METHOD_CODE	AN	12	218 - 229	OPTIONAL
25.	B_ORIGINAL_LAB_SAMPLE_NUMBER	AN	20	230 - 249	OPTIONAL

* Designates field with permitted values.   A-173   + Shaded gray blocks designate changes to previously published structure sets.

	B_SAMPLE_SAMPLE_SUMMARY				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
26.	B_LAB_COMPOSITE_NUMBER	AN	20	250 - 269	CONDITIONALLY MANDATORY - Must be valued if field 28 (B_COMPOSITE_INDICATOR) is valued. All samples that are part of the composite must share the same B_LAB_COMPOSITE_NUMBER or they will not be linked within the same composite family. When valued, and field 26 (B_COMPOSITE_QUARTER) = 2, 3, 4 or null (for the reference composite sample that contains the composite results), the software attempts to retrieve a composite Rad sample of this criteria. If (B_COMPOSITE_INDICATOR) = Y the uniqueness check described at the end of file layout 18.4 additionally checks if the value in field 29 (B_COMPOSITE_QUARTER) is either 1, 2, 3, or 4 to ensure that a composite sample of the quarter supplied does not already exist for the Rad Composite Group.
27.	B_COMPOSITE_DATE	DT	8	270 - 277	OPTIONAL
28.*	B_COMPOSITE_INDICATOR	AN	1	278	CONDITIONALLY MANDATORY - Must be valued if field 26 (B_LAB_COMPOSITE_NUMBER) is valued. Setting this field to Y triggers the identification of a sample as a composite.
29.*	B_COMPOSITE_QUARTER	AN	1	279	CONDITIONALLY MANDATORY - Must be valued if field 26 (B_LAB_COMPOSITE_NUMBER) is valued. The software expects that when the four Rad quarterly composite samples are supplied, the one for the first quarter will always be first. Encountering a 1 in this field triggers the software to create the composite parent record to which all subsequent composite member samples (e.g., the samples for quarters 2,

B_SAMPLE_SAMPLE_SUMMARY					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					3, and 4) will be linked. Since this action only occurs with a 1, the software will not be able to properly process the results if the composite samples for quarters 2, 3, 4, or the final Rad Composite with the results (Rad Quarter is null) are reported prior to that for quarter 1. This field should contain null when the final composite results are reported. The software will understand that the composited results are being reported when it encounters a sample where Sample Category = RA and Composite Indicator = Y and Rad Quarter Code = null. It will then attempt to retrieve an existing composite sample where Sample Category = RA and Composite Indicator = Y and Rad Quarter Code = 1 and Water System No., Lab St ID, and Lab Composite No. match the values supplied. The software will: C Reject a composite sample other than for quarter 1 if it cannot find the matching parent composite sample for quarter 2, 3, 4, or the reported Composite with the result (Rad Quarter Code = null). C Reject a composite sample if the quarter supplied already exists for the Rad Composite Group (e.g., if Rad Quarter 2 is supplied, but the composite group already has a Rad Quarter 2). C Ignore any results reported with the Composite samples for either Quarters 1, 2, 3, or 4 and will only recognize results when it encounters a sample where Sample

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
					Category = RA and Composite Indicator = Y and Rad Quarter Code = null. See additional information at the end of file layout 18.4 on Rad Composite samples.
30.	B_ANALYTE_CODE	AN	4	280 - 283	NOT USED (Blank Fill)
31.	B_CAS_NUMBER	AN	10	284 - 293	NOT USED (Blank Fill)
32.	B_MONITORING_PERIOD_START_DATE	DT	8	294 - 301	NOT USED (Blank Fill)
33.	B_MONITORING_PERIOD_END_DATE	DT	8	302 - 309	NOT USED (Blank Fill)
34.	B_ANALYSIS_METHOD_CODE	AN	12	310 - 321	NOT USED (Blank Fill)
35.	B_FREE_CHLORINE_RESIDUAL	N	5 (4(2))	322 - 326	NOT USED (Blank Fill)
36.	B_TOTL_CHLORINE_RESIDUAL	N	5 (4(2))	327 - 331	NOT USED (Blank Fill)
37.	B_SAMPLE_WATER_TEMPERATURE	N	4 (3(1))	332 - 335	NOT USED (Blank Fill)
38.*	B_TEMPERATURE_UNIT_MEASURE	AN	1	336	NOT USED (Blank Fill)
39.	B_TURBIDITY_MEASURE	N	6 (5(2))	337 - 342	NOT USED (Blank Fill)
40.	B_PH_MEASURE	N	5 (4(1))	343 - 347	NOT USED (Blank Fill)
41.	B_FLOW_RATE	N	8 (7(4))	348 - 355	NOT USED (Blank Fill)
	FILLER		20	356 - 375	Blank fill to make fixed record length of 375.

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

18.4   B_Sample_Sample_Summary File Layout for Water Quality

					B_SAMPLE_SAMPLE_SUMMARY
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_RECORD_NAME	AN	3	1 - 3	MANDATORY - Field must = HDR.
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T.
3.	B_TRANSACTION_NUMBER	AN	10	5 - 14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15 - 34	MANDATORY
5.	B_STATE_SAMPLE_NUMBER	AN	20	35 - 54	OPTIONAL
6.	B_WATER_SYSTEM_NUMBER	AN	11	55 - 65	MANDATORY
6.A *	B_REPLACEMENT_INDICATOR	AN	1	66	OPTIONAL
7.	B_STATE_LABORATORY_NUMBER	AN	10	67 - 76	CONDITIONALLY MANDATORY - Must be valued if field 8 (B_FEDERAL_LABORATORY_NUMBER) is not valued.
8.	B_FEDERAL_LABORATORY_NUMBER	AN	10	77 - 86	CONDITIONALLY MANDATORY - Must be valued if field 7 (B_STATE_LABORATORY_NUMBER) is not valued.
9.	B_WATER_FACILITY_STATE_CODE	AN	12	87 - 98	MANDATORY - Must belong to the Water System supplied in field 6 (B_WATER_SYSTEM_NUMBER).
10.	B_SAMPLING_POINT	AN	11	99 - 109	CONDITIONALLY MANDATORY - Must be valued if field 11 (B_SAMPLING_LOCATION) is not valued.
11.	B_SAMPLING_LOCATION	AN	20	110 - 129	CONDITIONALLY MANDATORY - Must be valued if field 10 (B_SAMPLING_POINT) is not valued.
12.*	B_SAMPLE_CATEGORY	AN	2	130 - 131	MANDATORY - Field must = "PP."

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_SAMPLE_SAMPLE_SUMMARY				
13.*	B_COMPLIANCE_INDICATOR	AN	1	132	MANDATORY - If not valued, *Migration to SDWIS/STATE* will set to "Y." If set to N, sample only needs to have field 4 B_LAB_SAMPLE_NUMBER, field 7 B_STATE_LABORATORY_NUMBER, field 12 B_SAMPLE_CATEGORY, field 14 B_COLLECTION_DATE, and field 16 B_SAMPLE_TYPE valued to create the sample. If other data are supplied with the sample, they should be accepted with the sample, but the above are all that is necessary to enter a "not for compliance" sample.
14.	B_COLLECTION_DATE	DT	8	133 - 140	MANDATORY
15.	B_COLLECTION_TIME	TM	6	141 - 146	OPTIONAL
16.*	B_SAMPLE_TYPE	AN	2	147 - 148	MANDATORY - If this field is not valued, *Migration to SDWIS/STATE* will set to "RT" which is defined as "Routine."
17.*	B_REPEAT_LOCATION_CODE	AN	2	149 - 150	NOT USED (Blank Fill)
18.	B_LAB_RECEIPT_DATE_SAMPLE	DT	8	151 - 158	OPTIONAL
19.	B_COLLECTOR_IDENTIFICATION_NUMB	AN	5	159 - 163	NOT USED (Blank Fill)
20.	B_COLLECTOR_NAME	AN	40	164 - 203	OPTIONAL - If supplied, format must be: LASTNAME, FIRSTNAME (there is a single space after the comma) if collector is an Individual (Legal Entity). Otherwise, value is stored with Sample as Informal Collector.
21.*	B_SAMPLE_VOLUME	AN	9	204 - 212	NOT USED (Blank Fill)
22.*	B_LEAD_COPPER_SAMPLE_TYPE	AN	3	213 - 215	NOT USED (Blank Fill)

* Designates field with permitted values.   A-178   + Shaded gray blocks designate changes to previously published structure sets.

					B_SAMPLE_SAMPLE_SUMMARY
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
23.*	B_SAMPLE_REJECTION_REASON	AN	2	216 - 217	OPTIONAL - If this field is valued (e.g., for a rejected sample), the sample may be inserted without the sample result. This is the only condition where a sample may be inserted without a result.
24.	B_COLLECTION_METHOD_CODE	AN	12	218 - 229	OPTIONAL
25.	B_ORIGINAL_LAB_SAMPLE_NUMBER	AN	20	230 - 249	OPTIONAL
26.	B_LAB_COMPOSITE_NUMBER	AN	20	250 - 269	NOT USED (Blank Fill)
27.	B_COMPOSITE_DATE	DT	8	270 - 277	NOT USED (Blank Fill)
28.*	B_COMPOSITE_INDICATOR	AN	1	278	NOT USED (Blank Fill)
29.*	B_COMPOSITE_QUARTER	AN	1	279	NOT USED (Blank Fill)
30.	B_ANALYTE_CODE	AN	4	280 - 283	NOT USED (Blank Fill)
31.	B_CAS_NUMBER	AN	10	284 - 293	NOT USED (Blank Fill)
32.	B_MONITORING_PERIOD_START_DATE	DT	8	294 - 301	NOT USED (Blank Fill)
33.	B_MONITORING_PERIOD_END_DATE	DT	8	302 - 309	NOT USED (Blank Fill)
34.	B_ANALYSIS_METHOD_CODE	AN	12	310 - 321	NOT USED (Blank Fill)
35.	B_FREE_CHLORINE_RESIDUAL	N	5 (4(2))	322 - 326	NOT USED (Blank Fill)
36.	B_TOTL_CHLORINE_RESIDUAL	N	5 (4(2))	327 - 331	NOT USED (Blank Fill)
37.	B_SAMPLE_WATER_TEMPERATURE	N	4 (3(1))	332 - 335	NOT USED (Blank Fill)
38.*	B_TEMPERATURE_UNIT_MEASURE	AN	1	336	NOT USED (Blank Fill)
39.	B_TURBIDITY_MEASURE	N	6 (5(2))	337 - 342	NOT USED (Blank Fill)
40.	B_PH_MEASURE	N	5 (4(1))	343 - 347	NOT USED (Blank Fill)
41.	B_FLOW_RATE	N	8 (7(4))	348 - 355	NOT USED (Blank Fill)
	FILLER		20	356 - 375	Blank fill to make fixed record length of 375.

* Designates field with permitted values.   A-179   + Shaded gray blocks designate changes to previously published structure sets.

1. *Sampling via EDI* supports appending sample results to a sample for analytes that do not already exist for the sample.

2. *Sampling via EDI* supports adding a sample, including one that is not rejected, without a result. This means that Rad Composite samples that have been taken during the first, second, third, and fourth quarters but that have not yet been assessed for a composite result can be reported to/recorded in the SDWIS/STATE database.

3. Checks for Rad Compositing:

    C   The software will continue to require that the composite sample for the first quarter be reported first, as specified in the structure set (B_COMPOSITE_QUARTER = 1). The software will continue to create the composite parent sample followed by the first child composite sample (whose Rad Quarter Code will be 1). Note that if you have previously applied the results and wish to append new results at a later date, you may do so. In order to check whether the Composite Sample and results exist, the software applies the evaluation logic described in item 5 with the additional check that for a composite sample (Composite Indicator = Y), Composite Number and Rad Quarter Number are also part of the evaluation.

    C   B_LAB_COMPOSITE_NUMBER must be valued if field 28 (B_COMPOSITE_INDICATOR) is valued. All samples that are part of the composite must share the same B_LAB_COMPOSITE_NUMBER, Water System Number, and Laboratory ID, or they will not be linked within the same composite family. [Where composite samples are reported as the lab receives them and before the assessment takes place, labs will need to supply the composite number when they report the first quarterly composite as well as with subsequent quarterly composite samples.] When valued, and field 26 (B_COMPOSITE_QUARTER) = (2, 3, 4, or null) software attempts to retrieve a composite Rad sample based on following criteria:

    C   (Sample Category = RA) and (Composite Indicator = Y) and (Water System No = [candidate sample's Water System No.]) and (Lab Composite Number = [candidate sample's Lab Composite Number]) and (Laboratory = [candidate sample's Laboratory ID]).

    C   If found and (B_COMPOSITE_QUARTER) = (2, 3, or 4) the software finds the parent composite and links the new candidate child composite sample to the parent, adding the new candidate composite sample to the composite family. If found and (B_COMPOSITE_QUARTER) = null, the software updates the Parent Composite Sample (with the Composite Date) and then links each of the results reported with the Composite Sample to the Parent Composite Sample as well as each of the samples in the composite group.

    C   Where Sample Category = RA and Composite Indicator = Y and Rad Quarter Code = null, the software understands that this is a *reference* composite sample and does not process it through the sample uniqueness check.

    C   SDWIS/STATE will always create the parent composite sample when the composite sample for Rad Quarter 1 is reported. The software assumes the

business condition that composite Rad samples will typically have two to four but no more than ten results. If the final Composite with the results is reported prior to one of the quarterly composite samples, it will be linked to the composite group but will not have any sample results.

C   When migrating historical composite samples, migrate the composite sample for each Rad quarter (e.g., 1, 2, 3, or 4) without including the results; migrate the results with a "fifth" composite sample where Rad quarter is null (valued with spaces). Any results reported with Rad Composite samples for quarters 1, 2, 3, or 4 will be ignored; the only result reported for a Composite Rad sample that will be processed is the one reported for the final Composite, that is, where Rad quarter is null (valued with spaces). The Composite Date value reported for this composite will update the Parent Composite sample.

4.   When the software creates a new Sampling Point, it sets the following values:

C   Activity Status—"A."
C   Status Date—value in B_COLLECTION_DATE.
C   Status Reason Text—"created by *Sampling via EDI.*"

5.   Appending New Analytical Results and Sample/Result Uniqueness Evaluation:

In *Sampling via EDI*, new analytical results can be appended to an existing sample. Therefore, SDWIS/STATE first evaluates whether the sample supplied in the structure set already exists. This is a two-stage evaluation. First, the software checks to see if a sample with the same Lab Sample Number for the same Laboratory for the same year already exists. If not, it processes the sample as a new record. However, if it finds a match, then it performs a second evaluation to make sure that the sample is a "duplicate by ID" sample. In this second step, the software checks to see if the sample in the structure set is for the same water system and sampling point and has the same sample collection date (Collection End Date) as the one that already exists in SDWIS/STATE. If one or more of these three criteria do not match, then the sample is rejected as a "duplicate by ID" sample (the same ID used on more than one sample from the same lab for the same year). If, however, all three data elements do match, the software understands that the user wishes to "append" results, and therefore, lists the sample as "accepted" in the *Sampling via EDI* report, because it actually just processes those sample results that are to be appended to the existing referenced sample. The software makes only one duplicate check on appended results: does a result already exist for this same sample and analyte? If not, the result is appended to the existing sample. If a result does already exist for the same sample and analyte, the candidate result is not created in the SDWIS/STATE tables, but rather, is flagged in the EDI report for that run. Note: This processing allows you to use *Sampling via EDI* to enter a sample without any results.

With the append feature, when a *Sampling via EDI* structure set file contains a sample with results that have already been added to the database, the sample is listed as accepted but the results are listed in the flagged report, indicating that they were already present and therefore not appended. If you check the flagged report, you might think a new sample has been added, when in fact, the software encountered an existing sample and result and flagged it as such.

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

18.5 B_Sample_Sample_Summary File Layout for Sample Summary

		B_SAMPLE_SAMPLE_SUMMARY			
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_RECORD_NAME	AN	3	1 - 3	MANDATORY - Field must = HDR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = S
3.	B_TRANSACTION_NUMBER	AN	10	5 - 14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15 - 34	NOT USED (Blank Fill)
5.	B_STATE_SAMPLE_NUMBER	AN	20	35 - 54	NOT USED (Blank Fill)
6.	B_WATER_SYSTEM_NUMBER	AN	11	55 - 65	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 6 (B_WATER_SYSTEM_NUMBER), and field 30 (B_ANALYTE_CODE), and field 32 (B_MONITORING_PERIOD_START_DATE), and field 33 (B_MONITORING_PERIOD_END_DATE).**
6.A*	B_REPLACEMENT_INDICATOR	AN	1	66	NOT USED (Blank Fill)
7.	B_STATE_LABORATORY_NUMBER	AN	10	67 - 76	OPTIONAL
8.	B_FEDERAL_LABORATORY_NUMBER	AN	10	77 - 86	OPTIONAL
9.	B_WATER_FACILITY_STATE_CODE	AN	12	87 - 98	CONDITIONALLY MANDATORY - If field 30 (B_ANALYTE_CODE) = "PB90" or "CU90," must have a valid water system facility. If supplied, must belong to the Water System supplied in **field 6 (B_WATER_SYSTEM_NUMBER)**.
10.	B_SAMPLING_POINT	AN	11	99 - 109	OPTIONAL
11.	B_SAMPLING_LOCATION	AN	20	110 - 129	OPTIONAL
12.*	B_SAMPLE_CATEGORY	AN	2	130 - 131	NOT USED (Blank Fill)
13.*	B_COMPLIANCE_INDICATOR	AN	1	132	MANDATORY - If not valued, *Migration to SDWIS/STATE* will set to "Y."

* Designates field with permitted values.   + Shaded gray blocks designate changes to previously published structure sets.

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_SAMPLE_SAMPLE_SUMMARY				
14.	B_COLLECTION_DATE (For Sample Summary (17.5), this field is used for the Summary Collection Start Date)	DT	8	133 - 140	OPTIONAL - If valued, must be less than or equal to the current date.
15.	B_COLLECTION_TIME	TM	6	141 - 146	NOT USED (Blank Fill)
16.*	B_SAMPLE_TYPE	AN	2	147 - 148	NOT USED (Blank Fill)
17.*	B_REPEAT_LOCATION_CODE	AN	2	149 - 150	NOT USED (Blank Fill)
18.	B_LAB_RECEIPT_DATE_SAMPLE	DT	8	151 - 158	OPTIONAL
19.	B_COLLECTOR_IDENTIFICATION_NUMB	AN	5	159 - 163	NOT USED (Blank Fill)
20.	B_COLLECTOR_NAME	AN	40	164 - 203	NOT USED (Blank Fill)
21*	B_SAMPLE_VOLUME	AN	9	204 - 212	NOT USED (Blank Fill)
22.*	B_LEAD_COPPER_SAMPLE_TYPE	AN	3	213 - 215	NOT USED (Blank Fill)
23.*	B_SAMPLE_REJECTION_REASON	AN	2	216 - 217	NOT USED (Blank Fill)
24.	B_COLLECTION_METHOD_CODE	AN	12	218 - 229	NOT USED (Blank Fill)
25.	B_ORIGINAL_LAB_SAMPLE_NUMBER	AN	20	230 - 249	NOT USED (Blank Fill)
26.	B_LAB_COMPOSITE_NUMBER	AN	20	250 - 269	NOT USED (Blank Fill)
27.	B_COMPOSITE_DATE (For Sample Summary (17.5), this field is used for the Summary Collection End Date)	DT	8	270 - 277	OPTIONAL - If valued, must be after the Collection Start Date in field 14 (B_COLLECTION_DATE).
28.*	B_COMPOSITE_INDICATOR	AN	1	278	NOT USED (Blank Fill)
29.*	B_COMPOSITE_QUARTER	AN	1	279	NOT USED (Blank Fill)

* Designates field with permitted values.   A-184   + Shaded gray blocks designate changes to previously published structure sets.

	B_SAMPLE_SAMPLE_SUMMARY				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
30.	B_ANALYTE_CODE	AN	4	280 - 283	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 6 (B_WATER_SYSTEM_NUMBER), and field 30 (B_ANALYTE_CODE), and field 32 (B_MONITORING_PERIOD_START_DATE), and field 33 (B_MONITORING_PERIOD_END_DATE).**
31.	B_CAS_NUMBER	AN	10	284 - 293	NOT USED (Blank Fill)
32.	B_MONITORING_PERIOD_START_DATE	DT	8	294 - 301	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 6 (B_WATER_SYSTEM_NUMBER), and field 30 (B_ANALYTE_CODE), and field 32 (B_MONITORING_PERIOD_START_DATE), and field 33 (B_MONITORING_PERIOD_END_DATE)**. Value supplied must be the first day of the first month of the monitoring period.
33.	B_MONITORING_PERIOD_END_DATE	DT	8	302 - 309	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 6 (B_WATER_SYSTEM_NUMBER), and field 30 (B_ANALYTE_CODE), and field 32 (B_MONITORING_PERIOD_START_DATE), and field 33 (B_MONITORING_PERIOD_END_DATE)**. Value supplied must be the last day of the last month of the monitoring period.
34.	B_ANALYSIS_METHOD_CODE	AN	12	310 - 321	OPTIONAL - May be either a federally owned or state-owned analyte method pairing that exists in state/region's SDWIS/STATE database.
35.	B_FREE_CHLORINE_RESIDUAL	N	5 (4(2))	322 - 326	NOT USED (Blank Fill)
36.	B_TOTL_CHLORINE_RESIDUAL	N	5 (4(2))	327 - 331	NOT USED (Blank Fill)
37.	B_SAMPLE_WATER_TEMPERATURE	N	4 (3(1))	332 - 335	NOT USED (Blank Fill)

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published structure sets.

B_SAMPLE_SAMPLE_SUMMARY					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
38.*	B_TEMPERATURE_UNIT_MEASURE	AN	1	336	NOT USED (Blank Fill)
39.	B_TURBIDITY_MEASURE	N	6 (5(2))	337 - 342	NOT USED (Blank Fill)
40.	B_PH_MEASURE	N	5 (4(1))	343 - 347	NOT USED (Blank Fill)
41.	B_FLOW_RATE	N	8 (7(4))	348 - 355	NOT USED (Blank Fill)
	FILLER		20	356 - 375	Blank fill to make fixed record length of 375.

Non-TCR sample summaries can now link directly to a Monitoring Period. It is not necessary to have a record in Water System Monitoring Period Asgmt (TMNWSMPA) and Rule Water System Monitoring Period Asgmt (TMNRWSMA).

When creating a new Sampling Point during the processing of individual samples, *Sampling via EDI* sets the following values:

Ϲ	Activity Status—"A."
Ϲ	Status Date—value in B_COLLECTION_DATE.
Ϲ	Status Reason Text—"created by *Sampling via EDI*."

18.6   B_Sample_Sample_Summary Permitted Value List

B_SAMPLE_SAMPLE_SUMMARY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
6.A	B_REPLACEMENT_INDICATOR	**Y** Yes **N** No
12.	B_SAMPLE_CATEGORY	**CH** Chemicals **GE** General Samples **MB** Microbiological **PB** Lead and Copper **PP** Water Quality (Physical Parameters) **RA** Radionuclides **TC** Total Coliform
13.	B_COMPLIANCE_INDICATOR	**Y** Yes **N** No

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

B_SAMPLE_SAMPLE_SUMMARY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
16.	B_SAMPLE_TYPE for Total Coliform or Microbiological Samples (B_SAMPLE_CATEGORY = TC or MB)	If field 13 (B_COMPLIANCE_INDICATOR) = "Y" **RT** Routine **RP** Repeat If field 13 (B_COMPLIANCE_INDICATOR) = "N" **RT** Routine **RP** Repeat **SP** Special **SL** Split **SB** Shipping Blank **FB** Field Blank **BB** Batch Blank **ST** Split Blank **PE** Performance Evaluation **MR** Max Residence Time

B_SAMPLE_SAMPLE_SUMMARY	
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**

FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
16.	B_SAMPLE_TYPE for Chemical and Lead & Copper Samples (B_SAMPLE_CATEGORY = CH or PB)	If field 13 (B_COMPLIANCE_INDICATOR) = "Y" **RT** Routine **RP** Repeat **CO** Confirmation **SP** Special **DU** Duplicate **SL** Split **MR** Max Residence Time If field 13 (B_COMPLIANCE_INDICATOR) = "N" **RT** Routine **CO** Confirmation **RP** Repeat **SP** Special **DU** Duplicate **SL** Split **SB** Shipping Blank **FB** Field Blank **BB** Batch Blank **ST** Split Blank **PE** Performance Evaluation **MR** Max Residence Time

B_SAMPLE_SAMPLE_SUMMARY	
FIELD NO **ATTRIBUTE NAME**	**PERMITTED VALUES**
16. B_SAMPLE_TYPE for Radionuclide Samples (B_SAMPLE_CATEGORY = RA)	If field 13 (B_COMPLIANCE_INDICATOR) = "Y" **RT** Routine **RP** Repeat **CO** Confirmation **SP** Special **DU** Duplicate **SL** Split If field 13 (B_COMPLIANCE_INDICATOR) = "N" **RT** Routine **RP** Repeat **CO** Confirmation **SP** Special **DU** Duplicate **SL** Split **SB** Shipping Blank **FB** Field Blank **BB** Batch Blank **ST** Split Blank **PE** Performance Evaluation **MR** Max Residence Time

B_SAMPLE_SAMPLE_SUMMARY	
FIELD NO **ATTRIBUTE NAME**	**PERMITTED VALUES**
16. B_SAMPLE_TYPE for Water Quality Samples (B_SAMPLE_CATEGORY = PP)	If field 13 (B_COMPLIANCE_INDICATOR) = "Y" **RT** Routine **CO** Confirmation **SP** Special **DU** Duplicate **SL** Split If field 13 (B_COMPLIANCE_INDICATOR) = "N" **RT** Routine **CO** Confirmation **SP** Special **DU** Duplicate **SL** Split **SB** Shipping Blank **FB** Field Blank **BB** Batch Blank **ST** Split Blank **PE** Performance Evaluation **MR** Max Residence Time
17. B_REPEAT_LOCATION_CODE	**DN** Downstream within 5 connections of original sample location **NF** Near First Service Connection **OR** Original Site **OT** Other **UP** Upstream within 5 connections of original sample location
21. B_SAMPLE_VOLUME	**100** **300** **400**

B_SAMPLE_SAMPLE_SUMMARY		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
22.	B_LEAD_COPPER_SAMPLE_TYPE	**ATS** At Source **FLS** Flushed **FSD** First Draw **LSL** Lead Service Line
23.	B_SAMPLE_REJECTION_REASON	**BP** Invalid Sampling Point **BR** Broken **CL** Chlorine Present **EH** Exceeds Holding Time **FZ** Frozen Sample **HS** Excessive Headspace **IN** Insufficient Sample Information **IP** Invalid Sampling Protocol **LA** Lab Accident **LT** Leaked in Transit **VO** Insufficient Volume
28.	B_COMPOSITE_INDICATOR	**Y** Yes **N** No
29.	B_COMPOSITE_QUARTER	**1** First Quarter Rad Composite **2** Second Quarter Rad Composite **3** Third Quarter Rad Composite **4** Fourth Quarter Rad Composite
38.	B_TEMPERATURE_UNIT_MEASURE	**C** Celsius (Centigrade) **F** Fahrenheit

18.7   B_Sample_Sample_Summary Mapping to SDWIS/STATE Entities

			B_SAMPLE_SAMPLE_SUMMARY		
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
1.	B_SAMPLE	B_RECORD_NAME			
2.	B_SAMPLE	B_REPORT_TYPE			
3.	B_SAMPLE	B_TRANSACTION_NUMBER			
4.	B_SAMPLE	B_LAB_SAMPLE_NUMBER	TSASAMPL	SBS Sample	LAB_ASSIGNED_ID_NUMBER
5.	B_SAMPLE	B_STATE_SAMPLE_NUMBER	TSASAMPL	SBS Sample	STATE_ASGN_IDENTIFICATION_NUMBER
6.	B_SAMPLE	B_WATER_SYSTEM_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key to either SBS Sample or Sample Summary*)
6.A	B_SAMPLE	B_REPLACEMENT_INDICATOR	TSASAMPL	SBS Sample	REPLACEMENT_INDICATOR_CODE
7.	B_SAMPLE	B_STATE_LABORATORY_NUMBER	TSALAB	Laboratory	STATE_ASSIGNED_ID_NUMBER (*Foreign Key to either SBS Sample or Sample Summary*)
8.	B_SAMPLE	B_FEDERAL_LABORATORY_NUMBER	TSALAB	Laboratory	FEDERAL_IDENTIFICATION_NUMBER (*Foreign Key to either SBS Sample or Sample Summary*)
9.	B_SAMPLE	B_WATER_FACILITY_STATE_CODE	TINWSF	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE (*Foreign Key to either SBS Sample or Sample Summary*)
10.	B_SAMPLE	B_SAMPLING_POINT	TSASMPPT	Sampling Point	IDENTIFICATION_CODE (*Foreign Key to either SBS Sample or Sample Summary*)
11.	B_SAMPLE	B_SAMPLING_LOCATION	TSASMPPT	Sampling Point	DESCRIPTION_TEXT (*Foreign Key to either SBS Sample or Sample Summary*)
12.	B_SAMPLE	B_SAMPLE_CATEGORY	TSASAMPL	SBS Sample	D_CATEGORY_FLOW_CODE

* Designates field with permitted values.   A-193   + Shaded gray blocks designate changes to previously published structure sets.

				B_SAMPLE_SAMPLE_SUMMARY	
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
13.	B_SAMPLE	B_COMPLIANCE_INDICATOR	TSASAMPL	SBS Sample	COMPLIANCE_PURPOSE_INDICATOR_CODE
14.	B_SAMPLE	B_COLLECTION_DATE	TSASAMPL	SBS Sample	COLLECTION_END_DATE
15.	B_SAMPLE	B_COLLECTION_TIME	TSASAMPL	SBS Sample	COLLECTION_END_TIME
16.	B_SAMPLE	B_SAMPLE_TYPE	TSASAMPL	SBS Sample	TYPE_CODE
17.	B_SAMPLE	B_REPEAT_LOCATION_CODE	TSASAMPL	SBS Sample	REPEAT_LOCATION_TYPE_CODE
18.	B_SAMPLE	B_LAB_RECEIPT_DATE_SAMPLE	TSASAMPL	SBS Sample	LABORATORY_RECEIVED_DATE
19.	B_SAMPLE	B_COLLECTOR_IDENTIFICATION_NUMB			
20.	B_SAMPLE	B_COLLECTOR_NAME	TININDIV TINLGENT or TSASAMPL	Individual Legal Entity or SBS Sample	NAME (*Foreign Key to SBS Sample*) (Where INDIVIDUAL_ Collector_Indicator_Code = 'Y') or INFORMAL_COLLECTOR
21.	B_SAMPLE	B_SAMPLE_VOLUME	TSASAMPL	SBS Sample	MICROBE_UOM_CODE
22.	B_SAMPLE	B_LEAD_COPPER_SAMPLE_TYPE	TSASAMPL	SBS Sample	LEAD_AND_COPPER_SAMPLE_TYPE_CODE
23.	B_SAMPLE	B_SAMPLE_REJECTION_REASON	TSASAMPL	SBS Sample	REJECTION_REASON_CODE
24.	B_SAMPLE	B_COLLECTION_METHOD_CODE	TSASMN	Standard Method Number	CODE (*Foreign Key to SBS Sample*)
25.	B_SAMPLE	B_ORIGINAL_LAB_SAMPLE_NUMBER	TSASAMPL	SBS Sample	LAB_ASSIGNED_ID_NUMBER (*Foreign Key to SBS Sample*)
26.	B_SAMPLE	B_LAB_COMPOSITE_NUMBER	TSASAMPL	SBS Sample	LAB_ASSIGNED_ID_NUMBER (*Foreign Key to SBS Sample*)
27.	B_SAMPLE	B_COMPOSITE_DATE	TSASAMPL	SBS Sample	COMPOSITE_DATE
28.	B_SAMPLE	B_COMPOSITE_INDICATOR	TSASAMPL	SBS Sample	COMPOSITE_INDICATOR_CODE

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published structure sets.

B_SAMPLE_SAMPLE_SUMMARY					
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
29.	B_SAMPLE	B_COMPOSITE_QUARTER	TSASAMPL	SBS Sample	RAD_QUARTER_CODE
30.	B_SAMPLE	B_ANALYTE_CODE	TSAANLYT	Analyte	CODE (*Foreign Key to Sample Summary*)
31.	B_SAMPLE	B_CAS_NUMBER	TSAANLYT	Analyte	CAS_REGISTRY_NUMBER (*Foreign Key to Sample Summary*)
32.	B_SAMPLE	B_MONITORING_PERIOD_START_DATE	TMNMPRD	Monitoring Period	BEGIN_DATE (*Foreign Key to Sample Summary*)
33.	B_SAMPLE	B_MONITORING_PERIOD_END_DATE	TMNMPRD	Monitoring Period	END_DATE (*Foreign Key to Sample Summary*)
34.	B_SAMPLE	B_ANALYSIS_METHOD_CODE	TSASMN	Standard Method Number	CODE (*Foreign Key to Sample Summary*)
35.	B_SAMPLE	B_FREE_CHLORINE_RESIDUAL	TSAMCSMP	Microbiological Sample	FIELD_FREE_CHLORINE_RESIDUAL_MSR
36.	B_SAMPLE	B_TOTL_CHLORINE_RESIDUAL	TSAMCSMP	Microbiological Sample	FIELD_TOTAL_CHLORINE_RESIDUAL_MSR
37.	B_SAMPLE	B_SAMPLE_WATER_TEMPERATURE	TSAMCSMP	Microbiological Sample	FIELD_TEMPERATURE_MEASURE
38.	B_SAMPLE	B_TEMPERATURE_UNIT_MEASURE	TSAMCSMP	Microbiological Sample	TEMP_MEASUREMENT_TYPE_CODE
39.	B_SAMPLE	B_TURBIDITY_MEASURE	TSAMCSMP	Microbiological Sample	FIELD_TURBIDITY_MEASURE
40.	B_SAMPLE	B_PH_MEASURE	TSAMCSMP	Microbiological Sample	FIELD_PH_MEASURE
41.	B_SAMPLE	B_FLOW_RATE	TSAMCSMP	Microbiological Sample	FIELD_FLOW_RATE

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

18.8   B_Sample_Sample_Summary Definitions

FIELD NO	FIELD NAME	INDIVIDUAL SAMPLE (T)/ SAMPLE SUMMARY (S)
		B_SAMPLE_SAMPLE_SUMMARY
1.	B_RECORD_NAME	HDR - Indicates that the input string represents a Sample. Each sample record must contain HDR in the first field.
2.	B_REPORT_TYPE	T - Indicates the input string is an individual Sample/Sample Result; S indicates the input string is a Summary/Summary Result. This field is mandatory.
3.	B_TRANSACTION_NUMBER	Not used.
4.	B_LAB_SAMPLE_NUMBER	Number/alphanumeric that identifies each sample. The LAB_SAMPLE_NUMBER and the WATER_SYSTEM_NUMBER together serve as the reference for each sample result, keeping sample results with their parent samples. This field is mandatory.
5.	B_STATE_SAMPLE_NUMBER	Additional number/alphanumeric to identify the sample. Both LAB_SAMPLE_NUMBER and STATE_SAMPLE_NUMBER may be used.
6.	B_WATER_SYSTEM_NUMBER	The Public Water System (PWS) identification number. This field is mandatory.
6.A	B_REPLACEMENT_INDICATOR	Indicates whether or not the routine, repeat, confirmation, etc. type of sample is a replacement.
7.	B_STATE_LABORATORY_NUMBER	Laboratory Number normally assigned to a laboratory by the State.
8.	B_FEDERAL_LABORATORY_NUMBER	Laboratory Number normally assigned to a laboratory by the EPA or used to designate a laboratory as a federal entity.
9.	B_WATER_FACILITY_STATE_CODE	Number/alphanumeric that uniquely identifies a Water System Facility (e.g., Treatment Plant/Distribution System/Well) within a Water System.
10.	B_SAMPLING_POINT	Number/alphanumeric that uniquely identifies a point within a Water System Facility from which the sample is drawn. (Associated with SAMPLING LOCATION.)
11.	B_SAMPLING_LOCATION	Alphanumeric that typically identifies a Sampling Point as an address or equivalent text description. (Associated with SAMPLING POINT).
12.	B_SAMPLE_CATEGORY	Identifies the sample category as either Total Coliform/Lead & Copper/Chemical/General/ General Microbiological/Radionuclide/Water Quality Parameter.

	B_SAMPLE_SAMPLE_SUMMARY	
FIELD NO	**FIELD NAME**	**INDIVIDUAL SAMPLE (T)/ SAMPLE SUMMARY (S)**
13.	B_COMPLIANCE_INDICATOR	When set to "Y," indicates that the sample has been taken for compliance.
14.	B_COLLECTION_DATE	The date in which the sample was collected.
15.	B_COLLECTION_TIME	The time at which the sample was collected.
16.	B_SAMPLE_TYPE	Indicates whether the sample is taken for "Routine" purposes or is a "Repeat," "Confirmation," etc. Several types are available although not all may be used with samples taken for compliance.
17.	B_REPEAT_LOCATION_CODE	Indicates the location *relative to the original Sampling Point* at which the repeat/invalid replacement/confirmation sample was taken (upstream/downstream/original location/etc.).
18.	B_LAB_RECEIPT_DATE_SAMPLE	Date at which the Laboratory received the sample; cannot be prior to Collection Date.
19.	B_COLLECTOR_IDENTIFICATION_NUMBER	No longer used.
20.	B_COLLECTOR_NAME	Name of the Individual who is the collector of the sample.
21.	B_SAMPLE_VOLUME	Value to indicate the size of the volume of water collected for the sample.
22.	B_LEAD_COPPER_SAMPLE_TYPE	Type of Lead & Copper sample (for purposes of Lead & Copper rule compliance).
23.	B_SAMPLE_REJECTION_REASON	Set of possible reasons to reject a sample prior to its analysis at the lab.
24.	B_COLLECTION_METHOD_CODE	Code that indicates the Method used to collect the sample.
25.	B_ORIGINAL_LAB_SAMPLE_NUMBER	LAB_SAMPLE_NUMBER of the sample that was originally taken and whose result required the current Repeat/Invalid Replacement/Confirmation sample to be taken.
26.	B_LAB_COMPOSITE_NUMBER	Number/alphanumeric that ties a composite sample to one or more other composite samples. Each sample that is part of the Composite must carry the same LAB_COMPOSITE_NUMBER.
27.	B_COMPOSITE_DATE	Date in which the Lab composited one or more individual samples.
28.	B_COMPOSITE_INDICATOR	When set to "Y", indicates that the sample is a composite and that the LAB_COMPOSITE_NUMBER will be valued.
29.	B_COMPOSITE_QUARTER	Used only for Radionuclide composites. The quarter (1/2/3/4) to which the individual sample (collected during that quarter but that will be composited at the end of the fourth quarter) should be attributed for purposes of monitoring compliance.
30.	B_ANALYTE_CODE	Standard code used to represent a given analyte. Only valued here for Sample Summary.

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

	B_SAMPLE_SAMPLE_SUMMARY	
FIELD NO	**FIELD NAME**	**INDIVIDUAL SAMPLE (T)/ SAMPLE SUMMARY (S)**
31.	B_CAS_NUMBER	Not used.
32.	B_MONITORING_PERIOD_START_DATE	Start date of the Monitoring Period. Only valued here for Sample Summary.
33.	B_MONITORING_PERIOD_END_DATE	End date of the Monitoring Period. Only valued here for Sample Summary.
34.	B_ANALYSIS_METHOD_CODE	Standard Analysis Method Code for a specific analyte. Only valued here for Sample Summary.
35.	B_FREE_CHLORINE_RESIDUAL	"Field Result" value measured at the time/location of sample collection. Reported in MG/L.
36.	B_TOTL_CHLORINE_RESIDUAL	"Field Result" value measured at the time/location of sample collection. Reported in MG/L.
37.	B_SAMPLE_WATER_TEMPERATURE	"Field Result" value measured at the time/location of sample collection.
38.	B_TEMPERATURE_UNIT_MEASURE	Temperature Unit of Measure - either C (Celsius) or F (Fahrenheit).
39.	B_TURBIDITY_MEASURE	"Field Result" value measured at the time/location of sample collection. Reported in NTU.
40.	B_PH_MEASURE	"Field Result" value measured at the time/location of sample collection. Reported in pH Units.
41.	B_FLOW_RATE	"Field Result" value measured at the time/location of sample collection. Reported in gal/min.
	FILLER	

19.0 STRUCTURE SET B_Result_Summary_Result

See note (Item 5) at the end of file layout (18.4) for detailed description of sample/result uniqueness evaluation. *Sampling via EDI* Release 8.0 evaluates uniqueness *exactly* as it did in Release 7.0. Uniqueness information for sample/result has been removed from the Optionality column of the pertinent sample/result fields for File Layouts 18/19.1, 18/19.2, 18/19.3, and 18/19.4 and moved to the single location at the end of file layout 18.4 in order to clarify how the software evaluates uniqueness for individual samples/results.

19.1 B_Result_Summary_Result File Layout for Total Coliform Results

	B_RESULT_SUMMARY_RESULT				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_RECORD_NAME	AN	3	1 - 3	MANDATORY - Field must = DTR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T
3.	B_TRANSACTION_NUMBER	AN	10	5 - 14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15 - 34	MANDATORY - Reference field required to associate the result to the parent sample. Must be same value as field B_LAB_SAMPLE_NUMBER in B_Sample structure set or result (and sample) will be rejected.
5.	B_WATER_SYSTEM_NUMBER	AN	12	35 - 46	MANDATORY - Reference field required to associate the result to the parent sample. Must be same value as field B_WATER_SYSTEM_NUMBER in B_Sample structure set or result (and sample) will be rejected.
6.	B_ANALYTE_CODE	AN	4	47 - 50	MANDATORY
7.	B_CAS_NUMBER	AN	10	51 - 60	NOT USED (Blank Fill)
8.	B_ANALYSIS_START_DATE	DT	8	61 - 68	OPTIONAL - Sample will be rejected if Analysis Start Date is supplied but is prior to Sample Collection Date.
9.	B_ANALYSIS_START_TIME	TM	6	69 - 74	OPTIONAL

* Designates field with permitted values.   A-200   + Shaded gray blocks designate changes to previously published structure sets.

B_RESULT_SUMMARY_RESULT

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
10.	B_ANALYSIS_COMPLETION_DATE	DT	8	75 - 82	OPTIONAL - Sample will be rejected if Analysis Completion Date is supplied but is prior to Sample Collection Date. Sample will also be rejected if both Analysis Start and Completion Dates are supplied, but Completion Date is prior to Start Date.
11.	B_ANALYSIS_COMPLETION_TIME	TM	6	83 - 88	OPTIONAL
12.	B_STATE_NOTIFY_DATE	DT	8	89 - 96	OPTIONAL
13. *	B_DATA_QUALITY	AN	1	97	OPTIONAL - If this field is not valued, *Migration to SDWIS/STATE* will set it to "A" which is defined as "Accepted." If valued with "R," this is considered a rejected resulted, and a result record will be created.
14. *	B_DATA_QUALITY_REASON	AN	2	98 - 99	CONDITIONALLY MANDATORY - Field must be valued if field 13 (B_DATA_QUALITY) = "R."
15. *	B_ANALYSIS_METHOD_CODE	AN	12	100 - 111	OPTIONAL - May be either a federally owned or state-owned analyte method pairing that exists in state/region's SDWIS/STATE database.
16.	B_MONITORING_PERIOD_START_DATE	DT	8	112 - 119	OPTIONAL - **If sample is for compliance (see Sample structure set)**: If valid current TCR monitoring periods do not exist in your database, recommend that date be supplied to preclude sample rejection. See detailed edit check information at the end of this structure set. **If sample is not for compliance (see Sample structure set)**: See detailed edit check information at the end of this structure set. No monitoring period need be in the database or supplied with the input file for the sample to be accepted.

B_RESULT_SUMMARY_RESULT					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
17.	B_MONITORING_PERIOD_END_DATE	DT	8	120 - 127	OPTIONAL - **If sample is for compliance (see Sample structure set)**: If valid current TCR monitoring periods do not exist in your database, recommend that date be supplied to preclude sample rejection. See detailed edit check information at the end of this structure set. **If sample is not for compliance (see Sample structure set):** See detailed edit check information at the end of this structure set. No monitoring period need be in the database or supplied with the input file for the sample to be accepted.
18.	B_VOLUME_ASSAYED	AN	9	128 - 136	OPTIONAL
19.*	B_LAB_REJECTION_REASON	AN	4	137 - 140	CONDITIONALLY MANDATORY - See discussion in field 20.
20.*	B_MICROBE_PRESENCE_INDICATOR	AN	1	141	CONDITIONALLY MANDATORY - C If not valued, field 19 (B_LAB_REJECTION_REASON) must be valued and field 22 (B_COUNT) must not be valued. C If valued with P, field 22 (B_COUNT) must be either not valued, or if valued, be greater than 0. C If valued with A, field 19 (B_LAB_REJECTION_REASON) should not be valued and field 22 (B_COUNT) should not be valued with 0 or any other integer.
21.*	B_TEST_TYPE	AN	1	142	OPTIONAL
22.	B_COUNT	N	10	143 - 152	CONDITIONALLY MANDATORY - See discussion in field 20.

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_RESULT_SUMMARY_RESULT				
23.*	B_COUNT_TYPE	AN	10	153 - 162	CONDITIONALLY MANDATORY - Field must be valued if field 22 (B_COUNT) > 0.
24.*	B_COUNT_UNITS	AN	9	163 - 171	CONDITIONALLY MANDATORY - Field must be valued if field 23 (B_COUNT_TYPE) is valued.
25.*	B_LESS_THAN_INDICATOR	AN	1	172	NOT USED (Blank Fill)
26.*	B_LESS_THAN_CODE	AN	3	173 - 175	NOT USED (Blank Fill)
27.	B_DETECTION_LEVEL	N	16 (15(8))	176 - 191	NOT USED (Blank Fill)
28.*	B_DETECTION_LEVEL_UNIT_CODE	AN	9	192 - 200	NOT USED (Blank Fill)
29.	B_CONCENTRATION	N	14 (13(9))	201 - 214	NOT USED (Blank Fill)
30.*	B_CONCENTRATION_UNIT_CODE	AN	9	215 - 223	NOT USED (Blank Fill)
31.	B_REPORTED_MEASURE	AN	10	224 - 233	NOT USED (Blank Fill)
32.	B_REPORTED_MEASURE_COUNT_ERROR	N	9 (8(3))	234 - 242	NOT USED (Blank Fill)
33.*	B_RESULTS_TYPE	AN	2	243 - 244	NOT USED (Blank Fill)
34.	B_COUNT_QUANTITY	N	10	245 - 254	NOT USED (Blank Fill)
35.	B_MEASURE	N	14(13(9))	255 - 268	NOT USED (Blank Fill)
36.*	B_MEASURE_UNIT_CODE	AN	9	269 - 277	NOT USED (Blank Fill)
	FILLER		98	278 - 375	Blank fill to make fixed record length of 375.

Detailed edit check information for Field 16 B_MONITORING_PERIOD_START_DATE:

If sample is for compliance (see Sample structure set):

If supplied, *MTS: Sampling/Sampling via EDI* checks for a monitoring period in the database that matches dates in field 16 and 17 for supplied Water System (field 5) and TC Rule. If not found, software will attempt to create monitoring period based on the dates supplied in fields 16 and 17 and link it with TCR result.

C   If date supplied, value must be the first day of the first month of the monitoring period. If it is supplied:

- Software calculates Monitoring Period Type. If the number of days difference between fields 17 and 16 is consistent with either "MN" or "QT."
- The software checks the periodicity specified by the water system's TCR schedule that was active on the Sample Collection Date for a match with the calculated monitoring period type. If there is a match, software creates the monitoring period and links it to the result.

If not found, software considers the monitoring periods supplied to be invalid and treats them as if they were absent.

C   If invalid (based on above edit checks) or no monitoring period dates are supplied (fields 16 and 17 are blank), software attempts to calculate the correct monitoring period based on supplied Water System (field 5), TC Rule, and sampling periodicity specified by the water system's TCR monitoring schedule that was active on the Sample Collection Date. If there is a match, software links the retrieved monitoring period to the result.

C   If no monitoring period meets this criteria, the sample and result will be rejected.

C   **If sample is not for compliance (see Sample structure set):** No monitoring period needs to be supplied for the sample and result to be accepted into the database. The absence of a monitoring period in the database that matches dates in field 16 and 17 for supplied Water System (field 5) and TC Rule and of the periodicity specified by the water system's TCR schedule that was active on the Sample Collection Date *will not* preclude the result from being entered into the database. Since monitoring periods are associated with compliance, they are not linked to "not for compliance" sample results.

Detailed edit check information for Field 17 B_MONITORING_PERIOD_END _DATE:

The same information applies except if date supplied, value must be the last day of the last month of the monitoring period.

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* Designates field with permitted values.   A-204   + Shaded gray blocks designate changes to previously published structure sets.

19.2   B_Result_Summary_Result File Layout for Chemical and Lead & Copper Results

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
					B_RESULT_SUMMARY_RESULT
1.	B_RECORD_NAME	AN	3	1 - 3	MANDATORY - Field must = DTR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T
3.	B_TRANSACTION_NUMBER	AN	10	5 - 14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15 - 34	MANDATORY - Reference field required to associate the result to the parent sample. Must be same value as field B_LAB_SAMPLE_NUMBER in B_Sample structure set or result (and sample) will be rejected.
5.	B_WATER_SYSTEM_NUMBER	AN	12	35 - 46	MANDATORY - Reference field required to associate the result to the parent sample. Must be same value as field B_WATER_SYSTEM_NUMBER in B_Sample structure set or result (and sample) will be rejected.
6.	B_ANALYTE_CODE	AN	4	47 - 50	CONDITIONALLY MANDATORY - Field must be valued if field 7 (B_CAS_NUMBER) is not valued.
7.	B_CAS_NUMBER	AN	10	51 - 60	CONDITIONALLY MANDATORY - Field must be valued if field 6 (B_ANALYTE_CODE) is not valued.
8.	B_ANALYSIS_START_DATE	DT	8	61 - 68	NOT USED (Blank Fill)
9.	B_ANALYSIS_START_TIME	TM	6	69 - 74	NOT USED (Blank Fill)
10.	B_ANALYSIS_COMPLETION_DATE	DT	8	75 - 82	OPTIONAL
11.	B_ANALYSIS_COMPLETION_TIME	TM	6	83 - 88	OPTIONAL
12.	B_STATE_NOTIFY_DATE	DT	8	89 - 96	OPTIONAL
13.*	B_DATA_QUALITY	AN	1	97	OPTIONAL - If this field is not valued, *Migration to SDWIS/STATE* will set it to "A" which is defined as "Accepted."

	B_RESULT_SUMMARY_RESULT				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
14.*	B_DATA_QUALITY_REASON	AN	2	98 - 99	CONDITIONALLY MANDATORY - Field must be valued if field 13 (B_DATA_QUALITY) = "R."
15.*	B_ANALYSIS_METHOD_CODE	AN	12	100 - 111	OPTIONAL - May be either a federally owned or state-owned analyte method pairing that exists in state/region's SDWIS/STATE database.
16.	B_MONITORING_PERIOD_START_DATE	DT	8	112 - 119	OPTIONAL - If supplied, value must be the first day of the first month of the monitoring period.
17.	B_MONITORING_PERIOD_END_DATE	DT	8	120 - 127	OPTIONAL - If supplied, value must be the last day of the last month of the monitoring period.
18*	B_VOLUME_ASSAYED	AN	9	128 - 136	NOT USED (Blank Fill)
19.*	B_LAB_REJECTION_REASON	AN	4	137 - 140	NOT USED (Blank Fill)
20.*	B_MICROBE_PRESENCE_INDICATOR	AN	1	141	NOT USED (Blank Fill)
21.*	B_TEST_TYPE	AN	1	142	NOT USED (Blank Fill)
22.	B_COUNT	N	10	143 - 152	NOT USED (Blank Fill)
23.*	B_COUNT_TYPE	AN	10	153 - 162	NOT USED (Blank Fill)
24.*	B_COUNT_UNITS	AN	9	163 - 171	NOT USED (Blank Fill)
25.*	B_LESS_THAN_INDICATOR	AN	1	172	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_DATA_QUALITY) = "A" or "P" and field 29 (B_CONCENTRATION) is either not valued or is valued with 0, and field 31 (B_REPORTED_MEASURE) is either not valued or is valued with a text value that converts to the number 0.
26.*	B_LESS_THAN_CODE	AN	3	173 - 175	CONDITIONALLY MANDATORY - Must be valued if field 25 (B_LESS_THAN_INDICATOR) = "Y."

	B_RESULT_SUMMARY_RESULT				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
27.	B_DETECTION_LEVEL	N	16 (15(8))	176 - 191	CONDITIONALLY MANDATORY - Must be valued if field 26 (B_LESS_THAN_CODE) = "MRL."
28.*	B_DETECTION_LEVEL_UNIT_CODE	AN	9	192 - 200	CONDITIONALLY MANDATORY - Must be valued if field 27 (B_DETECTION_LEVEL) is valued. If sample result is federally reportable (see Appendix F for list of reportable analytes), value must be either MG/L or UG/L.
29.	B_CONCENTRATION	N	14 (13(9))	201 - 214	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_DATA_QUALITY) = ("A" or "P") and field 25 (B_LESS_THAN_INDICATOR) is not valued and field 31 (B_REPORTED_MEASURE) is not valued. Recommend reporting the concentration in both field 29 (B_CONCENTRATION) and field 31 (B_REPORTED_MEASURE) in order to preserve precision.
30.*	B_CONCENTRATION_UNIT_CODE	AN	9	215 - 223	CONDITIONALLY MANDATORY - Must be valued if either field 29 (B_CONCENTRATION) or field 31 (B_REPORTED_MEASURE) are valued. If sample result is federally reportable (see Appendix F for list of reportable analytes), value must be either MG/L or UG/L.

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_RESULT_SUMMARY_RESULT				
31.	B_REPORTED_MEASURE	AN	10	224 - 233	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_DATA_QUALITY) = ("A" or "P") and field 25 (B_LESS_THAN_INDICATOR) is not valued and field 29 (B_CONCENTRATION) is either not valued or is valued with 0. Value in this field can convert to 0 (e.g., 0.0, 00.00) and be considered a valid result, as long as either field 29 (B_CONCENTRATION) is either not valued or is valued with 0). Value must be numeric; non-numeric symbols (such as "<") will cause sample to be rejected. Recommend reporting concentration in both field 29 (B_CONCENTRATION) and field 31 (B_REPORTED_MEASURE) in order to preserve precision.
32.	B_REPORTED_MEASURE_COUNT_ERROR	N	9 (8(3))	234 - 242	NOT USED (Blank Fill)
33.*	B_RESULTS_TYPE	AN	2	243 - 244	NOT USED (Blank Fill)
34.	B_COUNT_QUANTITY	N	10	245 - 254	NOT USED (Blank Fill)
35.	B_MEASURE	N	14(13(9))	255 - 268	NOT USED (Blank Fill)
36.*	B_MEASURE_UNIT_CODE	AN	9	269 - 277	NOT USED (Blank Fill)
	FILLER		98	278 - 375	Blank fill to make fixed record length of 375.

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published structure sets.

19.3 B_Result_Summary_Result File Layout for Radionuclide Results

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
B_RESULT_SUMMARY_RESULT
1.	B_RECORD_NAME	AN	3	1 - 3	MANDATORY - Field must = DTR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T
3.	B_TRANSACTION_NUMBER	AN	10	5 - 14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15 - 34	MANDATORY - Reference field required to associate the result to the parent sample. Must be same value as field B_LAB_SAMPLE_NUMBER in B_SAMPLE structure set or result (and sample) will be rejected.
5.	B_WATER_SYSTEM_NUMBER	AN	12	35 - 46	MANDATORY - Reference field required to associate the result to the parent sample. Must be same value as field B_WATER_SYSTEM_NUMBER in B_SAMPLE structure set or result (and sample) will be rejected.
6.	B_ANALYTE_CODE	AN	4	47 - 50	CONDITIONALLY MANDATORY - Field must be valued if field 7 (B_CAS_NUMBER) is not valued.
7.	B_CAS_NUMBER	AN	10	51 - 60	CONDITIONALLY MANDATORY - Field must be valued if field 6 (B_ANALYTE_CODE) is not valued.
8.	B_ANALYSIS_START_DATE	DT	8	61 - 68	NOT USED (Blank Fill)
9.	B_ANALYSIS_START_TIME	TM	6	69 - 74	NOT USED (Blank Fill)
10.	B_ANALYSIS_COMPLETION_DATE	DT	8	75 - 82	OPTIONAL
11.	B_ANALYSIS_COMPLETION_TIME	TM	6	83 - 88	OPTIONAL
12.	B_STATE_NOTIFY_DATE	DT	8	89 - 96	OPTIONAL
13.*	B_DATA_QUALITY	AN	1	97	OPTIONAL - If this field is not valued, *Migration to SDWIS/STATE* will set it to "A" which is defined as "Accepted."

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

					B_RESULT_SUMMARY_RESULT
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
14.*	B_DATA_QUALITY_REASON	AN	2	98 - 99	CONDITIONALLY MANDATORY - Field must be valued if field 13 (B_DATA_QUALITY) = "R."
15.*	B_ANALYSIS_METHOD_CODE	AN	12	100 - 111	OPTIONAL - May be either a federally owned or state-owned analyte method pairing that exists in state/region's SDWIS/STATE database.
16.	B_MONITORING_PERIOD_START_DATE	DT	8	112 - 119	OPTIONAL - If supplied, value must be the first day of the first month of the monitoring period.
17.	B_MONITORING_PERIOD_END_DATE	DT	8	120 - 127	OPTIONAL - If supplied, value must be the last day of the last month of the monitoring period.
18.*	B_VOLUME_ASSAYED	AN	9	128 - 136	NOT USED (Blank Fill)
19.*	B_LAB_REJECTION_REASON	AN	4	137 - 140	NOT USED (Blank Fill)
20.*	B_MICROBE_PRESENCE_INDICATOR	AN	1	141	NOT USED (Blank Fill)
21.*	B_TEST_TYPE	AN	1	142	NOT USED (Blank Fill)
22.	B_COUNT	N	10	143 - 152	NOT USED (Blank Fill)
23.*	B_COUNT_TYPE	AN	10	153 - 162	NOT USED (Blank Fill)
24.*	B_COUNT_UNITS	AN	9	163 - 171	NOT USED (Blank Fill)
25.*	B_LESS_THAN_INDICATOR	AN	1	172	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_DATA_QUALITY) = ("A" or "P") and field 29 (B_CONCENTRATION) is not valued and field 31 (B_REPORTED_MEASURE) is not valued.
26.*	B_LESS_THAN_CODE	AN	3	173 - 175	CONDITIONALLY MANDATORY - Must be valued if field 25 (B_LESS_THAN_INDICATOR) = "Y."
27.	B_DETECTION_LEVEL	N	16 (15(8))	176 - 191	CONDITIONALLY MANDATORY - Must be valued if field 26 (B_LESS_THAN_CODE) = "MRL."

B_RESULT_SUMMARY_RESULT					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
28.*	B_DETECTION_LEVEL_UNIT_CODE	AN	9	192 - 200	CONDITIONALLY MANDATORY - Must be valued if field 27 (B_DETECTION_LEVEL) is valued.
29.	B_CONCENTRATION	N	14 (13(9))	201 - 214	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_DATA_QUALITY) = ("A" or "P") and field 25 (B_LESS_THAN_INDICATOR) is not valued and field 31 (B_REPORTED_MEASURE) is not valued.
30.*	B_CONCENTRATION_UNIT_CODE	AN	9	215 - 223	CONDITIONALLY MANDATORY - Must be valued if field 29 (B_CONCENTRATION) or field 31 (B_REPORTED_MEASURE) is valued.
31.	B_REPORTED_MEASURE	AN	10	224 - 233	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_DATA_QUALITY) = ("A" or "P") and field 25 (B_LESS_THAN_INDICATOR) *is not* valued and field 29 (B_CONCENTRATION) *is not* valued. Value in this field can convert to 0 (e.g., 0.0, 00.00) and be considered a valid result, as long as either field 29 (B_CONCENTRATION) is either not valued or is valued with 0. Value must be numeric; non-numeric symbols (such as " < ") will cause sample to be rejected. Recommend reporting concentration in both field 29 (B_CONCENTRATION) and field 31 (B_REPORTED_MEASURE) in order to preserve precision.
32.	B_REPORTED_MEASURE_COUNT_ERROR	N	9 (8(3))	234 - 242	OPTIONAL - If value supplied does not convert to valid number, result will be rejected.
33.*	B_RESULTS_TYPE	AN	2	243 - 244	NOT USED (Blank Fill)
34.	B_COUNT_QUANTITY	N	10	245 - 254	NOT USED (Blank Fill)
35.	B_MEASURE	N	14(13(9))	255 - 268	NOT USED (Blank Fill)

B_RESULT_SUMMARY_RESULT					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
36.*	B_MEASURE_UNIT_CODE	AN	9	269 - 277	NOT USED (Blank Fill)
	FILLER		98	278 - 375	Blank fill to make fixed record length of 375.

19.4   B_Result_Summary_Result File Layout for Water Quality Results

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
		B_RESULT_SUMMARY_RESULT			
1.	B_RECORD_NAME	AN	3	1 - 3	MANDATORY - Field must = DTR.
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T.
3.	B_TRANSACTION_NUMBER	AN	10	5 - 14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15 - 34	MANDATORY - Reference field required to associate the result to the parent sample. Must be same value as field B_LAB_SAMPLE_NUMBER in B_SAMPLE structure set or result (and sample) will be rejected.
5.	B_WATER_SYSTEM_NUMBER	AN	12	35 - 46	MANDATORY - Reference field required to associate the result to the parent sample. Must be same value as field B_WATER_SYSTEM_NUMBER in B_SAMPLE structure set or result (and sample) will be rejected.
6.	B_ANALYTE_CODE	AN	4	47 - 50	CONDITIONALLY MANDATORY - Field must be valued if field 7 (B_CAS_NUMBER) is not valued.
7.	B_CAS_NUMBER	AN	10	51 - 60	CONDITIONALLY MANDATORY - Field must be valued if field 6 (B_ANALYTE_CODE) is not valued.
8.	B_ANALYSIS_START_DATE	DT	8	61 - 68	NOT USED (Blank Fill)
9.	B_ANALYSIS_START_TIME	TM	6	69 - 74	NOT USED (Blank Fill)
10.	B_ANALYSIS_COMPLETION_DATE	DT	8	75 - 82	OPTIONAL
11.	B_ANALYSIS_COMPLETION_TIME	TM	6	83 - 88	OPTIONAL
12.	B_STATE_NOTIFY_DATE	DT	8	89 - 96	OPTIONAL
13.*	B_DATA_QUALITY	AN	1	97	OPTIONAL - If this field is not valued, *Migration to SDWIS/STATE* will set it to "A" which is defined as "Accepted."

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

	B_RESULT_SUMMARY_RESULT				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
14.*	B_DATA_QUALITY_REASON	AN	2	98 - 99	CONDITIONALLY MANDATORY - Field must be valued if field 13 (B_DATA_QUALITY) = "R."
15.*	B_ANALYSIS_METHOD_CODE	AN	12	100 - 111	OPTIONAL - May be either a federally owned or state-owned analyte method pairing that exists in state/region's SDWIS/STATE database.
16.	B_MONITORING_PERIOD_START_DATE	DT	8	112 - 119	OPTIONAL - If supplied, value must be the first day of the first month of the monitoring period.
17.	B_MONITORING_PERIOD_END_DATE	DT	8	120 - 127	OPTIONAL - If supplied, value must be the last day of the last month of the monitoring period.
18.*	B_VOLUME_ASSAYED	AN	9	128 - 136	NOT USED (Blank Fill)
19.*	B_LAB_REJECTION_REASON	AN	4	137 - 140	NOT USED (Blank Fill)
20.*	B_MICROBE_PRESENCE_INDICATOR	AN	1	141	NOT USED (Blank Fill)
21.*	B_TEST_TYPE	AN	1	142	NOT USED (Blank Fill)
22.	B_COUNT	N	10	143 - 152	NOT USED (Blank Fill)
23.*	B_COUNT_TYPE	AN	10	153 - 162	NOT USED (Blank Fill)
24. *	B_COUNT_UNITS	AN	9	163 - 171	NOT USED (Blank Fill)
25.*	B_LESS_THAN_INDICATOR	AN	1	172	NOT USED (Blank Fill)
26. *	B_LESS_THAN_CODE	AN	3	173 - 175	NOT USED (Blank Fill)
27.	B_DETECTION_LEVEL	N	16 (15(8))	176 - 191	NOT USED (Blank Fill)
28.*	B_DETECTION_LEVEL_UNIT_CODE	AN	9	192 - 200	NOT USED (Blank Fill)
29.	B_CONCENTRATION	N	14 (13(9))	201 - 214	CONDITIONALLY MANDATORY - Must be valued if field 31 (B_REPORTED_MEASURE) is not valued.
30.*	B_CONCENTRATION_UNIT_CODE	AN	9	215 - 223	MANDATORY

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_RESULT_SUMMARY_RESULT				
31.	B_REPORTED_MEASURE	AN	10	224 - 233	CONDITIONALLY MANDATORY - Must be valued if field 29 (B_CONCENTRATION) is not valued. Value in this field can convert to 0 (e.g., 0.0, 00.00) and be considered a valid result, as long as either field 29 (B_CONCENTRATION) is either not valued or is valued with 0. Value must be numeric; non-numeric symbols (such as "<") will cause sample to be rejected. Recommend reporting the concentration in both field 29 (B_CONCENTRATION) and field 31 (B_REPORTED_MEASURE) in order to preserve precision.
32.	B_REPORTED_MEASURE_COUNT_ERROR	N	9 (8(3))	234 - 242	NOT USED (Blank Fill)
33.*	B_RESULTS_TYPE	AN	2	243 - 244	NOT USED (Blank Fill)
34.	B_COUNT_QUANTITY	N	10	245 - 254	NOT USED (Blank Fill)
35.	B_MEASURE	N	14(13(9))	255 - 268	NOT USED (Blank Fill)
36.*	B_MEASURE_UNIT_CODE	AN	9	269 - 277	NOT USED (Blank Fill)
37.	FILLER		98	278 - 375	Blank fill to make fixed record length of 375.

19.5 B_Result_Summary_Result File Layout for Summary Results

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
B_RESULT_SUMMARY_RESULT					

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
1.	B_RECORD_NAME	AN	3	1 - 3	MANDATORY - Field must = DTR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = S
3.	B_TRANSACTION_NUMBER	AN	10	5 - 14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15 - 34	NOT USED (Blank Fill)
5.	B_WATER_SYSTEM_NUMBER	AN	12	35 - 46	MANDATORY - **Because Sample Summary has no natural identifier, the combination of field 5 (B_WATER_SYSTEM_NUMBER) and field 6 (B_ANALYTE_CODE) and field 16 (B_MONITORING_PERIOD_START_DATE) and field 17 (B_MONITORING_PERIOD_END_DATE) serves as the reference to the parent Sample Summary**. Required to associate the summary result to the parent Sample Summary.
6.	B_ANALYTE_CODE	AN	4	47 - 50	MANDATORY - **Because Sample Summary has no natural identifier, the combination of field 5 (B_WATER_SYSTEM_NUMBER) and field 6 (B_ANALYTE_CODE) and field 16 (B_MONITORING_PERIOD_START_DATE) and field 17 (B_MONITORING_PERIOD_END_DATE) serves as the reference to the parent Sample Summary**. Required to associate the summary result to the parent Sample Summary.
7.	B_CAS_NUMBER	AN	10	51 - 60	NOT USED (Blank Fill)
8.	B_ANALYSIS_START_DATE	DT	8	61 - 68	NOT USED (Blank Fill)
9.	B_ANALYSIS_START_TIME	TM	6	69 - 74	NOT USED (Blank Fill)
10.	B_ANALYSIS_COMPLETION_DATE	DT	8	75 - 82	NOT USED (Blank Fill)

	B_RESULT_SUMMARY_RESULT				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
11.	B_ANALYSIS_COMPLETION_TIME	TM	6	83 - 88	NOT USED (Blank Fill)
12.	B_STATE_NOTIFY_DATE	DT	8	89 - 96	NOT USED (Blank Fill)
13. *	B_DATA_QUALITY	AN	1	97	NOT USED (Blank Fill)
14. *	B_DATA_QUALITY_REASON	AN	2	98 - 99	NOT USED (Blank Fill)
15.	B_ANALYSIS_METHOD_CODE	AN	12	100 - 111	NOT USED (Blank Fill)
16.	B_MONITORING_PERIOD_START_DATE	DT	8	112 - 119	MANDATORY - **Because Sample Summary has no natural identifier, the combination of field 5 (B_WATER_SYSTEM_NUMBER) and field 6 (B_ANALYTE_CODE) and field 16 (B_MONITORING_PERIOD_START_DATE) and field 17 (B_MONITORING_PERIOD_END_DATE) serves as the reference to the parent Sample Summary**. Required to associate the summary result to the parent Sample Summary.
17.	B_MONITORING_PERIOD_END_DATE	DT	8	120 - 127	MANDATORY - **Because Sample Summary has no natural identifier, the combination of field 5 (B_WATER_SYSTEM_NUMBER) and field 6 (B_ANALYTE_CODE) and field 16 (B_MONITORING_PERIOD_START_DATE) and field 17 (B_MONITORING_PERIOD_END_DATE) serves as the reference to the parent Sample Summary**. Required to associate the summary result to the parent Sample Summary.
18. *	B_VOLUME_ASSAYED	AN	9	128 - 136	NOT USED (Blank Fill)
19. *	B_LAB_REJECTION_REASON	AN	4	137 - 140	NOT USED (Blank Fill)
20. *	B_MICROBE_PRESENCE_INDICATOR	AN	1	141	NOT USED (Blank Fill)
21. *	B_TEST_TYPE	AN	1	142	NOT USED (Blank Fill)

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published structure sets.

	B_RESULT_SUMMARY_RESULT				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
22.	B_COUNT	N	10	143 - 152	NOT USED (Blank Fill)
23. *	B_COUNT_TYPE	AN	10	153 - 162	NOT USED (Blank Fill)
24. *	B_COUNT_UNITS	AN	9	163 - 171	NOT USED (Blank Fill)
25. *	B_LESS_THAN_INDICATOR	AN	1	172	NOT USED (Blank Fill)
26. *	B_LESS_THAN_CODE	AN	3	173 - 175	NOT USED (Blank Fill)
27.	B_DETECTION_LEVEL	N	16(15(8))	176 - 191	NOT USED (Blank Fill)
28. *	B_DETECTION_LEVEL_UNIT_CODE	AN	9	192 - 200	NOT USED (Blank Fill)
29.	B_CONCENTRATION	N	14(13(9))	201 - 214	NOT USED (Blank Fill)
30. *	B_CONCENTRATION_UNIT_CODE	AN	9	215 - 223	NOT USED (Blank Fill)
31.	B_REPORTED_MEASURE	AN	10	224 - 233	NOT USED (Blank Fill)
32.	B_REPORTED_MEASURE_COUNT_ERROR	N	9 (8(3))	234 - 242	NOT USED (Blank Fill)
33. *	B_RESULTS_TYPE	AN	2	243 - 244	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 5 (B_WATER_SYSTEM_NUMBER) and field 6 (B_ANALYTE_CODE) and field 16 (B_MONITORING_PERIOD_START_DATE) and field 17 (B_MONITORING_PERIOD_END_DATE) and field 33 (B_RESULTS_TYPE).**
34.	B_COUNT_QUANTITY	N	10	245 - 254	CONDITIONALLY MANDATORY - Must be valued if field 35 (B_MEASURE) is not valued.
35.	B_MEASURE	N	14(13(9))	255 - 268	CONDITIONALLY MANDATORY - Must be valued if field 34 (B_COUNT_QUANTITY) is not valued. Value must be numeric; non-numeric symbols (such as "<") will cause sample to be rejected. A result of 0.0 or a value that converts to 0 may be recorded as a result.

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_RESULT_SUMMARY_RESULT				
36. *	B_MEASURE_UNIT_CODE	AN	9	269 - 277	CONDITIONALLY MANDATORY - Must be valued if field 35 (B_MEASURE) is valued. If the Summary is for Analyte Code PB90 or CU90, only **MG/L** is valid. If the Summary is for Analyte Code PB90 or CU90 and value in this field is other than **MG/L**, the summary will be rejected.
37.	FILLER		98	278 - 375	Blank fill to make fixed record length of 375.

NOTE: At least one Summary Result must exist in order to create a Sample Summary.

19.6   B_Result_Summary_Result Permitted Value List

B_RESULT_SUMMARY_RESULT		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
13.	B_DATA_QUALITY	**A** Accepted **R** Rejected **P** Preliminary **V** Validated
14.	B_DATA_QUALITY_REASON	**IF** Instrument Failure **LC** Lab Not Certified **LE** Lab Error **OT** Other **RC** Requestor Cancelled **WR** Water System Rejected
15.	B_ANALYSIS_METHOD_CODE	Federally owned Analyte Method Pairings are available in the SDWIS/STATE Online Data Dictionary. Federally owned and state-owned Analyte Method Pairings may be viewed by accessing the Anlayte Method Pairing menu item available in the *SDWIS Administration* component of SDWIS/STATE.
18.	B_VOLUME_ASSAYED	**100ML** **300ML** **400ML**
19.	B_LAB_REJECTION_REASON	**CNFG** Confluent Growth **TCNG** Turbid Culture No Gas **TNTC** Too Numerous to Count
20.	B_MICROBE_PRESENCE_INDICATOR	**A** Absence **P** Presence
21.	B_TEST_TYPE	**C** Confirmed **P** Presumptive

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

B_RESULT_SUMMARY_RESULT		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
23.	B_COUNT_TYPE	**CFU** Colony Forming Units/Milliliter **COLONIES** Colonies/100 Milliliters **CYSTSC** Cysts Calculated (GL) **CYSTSO** Cysts Observed (GL) **MPN** Most Probable Number/100 Milliliters **OBSVNS** Observations **OCYSTSC** Oocysts Calculated (CRY) **OCYSTSO** Oocysts Observed (CRY) **PFU** Plaque Forming Units/Milliliter **TUBES** Tubes/100 Milliliters
24.	B_COUNT_UNITS	**100GAL** 100 Gallons **100L** 100 Liters **100ML** 100 Milliliters **400GAL** 400 Gallons **400ML** 400 Milliliters **FLD100** Field at 100 Power (used in measuring numbers of observations) **GAL** Gallons **LITER** Liters **ML** Milliliters
25.	B_LESS_THAN_INDICATOR	**Y** Yes **N** No
26.	B_LESS_THAN_CODE	**MDL** Federal Minimum Detection Limit **MRL** Lab Reporting Level

* Designates field with permitted values.   A-221   + Shaded gray blocks designate changes to previously published structure sets.

B_RESULT_SUMMARY_RESULT		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
28.	B_DETECTION_LEVEL_UNIT_CODE	**CM-1** Total Absorbance for UV **CT** Contact Time **LBS/CFT** Pounds/Cubic Foot (for measuring density) **LBS/GAL** Pounds/Gallon (for measuring density) **MFL** Million of Fibers/Liter (for measuring asbestos) **MG/L** Milligrams/Liter (AKA Parts per Million - ppm) **MREM** Millirems/Liter **MREMY** Millirems/Liter/Year **NG/L** Nanograms/Liter (AKA Parts per Trillion - ppt) **NTU** Nephlometric Turbidity Units **PIC/L** Picocuries/Liter **UG/L** Micrograms/Liter (AKA Parts per Billion - ppb)
30.	B_CONCENTRATION_UNIT_CODE	**%LUM** Percent of Luminance (for measuring color) **%PUR** Percent of Purity (for measuring color) **ADMIU** American Dye Manufacturers Institute Units (for measuring color) **AGGR** Aggressive Index (for corrosivity) **C** Degrees Celsius **CM-1** Total Absorbance for UV **CT** Contact Time **CU** Color Units **F** Degrees Fahrenheit **FTU** Flavor Threshold Units (for measuring taste and odor) **LANG** Langlier Index (for measuring corrosivity) **LBS/CFT** Pounds/Cubic Foot (for measuring density) **LBS/GAL** Pounds/Gallon (for measuring density) **MFL** Million of Fibers/Liter (for measuring asbestos) **MG/L** Milligrams/Liter (AKS Parts per Million - ppm)

B_RESULT_SUMMARY_RESULT		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		MREM Millirems/Liter
30.	B_CONCENTRATION_UNIT_CODE (cont.)	**MREMY** Millirems/Liter/Year **NG/L** Nanograms/Liter (AKA Parts per Trillion - ppt) **NMT** Nanometers (to measure color wave length) **NTU** Nephlometric Turbidity Units **OBSVNS** Observations/Field at 100 power **PH** PH Measure (parts hydrogen (pH 0 - 14)) **PIC/L** Picocuries/Liter **SU** Standard Units (for measuring color) **TON** Threshold Odor Number (for odor) **UG/L** Micrograms/Liter (AKA Parts per Billion - ppb) **UMHOS/CM** Microhos/Centimeter (for measuring conductivity)
33.	B_RESULTS_TYPE	**90** 90th Percentile (Lead & Copper) **CB** Chlorine Residual below 0.2 MG/P (0.2 MG/L) **CK** Check Samples Taken **CR** Total Chlorine Residual Taken **FV** Days in Federal Violation Period **HR** High Result for Period **LR** Low Result for Period **MR** Mean Result for Period **NE** Negative Sample Analytical Results **NF** Negative Finished Water Samples **ND** Negative Results from Distribution System Samples **NR** Negative Raw Water Samples **PO** Positive Sample Analytical Results **RF** Required Repeats per Federal Regulations

* Designates field with permitted values.   A-223   + Shaded gray blocks designate changes to previously published structure sets.

B_RESULT_SUMMARY_RESULT		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
		RI Replacement Samples for Invalid Results
		RJ Rejected Samples
		RL Replacement Samples
33.	B_RESULTS_TYPE (cont.)	**RP** Repeat Samples
		RS Required Repeats per State Regulations
		RT Routine Samples with negative results from Distribution System
		SP Special Samples
		SR Samples Required
		SV Days in State Violation Period
		TO Total Samples Collected
		VI Days of Violation Period
36.	B_MEASURE_UNIT_CODE	**%LUM** Percent of Luminance (for measuring color)
		%PUR Percent of Purity (for measuring color)
		ADMIU American Dye Manufacturers Institute Units (for measuring color)
		AGGR Aggressive Index (for corrosivity)
		C Degrees Celsius
		CM-1 Total Absorbance for UV
		COUNT Count
		CT Contact Time
		CU Color Units
		F Degrees Fahrenheit
		FTU Flavor Threshold Units (for measuring taste and odor)
		LANG Langlier Index (for measuring corrosivity)
		LBS/CFT Pounds/Cubic Foot (for measuring density)
		LBS/GAL Pounds/Gallon (for measuring density)
		MFL Million of Fibers/Liter (for measuring asbestos)

* Designates field with permitted values.   A-224   + Shaded gray blocks designate changes to previously published structure sets.

B_RESULT_SUMMARY_RESULT		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**	
		MG/L	Milligrams/Liter (AKA Parts per Million - ppm)
		MREM	Millirems/Liter
		MREMY	Millirems/Liter/Year
		NG/L	Nanograms/Liter (AKA Parts per Trillion - ppt)
		NMT	Nanometers (to measure color wave length)
36.	B_MEASURE_UNIT_CODE (cont.)	**NTU**	Nephlometric Turbidity Units
		OBSVNS	Observations/Field at 100 power
		PH	PH Measure (Parts Hydrogen (pH 1 -14))
		PIC/L	Picocuries/Liter
		SU	Standard Units (for measuring color)
		TON	Threshold Odor Number (for odor)
		UG/L	Micrograms/Liter (AKA Parts per Billion - ppb)
		UMHOS/CM	Microhos/Centimeter (for measuring conductivity)

19.7   B_Result_Summary_Result Mapping to SDWIS/STATE Entities

		B_RESULT_SUMMARY_RESULT			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
1.	B_RESULT	B_RECORD_NAME			
2.	B_RESULT	B_REPORT_TYPE			
3.	B_RESULT	B_TRANSACTION_NUMBER			
4.	B_RESULT	B_LAB_SAMPLE_NUMBER	TSASAMPL	SBS Sample	LAB_ASSIGNED_ID_NUMBER (*Reference Key to SBS Sample*)
5.	B_RESULT	B_WATER_SYSTEM_NUMBER	TINWSYS	Water System	NUMBER (*Reference Key to SBS Sample or Reference Key to Sample Summary*)
6.	B_RESULT	B_ANALYTE_CODE	TSAANLYT	Analyte	CODE (*Foreign Key to SBS Sample Analytical Result or Reference Key to Sample Summary*)
7.	B_RESULT	B_CAS_NUMBER	TSAANLYT	Analyte	CAS_REGISTRY_NUMBER (*Foreign Key to SBS Sample Analytical Result*)
8.	B_RESULT	B_ANALYSIS_START_DATE	TSASAR	SBS Sample Analytical Result	ANALYSIS_START_DATE
9.	B_RESULT	B_ANALYSIS_START_TIME	TSASAR	SBS Sample Analytical Result	ANALYSIS_START_TIME
10.	B_RESULT	B_ANALYSIS_COMPLETION_DATE	TSASAR	SBS Sample Analytical Result	ANALYSIS_COMPLETE_DATE
11.	B_RESULT	B_ANALYSIS_COMPLETION_TIME	TSASAR	SBS Sample Analytical Result	ANALYSIS_COMPLETE_TIME
12.	B_RESULT	B_STATE_NOTIFY_DATE	TSASAR	SBS Sample Analytical Result	STATE_NOTIFICATION_DATE
13.	B_RESULT	B_DATA_QUALITY	TSASAR	SBS Sample Analytical Result	DATA_QUALITY_CODE

			B_RESULT_SUMMARY_RESULT			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
14.	B_RESULT	B_DATA_QUALITY_REASON	TSASAR	SBS Sample Analytical Result	DATA_QUALITY_REASON_CODE
15.	B_RESULT	B_ANALYSIS_METHOD_CODE	TSASMN	Standard Method Number	CODE (*Foreign Key to SBS Sample Analytical Result*)
16.	B_RESULT	B_MONITORING_PERIOD_START_DATE	TMNMPRD	Monitoring Period	BEGIN_DATE (*Foreign Key to SBS Sample Analytical Result or Reference Key to Sample Summary*)
17.	B_RESULT	B_MONITORING_PERIOD_END_DATE	TMNMPRD	Monitoring Period	END_DATE (*Foreign Key to SBS Sample Analytical Result or Reference Key to Sample Summary*)
18.	B_RESULT	B_VOLUME_ASSAYED	TSAMAR	Microbiological Analytical Result	ASSAY_UOM_CODE
19.	B_RESULT	B_LAB_REJECTION_REASON	TSAMAR	Microbiological Analytical Result	REJECTION_REASON_CODE
20.	B_RESULT	B_MICROBE_PRESENCE_INDICATOR	TSAMAR	Microbiological Analytical Result	PRESENCE_INDICATOR_CODE
21.	B_RESULT	B_TEST_TYPE	TSAMAR	Microbiological Analytical Result	TEST_TYPE
22.	B_RESULT	B_COUNT	TSAMAR	Microbiological Analytical Result	COUNT_QTY
23.	B_RESULT	B_COUNT_TYPE	TSAMAR	Microbiological Analytical Result	COUNT_TYPE
24.	B_RESULT	B_COUNT_UNITS	TSAMAR	Microbiological Analytical Result	COUNT_UOM_CODE
25.	B_RESULT	B_LESS_THAN_INDICATOR	TSASAR	SBS Sample Analytical Result	LESS_THAN_INDICATOR

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

		B_RESULT_SUMMARY_RESULT			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
26.	B_RESULT	B_LESS_THAN_CODE	TSASAR	SBS Sample Analytical Result	LESS_THAN_CODE
27.	B_RESULT	B_DETECTION_LEVEL	TSASAR	SBS Sample Analytical Result	DETECTION_LIMIT_NUMBER
28.	B_RESULT	B_DETECTION_LEVEL_UNIT_CODE	TSASAR	SBS Sample Analytical Result	DETECTION_LIMIT_UOM_CODE
29.	B_RESULT	B_CONCENTRATION	TSASAR	SBS Sample Analytical Result	CONCENTRATION_MSR
30.	B_RESULT	B_CONCENTRATION_UNIT_CODE	TSASAR	SBS Sample Analytical Result	UOM_CODE
31.	B_RESULT	B_REPORTED_MEASURE	TSASAR	SBS Sample Analytical Result	REPORTED_MEASURE
32.	B_RESULT	B_REPORTED_MEASURE_COUNT_ERROR	TSASAR	SBS Sample Analytical Result	RAD_COUNTING_ERROR
33.	B_RESULT	B_RESULTS_TYPE	TSASSR	Sample Summary Result	TYPE_CODE
34.	B_RESULT	B_COUNT_QUANTITY	TSASSR	Sample Summary Result	COUNT_QTY
35.	B_RESULT	B_MEASURE	TSASSR	Sample Summary Result	MEASURE MEASURE_TEXT
36.	B_RESULT	B_MEASURE_UNIT_CODE	TSASSR	Sample Summary Result	UOM_CODE

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

19.8   B_Result_Summary_Result Definitions

FIELD NO	FIELD NAME	INDIVIDUAL RESULT (T)/ SUMMARY RESULT (S)
B_RESULT_SUMMARY_RESULT DEFINITIONS	
1.	B_RECORD_NAME	DTR - Indicates that the input string represents a Result - each result record must contain DTR in the first field.
2.	B_REPORT_TYPE	T - Indicates the input string is an individual Sample/Sample Result; S indicates the input string is a Summary/Summary Result. This field is mandatory.
3.	B_TRANSACTION_NUMBER	Not used.
4.	B_LAB_SAMPLE_NUMBER	Reference field - Number/alphanumeric that identifies the sample to which this result belongs. When used, this field must be identical to the B_LAB_SAMPLE_NUMBER in the Sample record unless the sample is a composite in which case it may be identical to the B_LAB_COMPOSITE_NUMBER in the Sample.
5.	B_WATER_SYSTEM_NUMBER	Reference field - The Public Water System (PWS) Identification number. This field is mandatory and must be identical to the B_WATER_SYSTEM_ NUMBER in the Sample or Summary.
6.	B_ANALYTE_CODE	Analyte Code for the result to be assessed or the Sample Summary to be referenced.
7.	B_CAS_NUMBER	Chemical Abstract Series Number - Can be used to specify Chemical analytes.
8.	B_ANALYSIS_START_DATE	Date that laboratory analysis begins.
9.	B_ANALYSIS_START_TIME	Time that laboratory analysis begins.
10.	B_ANALYSIS_COMPLETION_DATE	Date that laboratory analysis ends.
11.	B_ANALYSIS_COMPLETION_TIME	Time that laboratory analysis ends.
12.	B_STATE_NOTIFY_DATE	Date that the state receives the analytical result.
13.	B_DATA_QUALITY	Code indicating whether or not the analytical result meets established data quality criteria.
14.	B_DATA_QUALITY_REASON	Possible reasons that the code may not meet data quality standards.
15.	B_ANALYSIS_METHOD_CODE	Standard analysis method code for the analyte for which the result is assessed.

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published structure sets.

FIELD NO	FIELD NAME	INDIVIDUAL RESULT (T)/ SUMMARY RESULT (S)
	B_RESULT_SUMMARY_RESULT DEFINITIONS	
16.	B_MONITORING_PERIOD_START_DATE	Start date of the monitoring period to which the analytical result or the referenced sample summary is assigned. The monitoring period must be valid for the Water System that collected the sample and the rule against which the result is assessed.
17.	B_MONITORING_PERIOD_END_DATE	End date of the monitoring period to which the analytical result or the referenced sample summary is assigned. The monitoring period must be valid for the Water System that collected the sample and the rule against which the result is assessed.
18.	B_VOLUME_ASSAYED	The amount of water used during the laboratory assessment.
19.	B_LAB_REJECTION_REASON	Possible lab comments (Too numerous to count/Turbid Culture No Gas) that may cause the state to reject a microbiological result.
20.	B_MICROBE_PRESENCE_INDICATOR	Presence/Absence indicator - P indicates that the microbiological result is positive while A indicates a negative result.
21.	B_TEST_TYPE	Designates the result as either "presumptive" or "confirmed."
22.	B_COUNT	Value greater than 0 indicates a positive microbiological result.
23.	B_COUNT_TYPE	Type of microbiological unit that is being counted per specified count unit. Count type varies with the microbiological organism where count is being recorded.
24.	B_COUNT_UNITS	The units of measure associated with the microbiological analytical result count.
25.	B_LESS_THAN_INDICATOR	When set to "Y," indicates that the analytical result is less than either the Lab Reporting Level (supplied by the lab) or the federal minimum detection limit. Typically set to "Y" for a non-detect result.

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published structure sets.

	B_RESULT_SUMMARY_RESULT DEFINITIONS	
FIELD NO	**FIELD NAME**	**INDIVIDUAL RESULT (T)/ SUMMARY RESULT (S)**
26.	B_LESS_THAN_CODE	MRL - Lab Reporting Level—Indicates that the lab will supply the minimum detection limit and will value the B_DETECTION_LEVEL and B_DETECTION_LEVEL_UNIT_CODE fields. Note: this value may be the federal minimum detection limit for that analyte but SDWIS/STATE treats it as a Lab Reporting Level if the value is supplied by the lab. (Some laboratories wish to report a value that is more stringent than the federal minimum detection limit for the analyte.) MDL - Federal minimum detection limit—value carried as appropriate for each analyte and method—the source for each value is the code for the Code of Federal Regulation (40 CFR Section 141, et al.). If field contains MDL, SDWIS will look up the federal detection limit for the analyte and populate B_DETECTION_LEVEL and B_DETECTION_LEVEL_UNIT_CODE fields. (The data for MDLs is stored in SDWIS as TSAMAA MDL_Measure and MDL_Msr_Unit_Code.)
27.	B_DETECTION_LEVEL	If non-detector "less than Lab Reporting Level" - value supplied by Lab.
28.	B_DETECTION_LEVEL_UNIT_CODE	Lab Reporting Level unit of measure.
29.	B_CONCENTRATION	If detect, this is the concentration value of the result reported as a number.
30.	B_CONCENTRATION_UNIT_CODE	Unit of measure associated with the concentration value.
31.	B_REPORTED_MEASURE	If detect, this is the concentration value of the result; this field preserves precision.
32.	B_REPORTED_MEASURE_COUNT_ERROR	The counting error estimated by the lab due to some analytical anomaly - usually expressed as a value plus/minus the reported measure/unit of measure.
33.	B_RESULTS_TYPE	Used only in Sample Summary - list of possible types of Sample Summary results.
34.	B_COUNT_QUANTITY	Count of each type of result within the Sample Summary.
35.	B_MEASURE	Measure value that represents the result obtained from a sample analysis.
36.	B_MEASURE_UNIT_CODE	Unit of measure associated with the Measure.

20.0   STRUCTURE SET B_Site_Visit

20.1   B_Site_Visit File Layout

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
					B_SITE_VISIT
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - **Duplicate check for Site Visit is on the combination of field 1 (B_PWS_NUMBER), field 3 (B_VISIT_DATE), and field 4 (B_REASON_CODE)**. If B_VISIT_DATE is supplied for one record and not for another and B_PWS_NUMBER and B_REASON_CODE are the same, the software will *not* consider this a duplicate. However, if B_VISIT_DATE is left blank for both records or is valued the same for both, it will be a duplicate and the second one will be rejected. Note, however, that the combination of B_Water_System_Number, B_Visit_Date, B_Reason_Code may be repeated if there are additional, unique Parties Present (see fields 15, 16, 17, and 18 below) to link to the site visit.
2. *	B_STATUS	AN	1	10	MANDATORY
3.	B_VISIT_DATE	DT	8	11 - 18	CONDITIONALLY MANDATORY - Must be valued if field 2 (B_STATUS_CODE) = "C." If field 2 = "C," the date cannot be a future date. **Duplicate check for Site Visit is on the combination of field 1 (B_PWS_NUMBER), field 3 (B_VISIT_DATE), and field 4 (B_REASON_CODE)**. The combination of B_Water_System_Number, B_Visit_Date, B_Reason_Code may be repeated if there are additional, unique Parties_Present to link to the site visit (see fields 15, 16, 17, and 18).

B_SITE_VISIT					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
4. *	B_REASON_CODE	AN	4	19 - 22	MANDATORY - **Duplicate check for Site Visit is on the combination of field 1 (B_PWS_NUMBER), field 3 (B_VISIT_DATE), and field 4 (B_REASON_CODE)**. *If there is more than one reason the site visit was performed, enter the primary reason.* The combination of B_Water_System_Number, B_Visit_Date, B_Reason_Code may be repeated if there are additional, unique Parties_Present to link to the site visit (see fields 15, 16, 17, and 18).
5.	B_REG_AGENCY_NAME	AN	40	23 - 62	MANDATORY - Value supplied must be a valid government agency (Legal Entity type "GA"). Indicates the regulating agency represented by the person who conducted the site visit.
6. *	B_SAN_SURVEY_ELEMENT_ SOURCE	AN	1	63	OPTIONAL - According to EPA, as stated in the Interim Enhanced Surface Water Treatment Rule, "A sanitary survey must address each of the following eight elements: source; treatment; distribution system; finished water storage; pumps, pump facilities, and controls; monitoring and reporting and data verification; system management and operation; and operator compliance with State requirements." This represents one of those eight elements.
7. *	B_SAN_SURVEY_ELEMENT_ TREATMENT	AN	1	64	OPTIONAL - One of the eight elements that must be addressed in a sanitary survey according to EPA. This field can be valued for other than sanitary surveys as well.
8. *	B_SAN_SURVEY_ELEMENT_ DISTRIB_SYSTEM	AN	1	65	OPTIONAL - One of the eight elements that must be addressed in a sanitary survey according to EPA. This field can be valued for other than sanitary surveys as well.
9. *	B_SAN_SURVEY_ELEMENT_ FIN_WATER_STORAGE	AN	1	66	OPTIONAL - One of the eight elements that must be addressed in a sanitary survey according to EPA. This field can be valued for other than sanitary surveys as well.
10.*	B_SAN_SURVEY_ELEMENT_ PUMPS	AN	1	67	OPTIONAL - One of the eight elements that must be addressed in a sanitary survey according to EPA. This field can be valued for other than sanitary surveys as well.

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

				B_SITE_VISIT	
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
11.*	B_SAN_SURVEY_ELEMENT_ MR_AND_DV	AN	1	68	OPTIONAL - One of the eight elements that must be addressed in a sanitary survey according to EPA. This field can be valued for other than sanitary surveys as well.
12.*	B_SAN_SURVEY_ELEMENT_ MGT & OPS	AN	1	69	OPTIONAL - One of the eight elements that must be addressed in a sanitary survey according to EPA. This field can be valued for other than sanitary surveys as well.
13.*	B_SAN_SURVEY_ELEMENT_ OPERATOR_COMPLIANCE	AN	1	70	OPTIONAL - One of the eight elements that must be addressed in a sanitary survey according to EPA. This field can be valued for other than sanitary surveys as well.
14.*	B_SAN_SURVEY_ELEMENT_ OTHER	AN	1	71	OPTIONAL - Ninth element called "Other" for any additional element that might have been addressed during a sanitary survey or other site visit.
15.	B_PARTIES_PRESENT_LAST_ NAME	AN	20	72 - 91	CONDITIONALLY MANDATORY - If field 2 (B_STATUS_CODE) = "C," this field and field 16 (B_PARTIES_PRESENT_FIRST_NAME) must be valued and must be a valid individual in TININDIV. An Individual in Legal Entity is uniquely identified by Last Name, First Name, Organization Name, and Mail Stop. Therefore, you may also need to supply values in fields 17 and 18 to link to the desired individual. If field 16 is valued, this field must be valued. The combination of B_Water_System_Number, B_Visit_Date, B_Reason_Code may be repeated if there are additional, unique Parties Present to link to the site visit. If the same Parties Present is repeated (or is blank in two rows) *and* the combination of B_Water_System_Number, B_Visit_Date, B_Reason_Code, is repeated, the record constitutes a duplicate and will be rejected.
16.	B_PARTIES_PRESENT_FIRST_ NAME	AN	20	92 - 111	CONDITIONALLY MANDATORY - If field 15 is valued, this field must be valued and the combination of fields 15, 16, 17, and 18 must uniquely identify an Individual in Legal Entity.
17.	B_PARTIES_PRESENT ORGANIZATION_NAME	AN	30	112 - 141	OPTIONAL - The combination of fields 15, 16, 17, and 18 must uniquely identify an Individual in Legal Entity.

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published Structure Sets.

B_SITE_VISIT				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
18.	B_PARTIES_PRESENT MAIL_STOP_TEXT	AN	10	142 - 151	OPTIONAL - The combination of fields 15, 16, 17, and 18 must uniquely identify an Individual in Legal Entity.
19.	B_WS_NOTIFIED_DATE	DT	8	152 - 159	OPTIONAL
20.*	B_FREQUENCY_NUMBER	N	3	160 - 162	CONDITIONALLY MANDATORY - If field 21 is valued, this field must be valued. This field, combined with field 21 (B_FREQUENCY_PERIOD), is used to indicate the frequency at which this particular type of site visit is performed. This is especially useful for sanitary surveys that have to be done on a regular basis. For example, if you wanted to indicate that a sanitary survey is to be done every three years, you would supply "3" in the field and "YR" in field 21.
21.*	B_FREQUENCY_PERIOD	AN	2	163 - 164	CONDITIONALLY MANDATORY - If field 20 is valued, this field must be valued.
22.	B_NEXT_DUE_DATE	DT	8	165 - 172	OPTIONAL - If fields 3 (B_VISIT_DATE), 20 (B_FREQUENCY_NUMBER), and 21 (B_FREQUENCY_PERIOD) are valued and this field is blank, *Migration to SDWIS/STATE* will calculate this field.
23.	B_COMMENT_TEXT	Anmc	200	173 - 372	OPTIONAL

20.2   B_Site_Visit Permitted Value List

B_SITE_VISIT		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
2.	B_STATUS	**C** Completed **P** Planned
4.	B_REASON_CODE	**SNSV** Sanitary Survey **SSVF** Sanitary Survey Follow-up **SHAZ** Sanitary Hazards Investigation **TRTP** Water Treatment Plant Site Visit **TRNG** Training **LABC** Laboratory certification **EMRG** Emergency assistance **ENGR** Engineering determination/advice/plan review **INVG** Investigation (complaint/violation/etc.) **LABI** Laboratory inspection **INFI** Informal system inspection **OTHR** Other **PRMT** Permit (qualification/review/compliance) **RSCH** Regularly scheduled **SMPL** Sample collection **TECH** Technical assistance (non-specific) **VAEX** Variance/Exemption related **FENF** Formal Enforcement **IENF** Informal Enforcement **CPEV** Comprehensive Performance Evaluation (CPE)

* Designates field with permitted values.   + Shaded gray blocks designate changes to previously published Structure Sets.

	B_SITE_VISIT		
	B_REASON_CODE (cont.)	**CNST**	Construction Inspection
		OM	Operation and Maintenance
		NEED	Needs Survey
		RCDR	Record Review
		SITE	Site Inspection
		SRCE	Source Water Inspection
		LOCD	Locational Data Collection
		WHPP	Wellhead Protection Program
		SRF	State Revolving Fund
		CAPD	Capacity Development Assessment
		WSHD	Watershed Evaluation
		XCON	Cross Connection Inspection/Investigation
		PUBH	Public Hearing
6.	B_SAN_SURVEY_ELEMENT_SOURCE	**S**	Significant deficiency(ies)
		M	Minor deficiency(ies)
		R	Recommendation(s) made
		N	No deficiencies/recommendations
		X	Not evaluated
7.	B_SAN_SURVEY_ELEMENT_TREATMENT	**S**	Significant deficiency(ies)
		M	Minor deficiency(ies)
		R	Recommendation(s) made
		N	No deficiencies/recommendations
		X	Not evaluated

B_SITE_VISIT			
8.	B_SAN_SURVEY_ELEMENT_DISTRIB_SYSTEM	S	Significant deficiency(ies)
		M	Minor deficiency(ies)
		R	Recommendation(s) made
		N	No deficiencies/recommendations
		X	Not evaluated
9.	B_SAN_SURVEY_ELEMENT_FIN_WATER_STORAGE	S	Significant deficiency(ies)
		M	Minor deficiency(ies)
		R	Recommendation(s) made
		N	No deficiencies/recommendations
		X	Not evaluated
10.	B_SAN_SURVEY_ELEMENT_PUMPS	S	Significant deficiency(ies)
		M	Minor deficiency(ies)
		R	Recommendation(s) made
		N	No deficiencies/recommendations
		X	Not evaluated
11.	B_SAN_SURVEY_ELEMENT_MR_AND_DV	S	Significant deficiency(ies)
		M	Minor deficiency(ies)
		R	Recommendation(s) made
		N	No deficiencies/recommendations
		X	Not evaluated
12.	B_SAN_SURVEY_ELEMENT_MGT & OPS	S	Significant deficiency(ies)
		M	Minor deficiency(ies)
		R	Recommendation(s) made
		N	No deficiencies/recommendations
		X	Not evaluated
13.	B_SAN_SURVEY_ELEMENT_OPERATOR_COMPLIANCE	S	Significant deficiency(ies)

B_SITE_VISIT		
	M	Minor deficiency(ies)
	R	Recommendation(s) made
	N	No deficiencies/recommendations
	X	Not evaluated
14.	B_SAN_SURVEY_ELEMENT_OTHER	**S** Significant deficiency(ies)
		M Minor deficiency(ies)
		R Recommendation(s) made
		N No deficiencies/recommendations
		X Not evaluated
20.	B_FREQUENCY_NUMBER	**1 - 999**
21.	B_FREQUENCY_PERIOD	**DY** Day(s)
		WK Week(s)
		MN Month(s)
		YR Year(s)

20.3 B_Site_Visit Mapping to SDWIS/STATE Entities

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
		B_SITE_VISIT			
1.	B_Site_Visit	B_PWS_NUMBER	TINWSYS	Water System	NUMBER *(Foreign Key)*
2.	B_Site_Visit	B_STATUS	TINVISIT	Site Visit	STATUS_CODE
3.	B_Site_Visit	B_VISIT_DATE	TINVISIT	Site Visit	VISIT_DATE
4.	B_Site_Visit	B_REASON_CODE	TINVISIT	Site Visit	REASON_CODE
5.	B_Site_Visit	B_REG_AGENCY_NAME	TINLGENT	Legal Entity	NAME *(Foreign Key)*
6.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_SOURCE	TINVISIT	Site Visit	SS_EL_SOURCE
7.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_TREATMENT	TINVISIT	Site Visit	SS_EL_TREATMENT
8.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_DISTRIB_SYSTEM	TINVISIT	Site Visit	SS_EL_DISTRIB_SYS
9.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_FIN_WATER_STORAGE	TINVISIT	Site Visit	SS_EL_FIN_WTR_STRG
10.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_PUMPS	TINVISIT	Site Visit	SS_EL_PUMPS
11.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_MR_AND_DV	TINVISIT	Site Visit	SS_EL_MR_DV
12.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_MGT & OPS	TINVISIT	Site Visit	SS_EL_WS_MGT_OPS
13.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_OPERATOR_COMPLIANCE	TINVISIT	Site Visit	SS_EL_OP_COMP_EVAL
14.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_OTHER	TINVISIT	Site Visit	SS_EL_OTHER
15.	B_Site_Visit	B_PARTIES_PRESENT_LAST_NAME	TINLGENT	Legal Entity	NAME *(Foreign Key)*
16.	B_Site_Visit	B_PARTIES_PRESENT_FIRST_NAME	TINLGENT	Legal Entity	NAME *(Foreign Key)*
17.	B_Site_Visit	B_PARTIES_PRESENT ORGANIZATION_NAME	TINLGENT	Legal Entity	ORGANIZATION_NAME *(Foreign Key)*
18.	B_Site_Visit	B_PARTIES_PRESENT MAIL_STOP_TEXT	TINLGENT	Legal Entity	MAIL_STOP_TEXT *(Foreign Key)*
19.	B_Site_Visit	B_WS_NOTIFIED_DATE	TINVISIT	Site Visit	WATER_SYS_NOTIF_DT
20.	B_Site_Visit	B_FREQUENCY_NUMBER	TINVISIT	Site Visit	FREQUENCY_NUMBER

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

		B_SITE_VISIT			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
21.	B_Site_Visit	B_FREQUENCY_PERIOD	TINVISIT	Site Visit	FREQUENCY_PERIOD
22.	B_Site_Visit	B_NEXT_DUE_DATE	TINVISIT	Site Visit	NEXT_DUE_DATE
23.	B_Site_Visit	B_COMMENT_TEXT	TINVISIT	Site Visit	COMMENT_TEXT

* Designates field with permitted values.   A-237   + Shaded gray blocks designate changes to previously published Structure Sets.

20.4 B_Site_Visit Mapping to Staging Table Mapping

		B_SITE_VISIT		
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
1.	B_Site_Visit	B_PWS_NUMBER	TMGVISIT	B_PWS_NUMBER
2.	B_Site_Visit	B_STATUS	TMGVISIT	B_STATUS
3.	B_Site_Visit	B_VISIT_DATE	TMGVISIT	B_VISIT_DATE
4.	B_Site_Visit	B_REASON_CODE	TMGVISIT	B_REASON_CD
2.	B_Site_Visit	B_REG_AGENCY_NAME	TMGVISIT	B_REGULATING_AGNCY
3.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_SOURCE	TMGVISIT	B_SS_EL_SOURCE
4.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_TREATMENT	TMGVISIT	B_SS_EL_TREATMENT
5.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_DISTRIB_SYSTEM	TMGVISIT	B_SS_EL_DSTRIB_SYS
6.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_FIN_WATER_STORAGE	TMGVISIT	B_SS_EL_FIN_WTR_ST
7.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_PUMPS	TMGVISIT	B_SS_EL_PUMPS
8.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_MR_AND_DV	TMGVISIT	B_SS_EL_MR_DV
9.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_MGT & OPS	TMGVISIT	B_SS_EL_WS_MGT_OPS
10.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_OPERATOR_ COMPLIANCE	TMGVISIT	B_ SS_EL_OP_COMP_EV
11.	B_Site_Visit	B_SAN_SURVEY_ELEMENT_OTHER	TMGVISIT	B_SS_EL_OTHER
12.	B_Site_Visit	B_PARTIES_PRESENT_LAST_NAME	TMGVISIT	B_PP_LAST_NAME
13.	B_Site_Visit	B_PARTIES_PRESENT_FIRST_NAME	TMGVISIT	B_PP_FIRST_NAME
14.	B_Site_Visit	B_PARTIES_PRESENT ORGANIZATION_NAME	TMGVISIT	B_PP_ORG_NAME
15.	B_Site_Visit	B_PARTIES_PRESENT MAIL_STOP_TEXT	TMGVISIT	B_PP_MAIL_STP_TXT
16.	B_Site_Visit	B_WS_NOTIFIED_DATE	TMGVISIT	B_PWS_NOTIF_DT
17.	B_Site_Visit	B_FREQUENCY_NUMBER	TMGVISIT	B_FREQUENCY_NUMBER
18.	B_Site_Visit	B_FREQUENCY_PERIOD	TMGVISIT	B_FREQUENCY_PERIOD
19.	B_Site_Visit	B_NEXT_DUE_DATE	TMGVISIT	B_NEXT_DUE_DATE

* Designates field with permitted values.　　　　　　　　　　　　A-238　　　　　　　　　　+ Shaded gray blocks designate changes to previously published Structure Sets.

B_SITE_VISIT				
20.	B_Site_Visit	B_COMMENT_TEXT	TMGVISIT	B_COMMENT_TEXT

21.0   STRUCTURE SET B_Sampling_Plan

21.1   B_Sampling_Plan File Layout

B_SAMPLING_PLAN					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_RULE_ABBREVIATION), and field 3 (B_APPROVING_AGENCY) unless field 8 = Y.**
2. *	B_RULE_ABBREVIATION	AN	4	10 - 13	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_RULE_ABBREVIATION), and field 3 (B_APPROVING_AGENCY) unless field 8 = Y.**
3.	B_APPROVING_AGENCY	AN	40	14 - 53	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_RULE_ABBREVIATION), and field 3 (B_APPROVING_AGENCY) unless field 8 = Y.** Value supplied must be a valid government agency (Legal Entity type "GA").
4.	B_APPROVAL_DATE	DT	8	54 - 61	OPTIONAL - If a value is supplied in field 5 (B_EFFECTIVE_BEGIN_DATE), date value in this field must be on or prior to (equal or less than) date in field 5.
5.	B_EFFECTIVE_BEGIN_DATE	DT	8	62 - 69	OPTIONAL - If a value is supplied in field 6 (B_EFFECTIVE_END_DATE), date value in this field must be on or prior to (equal or less than) date in field 6.

	B_SAMPLING_PLAN				
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
6.	B_EFFECTIVE_END_DATE	DT	8	70 - 77	OPTIONAL - If a value is supplied in field 5 (B_EFFECTIVE_BEGIN_DATE), date value in this field must be on or after (equal or greater than) date in field 5.
7.	B_REMARKS_TEXT	ANmc	120	78 - 197	OPTIONAL
8. *	B_SAMPLE_POINTS_FOR_NONCOMP_IND	AN	1	198	OPTIONAL - Setting to "Y" indicates that one or more sampling points will be supplied that should be linked to the sampling plan. This field will only be recognized if the value is "Y."
9.	B_STATE_ASSIGNED_ID_CODE	AN	12	199 - 210	CONDITIONALLY MANDATORY - Must be valued if field 10 (B_SAMPLING_POINT_ID_CODE) is valued. Water system facility must belong to the Public Water System supplied in field 1 (B_PWS_NUMBER). The value in this field will only be recognized if field 10 (B_SAMPLING_POINT_ID_CODE) is valued.
10.	B_SAMPLING_POINT_ID_CODE	AN	11	211 - 221	CONDITIONALLY MANDATORY - Must be valued if field 8 (B_SAMPLE_POINTS_FOR_NONCOMP_IND) equals "Y." As many sampling points as desired may be linked to the sample plan. All sampling points supplied must be associated with the water system facility supplied in field 9 (B_STATE_ASSIGNED_ID_CODE). The value in this field will only be recognized if field 8 (B_SAMPLE_POINTS_FOR_NONCOMP_IND) = "Y."
11.*	B_PRIMARY_INDICATOR_CODE	AN	1	222	OPTIONAL - A Sampling PSTATE may have one or more Sampling Points denoted as "primary."

21.2   B_Sampling_Plan Permitted Value List

B_SAMPLING_PLAN		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
2.	B_RULE_ABBREVIATION	**TCR** Total Coliform **FL** Fluoride **PBCU** Lead and Copper **PH1** Phase 1 **PH2** Phase 2 **PH5** Phase 5 **RAD** Radionuclide **SEC** Secondary Contaminant **SWTR** Surface Water Treatment **THM** Total Trihalomethane **SUL** Sulfate **ESWT** Enhanced SWTR **IOC** Inorganic Chemical **PN** Public Notification **SMR** Special Monitoring **DBP1** Stage 1 Disinfectants & Disinfectant Byproducts **TURB** Turbidity Rule **ORG** Organic Chemical Rule **BACT** Bacteriological Rule **CCR** Consumer Confidence Reports **UNK** Unknown
8.	B_SAMPLE_POINTS_FOR_NONCOMP_IND	**Y** Yes
11.	B_PRIMARY_INDICATOR_CODE	**Y** Yes

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

21.3 B_Sampling_Plan Mapping to SDWIS/STATE Entities

			B_SAMPLING_PLAN		
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
1.	B_Sampling_Plan	B_PWS_NUMBER	TINWSYS	Water System	NUMBER *(Foreign Key)*
2.	B_Sampling_Plan	B_RULE_ABBREVIATION	TMNRULE	Rule	ABBREVIATION_TEXT *(Foreign Key)*
3.	B_Sampling_Plan	B_APPROVING_AGENCY	TINLGENT	Legal Entity	NAME *(Foreign Key)*
4.	B_Sampling_Plan	B_APPROVAL_DATE	TMNSAPLN	Sampling Plan	APPROVAL_DATE
5.	B_Sampling_Plan	B_BEGIN_DATE	TMNSAPLN	Sampling Plan	BEGIN_DATE
6.	B_Sampling_Plan	B_END_DATE	TMNSAPLN	Sampling Plan	END_DATE
7.	B_Sampling_Plan	B_REMARKS_TEXT	TMNSAPLN	Sampling Plan	REMARKS_TEXT
8.	B_Sampling_Plan	B_SAMPLE_POINTS_FOR_NONCOMP_IND	TMNSAPLN	Sampling Plan	SAMPLE_POINT_SCHEDULE_IND_CODE
9.	B_Sampling_Plan	B_STATE_ASSIGNED_ID_CODE	TINWSF	Water System Facility	STATE_ASSIGNED_ID_CODE *(Foreign Key)*
10.	B_Sampling_Plan	B_SAMPLE_POINT_IDENT_CODE	TSASMPPT	Sampling Point	IDENTIFICATION_CODE *(Foreign Key)*
11.	B_Sampling_Plan	B_PRIMARY_INDICATOR_CODE	TMNSPSPA	Sampling PSTATE Sampling Point Asgmt	PRIMARY_INDICATOR_CODE

* Designates field with permitted values.   A-242   + Shaded gray blocks designate changes to previously published Structure Sets.

21.4   B_Sampling_Plan Structure Set to Staging Table Mapping

		B_SAMPLING_PLAN		
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
1.	B_Sampling_Plan	B_PWS_NUMBER	TMGSMPLN	B_PWS_NUMBER
2.	B_Sampling_Plan	B_RULE_ABBREVIATION	TMGSMPLN	B_RULE_ABBREV
3.	B_Sampling_Plan	B_APPROVING_AGENCY	TMGSMPLN	B_APPROVING_AGENCY
4.	B_Sampling_Plan	B_APPROVAL_DATE	TMGSMPLN	B_APPROVAL_DATE
5.	B_Sampling_Plan	B_BEGIN_DATE	TMGSMPLN	B_EFFCT_BEGIN_DATE
6.	B_Sampling_Plan	B_END_DATE	TMGSMPLN	B_EFFCT_END_DATE
7.	B_Sampling_Plan	B_REMARKS_TEXT	TMGSMPLN	B_REMARKS_TEXT
8.	B_Sampling_Plan	B_SAMPLE_POINTS_FOR_NONCOMP_IND	TMGSMPLN	B_SMP_PNTS_NC_IND
9.	B_Sampling_Plan	B_STATE_ASSIGNED_ID_CODE	TMGSMPLN	B_ST_ASGN_ID_CD
10.	B_Sampling_Plan	B_SAMPLE_POINT_IDENT_CODE	TMGSMPLN	B_SMPLNG_PT_ID_CD
11.	B_Sampling_Plan	B_PRIMARY_INDICATOR_CODE	TMGSMPLN	B_PRIMARY_IND_CD

22.0 STRUCTURE SET B_Analyte_Group

22.1 B_Analyte_Group File Layout

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
B_ANALYTE_GROUP
1.	B_ANALYTE_GROUP_NAME	AN	20	1 - 20	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_ANALYTE_GROUP_NAME), field 2 (B_ANALYTE_GROUP_CODE), and field 3 (B_ANALYTE_CODE)**. Must be a unique name, *not a current analyte name*.
2.	B_ANALYTE_GROUP_CODE	AN	4	21 - 24	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_ANALYTE_GROUP_NAME), field 2 (B_ANALYTE_GROUP_CODE), and field 3 (B_ANALYTE_CODE)**. Cannot be an existing Analyte code (see permitted values in table below).
3. *	B_ANALYTE_CODE	AN	4	25 - 28	MANDATORY - **Uniqueness/Duplicate check is on the combination of field 1 (B_ANALYTE_GROUP_NAME), field 2 (B_ANALYTE_GROUP_CODE), and field 3 (B_ANALYTE_CODE)**. Must be a valid Federal analyte code from the permitted values in the table below or a state-owned analyte. A new row must be created for each analyte included in the group. The first two fields in the row will contain the same group name and group code. The final field will have the new analyte code. Analytes with a type code of "RL-Rule," "GC-Group Contaminant," or "OT-Other" may not be used when creating an analyte group (e.g., 0200, 0300, 0400, 1***, 2***, 2U15, 2U34, 2U36, 2V07, 2V08, 1999, 2999, 4999, 5000, and 7000).

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

22.2   B_Analyte_Group Permitted Value List

The current list of federally owned analytes is available in the SDWIS/STATE Online Data Dictionary, the online SDWIS/STATE *Administration* (Analyte Maintenance) component, and via RELATION.MDB.

22.3 B_Analyte_Group Mapping to SDWIS/STATE Entities

B_ANALYTE_GROUP					
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_Analyte_Group	B_ANALYTE_GROUP_NAME	TSAANGRP	Analyte Group	NAME
2.	B_Analyte_Group	B_ANALYTE_GROUP_CODE	TSAANGRP	Analyte Group	CODE
3.	B_Analyte_Group	B_ANALYTE_CODE	TSAANLYT TSAAGA	Analyte Analyte Group Assignment	CODE *(Foreign Key)*

22.4   B_Analyte_Group Structure Set to Staging Table Mapping

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
—		B_ANALYTE_GROUP		
1.	B_Analyte_Group	B_ANALYTE_GROUP_NAME	TMGANGRP	B_ANALYTE_GROUP_NM
2.	B_Analyte_Group	B_ANALYTE_GROUP_CODE	TMGANGRP	B_ANALYTE_GROUP_CD
3.	B_Analyte_Group	B_ANALYTE_CODE	TMGANGRP	B_ANALYTE_CODE

23.0 STRUCTURE SET B_Sample_Schedule (Non-TCR only)

This structure set has changed significantly since Release 7.0 and should be considered a new structure set. Any text files created for this structure using a release prior to SDWIS/STATE 8.0 should be reviewed for accuracy.

23.1 B_Sample_Schedule File Layout (Non-TCR only)

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_NON_TCR_SAMPLE_SCHEDULE				
1.	B_PWS_NUMBER	AN	9	1 - 9	**MANDATORY - Uniqueness/Overlap check for Routine schedules (RT) is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 5 (B_ANALYTE_CODE) or field 6 (B_ANALYTE_GROUP_CODE), field 8 (B_SAMPLE_RQT_TYPE), and the period of time defined by field 14 (B_EFFECTIVE_PERIOD_BEGIN_DATE), and field 15 (B_EFFECTIVE_PERIOD_END_DATE)**. There is no uniqueness/overlap check for non-Routine schedules. *See additional explanation at end of this file layout*.
2.	B_WSF_STATE_ASGN_ID	AN	12	10 - 21	**MANDATORY - Uniqueness/Overlap check for Routine schedules (RT) is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 5 (B_ANALYTE_CODE) or field 6 (B_ANALYTE_GROUP_CODE), field 8 (B_SAMPLE_RQT_TYPE), and the period of time defined by field 14 (B_EFFECTIVE_PERIOD_BEGIN_DATE), and field 15 (B_EFFECTIVE_PERIOD_END_DATE)**. There is no uniqueness/overlap check for non-Routine

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

	B_NON_TCR_SAMPLE_SCHEDULE				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					schedules. *See additional explanation at end of this file layout.* The schedule will be rejected if the STATE ASGN ID supplied does not exist for the supplied Water System.
3.	B_SUBSCHD_SAMPLING_POINT	AN	11	22 - 32	CONDITIONALLY MANDATORY - Must be supplied if field 4 (B_SUBSCHD_SAMPLES_REQD_COUNT) is valued and requires Field 30 (B_SUBSCHD_RECORD_INDICATOR) to be valued with Y. Associated sampling points must be for the Water System supplied in field 1 and the Water System Facility supplied in fields 2. If the referenced sampling point cannot be found in the database, the sample schedule will be rejected. The sample schedule or sample schedule group for which this subschedule is to be added must exist in TMNSASCH (if B_ANALYTE_CODE field 5 is valued) or TMNSSGRP (if B_ANALYTE_GROUP_CODE field 6 is valued). This could have occurred via online entry, a prior migration, or being migrated as a prior record in the same structure set containing the subschedule. Example: If a sample schedule containing 3 subschedules is to be migrated, there should exist 4 records in the structure set. The sample schedule should exist first with fields 3, 4, and 30 left void. This record should be followed by 3 records with data in each of fields 3, 4, and 30 along with

B_NON_TCR_SAMPLE_SCHEDULE					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					the data listed below used to identify the sample schedule match. The subschedule will be rejected if CDS setup has already run for the sample schedule and that sample schedule had existing subschedules at the time CDS setup was run. A Sampling Point cannot be associated more than once to the same Sample Schedule. If this occurs, that Sampling Point Subschedule will be rejected. For example, if B_SUBSCHD_SAMPLING_POINT for a given WSF valued, with WELL01 supplied, and the schedule has no other subschedules referencing a sampling point of this ID, the sampling point subschedule will be created. However, if a second record referencing the same schedule and for the same WSF and with B_SUBSCHD_SAMPLING_POINT valued with WELL01 supplied, the software will reject this additional Sampling Point Subschedule. You may associate more than one sampling point to a sample schedule. However, the sum of field 4 (B_SUBSCHD_SAMPLES_REQD_COUNT) for sampling points that reference the same sample schedule cannot be greater than the samples required count of the sample schedule found in TMNSASCH or TMNSSGRP. The row that violates this will be rejected. When adding sampling points for an existing schedule, the software will retrieve the sample schedule (or sample

	B_NON_TCR_SAMPLE_SCHEDULE				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					schedule group) based on the values in fields 1 (B_PWS_NUMBER), 2 (B_WSF_STATE_ASGN_ID), 5 (B_ANALYTE_CODE) or 6 (B_ANALYTE_GROUP_CODE), 8 (B_SAMPLE_RQT_TYPE), 14 (B_EFFECTIVE_PERIOD_BEGIN_DATE) and 15 (B_EFFECTIVE_PERIOD_END_DATE), 10 (B_START_MONTH), 11 (B_START_DAY), 12 (B_END_MONTH), 13 (B_END_DAY), 27 (B_MR_VIOLATION_TYPE), and 28 (B_MR_VIO_TYPE_IS_NUMBER). When one or more sampling points are associated to a schedule, CDS expects the number of samples indicated in field 4 to be collected at the supplied sampling point or will return a candidate M&R violation.
4.	B_SUBSCHD_SAMPLES_REQD_COUNT	N	4	33 - 36	CONDITIONALLY MANDATORY - Must be supplied if Field 3 (B_SUBSCHD_SAMPLING_POINT) is valued and field 30 (B_SUBSCHD_RECORD_INDICATOR) is valued.
5.*	B_ANALYTE_CODE	AN	4	37 - 40	CONDITIONALLY MANDATORY - Must be valued if field 6 (B_ANALYTE_GROUP_CODE) is not valued. **Uniqueness/Overlap check for Routine schedules is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 5 (B_ANALYTE_CODE) or field 6 (B_ANALYTE_GROUP_CODE), field 8 (B_SAMPLE_RQT_TYPE), and the period of time defined**

B_NON_TCR_SAMPLE_SCHEDULE					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					by field 14 (B_EFFECTIVE_PERIOD_BEGIN_DATE), and field 15 (B_EFFECTIVE_PERIOD_END_DATE) but only applies for B_SAMPLE_RQT_TYPE = RT. May not use an Analyte whose TYPE_CODE = RL (Rule), GC (Group Contaminant), or OT (Other). If CU90 or PB90 is supplied, the sample schedule will be rejected because SDWIS/STATE does not allow a monitoring requirement for these two analytes. For lead and copper tap schedules, specify 1022 or 1030 as the analyte. There is no uniqueness/overlap check for non-Routine schedules. *See additional explanation at end of this file layout*.
6.	B_ANALYTE_GROUP_CODE	AN	4	41 - 44	CONDITIONALLY MANDATORY - Must be valued if field 5 (B_ANALYTE_CODE) is not valued. When this field is valued, *Migration to SDWIS/STATE* will create a Schedule Group, a hidden schedule for each analyte in the group, and will link each of the schedules to the Schedule Group. **Uniqueness/Overlap check for Routine schedules is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_STATE_ASGN_IDENTIFICATION_CODE), field 5 (B_ANALYTE_CODE) or field 6 (B_ANALYTE_GROUP_CODE), field 8 (B_SAMPLE_RQT_TYPE), and the period of time defined by field 14 (B_EFFECTIVE_PERIOD_BEGIN_DATE), and field 15 (B_EFFECTIVE_PERIOD_END_DATE) but only applies for B_SAMPLE_RQT_TYPE = RT.** The schedule will be rejected if the Analyte Group supplied

	B_NON_TCR_SAMPLE_SCHEDULE				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					does not exist in the database. There is no uniqueness/overlap check for non-Routine schedules. *See additional explanation at end of this file layout.*
7.	B_SAMPLES_REQUIRED_COUNT	N	4	45 - 48	MANDATORY *See additional explanation at end of this file layout.*
8.*	B_SAMPLE_RQT_TYPE	AN	2	49 - 50	MANDATORY - **Uniqueness/Overlap check for Routine schedules is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 5 (B_ANALYTE_CODE) or field 6 (B_ANALYTE_GROUP_CODE), field 8 (B_SAMPLE_RQT_TYPE), and the period of time defined by field 14 (B_EFFECTIVE_PERIOD_BEGIN_DATE), and field 15 (B_EFFECTIVE PERIOD_END_DATE) but only applies for B_SAMPLE_RQT_TYPE = RT.** If value supplied is "CO" (Confirmation), then field 9 (B_SAMPLE_COUNT_UNIT_ CODE) must be "1T" (One Time). There is no uniqueness/overlap check for non-Routine schedules. *See additional explanation at end of this file layout.*
9. *	B_SAMPLE_COUNT_UNIT_CODE	AN	3	51 - 53	MANDATORY - Must be "1T" if field 8 (B_SAMPLE_RQT_TYPE) is "CO."
10.*	B_START_MONTH	N	2	54 - 55	OPTIONAL - If supplied, valid value must be supplied for field 11 (B_START_DAY), field 12 (B_END_MONTH), and field 13 (B_END_DAY). If one is supplied, the software will check for the other three; if one of the four is

B_NON_TCR_SAMPLE_SCHEDULE					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					missing, *Migration to SDWIS/STATE* will set the values for all four fields in the Sample Schedule table (TMNSASCH) to 0. If not supplied, CDS assumes the schedule is a year-round schedule, i.e., 1/1 to 12/31.
11.*	B_START_DAY B_START_DAY (cont.)	N	2	56 - 57	OPTIONAL - If supplied, valid value must be supplied for field 10 (B_START_MONTH), field 12 (B_END_MONTH), and field 13 (B_END_DAY). If one is supplied, the software will check for the other three; if one of the four is missing, *Migration to SDWIS/STATE* will set the values for all four fields in the Sample Schedule table (TMNSASCH) to 0. When migrating in additional sampling points for the schedule, if this was valued in the row for the main schedule, it needs to be valued the same for additional sampling points.
12.*	B_END_MONTH	N	2	58 - 59	OPTIONAL - If supplied, valid value must be supplied for field 10 (B_START_MONTH), field 11 (B_START_DAY), and field 13 (B_END_DAY). If one is supplied, the software will check for the other three; if one of the four is missing, *Migration to SDWIS/STATE* will set the values for all four fields in the Sample Schedule table (TMNSASCH) to 0. When migrating in additional sampling points for the schedule, if this was valued in the row for the main schedule, it needs to be valued the same for additional sampling points.

	B_NON_TCR_SAMPLE_SCHEDULE				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
13.*	B_END_DAY	N	2	60 - 61	OPTIONAL - If supplied, valid value must be supplied for field 10 (B_START_MONTH), field 11 (B_START_DAY), and field 12 (B_END_MONTH). If one is supplied, the software will check for the other three; if one of the four is missing, *Migration to SDWIS/STATE* will set the values for all four fields in the Sample Schedule table (TMNSASCH) to 0. When migrating in additional sampling points for the schedule, if this was valued in the row for the main schedule, it needs to be valued the same for additional sampling points.
14.	B_EFFECTIVE_PERIOD_BEGIN_DATE	DT	8	62 - 69	MANDATORY - Enter in this format: MMDDYYYY. **Uniqueness/Overlap check for Routine schedules is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 5 (B_ANALYTE_CODE) or field 6 (B_ANALYTE_GROUP_CODE), field 8 (B_SAMPLE_RQT_TYPE), and the period of time defined by field 14 (B_EFFECTIVE_PERIOD_BEGIN_DATE), and field 15 (B_EFFECTIVE_PERIOD_END_DATE) but only applies for B_SAMPLE_RQT_TYPE = RT.** There is no uniqueness/overlap check for non-Routine schedules. *See additional explanation at end of this file layout.*
15.	B_EFFECTIVE_PERIOD_END_DATE	DT	8	70 - 77	OPTIONAL - Enter in this format: MMDDYYYY. **Uniqueness/Overlap check for Routine schedules is on the**

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
B_NON_TCR_SAMPLE_SCHEDULE					
					combination of field 1 (B_PWS_NUMBER), field 2 (B_STATE_ASGN_IDENTIFCATION_CODE), field 5 (B_ANALYTE_CODE) or field 6 (B_ANALYTE_GROUP_CODE), field 8 (B_SAMPLE_RQT_TYPE), and the period of time defined by field 14 (B_EFFECTIVE_PERIOD_BEGIN_DATE), and field 15 (B_EFFECTIVE_PERIOD_END_DATE) but only applies for B_SAMPLE_RQT_TYPE = RT. There is no uniqueness/overlap check for non-Routine schedules. *See additional explanation at end of this file layout.*
16.	B_INIT_MONITORING_PRD_BEGIN_DATE	DT	8	78 - 85	OPTIONAL – However, must be valued according to directions in Note 5 (at the end of the File Layout) in order for the schedule to be processed by *CDS Setup*.
17.	B_WATER_SYSTEM_NOTIFIED_DATE	DT	8	86 - 93	OPTIONAL
18.*	B_STATE_START_MONTH	N	2	94 - 95	OPTIONAL - If supplied, valid value must be supplied for field 19 (B_STATE_START_DAY), field 20 (B_STATE_END_MONTH), and field 21 (B_STATE_END_DAY). If one is supplied, the software will check for the other three; if one of them is missing, *Migration to SDWIS/STATE* will set the values for all four fields in the Sample Schedule table (TMNSASCH) to 0.
19. *	B_STATE_START_DAY	N	2	96 - 97	OPTIONAL - If supplied, valid value must be supplied for field 18 (B_STATE_START_MONTH), field 20 (B_STATE_END_MONTH), and field 21 (B_STATE_END_DAY). If one is supplied, the software will check for the other three; if one of them is missing,

B_NON_TCR_SAMPLE_SCHEDULE
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
					Migration to SDWIS/STATE will set the values for all four fields in the Sample Schedule table (TMNSASCH) to 0.
20. *	B_STATE_END_MONTH	N	2	98 - 99	OPTIONAL - If supplied, valid value must be supplied for field 18 (B_STATE_START_MONTH), field 19 (B_STATE_START_DAY), and field 21 (B_STATE_END_DAY). If one is supplied, the software will check for the other three; if one of them is missing, *Migration to SDWIS/STATE* will set the values for all four fields in the Sample Schedule table (TMNSASCH) to 0.
21. *	B_STATE_END_DAY	N	2	100 - 101	OPTIONAL - If supplied, valid value must be supplied for field 18 (B_STATE_START_MONTH), field 19 (B_STATE_START_DAY), and field 20 (B_STATE_END_MONTH). If one is supplied, the software will check for the other three; if one of them is missing, *Migration to SDWIS/STATE* will set the values for all four fields in the Sample Schedule table (TMNSASCH) to 0.
22. *	B_STATE_SEQUENCE_YEAR	N	1	102	OPTIONAL
23.	B_REASON_TEXT	ANmc	200	103 - 302	OPTIONAL
24.	B_LAB_SAMPLE_NUMBER	AN	20	303 - 322	OPTIONAL - This field, combined with field 25 (B_COLLECTION_DATE) allows designation of a Confirmation Schedule's Originating Sample Result. If field 8 (B_SAMPLE_RQT_TYPE) = CO, and the valid/appropriate Originating Sample Result that precipitated it is not supplied, CDS will not be able to determine M&R compliance for this confirmation sample schedule. The schedule will, however, be created.

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

B_NON_TCR_SAMPLE_SCHEDULE					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					If supplied, field 25 (B_COLLECTION_DATE) must also be supplied in order for the sample result to be retrieved. The schedule will be flagged if field 24, 25 or both are not supplied as well as if both are supplied, but a sample result matching the supplied criteria cannot be retrieved. The sample result supplied will be checked at two levels: C First, sample must match supplied B_LAB_SAMPLE_NUMBER and B_COLLECTION_DATE and be for same supplied B_PWS_NUMBER and result must be for supplied B_ANALYTE_CODE. If no match, the MTS software will designate new Change Code error 845. *See information in item #7 at the end of this File Layout for text of new error message*. C Secondary check is the following: Sample must be routine (RT), not rejected (Sample Rejection Reason not valued), be associated to a sampling point that belongs to same Water System Facility as supplied in field 2 (B_WSF_STATE_ASGN_ID), and where Sample Collection End Dates is < Schedule Effective Begin Date and Result is not already associated to a Confirmation sample schedule. If sample/result does not meet this secondary check, the association will be made, but will designate the new Change Code error 846. *See information in item #7 at the end of this File Layout for text of new error message*. This field will only be recognized if field 8 (B_SAMPLE_RQT_TYPE) is equal to CO.

	B_NON_TCR_SAMPLE_SCHEDULE				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
25.	B_COLLECTION_DATE	DT	8	323 - 330	OPTIONAL - This field, combined with field 24 (B_LAB_SAMPLE_NUMBER) allows designation of a Confirmation Schedule's Originating Sample Result. B_SAMPLE_RQT_TYPE is equal to CO. *See information in item #7 at the end of this File Layout for text of new error message. Error message 847 may also apply to this field if the date supplied is not a valid date.* This field will only be recognized if field 8 (B_SAMPLE_RQT_TYPE) is equal to CO.
26. *	B_EXCEPTION_SCHEDULE	AN	1	331	OPTIONAL - If valued, field 5 (B_ANALYTE_CODE) must be valued and field 8 (B_SAMPLE_RQT_TYPE) must equal RT. If valued and field 5 (B_ANALYTE_CODE) is not valued, schedule will be rejected. If valued and field 8 (B_SAMPLE_RQT_TYPE) is not equal to RT, the schedule will be rejected. If valued and no existing, corresponding hidden schedule is found (see note below), the schedule will be rejected. If valued and field 5 (B_ANALYTE_CODE) is equal to 3100, schedule will be rejected.
	B_EXCEPTION_SCHEDULE (cont.)				If a schedule is marked as an Exception Schedule, the MTS software will close the hidden schedule that is for the same Water System Facility, Analyte, Sample Type and overlaps the Effective Period of the Exception Schedule. The software will close the hidden schedule one day before the Effective Begin Date of the Exception Schedule. *Note: The software looks for a hidden schedule with a Begin*

	B_NON_TCR_SAMPLE_SCHEDULE				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					Date that is on or before the Exception Schedule's B_EFFECTIVE_PERIOD_BEGIN_DATE. If a hidden schedule is not found, the exception schedule record is rejected.
27. *	B_M&R_VIOLATION_TYPE	AN	2	332 - 333	OPTIONAL - Must be valued in order for CDS to calculate Monitoring compliance. CDS uses this to determine the appropriate process to use to determine compliance with the sample schedule as well as to determine the appropriate violation type for any resulting candidate violations. When migrating in additional sampling points for the schedule, if this was valued in the row for the main schedule, it needs to be valued the same for additional sampling points.
28. *	B_M&R_VIO_TYPE_IS_NUMBER	N	7	334 - 340	OPTIONAL - Must value if Violation Type in field 28 appears more than once in the TMNVTYPE table (e.g., 27, 41). If this field is not valued and Violation Type in field 28 appears more than once in the TMNVTYPE table, the software will select the first Violation Type of the number supplied (which may not be the desired one). When migrating in additional sampling points for the schedule, if this was valued in the row for the main schedule, it needs to be valued the same for additional sampling points.
29. *	B_MONITORING_ASSESSMENT_STATUS	AN	1	341	OPTIONAL - User may specify the monitoring assessment flag for the schedule. *CDS Setup* will determine the value for this field once it has processed the schedule.
30 *	B_SUBSCHD_RECORD_INDICATOR	AN	1	342	CONDITIONALLY MANDATORY - Required to be set to Y if this is a subschedule record and fields 3 and 4

B_NON_TCR_SAMPLE_SCHEDULE					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					(B_SUBSCHD_SAMPLING_POINT AND B_SUBSCHD_SAMPLES_REQD_COUNT) are populated. See optionality associated with field 3 for thorough processing rules.

1. The routine overlap check (only for Sample Type RT) will involve two parts:

   C One for individual Sample Schedules (associated to a single analyte and not associated to a Schedule Group) to make sure that there is no existing routine sample schedule for the same water system, the same water system facility, and for the same analyte, with at least a day of overlap in the Effective Periods and at least a day of overlap in the Seasonal Collection Periods.

   C A second for Schedule Groups (associated with an Analyte Group) to make sure that for each analyte in the group, there is no existing routine sample schedule for the same water system, the same water system facility, and for the same analyte, with at least a day of overlap in the Effective Periods and at least a day of overlap in the Seasonal Collection Periods. If for any one analyte in the group, a Sample Schedule is found to overlap, then the Sample Schedule Group is deemed overlapping.

   If the overlap check determines an overlap, the schedule will be rejected.

2. The Non-TCR Sample Schedule *Migration to SDWIS/STATE* module creates a monitoring requirement when the monitoring requirement referenced in the Non-TCR Schedule structure set file does not exist in the database.

3. When an Analyte Group is supplied for the non-TCR sample schedule, a Schedule Group is created, a hidden schedule for each analyte in the group is created, and each of the hidden schedules is linked to the Schedule Group. (This functionality is the same as that of the B_Violation structure set where a violation is created to reference each analyte in the analyte group as well as the violation group that references the analyte group.)

4. Routine (RT) sample schedules of periodicity of 1T (One Time), HR (hourly), DL (daily) can be created, but these schedules will not be evaluated by *CDS Setup*. (These Monitoring Requirement duration types have no date edit check in Monitoring Requirement Maintenance except the check that the begin date is less than the end date).

5. Field 16 (B_INIT_MONITORING_PRD_BEGIN_DAT) is an optional field to indicate to the *CDS Setup* program the begin date of the first monitoring period for which this schedule would be effective. *While this field is considered optional, and the user can create a schedule without valuing it, any schedule that does not have this field valued cannot be used in CDS processing.* *CDS Setup* will use this date to create an association between the schedule and the first monitoring period whose Begin Date is on or after the schedule's Initial Monitoring Period Begin Date and whose Duration is the same as the Sample Schedules' Periodicity. *CDS Setup* would then create associations between the schedule and all monitoring periods of the same duration that arithmetically follow the first monitoring period. Arithmetical sequence in this case can best be described by the following example. If a quarterly schedule has an Initial Monitoring Period Begin Date of 10/1/1999, *CDS Setup* would first search for a quarterly monitoring period whose Begin Date is 10/1/1999. If none exists, the software would search for the next monitoring period in arithmetic sequence that would be a quarterly monitoring period whose begin date is equal to the Initial Monitoring Period Begin Date plus the days of the schedule's duration plus 1. In this case, it would look for a quarterly monitoring period whose Begin Date is 1/1/2000. A quarterly monitoring period whose Begin Date is 11/1/1999, for example, would not qualify because it would precede the arithmetically sequential monitoring period begin date of 1/1/2000.

6. If a user intends to migrate in exception schedules (a schedule for a single analyte that is different than the schedule for the other analytes in the analyte group), the user must first migrate in the corresponding schedule for the analyte group in a separate execution so that the MTS software can properly close out the hidden schedule for the same analyte, sampling point, sample type, and effective period.

7. If supplied schedule is type "CO," and values supplied in fields 24 and 25 do not allow software to retrieve a sample that matches supplied (B_LAB_SAMPLE_NUMBER and B_COLLECTION_DATE and is for same supplied B_PWS_NUMBER, and result is for supplied B_ANALYTE_CODE), *Migration to SDWIS/STATE* will use new Change Code Message 845: "MIGR FLAG: The Sample Result supplied to be linked to the supplied Confirmation Non-TCR Schedule does not meet the basic criteria (sample must match supplied B_LAB_SAMPLE_NUMBER and B_COLLECTION_DATE and be for same supplied B_PWS_NUMBER and result must be for supplied B_ANALYTE_CODE). Therefore, while the confirmation schedule was created, the absence of the precipitating Originating Sample Result will prevent CDS processes from determining M&R compliance for this confirmation sample schedule."

If supplied schedule is type "CO," and value supplied in field 25 (B_COLLECTION_DATE) is not a valid date, software will not be able to retrieve a valid result. *Migration to SDWIS/STATE* will use new Change Code Message 847: "DESC: MIGR FLAG: The Collection Date supplied (B_COLLECTION_DATE) was not a valid date and therefore could not be used to retrieve a Sample Result for purposes of linking it to the supplied Confirmation Non-TCR Schedule. (The sample must match the supplied B_LAB_SAMPLE_NUMBER and B_COLLECTION_DATE and be for the same supplied B_PWS_NUMBER, and the result must be for supplied B_ANALYTE_CODE). Therefore, while the confirmation schedule was created, the absence of information to retrieve the precipitating Originating Sample Result will prevent CDS processes from determining M&R compliance for this confirmation sample schedule."

If supplied schedule is type "CO," and sample result supplied passes above edit check but does not pass secondary edit check described in field 23, *Migration to SDWIS/STATE* will use new Change Code Message 846 "MIGR FLAG: The Sample Result supplied to be linked to the supplied Confirmation Non-TCR Schedule was linked, but it did not meet the following criteria: 'Sample must be routine (RT), not rejected (Sample Rejection Reason not valued), be associated to a sampling point that belongs to same Water System Facility as supplied in field 2 (B_STATE_ASGN_IDENTIFICATION_ CODE), have a Sample Collection End Date that is < Schedule Effective Begin Date, and the analytical result is not already associated to a Confirmation sample schedule.'"

8. This structure set creates Monitoring Requirements based on the data supplied in fields 5/6, 7, 8, 9, 27, and 28 if the Monitoring Requirement referenced does not exist in the database. The uniqueness criteria for monitoring requirements is based on the combination of field 5 or field 6 and field 7 and field 8 and field 9 and field 27 and field 28.

23.2 B_Sample_Schedule Permitted Value List (Non-TCR only)

B_NON_TCR_SAMPLE_SCHEDULE		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
5.	B_ANALYTE_CODE	All analytes in the SDWIS/STATE Analyte table (TSAANLYT) are permitted values except those records with a TYPE_CODE = RL (Rule), GC (Group Contaminant), or OT (Other). The current list of federally owned analytes is available in the SDWIS/STATE Online Data Dictionary, the online SDWIS/STATE *Administration* (Analyte Maintenance) component, and via RELATION.MDB.
8.	B_SAMPLE_RQT_TYPE	**CO** Confirmation - sample taken to confirm a previous sample analytical result. The sample is taken at the same location as the earlier sample. **RT** Routine - A regularly scheduled sample which is collected to satisfy a monitoring requirement. **SP** Special - Sample collected for purposes other than compliance determination or to satisfy a monitoring requirement. **OT** Other
9.	B_SAMPLE_COUNT_UNIT_CODE	**1T** One Time **2Y** Every 2 years **3Y** Every 3 years **4H** Every 4 hours **4Y** Every 4 years **5Y** Every 5 years **6Y** Every 6 years **6M** Every 6 months **7Y** Every 7 years **8Y** Every 8 years **9Y** Every 9 years **10Y** Every 10 years **DL** Daily

* Designates field with permitted values.   A-265   + Shaded gray blocks designate changes to previously published Structure Sets.

B_NON_TCR_SAMPLE_SCHEDULE
FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
---	---	---
		HR Hourly **MN** Monthly **QT** Quarterly **WK** Weekly **YR** Yearly **2W** Every 2 weeks
10.	B_START_MONTH	1 - 12 (1 is understood to mean January; 12 is understood to mean December.)
11.	B_START_DAY	1 - 31 (Day must be valid for Start Month. Edit check limits to actual number of days for a given month; for example, this field may not contain "31" if Start Month is "2.")
12.	B_END_MONTH	1 - 12 (1 is understood to mean January; 12 is understood to mean December.)
13.	B_END_DAY	1 - 31 (Day must be valid for End Month. Edit check limits to actual number of days for a given month; for example, this field may not contain "31" if Start Month is "2.")
18.	B_STATE_START_MONTH	1 - 12 (1 is understood to mean January; 12 is understood to mean December.)
19.	B_STATE_START_DAY	1 - 31 (Day must be valid for Start Month. Edit check limits to actual number of days for a given month; for example, this field may not contain "31" if Start Month is "2.")
20.	B_STATE_END_MONTH	1 - 12 (1 is understood to mean January; 12 is understood to mean December.)
21.	B_STATE_END_DAY	1 - 31 (Day must be valid for End Month; for example, this field may not contain "31" if End Month is "2.")
22.	B_STATE_SEQUENCE_YEAR	0 - 9
26.	B_EXCEPTION_SCHEDULE	Y
27 and 28.	B_M&R_VIOLATION_TYPE	Violations in the SDWIS/STATE violation type table (TMNVTYPE) where St_Code = HQ (i.e., federally owned) of violation Category of Monitoring (MON) whose Severity level is either null or Major (MJ) except Violation Types 23 and 25 and all state-owned violations are permitted values. The current list of federally owned violations is available in the SDWIS/STATE Online Data Dictionary, the online SDWIS/STATE *Administration* (Violation Maintenance) component, and via RELATION.MDB. The following is a list of applicable

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

B_NON_TCR_SAMPLE_SCHEDULE		
FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
		Federal violations: **03** Monitoring, Routine Major **04** Monitoring, Confirmation/Check Major **11** Max Res Disinfect Lvl (MRDL) Monitoring (only appropriate for a schedule to collect additional samples the day following a chlorine dioxide MRDL exceedance.) **27** Monitoring (DBP) **27** Monitoring (DBP) **27** Monitoring (DBP) **29** INDI Filter Triggered Report (IESWTR) **31** Monitoring Rtn/Rpt Major (SWTR-UNFILT) **36** Monitoring Rtn/Rpt Major (SWTR-FILTER) **38** Monitoring Routine (IESWTR), Major **49** Failure to Submit Plant Schematic (FBR) **51** Initial Tap Sampling (PB/CU) **52** Follow-Up or Routine Tap M/R (PB/CU) **53** Water Quality Parameter M&R **56** Initial/Rtn/Repeat SRC WTR M/R
29.	B_MONITORING_ASSESSMENT_STATUS	**I** Increase **D** Decrease **S** Same (no change) **X** Do Not Reassess **A** Reassess if new data
30.	B_SUBSCHD_RECORD_INDICATOR	**Y** Yes, this is a subschedule record

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

23.3 B_Sample_Schedule Mapping to SDWIS/STATE Entities (Non-TCR only)

B_NON_TCR_SAMPLE_SCHEDULE
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
1.	B_Sample_Schedule	B_PWS_NUMBER	TINWSYS	Water System	PWS_NUMBER *(Foreign Key)*
2.	B_Sample_Schedule	B_WSF_STATE_ASGN_ID	TINWSF	Water System Facility	WSF_STATE_ASGN_ID_CODE *(Foreign Key)*
3.	B_Sample_Schedule	B_SUBSCH_SAMPLING_POINT	TSASMPPT	Sampling Point	SAMPLING_POINT_SUBSCHEDULE *(Foreign Key)*
4.	B_Sample_Schedule	B_SUBSCHD_SAMPLES_REQD_COUNT	TMNSPSUB TMNSPSGS	Sampling Point Subschedule Sampling Pt Sched Grp Subsched	SP_SUBSCHED_SUBCOUNT SP_SUBSCHED_SUBCOUNT
5.	B_Sample_Schedule	B_ANALYTE_CODE	TSAANLYT	Analyte	ANALYTE_CODE *(Foreign Key)*
6.	B_Sample_Schedule	B_ANALYTE_GROUP_CODE	TSAANGRP	Analyte Group	ANALYTE_GROUP_CODE *(Foreign Key)*
7.	B_Sample_Schedule	B_SAMPLES_REQUIRED_COUNT	TMNMNR	Monitoring Requirement	SAMPLES_REQUIRED_COUNT
8.	B_Sample_Schedule	B_SAMPLE_RQT_TYPE	TMNMNR	Monitoring Requirement	SAMPLE_RQT_TYPE
9.	B_Sample_Schedule	B_SAMPLE_COUNT_UNIT_CODE	TMNMNR	Monitoring Requirement	SAMPLE_COUNT_UNIT_CODE
10.	B_Sample_Schedule	B_START_MONTH	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	START_MONTH
11.	B_Sample_Schedule	B_START_DAY	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	START_DAY

	B_NON_TCR_SAMPLE_SCHEDULE				
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
12.	B_Sample_Schedule	B_END_MONTH	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	END_MONTH
13 .	B_Sample_Schedule	B_END_DAY	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	END_DAY
14.	B_Sample_Schedule	B_EFFECTIVE_PERIOD_BEGIN_DATE	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	EFFECTIVE_PERIOD_BEGIN_DATE
15.	B_Sample_Schedule	B_EFFECTIVE_PERIOD_END_DATE	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	EFFECTIVE_PERIOD_END_DATE
16.	B_Sample_Schedule	B_INIT_MONITORING_PRD_BEGIN_DATE	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	INIT_MONITORING_PRD_BEGIN_DATE
17.	B_Sample_Schedule	B_WATER_SYSTEM_NOTIFIED_DATE	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	WATER_SYSTEM_NOTIFIED_DATE
18.	B_Sample_Schedule	B_STATE_START_MONTH	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	STATE_START_MONTH
19.	B_Sample_Schedule	B_STATE_START_DAY	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	STATE_START_DAY
20.	B_Sample_Schedule	B_STATE_END_MONTH	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	STATE_END_MONTH
21.	B_Sample_Schedule	B_STATE_END_DAY	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	STATE_END_DAY
22.	B_Sample_Schedule	B_STATE_SEQUENCE_YEAR	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	STATE_SEQUENCE_YEAR
23.	B_Sample_Schedule	B_REASON_TEXT	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	REASON_TEXT
24.	B_Sample_Schedule	B_LAB_SAMPLE_NUMBER	TSASAMPL	SBS Sample	LAB_SAMPLE_NUMBER
25.	B_Sample_Schedule	B_COLLECTION_DATE	TSASAMPL	SBS Sample	SAMPLE_COLLECTION_DATE

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

		B_NON_TCR_SAMPLE_SCHEDULE			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
26.	B_Sample_Schedule	B_EXCEPTION_SCHEDULE	This value is not stored directly, but a record is created in the TMNXANLT table if valued.	This value is not stored directly, but a record is created in the EXCEPTION ANALYTE entity if valued.	This value is not stored directly. EXCEPTION_SCHEDULE_INDICATOR
27.	B_Sample_Schedule	B_M&R_VIOLATION_TYPE	TMNVTYPE	Violation Type	MR_VIOLATION_TYPE (*Foreign Key*)
28.	B_Sample_Schedule	B_M&R_VIO_TYPE_IS_NUMBER	TMNVTYPE	Violation Type	MR_VIO_TYP_IS_NUMBER (*Foreign Key*)
29.	B_Sample_Schedule	B_MONITORING_ASSESSMENT_STATUS	TMNSASCH	Sample Schedule	MONITORING_ASSESSMENT_STATUS
30.	B_Sample_Schedule	B_SUBSCHD_RECORD_INDICATOR	This value is not stored directly but is used to identify a subschedule record for accurate processing.	None	This value is not stored.

23.4   B_Sample_Schedule Structure Set to Staging Table Mapping (Non-TCR only)

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
		B_NON_TCR_SAMPLE_SCHEDULE		
1.	B_Sample_Schedule	B_PWS_NUMBER	TMGSSKED	B_PWS_NUMBER
2.	B_Sample_Schedule	B_WSF_STATE_ASGN_ID	TMGSSKED	B_WSF_STAT_ASGN_ID
3.	B_Sample_Schedule	B_SUBSCH_SAMPLING_POINT	TMGSSKED	B_SUBSCHED_SMP_PT
4.	B_Sample_Schedule	B_SUBSCHD_SAMPLES_REQD_COUNT	TMGSSKED	B_SUBSCHD_REQD_CNT
5.	B_Sample_Schedule	B_ANALYTE_CODE	TMGSSKED	B_ANALYTE_CD
6.	B_Sample_Schedule	B_ANALYTE_GROUP_CODE	TMGSSKED	B_ANALYTE_GROUP_CD
7.	B_Sample_Schedule	B_SAMPLES_REQUIRED_COUNT	TMGSSKED	B_SAMP_RQD_CNT
8.	B_Sample_Schedule	B_SAMPLE_RQT_TYPE	TMGSSKED	B_SAMP_RQT_TYP
9.	B_Sample_Schedule	B_SAMPLE_COUNT_UNIT_CODE	TMGSSKED	B_SAMP_CNT_UNIT_CD
10.	B_Sample_Schedule	B_START_MONTH	TMGSSKED	B_START_MONTH
11.	B_Sample_Schedule	B_START_DAY	TMGSSKED	B_START_DAY
12.	B_Sample_Schedule	B_END_MONTH	TMGSSKED	B_END_MONTH
13.	B_Sample_Schedule	B_END_DAY	TMGSSKED	B_END_DAY
14.	B_Sample_Schedule	B_EFFECTIVE_PERIOD_BEGIN_DATE	TMGSSKED	B_EFCT_PER_BEG_DAT
15.	B_Sample_Schedule	B_EFFECTIVE_PERIOD_END_DATE	TMGSSKED	B_EFCT_PER_END_DAT
16.	B_Sample_Schedule	B_INIT_MONITORING_PRD_BEGIN_DATE	TMGSSKED	B_INIT_MP_BEG_DAT
17.	B_Sample_Schedule	B_WATER_SYSTEM_NOTIFIED_DATE	TMGSSKED	B_PWS_NOTIFIED_DAT
18.	B_Sample_Schedule	B_STATE_START_MONTH	TMGSSKED	B_ST_START_MONTH

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

		B_NON_TCR_SAMPLE_SCHEDULE		
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
19.	B_Sample_Schedule	B_STATE_START_DAY	TMGSSKED	B_ST_START_DAY
20.	B_Sample_Schedule	B_STATE_END_MONTH	TMGSSKED	B_ST_END_MONTH
21.	B_Sample_Schedule	B_STATE_END_DAY	TMGSSKED	B_ST_END_DAY
22.	B_Sample_Schedule	B_STATE_SEQUENCE_YEAR	TMGSSKED	B_STATE_SEQUENC_YR
23.	B_Sample_Schedule	B_REASON_TEXT	TMGSSKED	B_REASON_TXT
24.	B_Sample_Schedule	B_LAB_SAMPLE_NUMBER	TMGSSKED	B_LAB_SAMPLE_NUM
25.	B_Sample_Schedule	B_COLLECTION_DATE	TMGSSKED	B_SAMP_COLLECT_DAT
26.	B_Sample_Schedule	B_EXCEPTION_SCHEDULE	TMGSSKED	B_EXCEPT_SCHED_IND
27.	B_Sample_Schedule	B_M&R_VIOLATION_TYPE	TMGSSKED	B_MR_VIO_TYPE
28.	B_Sample_Schedule	B_M&R_VIO_TYPE_IS_NUMBER	TMGSSKED	B_MR_VIOTYP_IS_NO
29.	B_Sample_Schedule	B_MONITORING_ASSESSMENT_STATUS	TMGSSKED	B_MON_ASSES_STATUS
30.	B_Sample_Schedule	B_SUBSCHD_RECORD_INDICATOR	TMGSSKED	B_SUBSCHD_REC_IND

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published Structure Sets.

24.0 STRUCTURE SET B_Package_Schedule (Non-TCR only)

This structure set is new for Release 8.0. It is used to migrate package schedules into SDWIS/STATE.

24.1 B_Package_Schedule File Layout (Non-TCR only)

	B_PACKAGE_SCHEDULE (NON-TCR ONLY)				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY
2.	B_WSF_STATE_ASGN_ID	AN	12	10 - 21	MANDATORY
3.*	B_PRINCIPAL_ANALYTE_CODE	AN	4	22 - 25	CONDITIONALLY MANDATORY - Must be valued if field 4 (B_PRINCIPAL_ANALYTE_GRP_CODE) is not valued.
4.	B_PRINCIPAL_ANALYTE_GRP_CODE	AN	4	26 - 29	CONDITIONALLY MANDATORY - Must be valued if field 3 (B_PRINCIPAL_ANALYTE_CODE) is not valued. When this field is valued, *Migration to SDWIS/STATE* will look for a Schedule Group.
5.	B_PRINCIPAL_SAMPLES_REQD_CNT	N	4	30 - 33	MANDATORY
6.	B_PRINCIPAL_SAMPLE_RQT_TYPE	AN	2	34 - 35	MANDATORY
7.	B_PRINCIPAL_START_MONTH	N	2	36 - 37	OPTIONAL - If supplied, valid value must be supplied for field 8 (B_PRINCIPAL_START_DAY), field 9 (B_PRINCIPAL_END_MONTH), and field 10 (B_PRINCIPAL_END_DAY). If one is supplied, the software will check for the other three; if one of the four is missing, *Migration to SDWIS/STATE* will reject the package schedule record. If not supplied, it will be assumed to be a year round schedule of 1/1-12/31.
8.	B_PRINCIPAL_START_DAY	N	2	38 - 39	OPTIONAL - If supplied, valid value must be supplied for

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_PACKAGE_SCHEDULE (NON-TCR ONLY)				
					field 7 (B_PRINCIPAL_START_MONTH), field 9 (B_PRINCIPAL_END_MONTH), and field 10 (B_PRINCIPAL_END_DAY). If one is supplied, the software will check for the other three; if one of the four is missing, *Migration to SDWIS/STATE* will reject the package schedule record.
9.	B_PRINCIPAL_END_MONTH	N	2	40 - 41	OPTIONAL - If supplied, valid value must be supplied for field 7 (B_PRINCIPAL_START_MONTH), field 8 (B_PRINCIPAL_START_DAY), and field 10 (B_PRINCIPAL_END_DAY). If one is supplied, the software will check for the other three; if one of the four is missing, *Migration to SDWIS/STATE* will reject the package schedule record.
10.	B_PRINCIPAL_END_DAY	N	2	42 - 43	OPTIONAL - If supplied, valid value must be supplied for field 7 (B_PRINCIPAL_START_MONTH), field 8 (B_PRINCIPAL_START_DAY), and field 9 (B_PRINCIPAL_END_MONTH). If one is supplied, the software will check for the other three; if one of the four is missing, *Migration to SDWIS/STATE* will reject the package schedule record.
11.	B_PRINCIPAL_EFF_PRD_BEGIN_DATE	DT	8	44 - 51	MANDATORY - Enter in this format: MMDDYYYY.
12.	B_SUPPORTING_ANALYTE_CODE	AN	4	52 - 55	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_SUPPORTING_ANALYTE_GRP_CODE) is not valued.
13.	B_SUPPORTING_ANALYTE_GRP_CODE	AN	4	56 - 59	CONDITIONALLY MANDATORY - Must be valued if field 12 (B_SUPPORTING_ANALYTE_CODE) is not valued. When this field is valued, *Migration to*

	B_PACKAGE_SCHEDULE (NON-TCR ONLY)				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					SDWIS/STATE will look for a Schedule Group.
14.	B_SUPPORTING_SAMPLES_REQD_CNT	N	4	60 - 63	MANDATORY
15.	B_SUPPORTING_SAMPLE_RQT_TYPE	AN	2	64 - 65	MANDATORY
16.	B_SUPPORTING_START_MONTH	N	2	66 - 67	OPTIONAL - If supplied, valid value must be supplied for field 17 (B_SUPPORTING_START_DAY), field 18 (B_SUPPORTING_END_MONTH), and field 19 (B_SUPPORTING_END_DAY). If one is supplied, the software will check for the other three; if one of the four is missing, *Migration to SDWIS/STATE* will reject the package schedule record. If not supplied, CDS assumes the schedule is a year-round schedule, i.e., 1/1 to 12/31.
17.	B_SUPPORTING_START_DAY	N	2	68 - 69	OPTIONAL - If supplied, valid value must be supplied for field 16 (B_SUPPORTING_START_MONTH), field 18 (B_SUPPORTING_END_MONTH), and field 19 (B_SUPPORTING_END_DAY). If one is supplied, the software will check for the other three; if one of the four is missing, *Migration to SDWIS/STATE* will reject the package schedule record.
18.	B_SUPPORTING_END_MONTH	N	2	70 - 71	OPTIONAL - If supplied, valid value must be supplied for field 16 (B_SUPPORTING_START_MONTH), field 17 (B_SUPPORTING_START_DAY), and field 19 (B_SUPPORTING_END_DAY). If one is supplied, the software will check for the other three; if one of the four is missing, *Migration to SDWIS/STATE* will reject the package schedule record.

	B_PACKAGE_SCHEDULE (NON-TCR ONLY)				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
19.	B_SUPPORTING_END_DAY	N	2	72 - 73	OPTIONAL - If supplied, valid value must be supplied for field 16 (B_SUPPORTING_START_MONTH), field 17 (B_SUPPORTING_START_DAY), and field 18 (B_SUPPORTING_END_MONTH). If one is supplied, the software will check for the other three; if one of the four is missing, *Migration to SDWIS/STATE* will reject the package schedule record.
20.	B_SUPPORTING_EFF_PRD_BEGIN_DATE	DT	8	74 - 81	MANDATORY - Enter in this format: MMDDYYYY.
21.	B_SUPPORTING_PWS_NUMBER	AN	9	82-90	OPTIONAL - May be entered if the supporting schedule is for a different Water System than the principal schedule listed in field 1. Existence makes field 22 mandatory. This field is not valid for TOC type of schedules and will be ignored if supplied.
22.	B_SUPPORTING_WSF_STATE_ASNG_ID	AN	12	91 -102	MANDATORY - Must be a valid WSF for the Water System entered in field 21, if supplied or field 1 if field 21 is not supplied.

NOTES:

Prerequisite processing for this structure set is that all sample schedules exist in the SDWIS/STATE database either through online input, schema migration, or *Migration to SDWIS/STATE*.

Language in this structure set is Principal and Supporting for all packages, both TOC and non-TOC. If the schedule is a TOC schedule type, the language on the windows will display appropriately as Finished and Raw.

Fields 1-11 will be used to identify an existing sample schedule (or schedule group) that will be used to determine the Finished or Principal schedule for the schedule package. If the schedule cannot be found in the SDWIS/STATE database, the record will be rejected. These fields are marked PRINCIPAL.

Fields 21 and 22, if supplied, otherwise fields 1 and 2, and 12-20 will be used to identify an existing sample schedule (or schedule group) that will be used to determine the Raw or Supporting schedule for the schedule package. If the schedule cannot be found in the SDWIS/STATE database, the record will be rejected. These fields are marked SUPPORTING. Field 21 is optional if, for a non-TOC schedule, the supporting schedule belongs to a different Water System than the Principal designated in field 2. The Water System Facility indicated in field 22 must exist for the Water System indicated by the value in field 21.

If the Type of Water System Facility referenced in field 2 is either Distribution System (DS) or Treatment Plant (TP) and the PRINCIPAL Analyte Code (field 3) is 2920, then a new row will be created in Schedule Package (table TMNSKPAC) with a type = T (TOC) and a new row will be create in Schedule Package Role (table TMNSKPAR) with a type code of "F" (Finished) and a relationship indicator of "SS" (Sample Schedule).

If the Type of Water System Facility referenced in field 2 is either Distribution System (DS) or Treatment Plant (TP) and the PRINCIPAL Analyte Code (field 3) is not 2920, then a new row will be created in Schedule Package (table TMNSKPAC) with a type = O (Other) and a new row will be create in Schedule Package Role (table TMNSKPAR) with a type code of P (Principal) and a relationship indicator of SS (Sample Schedule).

If the PRINCIPAL Analyte Group Code designated in field 4 contains an analyte code of 2920, the package schedule record will be rejected.

If the PRINCIPAL Analyte Group Code designated in field 4 does not contain analyte code 2920 and the Type of Water System Facility referenced in field 2 is a Distribution System (DS) or Treatment Plant (TP), then a new row will be created in Schedule Package (table TMNSKPAC) with a type = O (Other) and a new row will be create in Schedule Package Role (table TMNSKPAR) with a type code of P (Principal) and a relationship indicator of SG (Schedule Group).

The schedule designated in the SUPPORTING fields (fields 12-20) will be used to create a row Schedule Package Role (table TMNSKPAR) associated to the Schedule Package. If the Schedule Package type is T (TOC), then the schedule package role for the SUPPORTING schedule will be set to R (Raw). If it is not a schedule package type of TOC, then it is O (Other) and the schedule package role for the SUPPORTING schedule will be set to S (Supporting).

If the B_SUPPORTING_ANALYTE_CODE (field 12) has been provided indicating a sample schedule, the value of the relationship indicator of the Schedule Package Role row will be SS (Sample Schedule).

If the B_SUPPORTING ANALYTE_GRP_CODE (field 13) has been provided indicating a sample schedule group, the value of the relationship indicator of the Schedule Package Role row will be SG (Schedule Group).

If Principal Schedule is a TOC schedule, the supporting schedule must be one of the single analytes 2920, 1927, or 1067 or an analyte group containing only those analytes.

Violation of this condition will cause rejection of the package schedule record.

If Principal Schedule is a non-TOC schedule, the supporting schedule can be none of the single analytes 2920, 1927, or 1067 nor an analyte group containing only those analytes. Violation of this condition will cause rejection of the package schedule record.

The information supplied to find the Principal and Supporting schedule cannot result in the software finding the same schedule for both.

The Supporting schedule cannot already exist in a package with the Principal schedule.

24.2   B_Package_Schedule Permitted Value List (Non-TCR only)

B_PACKAGE_SCHEDULE (NON-TCR ONLY)		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
3. And 12.	B_PRINCIPAL_ANALYTE_CODE B_SUPPORTING_ANALYTE_CODE	All analytes in the SDWIS/STATE Analyte table (TSAANLYT) are permitted values except those records with a TYPE_CODE = RL (Rule), GC (Group Contaminant), or OT (Other). The current list of federally owned analytes is available in the SDWIS/STATE Online Data Dictionary, the online SDWIS Administration (Analyte Maintenance) SUPPORTING, and via RELATION.MDB.
6. And 15.	B_PRINCIPAL_SAMPLE_RQT_TYPE B_SUPPORTING_SAMPLE_RQT_TYPE	**CO** Confirmation - Sample taken to confirm a previous sample analytical result. The sample is taken at the same location as the earlier sample. **RT** Routine - A regularly scheduled sample which is collected to satisfy a monitoring requirement. **SP** Special - Sample collected for purposes other than compliance determination or to satisfy a monitoring requirement. **OT** Other.
7	B_PRINCIPAL_START_MONTH	1 - 12 (1 is understood to mean January; 12 is understood to mean December.)
8.	B_PRINCIPAL_START_DAY	1 - 31 (Day must be valid for Start Month. Edit check limits to actual number of days for a given month; for example, this field may not contain "31" if Start Month is "2.")
9.	B_PRINCIPAL_END_MONTH	1 - 12 (1 is understood to mean January; 12 is understood to mean December.)
10.	B_PRINCIPAL_END_DAY	1 - 31 (Day must be valid for End Month. Edit check limits to actual number of days for a given month; for example, this field may not contain "31" if Start Month is "2.")
16.	B_SUPPORTING_START_MONTH	1 - 12 (1 is understood to mean January; 12 is understood to mean December.)
17.	B_SUPPORTING_START_DAY	1 - 31 (Day must be valid for Start Month. Edit check limits to actual number of days for a given month; for example, this field may not contain "31" if Start Month is "2.")
18.	B_SUPPORTING_END_MONTH	1 - 12 (1 is understood to mean January; 12 is understood to mean December.)
19.	B_SUPPORTING_END_DAY	1 - 31 (Day must be valid for End Month; for example, this field may not contain "31" if End Month is "2.")

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

24.3 B_Package_Schedule Mapping to SDWIS/STATE Entities (Non-TCR only)

None of the entities referenced in 22.3 is created or modified by running MTS: Package Schedule. The combination of the values in the "principal" fields along with the values in the "supporting" fields triggers the creation of records in Schedule Package (TMNSKPAC) and Schedule Package Role (TMNSKPAR).

	B_PACKAGE_SCHEDULE (NON-TCR ONLY)				
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_Package_Schedule	B_PWS_NUMBER	TINWSYS	Water System	PWS_NUMBER (Foreign Key)
2.	B_Package_Schedule	B_WSF_STATE_ASGN_ID	TINWSF	Water System Facility	WSF_STATE_ASGN_ID_CODE (Foreign Key)
3.	B_Package_Schedule	B_PRINCIPAL_ANALYTE_CODE	TSAANLYT	Analyte	ANALYTE_CODE (Foreign Key)
4.	B_Package_Schedule	B_PRINCIPAL_ANALYTE_GROUP_CODE	TSAANGRP	Analyte Group	ANALYTE_GROUP_CODE (Foreign Key)
5.	B_Package_Schedule	B_PRINCIPAL_SAMPLES_REQUIRED_COUNT	TMNMNR	Monitoring Requirement	SAMPLES_REQUIRED_COUNT (Foreign Key)
6.	B_Package_Schedule	B_PRINCIPAL_SAMPLE_RQT_TYPE	TMNMNR	Monitoring Requirement	SAMPLE_RQT_TYPE (Foreign Key)
7.	B_Package_Schedule	B_PRINCIPAL_START_MONTH	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	START_MONTH (Foreign Key)
8.	B_Package_Schedule	B_PRINCIPAL_START_DAY	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	START_DAY (Foreign Key)
9.	B_Package_Schedule	B_PRINCIPAL_END_MONTH	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	END_MONTH (Foreign Key)
10.	B_Package_Schedule	B_PRINCIPAL_END_DAY	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	END_DAY (Foreign Key)

* Designates field with permitted values.   A-281   + Shaded gray blocks designate changes to previously published Structure Sets.

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
		B_PACKAGE_SCHEDULE (NON-TCR ONLY)			
11.	B_Package_Schedule	B_PRINCIPAL_EFF_PRD_BEGIN_DATE	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	EFFECTIVE_PERIOD_BEGIN_DATE *(Foreign Key)*
12.	B_Package_Schedule	B_SUPPORTING_ANALYTE_CODE	TSAANLYT	Analyte	ANALYTE_CODE *(Foreign Key)*
13.	B_Package_Schedule	B_SUPPORTING_ANALYTE_GRP_CODE	TSAANGRP	Analyte Group	ANALYTE_GROUP_CODE *(Foreign Key)*
14.	B_Package_Schedule	B_SUPPORTING_SAMPLES_REQD_CNT	TMNMNR	Monitoring Requirement	SAMPLES_REQUIRED_COUNT *(Foreign Key)*
15.	B_Package_Schedule	B_SUPPORTING_SAMPLE_RQT_TYPE	TMNMNR	Monitoring Requirement	SAMPLE_RQT_TYPE *(Foreign Key)*
16.	B_Package_Schedule	B_SUPPORTING_START_MONTH	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	START_MONTH *(Foreign Key)*
17.	B_Package_Schedule	B_SUPPORTING_START_DAY	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	START_DAY *(Foreign Key)*
18.	B_Package_Schedule	B_SUPPORTING_END_MONTH	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	END_MONTH *(Foreign Key)*
19.	B_Package_Schedule	B_SUPPORTING_END_DAY	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	END_DAY *(Foreign Key)*
20.	B_Package_Schedule	B_SUPPORTING_EFF_PRD_BEGIN_DATE	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	EFFECTIVE_PERIOD_BEGIN_DATE *(Foreign Key)*
21.	B_Package_Schedule	B_SUPPORTING_PWS_NUMBER	TINWSYS	Water System	PWS_NUMBER *(Foreign Key)*
22.	B_Package_Schedule	B_SUPPORTING_WSF_STATE_ASGN_ID	TINWSF	Water System Facility	WSF_STATE_ASGN_ID_CODE *(Foreign Key)*

* Designates field with permitted values. A-282 + Shaded gray blocks designate changes to previously published Structure Sets.

24.4   B_Package_Schedule Structure Set to Staging Table Mapping (Non-TCR only)

	B_PACKAGE_SCHEDULE (NON-TCR ONLY)			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
1.	B_Package_Schedule	B_PWS_NUMBER	TMGPSKED	B_PWS_NUMBER
2.	B_Package_Schedule	B_WSF_STATE_ASGN_ID	TMGPSKED	B_WSF_STAT_ASGN_ID
3.	B_Package_Schedule	B_PRINCIPAL_ANALYTE_CODE	TMGPSKED	B_PR_ANALYTE_CD
4.	B_Package_Schedule	B_PRINCIPAL_ANALYTE_GRP_CODE	TMGPSKED	B_PR_ANALYT_GRP_CD
5.	B_Package_Schedule	B_PRINCIPAL_SAMPLES_REQD_CNT	TMGPSKED	B_PR_SAMP_RQD_CNT
6.	B_Package_Schedule	B_PRINCIPAL_SAMPLE_RQT_TYPE	TMGPSKED	B_PR_SAMP_RQT_TYP
7.	B_Package_Schedule	B_PRINCIPAL_START_MONTH	TMGPSKED	B_PR_START_MONTH
8.	B_Package_Schedule	B_PRINCIPAL_START_DAY	TMGPSKED	B_PR_START_DAY
9.	B_Package_Schedule	B_PRINCIPAL_END_MONTH	TMGPSKED	B_PR_END_MONTH
10.	B_Package_Schedule	B_PRINCIPAL_END_DAY	TMGPSKED	B_PR_END_DAY
11.	B_Package_Schedule	B_PRINCIPAL_EFF_PRD_BEGIN_DATE	TMGPSKED	B_PR_EF_PR_BEG_DAT
12.	B_Package_Schedule	B_SUPPORTING_ANALYTE_CODE	TMGPSKED	B_SP_ANALYTE_CD
13.	B_Package_Schedule	B_SUPPORTING_ANALYTE_GRP_CODE	TMGPSKED	B_SP_ANALYT_GRP_CD
14.	B_Package_Schedule	B_SUPPORTING_SAMPLES_REQD_CNT	TMGPSKED	B_SP_SAMP_RQD_CNT
15.	B_Package_Schedule	B_SUPPORTING_SAMPLE_RQT_TYPE	TMGPSKED	B_SP_SAMP_RQT_TYP
16.	B_Package_Schedule	B_SUPPORTING_START_MONTH	TMGPSKED	B_SP_START_MONTH
17.	B_Package_Schedule	B_SUPPORTING_START_DAY	TMGPSKED	B_SP_START_DAY
18.	B_Package_Schedule	B_SUPPORTING_END_MONTH	TMGPSKED	B_SP_END_MONTH
19.	B_Package_Schedule	B_SUPPORTING_END_DAY	TMGPSKED	B_SP_END_DAY
20.	B_Package_Schedule	B_SUPPORTING_EFF_PRD_BEGIN_DATE	TMGPSKED	B_SP_EF_PR_BEG_DAT
21.	B_Package_Schedule	B_SUPPORTING_PWS_NUMBER	TMGPSKED	B_SP_PWS_NUMBER
22.	B_Package_Schedule	B_SUPPORTING_WSF_STATE_ASGN_ID	TMGPSKED	B_SP_WSF_ST_ASG_ID

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

25.0   STRUCTURE SET B_Facility_Analyte_Level

25.1   B_Facility_Analyte_Level Layout

B_FACILITY ANALYTE_LEVEL					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - **Overlap check for Facility Analyte Level is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 3 (B_ANALYTE_CODE), field 6 (B_CONTROL_LEVEL_TYPE), field 12 (B_LEVEL_VIOLATION_TYPE), field 14 (B_M&R_VIOLATION_TYPE), field 16 (B_MDBP_SUMMARY_TYPE_CODE) and the period of time defined by field 4 (B_FANL_EFFECTIVE_BEG_DATE) and field 5 (B_FANL_EFFECTIVE_END_DATE)**. *See Note at end of this layout*.
2.	B_WSF_STATE_ASGN_ID	AN	12	10 - 21	MANDATORY - **Overlap check for Facility Analyte Level is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 3 (B_ANALYTE_CODE), field 6 (B_CONTROL_LEVEL_TYPE), field 12 (B_LEVEL_VIOLATION_TYPE), field 14 (B_M&R_VIOLATION_TYPE), field 16 (B_MDBP_SUMMARY_TYPE_CODE) and the period of time defined by field 4 (B_FANL_EFFECTIVE_BEG_DATE) and field 5 (B_FANL_EFFECTIVE_END_DATE)**. *See Note at end of this layout*.

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published Structure Sets.

B_FACILITY ANALYTE_LEVEL					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
3. *	B_ANALYTE_CODE	AN	4	22 - 25	MANDATORY - **Overlap check for Facility Analyte Level is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 3 (B_ANALYTE_CODE), field 6 (B_CONTROL_LEVEL_TYPE), field 12 (B_LEVEL_VIOLATION_TYPE), field 14 (B_M&R_VIOLATION_TYPE), field 16 (B_MDBP_SUMMARY_TYPE_CODE) and the period of time defined by field 4 (B_FANL_EFFECTIVE_BEG_DATE) and field 5 (B_FANL_EFFECTIVE_END_DATE)**. *For purposes of overlap check, Analyte Codes 0999 (chlorine) and 1006 (chloramine) are considered the same. See Note at end of this layout.*
4.	B_FANL_EFFECTIVE_BEGIN_DATE	DT	8	26 - 33	MANDATORY - **Overlap check for Facility Analyte Level is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 3 (B_ANALYTE_CODE), field 6 (B_CONTROL_LEVEL_TYPE), field 12 (B_LEVEL_VIOLATION_TYPE), field 14 (B_M&R_VIOLATION_TYPE), field 16 (B_MDBP_SUMMARY_TYPE_CODE) and the period of time defined by field 4 (B_FANL_EFFECTIVE_BEG_DATE) and field 5 (B_FANL_EFFECTIVE_END_DATE)**. *See Note at end of this layout.*

	B FACILITY ANALYTE_LEVEL				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
5.	B_FANL_EFFECTIVE_END_DATE	DT	8	34 - 41	OPTIONAL - **Overlap check for Facility Analyte Level is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 3 (B_ANALYTE_CODE), field 6 (B_CONTROL_LEVEL_TYPE), field 12 (B_LEVEL_VIOLATION_TYPE), field 14 (B_M&R_VIOLATION_TYPE), field 16 (B_MDBP_SUMMARY_TYPE_CODE) and the period of time defined by field 4 (B_FANL_EFFECTIVE_BEG_DATE) and field 5 (B_FANL_EFFECTIVE_END_DATE)**. *See Note at end of this layout*.
6. *	B_CONTROL_LEVEL_TYPE	AN	3	42 - 44	MANDATORY - **Overlap check for Facility Analyte Level is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 3 (B_ANALYTE_CODE), field 6 (B_CONTROL_LEVEL_TYPE), field 12 (B_LEVEL_VIOLATION_TYPE), field 14 (B_M&R_VIOLATION_TYPE), field 16 (B_MDBP_SUMMARY_TYPE_CODE) and the period of time defined by field 4 (B_FANL_EFFECTIVE_BEG_DATE) and field 5 (B_FANL_EFFECTIVE_END_DATE)**. *See Note at end of this layout*.
7.	B_CONTROL_LEVEL_~~TEXT~~_MSR	N	16(15(9))	45 - 60	MANDATORY - *See Note at end of this layout*. The value in this field must convert to a numeric value (15(9)) so that it can populate both the text and numeric fields (CONTROL_LEVEL_TEXT and CONTROL_LEVEL_MEASURE) of Facility Analyte Level.
8.*	B_UOM_CODE	AN	9	61 - 69	MANDATORY - *See Note at end of this layout*.
9.*	B_DAYS_TO_MONITOR_PER_MONTH	N	2	70 - 71	OPTIONAL - Must be valued if desire is to have FANL support entry of MDBP summaries by providing defaults for number of

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_FACILITY ANALYTE_LEVEL				
					samples required and collected.
10.*	B_SAMPLES_REQUIRED_PER_DAY	N	5	72 - 76	OPTIONAL - Must be valued if desire is to have FANL support entry of MDBP summaries by providing defaults for number of samples required and collected.
11.*	B_INDIV_FILTER_MNTRG_REQD_FLAG	AN	1	77	CONDITIONALLY MANDATORY - Must be valued if B_CONTROL_LEVEL_TYPE = 95P. *See Note 5 at end of this layout*.
12. **	B_LEVEL_VIOLATION_TYPE	AN	2	78 - 79	OPTIONAL - Must be valued in order for CDS to calculate level compliance. **Overlap check for Facility Analyte Level is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 3 (B_ANALYTE_CODE), field 6 (B_CONTROL_LEVEL_TYPE), field 12 (B_LEVEL_VIOLATION_TYPE), field 14 (B_M&R_VIOLATION_TYPE), field 16 (B_MDBP_SUMMARY_TYPE_CODE) and the period of time defined by field 4 (B_FANL_EFFECTIVE_BEG_DATE) and field 5 (B_FANL_EFFECTIVE_END_DATE)**. *See Note at end of this layout*.
13. **	B_LEVEL_VIOLATION_TYPE_IS_NUMBER	N	7	80 - 86	OPTIONAL - This field should be valued when field 12 has a violation type that occurs more than once in the violation type table (TMNVTYPE). *If field 12 contains a violation type that occurs more than once in the violation type table and this field is not valued, the software will select the first violation type of the number specified in field 12, which may not be the correct one.*

		B_FACILITY ANALYTE_LEVEL			
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
14. **	B_M&R_VIOLATION_TYPE	AN	2	87 - 88	OPTIONAL - Must be valued in order for CDS to calculate Monitoring compliance. **Overlap check for Facility Analyte Level is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 3 (B_ANALYTE_CODE), field 6 (B_CONTROL_LEVEL_TYPE), field 12 (B_LEVEL_VIOLATION_TYPE), field 14 (B_M&R_VIOLATION_TYPE), field 16 (B_MDBP_SUMMARY_TYPE_CODE) and the period of time defined by field 4 (B_FANL_EFFECTIVE_BEG_DATE) and field 5 (B_FANL_EFFECTIVE_END_DATE)**. *For purposes of overlap check, Violation Types 31 and 36 are considered the same. See Note at end of this layout.*
15. **	B_M&R_VIOLATION_TYPE_IS_NUMBER	N	7	89 - 95	OPTIONAL - This field should be valued when field 14 has a violation type that occurs more than once in the violation type table (TMNVTYPE). *If field 14 contains a violation type that occurs more than once in the violation type table and this field is not valued, the software will select the first violation type of the number specified in field 14, which may not be the correct one.*
16. *	B_MDBP_SUMMARY_TYPE_CODE	AN	4	96 - 99	OPTIONAL - **Overlap check for Facility Analyte Level is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_WSF_STATE_ASGN_ID), field 3 (B_ANALYTE_CODE), field 6 (B_CONTROL_LEVEL_TYPE), field 12 (B_LEVEL_VIOLATION_TYPE), field 14 (B_M&R_VIOLATION_TYPE), field 16 (B_MDBP_SUMMARY_TYPE_CODE) and the period of time defined by field 4 (B_FANL_EFFECTIVE_BEG_DATE) and field 5 (B_FANL_EFFECTIVE_END_DATE)**. Must be valued if

B_FACILITY ANALYTE_LEVEL					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					desire is to have FANL support entry of SWTR (MDBP) summaries and for CDS to calculate monitoring or level compliance. *See Note at end of this layout*. For an MDBP Summary Type, see list of types delivered with SDWIS/STATE in permitted values section of this structure set. For a state-defined MDBP Summary type, the type must already exist in the database. System Administrators may add state-defined MDBP Summary types to Code Name **TSAMDBPS1** using the online Permitted Values function in the *System Administration* component.
17. *	B_MDBP_SUMMARY_CHECK_FLAG	AN	1	100	OPTIONAL - If set to "N," CDS will not calculate monitoring or level compliance. If not valued and Field 16 valued, will default to "Y."

Due to the complex nature of Facility Analyte Levels (FANL) and their relationships to MDBP Summaries, Non-TCR Schedules, and CDS Compliance Determination, it is recommended that those four areas of the User's Guide be reviewed thoroughly prior to creation of FANL text files for migration.

Overlap check for a Facility Analyte Level is on the combination of:

C   The mandatory fields: **1** (B_PWS_NUMBER), **2** (B_STATE_ASGN_IDENTIFCATION_CODE), **3** (B_ANALYTE_CODE), and **6** (B_CONTROL_LEVEL_TYPE).

C   The mandatory fields: **1** (B_PWS_NUMBER), **2** (B_STATE_ASGN_IDENTIFCATION_CODE), **3** (B_ANALYTE_CODE), and **6** (B_CONTROL_LEVEL_TYPE).

C   **AND** *with at least a day of overlap in the Effective Period* (defined by field **4** (B_FANL_EFFECTIVE_BEG_DATE) and field **5** (B_FANL_EFFECTIVE_END_DATE)).

C   **AND** the values in fields **12** (B_LEVEL_VIOLATION_TYPE), **14** (B_M&R_VIOLATION_TYPE), and **16** (B_SUMMARY_TYPE_CODE) (*the MDBP Summary Type*). In this definition, a null value for any one of the optional fields of the overlap check (fields **12** (B_LEVEL_VIOLATION_TYPE), **14** (B_M&R_VIOLATION_TYPE), and **16** (B_SUMMARY_TYPE_CODE)) *is effectively a value in and of itself*.

The following examples demonstrate what "at least a day of overlap in the Effective Periods" means as well as examples of FANLs that may added when a similar FANL exists—and one that may not. Assume the following Facility Analyte Level already exists:

A FANL exists in the database for Water System Facility "TP1" and Analyte Code 1925 and FANL Control Type of "MAX" and Effective Begin Date of 1/1/1999 and an open Effective End Date and no Violation Types specified and no MDBP Summary Type specified.

If the user enters the following FANL:

A FANL for Water System Facility "TP1" and Analyte Code 1925 and FANL Control Type of "MAX" and Effective Begin Date of 1/1/1999 and an open Effective End Date and Level Violation Type 59 and no M&R Violation Type specified and no MDBP Summary Type specified.

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* Designates field with permitted values.   + Shaded gray blocks designate changes to previously published Structure Sets.

It should be allowed.

Then, if the user enters the following FANL:

> A FANL for Water System Facility "TP1" and Analyte Code 1925 and FANL Control Type of "MAX" and Effective Begin Date of 1/1/1999 and an open Effective End Date and Level Violation Type 59 and M&R Violation Type of 53 and no MDBP Summary Type specified.

It should be allowed.

Then, if the user enters the following FANL:

> A FANL for Water System Facility "TP1" and Analyte Code 1925 and FANL Control Type of "MAX" and Effective Begin Date of 1/1/1999 and an open Effective End Date and Level Violation Type 59 and M&R Violation Type of 53 and MDBP Summary Type of OTHR.

It should be allowed.

Then, if the user enters the following FANL:

> A FANL for Water System Facility "TP1" and Analyte Code 1925 and FANL Control Type of "MAX" and Effective Begin Date of 1/1/2001 and an open Effective End Date and Level Violation Type is not specified and M&R Violation Type of 53 and MDBP Summary Type of OTHR.

It should *not* be allowed because it has one or more days of overlap with the effective period of the existing FANL and matches the existing FANL in all other respects.

Using online *Monitoring*, a user may add a FANL for 95P without indicating Yes or No. The FANL structure set has been designed, however, so that it will not accept a group of FANLs without this flag being set, to preclude migration of a group (possibly a large group) of FANLs into the database where Individual Filter Flag has not been set —and then where the System Administrator later wishes to set it.

25.2 B_Facility_Analyte_Level Permitted Value List

B_FACILITY_ANALYTE_LEVEL		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
3.	B_ANALYTE_CODE	All analytes in the SDWIS/STATE Analyte table (TSAANLYT) are permitted values. The current list of federally owned analytes is available in the SDWIS/STATE Online Data Dictionary, the online SDWIS/STATE *Administration* (Analyte Maintenance) component, and via RELATION.MDB.
6.	B_CONTROL_LEVEL_TYPE	**MAX** Maximum **MIN** Minimum **AVG** Average **95P** 95 Percent
8.	B_UOM_CODE	**%LUM** Percent of Luminance (for measuring color) **%PUR** Percent of Purity (for measuring color) **ADMIU** American Dye Manufacturers Institute Units (for measuring color) **AGGR** Aggressive Index (for corrosivity) **C** Degrees Celsius **CM-1** Total Absorbance for UV **CT** Contact Time **CU** Color Units **F** Degrees Fahrenheit **FTU** Flavor Threshold Units (for measuring taste and odor) **LANG** Langlier Index (for measuring corrosivity) **LBS/CFT** Pounds/Cubic Foot (for measuring density) **LBS/GAL** Pounds/Gallon (for measuring density) **MFL** Million of Fibers/Liter (for measuring asbestos) **MG/L** Milligrams/Liter (AKS Parts per Million - ppm)

B_FACILITY_ANALYTE_LEVEL		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
	B_UOM_CODE (continued)	**MREM** Millirems/Liter **MREMY** Millirems/Liter/Year **NG/L** Nanograms/Liter (AKA Parts per Trillion - ppt) **NMT** Nanometers (to measure color wave length) **NTU** Nephlometric Turbidity Units **OBSVNS** Observations/Field at 100 power **PH** PH Measure (parts hydrogen (pH 0 - 14) **PIC/L** Picocuries/Liter **RATIO** Total Organic Carbon **SU** Standard Units (for measuring color) **TON** Threshold Odor Number (for odor) **UG/L** Micrograms/Liter (AKA Parts per Billion - ppb) **UMHOS/CM** Microhos/Centimeter (for measuring conductivity)
9.	B_DAYS_TO_MONITOR_PER_MONTH	**1 - 31** (31 is understood to mean every day)
10.	B_SAMPLES_REQUIRED_PER_DAY	**1 - 24** (24 is understood to be continuous or every hour)
11.	B_INDIV_FILTER_MNTRG_REQD_FLAG	**Y** Yes **N** No

B_FACILITY_ANALYTE_LEVEL		
FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
12.	B_LEVEL_VIOLATION_TYPE	Any state-owned type listed in your Violation Type table (TMNVTYPE) regardless of category and the following federally-owned Violation Types of category Maximum Contaminant Level (MCL) or Treatment Technique (TT): **01** MCL, Single Sample **02** MCL, Average **07** Treatment Techniques (Non-SWTR) **11** Max. Residual Disinfectant Lvl (MRDL) **12** Qualified Operator Failure **21** MCL, Acute (TCR) **22** MCL (TCR), Monthly **37** Failure to Profile/Consult (IESWTR) **41** Treatment Technique (SWTR) **42** Failure to Filter (SWTR) **43** Single Comb. Filter Effluent (IESWTR) **44** Monthly Comb. Filter Effluent (IESWTR) **46** Inadequate DBP Precursor Removal **47** Uncovered Storage Facility (IESWTR) **48** Failure to Properly Recycle (FBR) **58** OCCT/SOWT Installation/Demonstration **59** Water Quality Parameter EP Non-Compliance **63** MPL Non-Compliance (PB/CU) **64** Lead Service Line Replacement (PB/CU)
13.	B_LEVEL_VIOLATION_TYPE_IS_NUMBER	See table 29.2A below.

B_FACILITY_ANALYTE_LEVEL		
FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
14.	B_M&R_VIOLATION_TYPE	Any state-owned type listed in your Violation Type table (TMNVTYPE) regardless of category and the following federally owned ViolationTypes of category Monitoring (MON): **03** Monitoring, Routine Major **04** Monitoring, Confirmation/Check Major **09** Record Keeping **10** Operations Report **11** Max Res Disinfect Lvl (MRDL) Monitoring **23** Monitoring (TCR), Routine Major **24** Monitoring (TCR), Routine Minor **25** Monitoring (TCR), Repeat Major **26** Monitoring (TCR), Repeat Minor **27** Monitoring, (DBP) **29** INDI Filter Triggered Report (IESWTR) **31** Monitoring, Rtn/Rpt Major (SWTR-UNFILT) **36** Monitoring, Rtn/Rpt Major (SWTR-FILTER) **38** Monitoring, Routine (IESWTR), Major **49** Failure to Submit Plant Schematic (FBR) **51** Initial Tap Sampling (PB/CU) **52** Follow-Up or Routine Tap M/R (PB/CU) **53** Water Quality Parameter M&R **56** Initial/Rtn/Repeat SRC WTR M/R
15.	B_M&R_VIOLATION_TYPE_IS_NUMBER	See table 29.2B below.

B_FACILITY_ANALYTE_LEVEL		
FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
16.	B_MDBP_SUMMARY_TYPE_CODE	For a state-defined MDBP Summary type, the type must already exist in the database. System Administrators may add state-defined MDBP Summary types to Code Name **TSAMDBPS1** using the online Permitted Values function in the *System Administration* component. The following is a list of permitted values delivered with SDWIS/STATE: **AVGT** CFE Average Turbidity **MAXT** CFE Maximum Turbidity **95PT** CFE 95% Turbidity **EPRD** Entry Point RDC **SERD** State EP RDC **CLO2** EP Chlorine Dioxide **CLO3** EP Chlorite **DSRD** Distribution RDC **SDRD** State Distribution RDC **MRDL** Chlorine/Chloramine MRDL **IFT** Individual Filter Turbidity **OTHR** Other
17.	B_MDBP_SUMMARY_CHECK_FLAG	**Y** Yes **N** No

B_LEVEL_VIOLATION_TYPE_IS_NUMBER	TYPE_CODE	NAME	CATEGORY_CODE	SAMPLE_TYPE_	SEVERITY_LEVEL	RPT_EXCEEDENCE_IN
1	01	MCL, SINGLE SAMPLE	MCL			N
2	02	MCL, AVERAGE, WITHOUT NO.	MCL			N
64	02	MCL, AVERAGE, WITH NO. EXCEEDANCE	MCL			Y
7	07	TREATMENT TECHNIQUES (NON-SWTR)	TT			N
67	11	MAX RES DISINFECT LVL (MRDL)	MCL			N
57	11	MAX RES DISINFECT LVL (MRDL) NON-	MCL		NC	N
43	11	MAX RES DISINFECT LVL (MRDL) ACUTE	MCL		AC	N
44	12	QUALIFIED OPERATOR FAILURE	TT			N
11	21	MCL (TCR), ACUTE	MCL			N
12	22	MCL (TCR), MONTHLY	MCL			N
48	37	FAILURE TO PROFILE/CONSULT (IESWTR)	TT			N
20	41	TREATMENT TECHNIQUE (SWTR)	TT			N
59	41	TREATMENT TECHNIQUE (SWTR)	TT		95	N
60	41	TREATMENT TECHNIQUE (SWTR)	TT		MX	N
21	42	FAILURE TO FILTER (SWTR)	TT			N
49	43	SINGLE COMB. FILTER EFFLUENT (IESWTR)	TT			N
50	44	MONTHLY COMB. FILTER EFFLUENT	TT			N
45	46	INADEQUATE DBP PRECURSOR REMOVAL	TT			N
51	47	UNCOVERED STORAGE FACILITY (IESWTR)	TT			N
52	48	FAILURE TO PROPERLY RECYCLE (FBR)	TT			N
29	58	OCCT/SOWT INSTALLATION	TT			N
30	59	WATER QUALITY PARAMETER NON-	TT			N
34	63	MPL NON-COMPLIANCE (PB/CU)	TT			N
35	64	LEAD SERVICE LINE REPLACEMENT (PB/CU)	TT			N

Table 29.2A - List of B_LEVEL_VIOLATION_TYPE_IS_NUMBER Permitted Values

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

B_M&R_VIOLATION_TYPE_IS_NUMBER	TYPE_CODE	NAME	CATEGORY_CODE	SAMPLE_TYPE_CODE	SEVERITY_LEVEL	RPT_MISS_SAMP_IND
3	03	MONITORING, ROUTINE MAJOR	MON	RT	MJ	N
37	03	MONITORING, ROUTINE MINOR	MON	RT	MN	N
4	04	MONITORING, CONFIRMATION/CHECK MAJOR	MON		MJ	N
38	04	MONITORING, CONFIRMATION/CHECK MINOR	MON		MN	N
61	11	MAX RES DISINFECT LVL (MRDL) MONITORING	MON			Y
13	23	MONITORING (TCR), ROUTINE MAJOR	MON	RT	MJ	N
14	24	MONITORING (TCR), ROUTINE MINOR	MON	RT	MN	N
15	25	MONITORING (TCR), REPEAT MAJOR	MON	RP	MJ	N
16	26	MONITORING (TCR), REPEAT MINOR	MON	RP	MN	N
62	27	FAILURE TO HAVE MONITORING PLAN (DBP)	MON			N
47	27	MONITORING, ROUTINE (DBP), MINOR	MON		MN	N
46	27	MONITORING, ROUTINE (DBP), MAJOR	MON		MJ	N
66	27	MONITORING, (DBP) WITHOUT NO. MISS SAMP	MON			N
65	27	MONITORING, (DBP) WITH NO. MISSING SAMP	MON			Y
53	29	INDI FILTER TRIGGERED REPORT (IESWTR)	MON			N
39	31	MONITORING, RTN/RPT MAJOR (SWTR-UNFILT)	MON		MJ	N
18	31	MONITORING, RTN/RPT MINOR (SWTR-UNFILT)	MON		MN	N
19	36	MONITORING, RTN/RPT MINOR (SWTR-FILTER)	MON		MN	N
40	36	MONITORING, RTN/RPT MAJOR (SWTR-FILTER)	MON		MJ	N
55	38	MONITORING, ROUTINE (IESWTR), MINOR	MON		MN	N
54	38	MONITORING, ROUTINE (IESWTR), MAJOR	MON		MJ	N
63	49	FAILURE TO SUBMIT PLANT SCHEMATIC (FBR)	MON			N
22	51	INITIAL TAP SAMPLING (PB/CU)	MON			N
23	52	FOLLOW-UP OR ROUTINE TAP M/R (PB/CU)	MON			N
24	53	WATER QUALITY PARAMETER M&R	MON			N
27	56	INITIAL/FOLLOW-UP/ROUTINE SRC WTR M/R	MON			N

Table 29.2B - List of B_M&R_VIOLATION_TYPE_IS_NUMBER Permitted Values

* Designates field with permitted values.　　　　　　　　　A-298　　　　　　　+ Shaded gray blocks designate changes to previously published Structure Sets.

25.3 B_Facility_Analyte_Level Mapping to SDWIS/STATE Entities

FIELD NO	STRUCTURE SET NAME	STUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_Facility_Analyte_Level	B_PWS_NUMBER	TINWSYS	Water System	PWS_NUMBER (*Foreign Key*)
2.	B_Facility_Analyte_Level	B_WSF_STATE_ASGN_ID	TINWSF	Water System Facility	WSF_STATE_ASGN_ID (*Foreign Key*)
3.	B_Facility_Analyte_Level	B_ANALYTE_CODE	TSAANLYT	Analyte	ANALYTE_CODE (*Foreign Key*)
4.	B_Facility_Analyte_Level	B_FANL_EFFECTIVE_BEGIN_DATE	TMNFANL	Facility Analyte Level	FANL_EFFECTIVE_BEGIN_DATE
5.	B_Facility_Analyte_Level	B_FANL_EFFECTIVE_END_DATE	TMNFANL	Facility Analyte Level	FANL_EFFECTIVE_END_DATE
6.	B_Facility_Analyte_Level	B_CONTROL_LEVEL_TYPE	TMNFANL	Facility Analyte Level	CONTROL_LEVEL_TYPE
7.	B_Facility_Analyte_Level	B_CONTROL_LEVEL_MSR	TMNFANL	Facility Analyte Level	CONTROL_LEVEL_TEXT CONTROL_LEVEL_MEASURE
8.	B_Facility_Analyte_Level	B_UOM_CODE	TMNFANL	Facility Analyte Level	UOM_CODE
9.	B_Facility_Analyte_Level	B_DAYS_TO_MONITOR_PER_MONTH	TMNFANL	Facility Analyte Level	DAYS_TO_MONITOR_PER_MONTH
10.	B_Facility_Analyte_Level	B_SAMPLES_REQUIRED_PER_DAY	TMNFANL	Facility Analyte Level	SAMPLES_REQUIRED_PER_DAY
11.	B_Facility_Analyte_Level	B_INDIV_FILTER_MNTRG_REQD_FLAG	TMNFANL	Facility Analyte Level	INDIV_FILTER_MNTRG_REQD
12.	B_Facility_Analyte_Level	B_LEVEL_VIOLATION_TYPE	TMNVTYPE	Violation Type	LEVEL_VIOLATION_TYPE (*Foreign Key*)
13.	B_Facility_Analyte_Level	B_LEVEL_VIOLATION_TYPE_IS_NUMBER	TMNVTYPE	Violation Type	LEVEL_VIOLATION_TYPE_IS_NUMBER

Table header (spanning): **B_FACILITY_ANALYTE_LEVEL**

B_FACILITY_ANALYTE_LEVEL					
FIELD NO	STRUCTURE SET NAME	STUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
14.	B_Facility_Analyte_Level	B_M&R_VIOLATION_TYPE	TMNVTYPE	Violation Type	MR_VIOLATION_TYPE (*Foreign Key*)
15.	B_Facility_Analyte_Level	B_M&R_VIOLATION_TYPE_IS_ NUMBER	TMNVTYPE	Violation Type	M&R_VIOLATION_TYPE_IS_ NUMBER
16.	B_Facility_Analyte_Level	B_MDBP_SUMMARY_TYPE_CODE	TMNFANL	Facility Analyte Level	MDBP_SUMMARY_TYPE_CODE
17.	B_Facility_Analyte_Level	B_MDBP_SUMMARY_CHECK_FLA G	TMNFANL	Facility Analyte Level	MDBP_SUMMARY_CHECK_FLAG

* Designates field with permitted values.

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+ Shaded gray blocks designate changes to previously published Structure Sets.

25.4 B_Facility_Analyte_Level Structure Set to Staging Table Mapping

		B_FACILITY_ANALYTE_LEVEL		
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
1.	B_Facility_Analyte_Level	B_PWS_NUMBER	TMGFANL	B_PWS_NUMBER
2.	B_Facility_Analyte_Level	B_WSF_STATE_ASGN_ID	TMGFANL	B_WSF_STAT_ASGN_ID
3.	B_Facility_Analyte_Level	B_ANALYTE_CODE	TMGFANL	B_ANALYTE_CD
4.	B_Facility_Analyte_Level	B_FANL_EFFECTIVE_BEGIN_DATE	TMGFANL	B_FANL_EFF_BEG_DAT
5.	B_Facility_Analyte_Level	B_FANL_EFFECTIVE_END_DATE	TMGFANL	B_FANL_EFF_END_DAT
6.	B_Facility_Analyte_Level	B_CONTROL_LEVEL_TYPE	TMGFANL	B_CONTROL_LVL_TYP
7.	B_Facility_Analyte_Level	B_CONTROL_LEVEL_MSR	TMGFANL	B_CONTROL_LVL_TXT
8.	B_Facility_Analyte_Level	B_UOM_CODE	TMGFANL	B_UOM_CD
9.	B_Facility_Analyte_Level	B_DAYS_TO_MONITOR_PER_MONTH	TMGFANL	B_DAYS_MON_PR_MNTH
10.	B_Facility_Analyte_Level	B_SAMPLES_REQUIRED_PER_DAY	TMGFANL	B_SAMPS_RQD_DAY
11.	B_Facility_Analyte_Level	B_INDIV_FILTER_MNTRG_REQD_FLAG	TMGFANL	B_IND_FLT_MTRG_RQD
12.	B_Facility_Analyte_Level	B_LEVEL_VIOLATION_TYPE	TMGFANL	B_LVL_VIO_TYP
13.	B_Facility_Analyte_Level	B_LEVEL_VIOLATION_TYPE_IS_NUMBER	TMGFANL	B_LVL_VIOTYP_IS_NO
14.	B_Facility_Analyte_Level	B_M&R_VIOLATION_TYPE	TMGFANL	B_MR_VIO_TYP
15.	B_Facility_Analyte_Level	B_M&R_VIOLATION_TYPE_IS_NUMBER	TMGFANL	B_MR_VIOTYP_IS_NO
16.	B_Facility_Analyte_Level	B_MDBP_SUMMARY_TYPE_CODE	TMGFANL	B_MDBP_SUM_TYP_CD
17.	B_Facility_Analyte_Level	B_MDBP_SUMMARY_CHECK_FLAG	TMGFANL	B_MDBP_SUM_CHK_FLG

26.0   STRUCTURE SET B_Compliance Schedule

26.1   B_Compliance Schedule File Layout

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
B_COMPLIANCE_SCHEDULE					
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - **Uniqueness/Duplicate check for Compliance Schedule is on the combination of field 1 (B_PWS_NUMBER) and field 2 B_COMPL_SCHD_NUMBER)**.
2.	B_COMPL_SCHD_NUMBER	N	5	10 - 14	OPTIONAL - **Uniqueness/Duplicate check for Compliance Schedule is on the combination of field 1 (B_PWS_NUMBER) and field 2 (B_COMPL_SCHD_NUMBER). The Compliance Schedule Number must be unique within the Water System. If not valued, *Migration to SDWIS/STATE* will populate it with an internally generated External System Number; however, if done this way, it would then be tedious to link migrated compliance schedules to migrated schedule activities, because the user would need to use the internally generated numbers in the Compliance Schedule structure set. This field must be populated either by the user (through the data supplied in the structure set formatted text file) or by the *Migration to SDWIS/STATE* software; however, if generated by the software, the change will not appear on the change report.** Within a Water System, the compliance schedule number may be repeated as a reference when there are additional schedule activities (see fields 14 to 20 below) to link to the compliance schedule.
3.	B_STATE_ASGN_ID	AN	10	15 - 24	OPTIONAL
4.	B_REGULATING_AGENCY	AN	40	25 - 64	MANDATORY - Must be an existing Government Agency.

B_COMPLIANCE_SCHEDULE					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
5.*	B_SCHEDULE_TYPE	AN	4	65 - 68	OPTIONAL - If field 5 (B_SCHEDULE_TYPE) is valued, it must be an existing Schedule Type. *Developer Note: Pass into action block Validate Text Permitted Value the following value for entity CODE, attribute CODE_NAME: TENSCHD1. Only permitted values for this code value may be used.*
6.	B_EFFECTIVE_DATE	DT	8	69 - 76	OPTIONAL - If both field 6 (B_EFFECTIVE_DATE) and field 7 (B_CLOSED_DATE) are valued and the effective date is on or after the closed date, *Migration to SDWIS/STATE* will set the effective date to the closed date - 1 day and will use new Change Code Message 850: "MIGR CHANGE: The Effective Date for this Compliance Schedule was changed to be one day before the supplied Closed Date. The supplied Effective Date was on or after the supplied Closed Date" when creating change record. *Developer Note: Use field 1 (B_PWS_NUMBER) as the Staging Table Primary Field and field 6 (B_EFFECTIVE_DATE) as the Staging Table Secondary Field. Supply the date determined by the Migration to SDWIS/STATE software rather than the date supplied by the user for the value in field STAG_TBL_SECOND_FLD_VALUE in MIGRSTATUS.*
7.	B_CLOSED_DATE	DT	8	77 - 84	**CONDITIONALLY MANDATORY - Must be valued if field 8 (B_STATUS_CODE) = "S" (superseded).**
8.*	B_STATUS_CODE	AN	1	85	OPTIONAL
9.	B_STATUS_DATE	DT	8	86 - 93	OPTIONAL

B_COMPLIANCE_SCHEDULE
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
10.	B_COMPLIANCE_OFFICER_LAST_NAME	AN	20	94 - 113	CONDITIONALLY MANDATORY - An Individual in Legal Entity is uniquely identified by Last Name, First Name, Organization Name, and Mail Stop. Therefore, you may also need to supply values in fields 12 and 13 to link to the desired individual. If field 11 (B_COMPLIANCE_OFFICER_FIRST_NAME) is valued, this field must be valued.
11.	B_COMPLIANCE_OFFICER_FIRST_NAME	AN	20	114 - 133	CONDITIONALLY MANDATORY - If field 10 (B_COMPLIANCE_OFFICER_LAST_NAME) is valued, this field must be valued and the combination of fields 10, 11, 12, and 13 must uniquely identify an Individual in Legal Entity.
12.	B_COMPL_OFFCR_ORGANIZATION_NAME	AN	30	134 - 163	OPTIONAL - The combination of fields 10, 11, 12, and 13 must uniquely identify an Individual in Legal Entity.
13.	B_COMPL_OFFCR_MAIL_STOP_TEXT	AN	10	164 - 173	OPTIONAL - The combination of fields 10, 11, 12, and 13 must uniquely identify an Individual in Legal Entity.
14.	B_SCHEDULE_ACTIVITY_NAME	AN	40	174 - 213	OPTIONAL - Must be an existing Activity Type. **Duplicate check for Schedule Activity is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_COMPL_SCHD_NUMBER), field 14 (B_SCHEDULE_ACTIVITY_NAME), and field 15 (B_SCHEDULE_ACTIVITY_DUE_DATE). If B_SCHEDULE_ACTIVITY_DUE_DATE is supplied for one record and not for another and B_PWS_NUMBER, B_COMPL_SCHD_NUMBER and B_SCHEDULE_ACTIVITY_NAME are the same, the software will NOT consider this a duplicate. However, if B_SCHEDULE_ACTIVITY_DUE_DATE is left blank for both records, or is valued the same for both and B_PWS_NUMBER, B_COMPL_SCHD_NUMBER and**

* Designates field with permitted values.   A-304   + Shaded gray blocks designate changes to previously published Structure Sets.

B_COMPLIANCE_SCHEDULE					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
					B_SCHEDULE_ACTIVITY_NAME are the same, it will be a duplicate and the second one will be rejected. The combination of B_PWS_NUMBER and B_COMPL_SCHD_NUMBER may be repeated if there are additional, unique Schedule Activity to link to the compliance schedule. *See additional explanation at the end of this File Layout.*
15.	B_SCHEDULE_ACTIVITY_DUE_DATE	DT	8	214 - 221	OPTIONAL - **Duplicate check for Schedule Activity is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_COMPL_SCHD_NUMBER), field 14 (B_SCHEDULE_ACTIVITY_NAME), and field 15 (B_SCHEDULE_ACTIVITY_DUE_DATE).**
16.	B_SCHED_ACTIVITY_REPORTED_DATE	DT	8	222 - 229	OPTIONAL
17.	B_SCHED_ACTIVITY_PROJECTED_DATE	DT	8	230 - 237	OPTIONAL
18.	B_SCHED_ACTIVITY_ACHIEVED_DATE	DT	8	238 - 245	OPTIONAL
19.	B_SCHED_ACTIVITY_RESPONSBL_PARTY	AN	20	246 - 265	OPTIONAL
20.	B_SCHED_ACTIVITY_COMMENT_TEXT	ANmc	200	266 - 465	OPTIONAL
21.	B_DESCRIPTION_TEXT	ANmc	200	466 - 665	OPTIONAL

1. If fields 14 and 15 are supplied and pass the edit checks, the *Compliance Schedule Migration to SDWIS/STATE* module will ensure that the following uniqueness criteria is applied prior to the creation of the schedule activity:

Criteria 1 (C1): If the software finds a Schedule Activity for the same Compliance Schedule, the same Activity Type and the same Due Date and that this existing Schedule Activity is not associated to a Deficiency, the candidate Schedule Activity would be considered a duplicate. For example, a schedule activity with Due Date 1/31/2002 not linked to a Deficiency but is linked to both activity type "XXX" and compliance schedule with External System Number "99" for Water System "XX2223333" already exists. The software should not allow the entry of the same schedule activity with Due Date 1/31/2002 that is to be associated with Activity Type "XXX" and Compliance Schedule with External System Number "99" for Water System "XX223333."

26.2   B_Compliance_Schedule Permitted Value List

B_COMPLIANCE_SCHEDULE		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
5.	B_SCHEDULE_TYPE	**Spaces** No type associated to this particular compliance schedule **AO** Administrative Order **LH** Legal Hearing Any other codes added by the System Administrator using the Permitted Values component in SDWIS/STATE *Administration* (Code Name = TENSCHD1, Attribute Name = TENSCHD).
8.	B_STATUS_CODE	**Spaces** No current status **F** Final **P** Proposed **S** Superseded

26.3 B_Compliance_Schedule Mapping to SDWIS/STATE Entities

		B_COMPLIANCE_SCHEDULE			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
1.	B_Compliance_Schedule	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Compliance_Schedule	B_COMPL_SCHD_NUMBER	TENSCHD	Compliance Schedule	COMPL_SCHD_NUMBER
3.	B_Compliance_Schedule	B_STATE_ASGN_ID	TENSCHD	Compliance Schedule	ST_ASGND_ID_NO
4.	B_Compliance_Schedule	B_REGULATING_AGENCY	TINLGENT	Government Agency	NAME (*Foreign Key*)
5.	B_Compliance_Schedule	B_SCHEDULE_TYPE	TENSCHD	Compliance Schedule	TYPE_CODE_CV
6.	B_Compliance_Schedule	B_EFFECTIVE_DATE	TENSCHD	Compliance Schedule	EFFECTIVE_DATE
7.	B_Compliance_Schedule	B_CLOSED_DATE	TENSCHD	Compliance Schedule	CLOSED_DATE
8.	B_Compliance_Schedule	B_STATUS_CODE	TENSCHD	Compliance Schedule	STATUS_CODE
9.	B_Compliance_Schedule	B_STATUS_DATE	TENSCHD	Compliance Schedule	STATUS_DATE
10.	B_Compliance_Schedule	B_COMPLIANCE_OFFICER_LAST_NAME	TINLGENT	Legal Entity	NAME (*Foreign Key*) Format is "LAST_NAME, FIRST_NAME"
11.	B_Compliance_Schedule	B_COMPLIANCE_OFFICER_FIRST_NAME	TINLGENT	Legal Entity	NAME (*Foreign Key*) Format is "LAST NAME, FIRST NAME"

B_COMPLIANCE_SCHEDULE					
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
12.	B_Compliance_Schedule	B_COMPL_OFFCR_ORGANIZATION_NAME	TININDIV	Individual Legal Entity	ORGANIZATION NAME (*Foreign Key*)
13.	B_Compliance_Schedule	B_COMPL_OFFCR_MAIL_STOP_TEXT	TININDIV	Individual Legal Entity	MAIL STOP TEXT (*Foreign Key*)
14.	B_Compliance_Schedule	B_SCHEDULE_ACTIVITY_NAME	TENACTIV	Activity Type	NAME (*Foreign Key*)
15.	B_Compliance_Schedule	B_SCHEDULE_ACTIVITY_DUE_DATE	TENSCHAT	Schedule Activity	DUE_DATE
16.	B_Compliance_Schedule	B_SCHED_ACTIVITY_REPORTED_DATE	TENSCHAT	Schedule Activity	REPORTED_DATE
17.	B_Compliance_Schedule	B_SCHED_ACTIVITY_PROJECTED_DATE	TENSCHAT	Schedule Activity	PROJECTED_DATE
18.	B_Compliance_Schedule	B_SCHED_ACTIVITY_ACHIEVED_DATE	TENSCHAT	Schedule Activity	ACHIEVED_DATE
19.	B_Compliance_Schedule	B_SCHED_ACTIVITY_RESPONSBL_PARTY	TENSCHAT	Schedule Activity	RESPONSIBLE_PARTY
20.	B_Compliance_Schedule	B_SCHED_ACTIVITY_COMMENT_TEXT	TENSCHAT	Schedule Activity	COMMENT_TEXT
21.	B_Compliance_Schedule	B_DESCRIPTION_TEXT	TENSCHD	Compliance Schedule	DESCRIPTION_TEXT

26.4 B_Compliance Schedule Structure Set to Staging Table Mapping

	B_COMPLIANCE SCHEDULE			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
1.	B_Compliance_Schedule	B_PWS_NUMBER	TMGSCHD	B_PWS_NUMBER
2.	B_Compliance_Schedule	B_COMPL_SCHD_NUMBER	TMGSCHD	B_COMPL_SCHD_NO
3.	B_Compliance_Schedule	B_STATE_ASGN_ID	TMGSCHD	B_STATE_ASGN_ID
4.	B_Compliance_Schedule	B_REGULATING_AGENCY	TMGSCHD	B_REGULATING_AGNCY
5.	B_Compliance_Schedule	B_SCHEDULE_TYPE	TMGSCHD	B_SCHEDULE_TYP
6.	B_Compliance_Schedule	B_EFFECTIVE_DATE	TMGSCHD	B_EFFECTIVE_DAT
7.	B_Compliance_Schedule	B_CLOSED_DATE	TMGSCHD	B_CLOSED_DAT
8.	B_Compliance_Schedule	B_STATUS_CODE	TMGSCHD	B_STATUS_CD
9.	B_Compliance_Schedule	B_STATUS_DATE	TMGSCHD	B_STATUS_DAT
10.	B_Compliance_Schedule	B_COMPLIANCE_OFFICER_LAST_NAME	TMGSCHD	B_CO_LAST_NAME
11.	B_Compliance_Schedule	B_COMPLIANCE_OFFICER_FIRST_NAME	TMGSCHD	B_CO_FIRST_NAME
12.	B_Compliance_Schedule	B_COMPL_OFFCR_ORGANIZATION_NAME	TMGSCHD	B_CO_ORG_NAME
13.	B_Compliance_Schedule	B_COMPL_OFFCR_MAIL_STOP_TEXT	TMGSCHD	B_CO_MAIL_STP_TXT
14.	B_Compliance_Schedule	B_SCHEDULE_ACTIVITY_NAME	TMGSCHD	B_SCHD_ACTY_NAM
15.	B_Compliance_Schedule	B_SCHEDULE_ACTIVITY_DUE_DATE	TMGSCHD	B_SCHD_ACT_DUE_DAT
16.	B_Compliance_Schedule	B_SCHED_ACTIVITY_REPORTED_DATE	TMGSCHD	B_SCHD_ACT_RPT_DAT
17.	B_Compliance_Schedule	B_SCHED_ACTIVITY_PROJECTED_DATE	TMGSCHD	B_SCHD_ACT_PRJ_DAT
18.	B_Compliance_Schedule	B_SCHED_ACTIVITY_ACHIEVED_DATE	TMGSCHD	B_SCHD_ACT_ACH_DAT
19.	B_Compliance_Schedule	B_SCHED_ACTIVITY_RESPONSBL_PARTY	TMGSCHD	B_SCHD_ACT_RSP_PTY
20.	B_Compliance_Schedule	B_SCHED_ACTIVITY_COMMENT_TEXT	TMGSCHD	B_SCHD_ACT_CMT_TXT
21.	B_Compliance_Schedule	B_DESCRIPTION_TEXT	TMGSCHD	B_DESCRIP_TXT

27.0   STRUCTURE SET B_Violation

27.1   B_Violation File Layout

Please refer to Appendix C of the SDWIS/STATE System Administration Guide for Release 8.0 prior to developing violation structure set-formatted files and migrating violations into SDWIS/STATE.

There are two structure sets that can be used for migrating violations into SDWIS/STATE. This is the main one and should be used to migrate in the basic information about an individual or group violation. This structure set can also be used to associate one or more originating violations to a PN violation and to create Violation Packages. The second structure set, B_Violation_Support_Data is a supporting structure set and is used to associate a violation to: (a) one or more results that led to the violation; (b) the Sample Schedule that was violated; (c) the specific Sampling Points involved in the violation; (d) the Facility Analyte Level (FANL) that was violated; (e) the MDBP summary that indicates the violation; (f) the PN Scheduled Activity that was violated; (g) the Compliance Schedule Activity that was violated; and/or (h) the Deficiency that was not corrected on time.

| B_VIOLATION |
FIELD NO.	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY- **Both Duplicate by Data and Duplicate by Number checks at the end of the B_Violation File Layout apply to this field.**
2.	B_FED_FISCAL_YEAR	N	4	10 - 13	OPTIONAL - **Duplicate Violation/Vio Group Number Check listed at the end of the B_Violation File Layout section applies for this field.** **If not valued,** *Migration to SDWIS/STATE* **will populate this field based on Field 4 (B_DETERMINATION_DATE); however, if done this way, it would be tedious to link migrated enforcement actions to migrated violations because the user would need to use the internally generated Violation Fiscal Year in the Enforcement Action structure set.** If generated by the software, the change will not

					B_VIOLATION
FIELD NO.	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					appear on the change report. If valued, *Migration to SDWIS/STATE* will accept value supplied and not recalculate based on Determination Date supplied. Format is CCYY, where CC = 19 or 20, and YY = 00 - 99.
3.	B_VIOLATION_NUMBER	N	5	14 - 18	OPTIONAL - **Duplicate Violation/Vio Group Number Check listed at the end of the B_Violation File Layout section applies for this field.** **If not valued,** *Migration to SDWIS/STATE* **will populate it with an internally generated External System Number; however, if done this way, it would be tedious to link migrated enforcement actions to migrated violations because the user would need to use the internally generated numbers in the Enforcement Action structure set.** If this number is generated by the software the change will not appear on the change report. The exception to this statement is where the Violation Number supplied is for a Violation Group; in this case, that number will be used to populate Violation Group Number, and *Migration to SDWIS/STATE* will automatically generate the External System Number for the hidden violations. (The *Migration to SDWIS/STATE* Enforcement Action module will be able to link these hidden violations to an Enforcement Action.) Within a Water System, the violation number may be repeated as a reference when there are additional sample results to link to the violation. Value supplied in this field will be updated to the TINEXSN row where the table name is "TMNVIOL" under the following conditions: 1. Value in this field is greater than the current value of the external

B_VIOLATION					
FIELD NO.	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					number for TMNVIOL in TINEXSN; and 2. The B_DATA_ORIGIN_CD value in field 21 = S (by input or default) and the primacy code of the government agency for the water system is "ST" or B_DATA_ORIGIN_CD value in field 21 = R (by input or default) and primacy code of government agency for the water system is "RG." The value supplied in this field will be ignored and an internally generated External System Number will be provided for all other combinations of B_DATA_ORIGIN_CD and primacy code. This is because those violations will not be migrated back to SDWIS/FED.
4.	B_DETERMINATION_DATE	DT	8	19 - 26	MANDATORY - If the FED_REPORT_PERIOD_TYPE = CP for the Violation Type record indicated in the combination of values supplied in fields 5 (B_VIOLATION_TYPE_CODE), 6 (B_VIOLATION_TYPE_SEVERITY_LEVEL), and/or 7 (B_VIOLATION_TYPE_IS_NUMBER), B_DETERMINATION_DATE must be on or after the Compliance Period Begin Date. No violations may have a future determination date (i.e., cannot be greater than (after) the current date).
5. *	B_VIOLATION_TYPE_CODE	AN	2	27 - 28	OPTIONAL - **Duplicate by Data Check for Violation/Vio Group listed at the end of the B_Violation File Layout applies for this field.** For a Violation of a federally defined violation types, see permitted value list. For a Violation of a state-defined violation type, the

B_VIOLATION					
FIELD NO.	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
					violation type must already exist in the database. Fields 5, 6, and 7 will be used to determine the unique Violation Type which the candidate violation should reference. The System Administrator may supply data in any or all three fields. A violation will be rejected if the data supplied in one or more of these fields: • Results in no valid Violation Type being retrieved. • Results in more than one valid Violation Type being retrieved. If field 5, 6 and 7 are provided, the value in field 7 will take precedence in identifying the violation type, and fields 5 and 6 will be ignored.
6. *	B_VIOLATION_TYPE_SEVERITY_LEVEL	AN	2	29 - 30	CONDITIONALLY MANDATORY - **Duplicate by Data Check for Violation/Vio Group listed at the end of the B_Violation File Layout applies for this field.** For a Violation of a federally defined violation types, see permitted value list. For a Violation of a state-defined violation type, the violation type must already exist in the database. Fields 5, 6, and 7 will be used to determine the unique Violation Type which the candidate violation should reference. The System Administrator may supply data in any or all three fields. A violation will be rejected if the data supplied in one or more of these fields: • Results in no valid Violation Type being retrieved. • Results in more than one valid Violation Type being retrieved. If the B_VIOLATION_TYPE_CODE is valued with "03," "04," "31," "36," or "38," then this field must be valued with either "MN" or "MJ." If not, the row will be rejected. If fields 5, 6, and 7 are provided, the value in field 7 will take precedence in identifying the violation type, and fields 5 and 6 will be

	B_VIOLATION				
FIELD NO.	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					ignored.
7. *	B_VIOLATION_TYPE_IS_NUMBER	N	7	31 - 37	OPTIONAL - **Duplicate by Data Check for Violation/Vio Group listed at the end of the B_Violation File Layout applies for this field.** For a Violation of a federally defined violation types, see permitted value list. For a Violation of a state-defined violation type, the violation type must already exist in the database. Fields 5, 6, and 7 will be used to determine the unique Violation Type which the candidate violation should reference. The System Administrator may supply data in any or all three fields. A violation will be rejected if the data supplied in one or more of these fields: • Results in no valid Violation Type being retrieved. • Results in more than one valid Violation Type being retrieved. If fields 5, 6 and 7 are provided, the value in field 7 will take precedence in identifying the violation type, and fields 5 and 6 will be ignored.
8.*	B_ANALYTE_CODE	AN	4	38 - 41	CONDITIONALLY MANDATORY - Must value if the combination of values supplied in fields 5, 6 and/or 7 (B_VIOLATION_TYPE_CODE) = 01, 02, 11, 21 - 26, 27, 31, 36, 41, 42, 43, 44, 46, 51 - 65, 71, 72, 75 or 76. **Duplicate by Data Check for Violation/Vio Group listed at the end of the B_VIOLATION File Layout applies for this field.** For Violation Types 11, 21 - 26, 27, 31, 36, 41, 42, 43, 44, 46, 51 - 65, 71, 72, 75 and 76, Analyte Code supplied must be paired with the Violation Type indicated in the combination of values supplied in fields 5, 6 and/or 7 (B_VIOLATION_TYPE_CODE) in TMNVTAA: if not, violation will be rejected with this rejection reason: *Analyte Code supplied is not appropriate for supplied Violation Type.* If Violation Type Code = 07 - 10, 28, 37, 38, 47, or 48, this field and

	B_VIOLATION				
FIELD NO.	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					field 9 (B_ANALYTE_GROUP_CODE) may be left blank. For all other federally defined types of violations must supply either this field or field 9 (B_ANALYTE_GROUP_CODE). For all state-defined types of violations fields 8 and 9 may be left blank. If this field is valued, field 9 may not be valued. If both field 8 and field 9 are valued, the row will be rejected.

				B_VIOLATION		
FIELD NO.	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**	
9.	B_ANALYTE_GROUP_CODE	AN	4	42 - 45	CONDITIONALLY MANDATORY - When this field is valued, *Migration to SDWIS/STATE* will create a Violation Group, a violation for each analyte in the group, and will link each of the violations to the Violation Group. An analyte group of this code "value," which must first exist in the database, will then be linked to the Violation Group. Must value if field 8 (B_ANALYTE_CODE) is not valued and the combination of values supplied in fields 5, 6 and/or 7 (B_VIOLATION_TYPE_CODE) = 03 - 06. May value if field 8 (B_ANALYTE_CODE) is not valued and (the combination of values supplied in fields 5, 6 and/or 7 (B_VIOLATION_TYPE_CODE)= 07 - 10 or is state-owned violation type.) Must be blank if the combination of values supplied in fields 5, 6 and/or 7 (B_VIOLATION_TYPE_CODE) = 01, 02, 11, 21 - 26, 27, 31, 36, 41, 42, 43, 44, 46, 51 - 65, 71, 72, 75 or 76. (Note that this is redundant because Analyte Code must be valued for these violation types, and another specification is that you cannot supply both an Analyte and Analyte Group.) If this field is valued, field 8 may not be valued. If both field 8 and field 9 are valued, the violation will be rejected. **Duplicate by Data Check for Violation/Vio Group listed at the end of the B_VIOLATION File Layout applies for this field.**	

		B_VIOLATION			
FIELD NO.	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
10.*	B_RULE_ABBREVIATION	AN	4	46 - 49	OPTIONAL - User should include "TCR" for TCR violations (i.e., 21 - 26) because Rule is mandatory in online system for TCR violations.
11.	B_COMPLIANCE_PERIOD_BEGIN_DT	D	8	50 - 57	CONDITIONALLY MANDATORY - Must value if the FED_REPORT_PERIOD_TYPE = CP and ST_CODE = HQ for the Violation Type record indicated in the combination of values supplied in fields 5, 6 and/or 7 (B_VIOLATION_TYPE_CODE). **Duplicate by Data Check for Violation/Vio Group listed at the end of the B_Violation File Layout applies for this field.** If the combination of values supplied in fields 5, 6 and/or 7 (B_VIOLATION_TYPE_CODE) = 71, B_COMPLIANCE_PERIOD_BEGIN_DT must be 10/19/1999 or 07/01 in a year after 1999. If this edit check is not met, *Migration to SDWIS/STATE* will reject the violation. If the combination of values supplied in fields 5, 6 and/or 7 (B_VIOLATION_TYPE_CODE) = 72, B_COMPLIANCE_PERIOD_BEGIN_DT must be on or after 10/19/1999. If this edit check is not met, *Migration to SDWIS/STATE* will reject the violation. *See note at the end of the B_Violation File Layout for a discussion of the difference between fields 11 and 12 and fields 29 and 30.*
12.	B_COMPLIANCE_PERIOD_END_DT	D	8	58 - 65	CONDITIONALLY MANDATORY - Must value if the FED_REPORT_PERIOD_TYPE = CP and ST_CODE = HQ for the Violation Type record indicated in the combination of values supplied in fields 5, 6 and/or 7 (B_VIOLATION_TYPE_CODE).

B_VIOLATION					
FIELD NO.	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
13.*	B_MONITORING_PERIOD_DURATION	AN	3	66 - 68	OPTIONAL - If supplied, field 11 (B_COMPLIANCE_PERIOD_BEGIN_DT) must be the first day of the first month of the monitoring period. If supplied, and edit checks are met and the monitoring period does not already exist in the database, *Migration to SDWIS/STATE* will create a monitoring period and link it to the violation. If supplied, *Migration to SDWIS/STATE* will check the duration supplied against the date values supplied in field 10 (B_COMPLIANCE_PERIOD_BEGIN_DT) and field 12 (B_COMPLIANCE_PERIOD_END_DT) and correct the duration if necessary. See the explanation for this formula check in field 13 of the Permitted Values list table for this structure set. If the supplied information for a monitoring period does not satisfy the edit checks, the violation will be flagged as changed and a warning message indicating that the supplied monitoring period could not be associated to the violation will be reported on the Changed Rows report. If not supplied, no monitoring period will be created.
14.	B_MONITORING_PERIOD_NAME	AN	12	69 - 80	OPTIONAL - If supplied and the monitoring period exists in the database with a different name, *Migration to SDWIS/STATE* will not change the name in the database.
15.	B_ANALYSIS_RESULT_TEXT	AN	16	81 - 96	CONDITIONALLY MANDATORY - Must value if the combination of values supplied in fields 5, 6 and/or 7 (B_VIOLATION_TYPE_CODE) = 01 or 02. *Must conform to a number of 15(9) so that it can be converted to a number that meets this criteria.*

	B_VIOLATION				
FIELD NO.	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
16.*	B_ANALYSIS_RESULT_UOM_CODE	AN	9	97 - 105	CONDITIONALLY MANDATORY - Must value if field 15 (B_ANALYSIS_RESULT_TEXT) is valued.
17.*	B_CODE_OF_REGULATION_NUMBER	AN	40	106 - 145	OPTIONAL
18.	B_ISSUING_AGENCY	AN	40	146 - 185	OPTIONAL - If valued, must be a valid government agency (Legal Entity type "GA"). If not valued, *Migration to SDWIS/STATE* will associate the violation to the Government Agency marked as the primacy agency in Legal Entity. If no Government Agency is marked as the primacy agency and this field is not valued, *Migration to SDWIS/STATE* will reject the violation with the existing error message.
19.*	B_STATUS_CODE	AN	2	186 - 187	OPTIONAL - If not valued, *Migration to SDWIS/STATE* will set to V (Validated). **Duplicate by Data Check for Violation/Vio Group listed at the end of the B_Violation File Layout applies for this field.**
20.	B_STATUS_DATE	DT	8	188 - 195	MANDATORY - Cannot be prior to the Compliance Period Begin Date supplied in field 11 (B_COMPLIANCE_PERIOD_BEGIN_DT).

B_VIOLATION					
FIELD NO.	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
21.*	B_DATA_ORIGIN_CD	AN	1	196	OPTIONAL - If not valued, *Migration to SDWIS/STATE* will set to "S" (State) or "R" (EPA Region) depending on value of TYPE_CODE in TINGOVAG for the Legal Entity record marked as primacy agency. If valued as "ST," will set to "S"; if valued as "RG," will set to "R"; if neither, set to "S." *Migration to SDWIS/STATE* will update table TINEXSN, the External System Number field where Table Name = "TMNVIOL" and where there is a relationship with the Water System Number supplied in field 1 (B_PWS_NUMBER) and where the value supplied in field 3 (B_VIOLATION_NUMBER) is greater than the value in TINEXSN External System Number. If not found, *Migration to SDWIS/STATE* will create new row in TINEXSN. Set new row table name to TMNVIOL and associate with Water System Number supplied in field 1 (B_PWS_NUMBER).
22.	B_ORIGINATING_VIOL_FY	N	4	197 - 200	CONDITIONALLY MANDATORY - If the violation referenced by fields 5, 6, and 7 is type 75, then originating violation must be supplied or record will be rejected. The violation referenced in fields 1 - 3 will only be considered for Violation Type 75 or 76. *Migration to SDWIS/STATE* will associate the violation referenced in fields 1 - 3 to the violation referenced in fields 22 - 24. Note that both violations must be for the water system referenced in field 1 (B_PWS_NUMBER). If the Originating Violation supplied in fields 22 and 23 does not exist in the database, the entire candidate violation record will be rejected.

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

FIELD NO.	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_VIOLATION				
23.	B_ORIGINATING_VIOL_NUM	N	5	201 - 205	CONDITIONALLY MANDATORY - If the violation referenced by fields 5, 6, and 7 is type 75, then originating violation must be supplied or record will be rejected. The violation referenced in fields 1 - 3 will only be considered for Violation Type 75 or 76. *Migration to SDWIS/STATE* will associate the violation referenced in fields 1 - 3 to the violation referenced in fields 22 - 24. Note that both violations must be for the water system referenced in field 1 (B_PWS_NUMBER). If the Originating Violation supplied in fields 22 and 23 does not exist in the database, the entire candidate violation record will be rejected.
24. *	B_ORIGINATING_VIO GROUP_IND	AN	1	206	CONDITIONALLY MANDATORY - If fields 22 and 23 are valued, value in this field must be Y or N. • If valued with Y, *Migration to SDWIS/STATE* will associate the Originating Violation Group referenced in fields 22 and 23 with the Violation or Violation Group referenced in fields 1 - 3. In this case, *Migration to SDWIS/STATE* will create an association between the violation of Violation Type 75 or 76 referenced in fields 1 - 3 and each of the hidden violations associated to the Originating Violation Group referenced in fields 22 and 23. • If valued with N, *Migration to SDWIS/STATE* will associate the Originating Violation referenced in fields 22 and 23 with the Violation or Violation Group referenced in fields 1 - 3.

B_VIOLATION					
FIELD NO.	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
25.	B_WSF_STATE_ASGN_ID	AN	12	207 - 218	OPTIONAL - The violation will be rejected if the WSF_STATE_ASGN_ID supplied does not exist for the supplied Water System. **Duplicate by Data Check for Violation/Vio Group listed at the end of the B_Violation File Layout applies for this field.** If the combination of values supplied in fields 5, 6 and/or 7 results in a B_VIOLATION_TYPE_CODE = 21- 26, 51 - 65, or 71 or 72, this field must be left blank. Violation will be rejected if B_WSF_STATE_ASGN_ID is valued for these violation types.
26.	B_MCL_VIOLATED_TX	AN	16	219 - 234	OPTIONAL - If supplied, *Migration to SDWIS/STATE* will convert the value in this field to numeric and compare with value in field 15 (B_ANALYSIS_RESULT_TEXT). The numeric value for B_MCL_VIOLATED must be less than the value in field 15, or *Migration to SDWIS/STATE* will reject the candidate violation. If value supplied in this field, but no value supplied for field 14, *Migration to SDWIS/STATE* will reject the candidate violation.
27.*	B_MCL_VIOLATED_UOM_CODE	AN	9	235 - 243	OPTIONAL - If the value supplied does not equal the value in field 16 (B_ANALYSIS_RESULT_UOM_CODE), *Migration to SDWIS/STATE* will reject the candidate violation. If value supplied in this field, but no value supplied for field 16, *Migration to SDWIS/STATE* will reject the candidate violation.
28.*	B_VIOL_TIER_LEVEL	AN	1	244	OPTIONAL - If not supplied, *Migration to SDWIS/STATE* will supply the Tier Level from the Violation Type referenced in the combination of values supplied in fields 5, 6 and/or 7 (B_VIOLATION_TYPE_CODE). This field is intended to record the Tier Level relative to the new Public Notification Rule.
29.	B_VIOLATION_PERIOD_BEGIN_DT	DT	8	245 - 252	CONDITIONALLY MANDATORY - Must value if the

B_VIOLATION					
FIELD NO.	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					FED_REPORT_PERIOD_TYPE = VP and ST_CODE = HQ for the Violation Type record indicated in the combination of values supplied in fields 5, 6 and/or 7 (B_VIOLATION_TYPE_CODE). **Duplicate by Data Check for Violation/Vio Group listed at the end of the B_Violation File Layout applies for this field.** *See note at the end of B_VIOLATION File Layout for a discussion of the difference between fields 11 and 12 and fields 29 and 30.*
30.	B_VIOLATION_PERIOD_END_DT	DT	8	253 - 260	OPTIONAL - If date supplied is before the date supplied in field 29 (B_VIOLATION_PERIOD_BEGIN_DT), violation will be rejected with following Rejection Reason: **B_VIOLATION_PERIOD_END_DT must be on/after B_VIOLATION_PERIOD_BEGIN_DT**. If B_VIOLATION_PERIOD_BEGIN_DT is not valued, then any date is acceptable.
31.	B_VIOLATION_PACKAGE_ID	N	5	261 - 265	OPTIONAL - If supplied, the Violation Package ID will be used to value the Violation Package Number. *If you want to create a new Violation Package, you should supply a Violation Package ID that has not already been used.* This is because the Violation Package ID that you supply will package *that* violation with any other violation in the database (or in the structure set file and not yet in the database) that has that same Violation Package Number. (If you want to create a new Violation Package, you can ensure that your Violation Package ID is unique in SDWIS/STATE by using either MS Access or SQL Plus to sort table TMNVIOL, with sort descending on field PACKAGE_NUMBER, and then incrementing that number by 1 for each new Violation Package you wish to create. If this is a Violation Group (e.g., field 9 B_ANALYTE_GROUP_CODE is valued), the Violation Package ID

B_VIOLATION					
FIELD NO.	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
					will not be stored with the Violation Group table (TMNVGRP) but will be stored with each hidden violation that belongs to the Violation Group. Again, the same advisory applies in terms of using a unique Violation Package ID if you wish to create a new Violation Package.
32. *	B_REP0RT_PACKAGED_VIO_TO_FED_IND	AN	1	266	OPTIONAL - If field 31 (B_VIOLATION_PACKAGE_ID) is valued, this field may be valued with a Y or N. This indicator is used to mark the violation(s) in the package that should be reported to SDWIS/FED. If field 31 is valued, and this field is not valued, the default will be set to Y. If field 31 is not valued, this field will be ignored. If field 31 is valued and this field contains something other than Y or N, this field will be set to the default value of Y.
33.	B_REMARKS_TEXT	ANmc	120	267 - 386	OPTIONAL

I.   Duplicate by Data Check for Violation or Violation Group

For all "HQ" Violation Types except 21- 26, 51 - 65, 71 and 72, the following checks apply to both individual violations (not linked to a violation group) and hidden violations. If *Migration to SDWIS/STATE* encounters an individual violation (not linked to a violation group) or hidden violation that matches the same criteria as one of the hidden violations that would be created, the candidate violation group (any hidden violations that would have been created) will be rejected.

a.   If field 24 (B_STATE_ASGN_ID_CD) is *not supplied*, this duplicate check is the combination of field 19 (B_STATUS_CODE of either potential (P) or valid (V)) and field 1 (B_PWS_NUMBER) and the Violation Type referenced by the combination of values supplied in fields 5, 6 and/or 7 and (either field 8 (B_ANALYTE_CODE) or field 9 (B_ANALYTE_GROUP_CODE) and either:

i.   Field 11 (B_COMPLIANCE_PERIOD_BEGIN_DT), if the FED_REPORT_PERIOD_TYPE = "CP" for the Violation Type record indicated by the combination of values supplied in fields 5, 6 and/or 7 or

ii.   Field 29 (B_VIOLATION_PERIOD_BEGIN_DT) if the FED_REPORT_PERIOD_TYPE = "VP" for the Violation Type record indicated in the combination of values supplied in fields 5, 6 and/or 7

regardless of whether the existing violation references a Water System Facility or not. (Note that for those violation types such as 27MJ and 27MN where the severity level is explicitly included, the uniqueness criteria should allow a violation of the same type for each of the two severity levels.) For violation types 07 - 10, 28, 37, 38, 47, or 48 which may not have an analyte code, incorporate the following fields in the uniqueness check: Violation Status (potential or valid) plus Violation Type plus Water System plus Compliance Period Begin Date. The candidate violation will be rejected as a duplicate if a violation meeting this criteria is found in the database.

b.   If field 24 (B_STATE_ASGN_ID_CD) *is supplied and is valid for the supplied Water System*, this duplicate check is the combination of field 19 (B_STATUS_CODE of either potential (P) or valid (V)) and field 1 (B_PWS_NUMBER) and the Violation Type record indicated by the combination of values supplied in fields 5, 6 and/or 7 and (either field 8 (B_ANALYTE_CODE) or field 9 (B_ANALYTE_GROUP_CODE) and either:

i.   Field 11 (B_COMPLIANCE_PERIOD_BEGIN_DT), if the FED_REPORT_PERIOD_TYPE = "CP" for the Violation Type record indicated by the combination of values supplied in fields 5, 6 and/or 7; or

ii.   Field 29 (B_VIOLATION_PERIOD_BEGIN_DT) if the FED_REPORT_PERIOD_TYPE = "VP" for the Violation Type record indicated by the combination of values supplied in fields 5, 6 and/or 7. If a violation meeting this criteria is found in the database:

(I)   If the existing violation *does not reference a Water System Facility,* reject the candidate violation as a duplicate.

(a)   If the supplied water system facility is the same as the Water System Facility of the existing violation, reject the candidate violation as a duplicate.

(b)   Else accept the violation (assuming all other edit checks are met).

For Violation Types 21- 26, 51 - 65, 71 and 72 (applies only to violations; violation groups cannot be created for these type violations).

I.   This duplicate check is the combination of field 19 (B_STATUS_CODE of either potential (P) or valid (V)) and field 1 (B_PWS_NUMBER) and the Violation Type referenced by the combination of values supplied in fields 5, 6 and/or 7 and field 8 (B_ANALYTE_CODE) and either:

a. Field 11 (B_COMPLIANCE_PERIOD_BEGIN_DT), if the FED_REPORT_PERIOD_TYPE = "CP" for the Violation Type record indicated by the combination of values supplied in fields 5, 6 and/or 7; or

b.Field 29 (B_VIOLATION_PERIOD_BEGIN_DT) if the FED_REPORT_PERIOD_TYPE = "VP" for the Violation Type record indicated in the combination of values supplied in fields 5, 6 and/or 7). The candidate violation will be rejected as a duplicate if a violation meeting this criteria is found in the database.

For Violations or Violation Groups of state-owned Violation Types, there is no uniqueness criteria.

II.   Duplicate by Violation/Violation Group Number Check

The duplicate number check for violation/violation group is on the combination of field 1 (B_PWS_NUMBER), and field 2 (B_FED_FISCAL_YEAR - which may be extracted from field 4 (B_DETERMINATION_DATE)), and field 3 (B_VIOLATION_NUMBER). This check applies to all violations/violation groups; any violation/violation group that fails this check will be rejected.

**Note that the uniqueness/duplicate checks for a Violation Group are the same criteria as for a violation. However, both violation and violation group are unique within themselves. For example, *Migration to SDWIS/STATE* will accept a violation (not already in the database) of PWS: (X) + Vio Number (00001) + Fed_Fiscal Year (1998) *and* violation group (not already in the database) of PWS: (X) + Vio Number (00001) + Fed_Fiscal Year (1998). This does not constitute a duplicate because individual violations are linked to analytes and violation groups are linked to analyte groups.

III.   Methods of Characterizing a Violation's Compliance Period

EPA has two ways of characterizing a compliance period for a violation.

1.   The first has been the norm for a number of years and is defined by the monitoring period in effect at the time a violation occurred. In SDWIS/STATE, fields 11 (B_COMPLIANCE_PERIOD_BEGIN_DT) and 12 (B_COMPLIANCE_PERIOD_END_DT) are used for this method.

2.   The second method is more recent and generally is used for violations of requirements that are satisfied by a single event (e.g., two rounds of monitoring, submit a one-time report), or are not well characterized by the monitoring period in effect at the time the violation occurred (e.g., maximum permissible limit violation under LCRMR). For this method, the compliance period begin date reflects the first day after the end of the time period for which the requirement was to be evaluated or the first day the exceedance occurred (or perhaps determined) and the compliance period end date reflects the date the violation was corrected. In SDWIS/STATE this method of characterizing a violation is captured in fields 29 (B_VIOLATION_PERIOD_BEGIN_DT) and 30 (B_VIOLATION_PERIOD_END_DT).

Users are free to use both methods of characterizing compliance periods. However, for EPA-defined violation types (HQ rows in the Violation Type table), users must supply one or the other, depending on the FED_REPORT_PERIOD_TYPE value recorded with the Violation Type. This value is used by the *Migration to SDWIS/FED* software to know which date fields to use when creating data elements C1107 - COMPLIANCE PERIOD BEGIN DATE and C1109 - COMPLIANCE PERIOD END DATE.

27.2 B_Violation Permitted Value List

B_VIOLATION		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
5.	B_VIOLATION_TYPE_CODE These are federal permitted values. States may also create violation types, all of which are permitted.	**01** MCL, Single Sample **02** MCL, Average, without no. of exceedance(s) **02** MCL, Average, with no. of exceedance(s) **03** Monitoring, Routine Minor **03** Monitoring, Routine Major **04** Monitoring, Repeat Minor **04** Monitoring, Repeat Major **05** Notification, State **06** Notification, Public **07** Treatment Techniques (Non-SWTR) **08** Variance/Exemption/Compliance Schedule **09** Record Keeping **10** Operations Report **11** Max Res Disinfect Lvl (MRDL) **11** Max Res Disinfect Lvl (MRDL), Acute **11** Max Res Disinfect Lvl (MRDL), Non-Acute **11** Max Res Disinfect Lvl (MRDL), Monitoring **12** Qualified Operator Failure (DBP) **21** MCL, Acute (TCR) **22** MCL, Monthly (TCR) **23** Monitoring, Routine Major (TCR) **24** Monitoring, Routine Minor (TCR) **25** Monitoring, Repeat Major (TCR) **26** Monitoring, Repeat Minor (TCR)

B_VIOLATION		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
5.	B_VIOLATION_TYPE_CODE (continued) These are federal permitted values. States may also create violation types.	27 Monitoring, Routine (DBP), Major 27 Monitoring, Routine (DBP), Minor 27 Monitoring, (DBP) Without No. of Miss Samp 27 Monitoring, (DBP) With No. of Miss Samp 28 Sanitary Survey (TCR) 29 Individual Filter Trigger M/R (IESWTR) 31 Monitoring, Rtn/Rpt Minor (SWTR-UNFILT) 31 Monitoring, Rtn/Rpt Major (SWTR-UNFILT) 36 Monitoring, Rtn/Rpt Minor (SWTR-FILTER) 36 Monitoring, Rtn/Rpt Major (SWTR-FILTER) 37 Failure to Profile/Consult (IESWTR) 38 Major M/R Violation (IESWTR) 38 Minor M/R Violation (IESWTR) 41 Treatment Technique (TURB) Single Exceedance 41 Treatment Technique (SWTR) 5% of Results Exceed 41 Treatment Technique (SWTR) Other 42 Failure to Filter (SWTR) 43 Single Comb. Filter Effluent (IESWTR) 44 Monthly Comb. Filter Effluent (IESWTR) 46 Inadequate DBP Precursor Removal 47 Uncovered Storage Facility (IESWTR) 48 Failure to Properly Recycle (FBR) 49 Failure to Submit Plant Schematic (FBR)

B_VIOLATION		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
5.	B_VIOLATION_TYPE_CODE (continued) These are federal permitted values. States may also create violation types.	**51** Initial Tap Sampling (PB/CU) **52** Routine/Repeat Tap Sampling (PB/CU) **53** Water Quality Parameter M&R **56** Initial/Rtn/Repeat SRC WTR Mon (PB/CU) **57** OCCT/SOWT Recommendation/Study **58** OCCT/SOWT Installation/Demonstration **59** Water Quality Parameter Non-Compliance **63** MPL Non-Compliance (PB/CU) **64** Lead Service Line Replacement (PB/CU) **65** Public Education (PB/CU) **71** CCR Report **72** CCR Adequacy/Availability/Content **75** Public Notice Rule Linked to Violation **76** Public Notice Rule Not Linked to Violation
6.	B_VIOLATION_TYPE_SEVERITY LEVEL	**MJ** Major **MN** Minor **MX** Single exceedence of a maximum turbidity level (old Turbidity Rule) **95** Exceeded maximum turbidity level in more than 5% of samples **AC** Acute MRDL violation **NC** Non-acute MRDL violation
6.	B_VIOLATION_TYPE_SEVERITY LEVEL if B_VIOLATION_CODE = 03, 04, 23, 25, 27, 31, 36, 38, or 71.	**MJ** Major
6.	B_VIOLATION_TYPE_SEVERITY LEVEL if B_VIOLATION_CODE = 03, 04, 24, 26, 27, 31, 36, 38, or 71.	**MN** Minor

B_VIOLATION		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
6.	B_VIOLATION_TYPE_SEVERITY LEVEL if B_VIOLATION_CODE = 41	**MX** Single exceedence of a maximum turbidity level (old Turbidity Rule)
6.	B_VIOLATION_TYPE_SEVERITY LEVEL if B_VIOLATION_CODE = 41	**95** Exceeded maximum turbidity level in more than 5% of samples
6.	B_VIOLATION_TYPE_SEVERITY LEVEL if B_VIOLATION_CODE = 11	**AC** Acute MRDL violation for chlorine dioxide
6.	B_VIOLATION_TYPE_SEVERITY LEVEL if B_VIOLATION_CODE = 11	**NC** Non-acute MRDL violation for chlorine dioxide

8.	B_ANALYTE_CODE
	    If B_VIOLATION_TYPE_CODE is a state-
	    defined code.
		Any analyte in the Analyte Table. The current list of federally owned analytes is available in the SDWIS/STATE Online Data Dictionary, the online SDWIS Administration (Analyte Maintenance) component, and via RELATION.MDB.

8.	B_ANALYTE_CODE If B_VIOLATION_TYPE_CODE is 01 - 10	Any Analyte can be used except an Analyte whose TYPE_CODE is equal to RL (Rule) or OT (Other), or CODE is equal to PB90 or CU90.

8.	B_ANALYTE_CODE
	    If B_VIOLATION_TYPE_CODE is federally
	    defined and is greater than 10.
		See the Online Data Dictionary or a query linking the Violation Type (TMNVTYPE), Violation Type Analyte Assignment (TMNVTAA), and Analyte (TSAANLYT) tables for a listing of permitted values for each Violation Type.

B_VIOLATION		
FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
10.	B_RULE_ABBREVIATION	**TCR** Total Coliform Rule **FL** Fluoride Rule **PBCU** Lead & Copper Rule **PH1** Phase I Rule **PH2** Phase II Rule **PH5** Phase V Rule **RAD** Radionuclide Rule **SEC** Secondary Contaminant Rule **SWTR** Surface Water Treatment Rule **THM** Total Trihalomethane Rule **DBP1** Disinfection Byproducts Rule, Stage 1 **SUL** Sulfate Rule **ESWT** Interim Enhanced SWTR **IOC** Inorganic Chemicals **TURB** Turbidity Rule **ORG** Organic Chemical Rule **PN** Public Notification Rule **SMR** Special Monitoring Rule **BACT** Total Coliform (Old) **CCR** Consumer Confidence Reports Rule **UNK** Unknown Rule

B_VIOLATION		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
13.	B_MONITORING_PERIOD_DURATION	**MN** Monthly (B_Compliance_Period_Begin_Dt + 1 month) - 1 day **QT** Quarterly (B_Compliance_Period_Begin_Dt + 3 months) - 1 day **6M** Every 6 months (B_Compliance_Period_Begin_Dt + 6 months) - 1 day **YR** Yearly (B_Compliance_Period_Begin_Dt + 12 months) - 1 day **2Y** Every 2 years (B_Compliance_Period_Begin_Dt + 2 years) - 1 day **3Y** Every 3 years (B_Compliance_Period_Begin_Dt + 3 years) - 1 day **4Y** Every 4 years (B_Compliance_Period_Begin_Dt + 4 years) - 1 day **5Y** Every 5 years (B_Compliance_Period_Begin_Dt + 5 years) - 1 day **6Y** Every 6 years (B_Compliance_Period_Begin_Dt + 6 years) - 1 day **7Y** Every 7 years (B_Compliance_Period_Begin_Dt + 7 years) - 1 day **8Y** Every 8 years (B_Compliance_Period_Begin_Dt + 8 years) - 1 day **9Y** Every 9 years (B_Compliance_Period_Begin_Dt + 9 years) - 1 day **10Y** Every 10 years (B_Compliance_Period_Begin_Dt + 10 years) - 1 day

B_VIOLATION	
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**

FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES	
16.	B_ANALYSIS_RESULT_UOM_CODE	**%LUM**	Percent of Luminance (for measuring color)
		%PUR	Percent of Purity (for measuring color)
		ADMIU	American Dye Manufacturers Institute Units (for measuring color)
		AGGR	Aggressive Index (for corrosivity)
		C	Degrees Celsius
		CM-1	Total Absorbance for UV
		CT	Contact Time
		CU	Color Units
		F	Degrees Fahrenheit
		FTU	Flavor Threshold Units (for measuring taste and odor)
		LANG	Langlier Index (for measuring corrosivity)
		LBS/CFT	Pounds/Cubic Foot (for measuring density)
		LBS/GAL	Pounds/Gallon (for measuring density)
		MFL	Million of Fibers/Liter (for measuring asbestos)
		MG/L	Milligrams/Liter (AKS Parts per Million - ppm)
		MREM	Millirems/Liter
		MREMY	Millirems/Liter/Year
		NG/L	Nanograms/Liter (AKA Parts per Trillion - ppt)
		NMT	Nanometers (to measure color wave length)
		NTU	Nephlometric Turbidity Units
		OBSVNS	Observations/Field at 100 power
		PH	PH Measure (parts hydrogen (pH 0 - 14))
		PIC/L	Picocuries/Liter
		SU	Standard Units (for measuring color)
		TON	Threshold Odor Number (for odor)
		UG/L	Micrograms/Liter (AKA Parts per Billion - ppb)
		UMHOS/CM	Microhos/Centimeter (for measuring conductivity)

B_VIOLATION		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
17.	B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = TCR	**141.21 (a) (2)** Coliform Sampling **141.21 (a) (3) (i)** Coliform Sampling **141.21 (a) (3) (ii)** Coliform Sampling **141.21 (a) (3) (iii)** Coliform Sampling **141.21 (a) (3) (iv)** Coliform Sampling **141.21 (a) (5)** Coliform Sampling **141.21 (b) (1) - (2), (4)** Coliform Sampling **141.21 (b) (5)** Coliform Sampling **141.21 (d) (1) (i)** Coliform Sampling **141.52** Microbiological MCLGS **141.63** Coliform Sampling **142.63** Variances - Treatment
17.	B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = FL	**142.61** Variances - Treatment
17.	B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = PBCU	**141.80 "(c)"** Action Levels for Lead and Copper **141.86** Monitoring Requirements **141.87** Monitoring Requirements **141.90** Reporting Requirements
17.	B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = PH1	**141.50** Organic Chemical MCLGS
17.	B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = PH2	**141.61** Organic Chemical BATS **141.61** Organic Chemical MCLS **141.62** Inorganic Chemical BATS **141.62** Inorganic Chemical MCLS **142.62** Variances - Treatment

* Designates field with permitted values.   A-330   + Shaded gray blocks designate changes to previously published Structure Sets.

B_VIOLATION		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
17.	B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = RAD	**141.15** Radionuclide Gross Alpha MCLS **141.16** Radionuclide Gross Beta MCLS **141.26** Radionuclide Monitoring Requirements
17.	B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = SEC	**143.3** Secondary MCL - General **143.4** Secondary - Monitoring **143.5** Secondary MCL - Fluoride
17.	B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = SWTR	**141.72** Disinfection **141.73** Filtration **141.74** Monitoring Requirements **141.75** Reporting Requirements
17.	B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = THM	**141.12** Trihalomethane MCLS **141.30** Trihalomethane Monitoring **142.60** Variances - Treatment
17.	B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = IOC	**141.11** Inorganic Chemical MCLS **141.11** Lead MCL **141.23** Inorganic Chemical Monitoring **141.51** Inorganic Chemical MCLGS
17.	B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = TURB	**141.13** Turbidity MCLS **141.22** Turbidity Monitoring
17.	B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = ORG	**141.24** Organic Chemical Monitoring
17.	B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = PN	**141.32** Public Notification - MCL **141.32** Public Notification - Monitoring **141.32** Public Notification - Treatment **141.34** Public Notification - Lead **141.35** Public Notification - Unregulated

B_VIOLATION	
FIELD NO / **ATTRIBUTE NAME**	**PERMITTED VALUES**
17. B_CODE_OF_REGULATION_NUMBER If B_RULE_ABBREVIATION = SMR	**141.40** Special Monitoring - IOC/OC **141.41** Special Monitoring - Sodium **141.42** Special Monitoring - Corrosivity
19. B_STATUS_CODE	**P** Potential **R** Rejected **V** Validated **D** Deleted
21. B_DATA_ORIGIN_CD	**H** Headquarters **R** Region **S** State
24. B_ORIGINATING_GROUP_VIO_IND	**Y** Originating violation is a Group Violation **N** Originating violation is not a Group Violation

B_VIOLATION	
FIELD NO **ATTRIBUTE NAME**	**PERMITTED VALUES**
27. B_MCL_VIOLATED_UOM_CODE	**%LUM** Percent of Luminance (for measuring color)
	%PUR Percent of Purity (for measuring color)
	ADMIU American Dye Manufacturers Institute Units (for measuring color)
	AGGR Aggressive Index (for corrosivity)
	C Degrees Celsius
	CM-1 Total Absorbance for UV
	CT Contact Time
	CU Color Units
	F Degrees Fahrenheit
	FTU Flavor Threshold Units (for measuring taste and odor)
	LANG Langlier Index (for measuring corrosivity)
	LBS/CFT Pounds/Cubic Foot (for measuring density)
	LBS/GAL Pounds/Gallon (for measuring density)
	MFL Million of Fibers/Liter (for measuring asbestos)
	MG/L Milligrams/Liter (AKS Parts per Million - ppm)
	MREM Millirems/Liter
	MREMY Millirems/Liter/Year
	NG/L Nanograms/Liter (AKA Parts per Trillion - ppt)
	NMT Nanometers (to measure color wave length)
	NTU Nephlometric Turbidity Units
	OBSVNS Observations/Field at 100 power
	PH PH Measure (parts hydrogen (pH 0 - 14))
	PIC/L Picocuries/Liter
	SU Standard Units (for measuring color)
	TON Threshold Odor Number (for odor)
	UG/L Micrograms/Liter (AKA Parts per Billion - ppb)
	UMHOS/CM Microhos/Centimeter (for measuring conductivity)

B_VIOLATION		
FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
28.	B_VIOL_TIER_LEVEL	**1** **2** **3**
32.	B_REPORT_PACKAGED_VIO_TO_FED_IND	**Y** **N**

27.3   B_Violation Mapping to SDWIS/STATE Entities

FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
			B_VIOLATION		
1.	B_Violation	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Violation	B_FED_FISCAL_YEAR	TMNVIOL or TMNVGRP	Violation Violation Group	FED_FISCAL_YEAR
3.	B_Violation	B_VIOLATION_NUMBER	TMNVIOL or TMNVGRP	Violation Violation Group	EXTERNAL_SYSTEM_NUMBER GROUP_NUMBER
4.	B_Violation	B_DETERMINATION_DATE	TMNVIOL	Violation	DETERMINATION_DATE
5.	B_Violation	B_VIOLATION_TYPE_CODE	TMNVTYPE	Violation Type	TYPE_CODE
6.	B_Violation	B_VIOLATION_TYPE_SEVERITY_LEVEL	TMNVTYPE	Violation Type	SEVERITY_LEVEL
7.	B_Violation	B_VIOLATION_TYPE_IS_NUMBER	TMNVTYPE	Violation Type	VIOLATION_TYPE_IS_NUMBER
8.	B_Violation	B_ANALYTE_CODE	TSAANLYT	Analyte	CODE (*Foreign Key*)
9.	B_Violation	B_ANALYTE_GROUP_CODE	TSAANGRP	Analyte Group	CODE (*Foreign Key*)
10.	B_Violation	B_RULE_ABBREVIATION	TMNRULE	Rule	ABBREVIATION_TEXT (*Foreign Key*)
11.	B_Violation	B_COMPLIANCE_PERIOD_BEGIN_DT	TMNVIOL TMNMPRD	Violation Monitoring Period	COMP_PRD_BEGIN_DT BEGIN_DATE
12.	B_Violation	B_COMPLIANCE_PERIOD_END_DT	TMNVIOL TMNMPRD	Violation Monitoring Period	COMP_PRD_END_DT END_DATE
13.	B_Violation	B_MONITORING_PERIOD_DURATION	TMNMPRD	Monitoring Period	TYPE_CODE (*Foreign Key*)
14.	B_Violation	B_MONITORING_PERIOD_NAME	TMNMPRD	Monitoring Period	NAME (*Foreign Key*)
15.	B_Violation	B_ANALYSIS_RESULT_TEXT	TMNVIOL	Violation	ANALYSIS_RESULT_TEXT / ANALYSIS_RESULT_MEASURE
16.	B_Violation	B_ANALYSIS_RESULT_UOM_CODE	TMNVIOL	Violation	ANALYSIS_RESULT_UOM_CODE
17.	B_Violation	B_CODE_OF_REGULATION_NUMBER	TMNCOR	Code of Regulation	REGULATION_NUMBER (*Foreign Key*)
18.	B_Violation	B_ISSUING_AGENCY	TINLGENT	Legal Entity	NAME (*Foreign Key*)

		B_VIOLATION			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
19.	B_Violation	B_STATUS_CODE	TMNVIOST TMNVIOL	Violation Status Violation	TYPE_CODE D_CURRENT_STATUS_TYPE_CODE
20.	B_Violation	B_STATUS_DATE	TMNVIOST	Violation Status	DETERMINATION_DATE
21.	B_Violation	B_DATA_ORIGIN_CD	TMNVIOL	Violation	D_DATA_ORIGIN_CD
22.	B_Violation	B_ORIGINATING_VIOL_FY	TMNORVIA	Violation	FED_FISCAL_YEAR *(Foreign Key)*
23.	B_Violation	B_ORIGINATING_VIOL_NUM	TMNORVIA TMNVGRP	Violation Violation Group	EXTERNAL_SYSTEM_NUMBER *(Foreign Key)* GROUP_NUMBER *(Foreign Key)*
24.	B_Violation	B_ORIGINATING_VIO_GROUP_IND	N/A	N/A	This value is not stored.
25.	B_Violation	B_WSF_STATE_ASGN_ID_CD	TINWSF	Water System Facility	ST_ASGN_IDENT_CD
26.	B_Violation	B_MCL_VIOLATED_TX	TMNVIOL	Violation	MCL_VIOLATED_TX
27.	B_Violation	B_MCL_VIOLATED_UOM_CODE	TMNVIOL	Violation	MCL_VIOLATED_UOM_CODE
28.	B_Violation	B_VIOL_TIER_LEVEL	TMNVIOL	Violation	TIER_LEVEL
29.	B_Violation	B_VIOLATION_PERIOD_BEGIN_DT	TMNVIOL	Violation	PERIOD_BEGIN_DATE
30.	B_Violation	B_VIOLATION_PERIOD_END_DT	TMNVIOL	Violation	PERIOD_END_DATE
31.	B_Violation	B_VIOLATION_PACKAGE_ID	TMNVIOL	Violation	PACKAGE_NUMBER
32.	B_Violation	B_REPORT_PACKAGED_VIO_TO_FED_IND	TMNVIOL	Violation	REPORT_PACKAGED_VIO_TO_FED_FLG
33.	B_Violation	B_REMARKS_TEXT	TMNVIOL	Violation	REMARKS_TEXT

27.4 B_Violation Structure Set to Staging Table Mapping

		B_VIOLATION		
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
1.	B_Violation	B_PWS_NUMBER	TMGVIOL	B_PWS_NUMBER
2.	B_Violation	B_FED_FISCAL_YEAR	TMGVIOL	B_FISCAL_YEAR
3.	B_Violation	B_VIOLATION_NUMBER	TMGVIOL	B_VIOLATION_NUMBER
4.	B_Violation	B_DETERMINATION_DATE	TMGVIOL	B_DETERMINE_DATE
5.	B_Violation	B_VIOLATION_TYPE_CODE	TMGVIOL	B_VIOL_TYP_CD
6.	B_Violation	B_VIOLATION_TYPE_SEVERITY_LEVEL	TMGVIOL	B_VIOL_TYP_SEV_LVL
7.	B_Violation	B_VIOLATION_TYPE_IS_NUMBER	TMGVIOL	B_VIOL_TYP_IS_NO
8.	B_Violation	B_ANALYTE_CODE	TMGVIOL	B_ANALYTE_CD
9.	B_Violation	B_ANALYTE_GROUP_CODE	TMGVIOL	B_ANALYTE_GRP_CD
10.	B_Violation	B_RULE_ABBREVIATION	TMGVIOL	B_RULE_ABBREV
11.	B_Violation	B_COMPLIANCE_PERIOD_BEGIN_DT	TMGVIOL	B_COMP_PRD_BGN_DAT
12.	B_Violation	B_COMPLIANCE_PERIOD_END_DT	TMGVIOL	B_COMP_PRD_END_DAT
13.	B_Violation	B_MONITORING_PERIOD_DURATION	TMGVIOL	B_MON_PRD_DURATION
14.	B_Violation	B_MONITORING_PERIOD_NAME	TMGVIOL	B_MON_PRD_NAME
15.	B_Violation	B_ANALYSIS_RESULT_TEXT	TMGVIOL	B_ANALSYS_RSLT
16.	B_Violation	B_ANALYSIS_RESULT_UOM_CODE	TMGVIOL	B_ANA_RSLT_UOM_CD
17.	B_Violation	B_CODE_OF_REGULATION_NUMBER	TMGVIOL	B_COR_NUMBER
18.	B_Violation	B_ISSUING_AGENCY	TMGVIOL	B_ISSUING_AGENCY
19.	B_Violation	B_STATUS_CODE	TMGVIOL	B_STATUS_CD
20.	B_Violation	B_STATUS_DATE	TMGVIOL	B_STATUS_DATE
21.	B_Violation	B_DATA_ORIGIN_CD	TMGVIOL	B_DATA_ORIGIN_CD
22.	B_Violation	B_ORIGINATING_VIOL_FY	TMGVIOL	B_ORIG_VIOL_FY

		B_VIOLATION		
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
23.	B_Violation	B_ORIGINATING_VIOL_NUM	TMGVIOL	B_ORIG_VIOL_NO
24.	B_Violation	B_ORIGINATING_VIO_GROUP_IND	TMGVIOL	B_ORIG_VIO_GRP_IND
25.	B_Violation	B_WSF_STATE_ASGN_ID_CD	TMGVIOL	B_WSF_STAT_ASGN_ID
26.	B_Violation	B_MCL_VIOLATED_TX	TMGVIOL	B_MCL_VIOLATED_TX
27.	B_Violation	B_MCL_VIOLATED_UOM_CODE	TMGVIOL	B_MCL_VIOLATED_UOM
28.	B_Violation	B_VIOL_TIER_LEVEL	TMGVIOL	B_VIOL_TIER_LEVEL
29.	B_Violation	B_VIOLATION_PERIOD_BEGIN_DT	TMGVIOL	B_VIO_PRD_BEGIN_DT
30.	B_Violation	B_VIOLATION_PERIOD_END_DT	TMGVIOL	B_VIO_PRD_END_DT
31.	B_Violation	B_VIOLATION_PACKAGE_ID	TMGVIOL	B_VIO_PACKAGE_ID
32.	B_Violation	B_REPORT_PACKAGED_VIO_TO_FED_IND	TMGVIOL	B_RPT_PCK_VIO_FED
33.	B_Violation	B_REMARKS_TEXT	TMGVIOL	B_REMARKS_TXT

28.0   STRUCTURE SET B_Enforcement_Action

28.1   B_Enforcement_Action File Layout

The enforcement action rows in the B_ENFORCEMENT_ACTION/TMGENACT staging table should be sorted first by B_PWS_NUMBER, then by B_ENFORCEMENT_ACTION_NUMBER, ascending order.

	B_ENFORCEMENT_ACTION				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - **Uniqueness/Duplicate check for Enforcement Action is on the combination of field 1 (B_PWS_NUMBER), field 3 (B_ENFORCEMENT_ACTION_NUMBER), and field 12 (B_FED_FISCAL_YEAR)**.
2.	B_REGULATING_AGENCY	AN	40	10 - 49	MANDATORY - Value supplied must be a valid government agency (Legal Entity type "GA"). Please note that when migrating enforcement actions from a SDWIS/FED extract, this field may be blank. If the regulating agency is not in the text file supplied from a SDWIS/FED extract, you will need to value it prior to migrating your enforcement actions into SDWIS/STATE. You can either add the necessary regulating agency name to the text file or append the regulating agency name directly into the TMGENACT staging table (B_Regulating_Agcny field) using MS Access, SQL Plus, or other similar tool.

B_ENFORCEMENT_ACTION					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
3.	B_ENFORCEMENT_ACTION_NUMBER	N	5	50 - 54	OPTIONAL - **Uniqueness/Duplicate check for Enforcement Action is on the combination of field 1 (B_PWS_NUMBER), field 3 (B_ENFORCEMENT_ACTION_NUMBER), and field 12 (B_FED_FISCAL_YEAR). The B_Enforcement_Action_Number must be unique within the Water System for a given fiscal year.** If not valued, *Migration to SDWIS/STATE* will populate with an internally generated External System Number. This field must be populated either by the user (through the data supplied in the structure set formatted text file) or by the *Migration to SDWIS/STATE* software; however, if generated by the software, the change will not appear on the change report. The value supplied in this field will be updated to the TINEXSN row where the table-name is "TENENACT" under the following conditions: 1. Value of this field 3 is greater than the current value of the external number and 2. The B_DATA_ORIGIN_CD value in field 11 = "S," (by input or default) and the primacy code of the government agency for the water system is "ST" or B_DATA_ORIGIN_CD value in field 11 = "R," (by input or default) and the primacy code of the government agency for the water system is "RG." The value supplied in this field will be ignored and an internally generated External System Number will be provided for all other combinations of B_DATA_ORIGIN_CD and primacy code. This is because those enforcement actions will not be communicated back to SDWIS/FED. An alternative data capture option for these is the

B_ENFORCEMENT_ACTION					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
4.	B_STATUS_DATE	DT	8	55 - 62	MANDATORY - If Fed Fiscal Year is not supplied in field 12 (B_FED_FISCAL_YEAR) *Migration to SDWIS/STATE* will calculate fiscal year based on the date in this field.
5. *	B_STATUS_CODE	AN	1	63	OPTIONAL - If not valued, *Migration to SDWIS/STATE* will set to "T" (Taken).
6.	B_REMARKS_TEXT	ANmc	200	64 - 263	OPTIONAL
7. *	B_LOCATION_TYPE_CODE	AN	1	264	MANDATORY - For an enforcement action that uses a federally defined action type (TENACTYP-STATE-CODE = HQ), the value in field 7 (B_LOCATION_TYPE_CODE), field 8 (B_FORMAL_TYPE_CODE), and field 9 (B_SUB_CATEGORY_CODE) must be one of the list of valid federal combinations listed in the Permitted Values table. For an enforcement action that uses a state-defined action type (TENACTYP-STATE-CODE not equal to HQ), the action type must already exist in the database.
8. *	B_FORMAL_TYPE_CODE	AN	1	265	MANDATORY - For an enforcement action that uses a federally defined action type (TENACTYP-STATE-CODE = HQ), the value in field 7 (B_LOCATION_TYPE_CODE), field 8 (B_FORMAL_TYPE_CODE), and field 9 (B_SUB_CATEGORY_CODE) must be one of the list of valid federal combinations listed in the Permitted Values table. For an enforcement action that uses a state-defined action type (TENACTYP-STATE-CODE not equal to HQ), the action type must already exist in the database.

B_ENFORCEMENT_ACTION					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
9. *	B_SUB_CATEGORY_CODE	AN	1	266	MANDATORY - For an enforcement action that uses a federally defined action type (TENACTYP-STATE-CODE = HQ), the value in field 7 (B_LOCATION_TYPE_CODE), field 8 (B_FORMAL_TYPE_CODE), and field 9 (B_SUB_CATEGORY_CODE) must be one of the list of valid federal combinations listed in the Permitted Values table. For an enforcement action that uses a state-defined action type (TENACTYP-STATE-CODE not equal to HQ), the action type must already exist in the database.
10.	B_VIOLATION_NUMBER	N	5	267 - 271	CONDITIONALLY MANDATORY - Must supply if field 13 (B_VIOLATION_FED_FISCAL_YEAR) is valued. If supplied, must be taken against the same water system as supplied in field 1 (B_PWS_NUMBER). The combination of a B_Water_System_Number and a B_Enforcement_Action_Number may be repeated if there are additional unique B_Violation Numbers to link to the enforcement action. If this field is blank and the combination of B_Water_System_Number and B_Enforcement_Action_Number is repeated, this constitutes a duplicate enforcement action, which will be rejected. If the violation indicated by values in fields 10 and 13 cannot be found in the SDWIS/STATE database, the record will be rejected. If the enforcement action indicated by values in fields 1, 3, and 12 is a new enforcement action also being created with the record, it will be rejected along due to the violation not found error and not created.

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_ENFORCEMENT_ACTION				
11. *	B_DATA_ORIGIN_CD	AN	1	272	OPTIONAL - If not valued, *Migration to SDWIS/STATE* will set to "S" (State) or "R" (EPA Region) depending on value of TYPE_CODE in TINGOVAG for the Legal Entity record marked as primacy agency: if valued as "ST," will set to "S;" if valued as "RG," will set to "R;" if neither, set to "S."
12.	B_FED_FISCAL_YEAR	N	4	273 - 276	OPTIONAL - **Uniqueness/Duplicate check for Enforcement Action is on the combination of field 1 (B_PWS_NUMBER), field 3 (B_ENFORCEMENT_ACTION_NUMBER), and field 12 (B_FED_FISCAL_YEAR).** If not valued, *Migration to SDWIS/STATE* software will set based on date supplied in field 4 (B_STATUS_DATE). If valued, *Migration to SDWIS/STATE* software will accept the supplied value and not recalculate based on the supplied Status Date. Format is CCYY, where CC = "19" or "20," and YY = 00-99.
13.	B_VIOLATION_FED_FISCAL_YEAR	N	4	277 - 280	CONDITIONALLY MANDATORY - Must be valued if field 10 (B_VIOLATION_NUMBER) is supplied. Format is CCYY, where CC = "19" or "20," and YY = 00-99.
14.	B_STATE_ASGN_ID	AN	10	281 - 290	OPTIONAL
15.	B_COMP_OFFICER_LAST_NAME	AN	20	291 - 310	OPTIONAL - If valued, must be a valid individual in TININDIV.
16.	B_COMP_OFFICER_FIRST_NAME	AN	20	311 - 330	OPTIONAL - If valued, must be a valid individual in TININDIV.
17.	B_COMP_OFFICER_ORGANIZATION	AN	30	331 - 360	OPTIONAL - If more than one Individual record in Legal Entities exists with the same First Name and Last Name, users should either populate this field and/or field 18, whichever was used to uniquely identify the desired Compliance Officer (Individual) record. If the user does not, the software will link to the first Individual record that matches based on First Name and Last Name, which may or may not be the desired Compliance Officer.

B_ENFORCEMENT_ACTION					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
18.	B_COMP_OFFICER_MAIL_STOP_TEXT	AN	10	361 - 370	OPTIONAL - If more than one Individual record in Legal Entities exists with the same First Name and Last Name, users should either populate this field and/or field 17, whichever was used to uniquely identify the desired Compliance Officer (Individual) record. If the user does not, the software will link to the first Individual record that matches based on First Name and Last Name, which may or may not be the desired Compliance Officer.
19*	B_VIOGROUP_IND	AN	1	371	OPTIONAL - If valued with "Y," this indicates the Enforcement Action is to be linked to a Violation Group (rather than a violation) and *Migration to SDWIS/STATE* will only attempt to find a Violation Group of the supplied Number (in field 10, B_Violation_Number). If not found, will create a change record to inform the user that the Violation Group supplied to be associated with the enforcement action could not be found and therefore, could not be associated with that enforcement action. Note: "Y" is the only value that is recognized in this field. If the field is blank, *Migration to SDWIS/STATE* understands that the Violation No. supplied to be associated with the enforcement action refers to a violation and not a violation group.
20. *	B_VALUE_VIO_PERIOD_END_DT_IND	AN	1	372	OPTIONAL - If valued with "Y" and the Action Type referenced in fields 7, 8, and 9 is SOX, EOX, SO6, or EO6 and field 5 (B_STATUS_CODE) is equal to "T," and the violation referenced by field 13 (B_VIOLATION_FED_FISCAL_YEAR), field 10 (B_VIOLATION_NUMBER), and field 19 (B_VIOGROUP_IND) has null for its Violation Period End Date, *Migration to SDWIS/STATE* will value that Violation's Period End Date with the date supplied in field 4 (B_STATUS_DATE). If the referenced Violation's Period End Date is already valued, *Migration to SDWIS/STATE* will not change the value.

28.2 B_Enforcement_Action Permitted Value List

FIELD NO	ATTRIBUTE NAME	PERMITTED VALUES
	B_ENFORCEMENT_ACTION	
5.	B_STATUS_TYPE_CODE	**P** Potential **R** Rejected **T** Taken
7.	B_LOCATION_TYPE_CODE	For enforcement actions for Federal/State (federally defined) action types, see table below. For enforcement actions for state-defined action types, must already exist in the database.
8.	B_FORMAL_TYPE_CODE	For enforcement actions for Federal/State (federally defined) action types, see table below. For enforcement actions for state-defined action types, must already exist in the database.
9.	B_SUB_CATEGORY_CODE	For enforcement actions for Federal/State (federally defined) action types, see table below. For enforcement actions for state-defined action types, must already exist in the database.
11.	B_DATA_ORIGIN_CD	**H** Headquarters **R** Region **S** State
19.	B_VIOGROUP_IND	**Y** Yes, this Enforcement Action record is to be linked to a Violation Group and not a violation.
20.	B_VALUE_VIO_PERIOD_END_DT_IND	**Y** Yes, value the Violation Period End Date of the associated violation if not already valued.

The valid federally defined combinations for Enforcement Action Type are listed below.

7.	8.	9.	NAME
S	F	%	ST CIVIL CASE CONCLUDED
S	F	&	ST CRIM CASE REFERRED TO AG
S	F	3	ST CASE APPEALED
S	F	4	ST CASE DROPPED

7.	8.	9.	NAME
S	F	5	ST HOOK-UP/EXTENSION BAN
S	F	9	ST CIVIL CASE REFERRED TO AG
S	F	G	ST PUBLIC NOTIF ISSUED
S	F	H	ST BOIL WATER ORDER
S	F	J	ST FORMAL NOV ISSUED
S	F	K	ST BCA SIGNED
S	F	L	ST AO (W/O PENALTY) ISSUED
S	F	M	ST ADMIN PENALTY ASSESSED
S	F	N	ST SHOW-CAUSE HEARING
S	F	O	ST AO (W/PENALTY) ISSUED
S	F	P	ST CIVIL CASE UNDER DEVELOPMENT
S	F	Q	ST CIVIL CASE FILED
S	F	R	ST CONSENT DECREE/JUDGEMENT
S	F	S	ST DEFAULT JUDGEMENT
S	F	T	ST INJUNCTION
S	F	U	ST TEMP RESTRAIN ORDER/PRELIM INJUNC
S	F	V	ST CRIM CASE FILED
S	F	W	ST CRIM CASE CONCLUDED
S	I	A	ST VIOLATION/REMINDER NOTICE
S	I	B	ST COMPLIANCE MEETING CONDUCTED
S	I	C	ST TECH ASSISTANCE VISIT
S	I	D	ST SITE VISIT (ENFORCEMENT)
S	I	E	ST PUBLIC NOTIF REQUESTED
S	I	F	ST PUBLIC NOTIF RECEIVED
S	O	+	ST NO ADDTL FORMAL ACTION NEEDED
S	O	6	ST INTENTIONAL NO-ACTION
S	O	7	ST UNRESOLVED

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

7.	8.	9.	NAME
S	O	8	ST OTHER
S	O	X	ST COMPLIANCE ACHIEVED
S	O	Y	ST VARIANCE/EXEMPTION ISSUED
S	O	Z	ST TURBIDITY WAIVER ISSUED
E	F	!	FED PAO ISSUED
E	F	%	FED CIVIL CASE CONCLUDED
E	F	&	FED CRIM CASE REFERRED TO DOJ
E	F	-	FED CFP CONSENT ORDER/DECREE W/PENALTY
E	F	/	FED 1431 (EMERGENCY) ORDER
E	F	<	FED CFP ISSUED
E	F	=	FED CFP DEFAULT JUDGEMENT
E	F	9	FED CIVIL CASE REFERRED TO DOJ
E	F	G	FED PUBLIC NOTIF ISSUED
E	F	H	FED BOIL WATER ORDER
E	F	J	FED FORMAL NOV ISSUED
E	F	K	FED BCA SIGNED
E	F	L	FED FAO ISSUED
E	F	N	FED SHOW-CAUSE HEARING
E	F	Q	FED CIVIL CASE FILED
E	F	R	FED CONSENT DECREE/JUDGEMENT
E	F	S	FED DEFAULT JUDGEMENT
E	F	T	FED INJUNCTION
E	F	U	FED TEMP RESTRAIN ORDER/PRELIM INJUNC
E	F	V	FED CRIM CASE FILED
E	F	W	FED CRIM CASE CONCLUDED
E	I	A	FED VIOLATION/REMINDER NOTICE
E	I	B	FED COMPLIANCE MEETING CONDUCTED

* Designates field with permitted values.   A-347   + Shaded gray blocks designate changes to previously published Structure Sets.

7.	8.	9.	NAME
E	I	C	FED TECH ASSISTANCE VISIT
E	I	D	FED SITE VISIT (ENFORCEMENT)
E	I	E	FED PUBLIC NOTIF REQUESTED
E	I	F	FED PUBLIC NOTIF RECEIVED
E	O	+	FED NO ADDTL FORMAL ACTION NEEDED
E	O	6	FED INTENTIONAL NO-ACTION
E	O	7	FED UNRESOLVED
E	O	8	FED OTHER
E	O	X	FED COMPLIANCE ACHIEVED
E	O	Y	FED VARIANCE/EXEMPTION ISSUED
E	O	Z	FED TURBIDITY WAIVER ISSUED

* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

28.3   B_Enforcement_Action Mapping to SDWIS/STATE Entities

		B_ENFORCEMENT_ACTION			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_Enforcement_Action	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Enforcement_Action	B_REGULATING_AGENCY	TINLGENT	Legal Entity	NAME (*Foreign Key*)
3.	B_Enforcement_Action	B_ENFORCEMENT_ACTION_NUMBER	TENENACT	Enforcement Action	EXTERNAL_SYSTEM_NUMBER
4.	B_Enforcement_Action	B_STATUS_DATE	TENENACT	Enforcement Action	STATUS_DATE
5.	B_Enforcement_Action	B_STATUS_CODE	TENENACT	Enforcement Action	TYPE_CODE
6.	B_Enforcement_Action	B_REMARKS_TEXT	TENENACT	Enforcement Action	REMARKS_TEXT
7.	B_Enforcement_Action	B_LOCATION_TYPE_CODE	TENACTYP	Action Type	LOCATION_TYPE_CODE (*Foreign Key*)
8.	B_Enforcement_Action	B_FORMAL_TYPE_CODE	TENACTYP	Action Type	FORMAL_TYPE_CODE (*Foreign Key*)
9.	B_Enforcement_Action	B_SUB_CATEGORY_CODE	TENACTYP	Action Type	SUB_CATEGORY_CODE (*Foreign Key*)
10.	B_Enforcement_Action	B_VIOLATION_NUMBER	TMNVIOL TMNVIEAA	Violation Violation_Enf_ Action_Asgmt	EXTERNAL_SYSTEM_NUMBER (*Foreign Key*) Creates a new record in TMNVIEAA/Violation_Enf_Action_Asgmt record

		B_ENFORCEMENT_ACTION			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
11.	B_Enforcement_Action	B_DATA_ORIGIN_CD	TENENACT	Enforcement Action	D_DATA_ORGIN_CD
12.	B_Enforcement_Action	B_FED_FISCAL_YEAR	TENENACT	Enforcement Action	FED_FISCAL_YEAR
13.	B_Enforcement_Action	B_VIOLATION_FED_FISCAL_YEAR	TMNVIOL	Violation	FED_FISCAL_YEAR *(Foreign Key)*
			TMNVIEAA	Violation_Enf_ Action_Asgmt	Creates a new record in TMNVIEAA/Violation_Enf_Action_Asgmt record
14.	B_Enforcement_Action	B_STATE_ASGN_ID	TENENACT	Enforcement Action	ST_ASGN_ID_NO
15.	B_Enforcement_Action	B_COMP_OFFICER_LAST_NAME	TININDIV	Individual	LAST_NAME *(Foreign Key in TENENACT)*
16.	B_Enforcement_Action	B_COMP_OFFICER_FIRST_NAME	TININDIV	Individual	FIRST_NAME *(Foreign Key in TENENACT)*
17.	B_Enforcement_Action	B_COMP_OFFICER_ORGANIZATION	TININDIV	Individual	ORGANIZATION_NAME
18.	B_Enforcement_Action	B_COMP_OFFICER_MAIL_STOP_TEXT	TININDIV	Individual	MAIL_STOP_TEXT
19.	B_Enforcement_Action	B_VIOGROUP_IND	(no mapping)		
20.	B_Enforcement_Action	B_VALUE_VIO_PERIOD_END_DT_IND	(no mapping)		

28.4   B_Enforcement_Action Structure Set to Staging Table Mapping

	B_ENFORCEMENT_ACTION			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
1.	B_Enforcement_Action	B_PWS_NUMBER	TMGENACT	B_PWS_NUMBER
2.	B_Enforcement_Action	B_REGULATING_AGENCY	TMGENACT	B_REGULATING_AGNCY
3.	B_Enforcement_Action	B_ENFORCEMENT_ACTION_NUMBER	TMGENACT	B_ENFACT_NUMBER
4.	B_Enforcement_Action	B_STATUS_DATE	TMGENACT	B_STATUS_DT
5.	B_Enforcement_Action	B_STATUS_CODE	TMGENACT	B_STATUS_CD
6.	B_Enforcement_Action	B_REMARKS_TEXT	TMGENACT	B_REMARKS_TXT
7.	B_Enforcement_Action	B_LOCATION_TYPE_CODE	TMGENACT	B_LOCATION_TYP_CD
8.	B_Enforcement_Action	B_FORMAL_TYPE_CODE	TMGENACT	B_FORMAL_TYP_COD
9.	B_Enforcement_Action	B_SUB_CATEGORY_CODE	TMGENACT	B_SUB_CATEGORY_CD
10.	B_Enforcement_Action	B_VIOLATION_NUMBER	TMGENACT	B_VIOLATION_NUMBER
11.	B_Enforcement_Action	B_DATA_ORIGIN_CD	TMGENACT	B_DATA_ORIGIN_CD
12.	B_Enforcement_Action	B_FED_FISCAL_YEAR	TMGENACT	B_FED_FISC_YR
13.	B_Enforcement_Action	B_VIOLATION_FED_FISCAL_YEAR	TMGENACT	B_VIOL_FED_FISC_YR
14.	B_Enforcement_Action	B_STATE_ASGN_ID	TMGENACT	B_STATE_ASGN_ID
15.	B_Enforcement_Action	B_COMP_OFFICER_LAST_NAME	TMGENACT	B_CO_LAST_NAM
16.	B_Enforcement_Action	B_COMP_OFFICER_FIRST_NAME	TMGENACT	B_CO_FIRST_NAM
17.	B_Enforcement_Action	B_COMP_OFFICER_ORGANIZATION	TMGENACT	B_CO_ORG_NAME
18.	B_Enforcement_Action	B_COMP_OFFICER_MAIL_STOP_TEXT	TMGENACT	B_CO_MAIL_STP_TXT
19.	B_Enforcement_Action	B_VIOGROUP_IND	TMGENACT	B_VIOGROUP_IND
20.	B_Enforcement_Action	B_VALUE_VIO_PERIOD_END_DT_IND	TMGENACT	B_VL_PD_END_DT_IND

29.0   STRUCTURE SET B_Public_Notification_Activity

29.1   B_Public_Notification_Activity File Layout

B_PUBLIC_NOTIFICATION_ACTIVITY					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY - **Uniqueness/Duplicate Check for public notification activity is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_EA_FED_FISCAL_YEAR), field 3 B_ENFORCEMENT_ACTION_NUMBER), and field 4 (B_PUBLIC_NOTIFICATION_NAME)**.
2.	B_EA_FED_FISCAL_YEAR	N	4	10 - 13	MANDATORY - **Uniqueness/Duplicate Check for public notification activity is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_EA_FED_FISCAL_YEAR), field 3 B_ENFORCEMENT_ACTION_NUMBER), and field 4 (B_PUBLIC_NOTIFICATION_NAME)**. This is the federal fiscal year of the associated SIE or EIE enforcement action record.
3.	B_ENFORCEMENT_ACTION_NUMBER	N	5	14 - 18	MANDATORY - **Uniqueness/Duplicate Check for public notification activity is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_EA_FED_FISCAL_YEAR), field 3 B_ENFORCEMENT_ACTION_NUMBER), and field 4 (B_PUBLIC_NOTIFICATION_NAME)**. Must be an existing enforcement action number.

B_PUBLIC_NOTIFICATION_ACTIVITY				
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
4.	B_PUBLIC_NOTIFICATION_NAME	AN	40	19 - 58	MANDATORY - **Uniqueness/Duplicate Check for public notification activity is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_EA_FED_FISCAL_YEAR), field 3 B_ENFORCEMENT_ACTION_NUMBER), and field 4 (B_PUBLIC_NOTIFICATION_NAME)**. A row in TENACTIV will be created with CATEGORY_CODE = "PN" for each unique name. Otherwise, the Public Notification Activity record will be associated to an existing activity with the same name, PWS Number, EA Federal Fiscal Year, and Enforcement Action Number.
5.	B_PN_REQUIRED_DATE	D	8	59 - 66	OPTIONAL
6.	B_PN_PERFORMED_DATE	D	8	67 - 74	OPTIONAL
7.	B_PROOF_OF_PN_DUE_DATE	D	8	75 - 82	OPTIONAL
8.	B_PROOF_OF_PN_RECEIVED_DATE	D	8	83 - 90	OPTIONAL
9.	B_RESPONSIBLE_PARTY	AN	20	91 - 110	OPTIONAL
10.	B_COMMENT_TEXT	AN	120	111 - 230	OPTIONAL

29.2 B_Public_Notification_Activity Permitted Value List

None.

29.3   B_Public_Notification_Activity Mapping to SDWIS/STATE Entities

		B_PUBLIC_NOTIFICATION_ACTIVITY			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME**
1.	B_Public_Notification_Activity	B_PWS_NUMBER	TINWSYS	Water System	NUMBER (*Foreign Key*)
2.	B_Public_Notification_Activity	B_EA_FED_FISCAL_YEAR	TENENACT	Enforcement Action	FED_FISCAL_YEAR (*Foreign Key*)
3.	B_Public_Notification_Activity	B_ENFORCEMENT_ACTION_NUMBER	TENENACT	Enforcement Action	EXTERNAL_SYSTEM_NUMBER (*Foreign Key*)
4.	B_Public_Notification_Activity	B_PUBLIC_NOTIF_NAME	TENACTIV	Activity Type	NAME
5.	B_Public_Notification_Activity	B_PN_REQUIRED_DATE	TENPNACT	Public Notification Activity	PN_REQUIRED_DATE
6.	B_Public_Notification_Activity	B_PN_PERFORMED_DATE	TENPNACT	Public Notification Activity	PN_PERFORMED_DATE
7.	B_Public_Notification_Activity	B_PROOF_OF_PN_DUE_DATE	TENPNACT	Public Notification Activity	PROOF_OF_PN_DUE_DATE
8.	B_Public_Notification_Activity	B_PROOF_OF_PN_RECEIVED_DATE	TENPNACT	Public Notification Activity	PROOF_OF_PN_RECEIVED_DATE
9.	B_Public_Notification_Activity	B_RESPONSIBLE_PARTY	TENPNACT	Public Notification Activity	RESPONSIBLE_PARTY
10.	B_Public_Notification_Activity	B_COMMENT_TEXT	TENPNACT	Public Notification Activity	COMMENT_TEXT

29.4   B_Public_Notification_Activity Structure Set to Staging Table Mapping

	B_PUBLIC_NOTIFICATION_ACTIVITY			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
1.	B_Public_Notification_Activity	B_PWS_NUMBER	TMGPNACT	B_PWS_NUMBER
2.	B_Public_Notification_Activity	B_EA_FED_FISCAL_YEAR	TMGPNACT	B_EA_FED_FISC_YR
3.	B_Public_Notification_Activity	B_ENFORCEMENT_ACTION_NUMBER	TMGPNACT	B_ENFACT_NUMBER
4.	B_Public_Notification_Activity	B_PUBLIC_NOTIF_NAME	TMGPNACT	B_PN_NAME
5.	B_Public_Notification_Activity	B_PN_REQUIRED_DATE	TMGPNACT	B_PN_RQD_DAT
6.	B_Public_Notification_Activity	B_PN_PERFORMED_DATE	TMGPNACT	B_PN_PERF_DAT
7.	B_Public_Notification_Activity	B_PROOF_OF_PN_DUE_DATE	TMGPNACT	B_PROOF_PN_DUE_DAT
8.	B_Public_Notification_Activity	B_PROOF_OF_PN_RECEIVED_DATE	TMGPNACT	B_PROOF_PN_RCV_DAT
9.	B_Public_Notification_Activity	B_RESPONSIBLE_PARTY	TMGPNACT	B_RESPONSBL_PARTY
10.	B_Public_Notification_Activity	B_COMMENT_TEXT	TMGPNACT	B_COMMENT_TEXT

30.0   STRUCTURE SET B_Viol_Support_Data

30.1   B_Viol_Support_Data File Layout

Please refer to Appendix C of the SDWIS/STATE System Administration Guide for Release 8.0 prior to developing violation structure set-formatted files and migrating violations into SDWIS/STATE.

There are two structure sets that can be used for migrating violations into SDWIS/STATE. Structure Set 23A is the main one and should be used to migrate in the basic information about an individual or group violation (Structure Set 23A can also be used to associate a PN violation to one or more originating violations and to create Violation Packages). The second structure set, **B_VIOL_SUPPORT_DATA**, is a supporting structure set and is used to associate a violation to: (a) one or more results that led to the violation; (b) the Sample Schedule that was violated; (c) the specific Sampling Points involved in the violation; (d) the Facility Analyte Level (FANL) that was violated; (e) the MDBP summary that indicates the violation; (f) the PN Scheduled Activity that was violated; (g) the Compliance Schedule Activity that was violated; and/or (h) the deficiency that was not corrected on time.

B_VIOL_SUPPORT_DATA					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
1.	B_PWS_NUMBER	AN	9	1 - 9	MANDATORY- **Field 1 (B_PWS_NUMBER), field 2 (B_FED_FISCAL_YEAR), and field 3 (B_VIOLATION_NUMBER) are used to identify the violation (TMNVIOL) or violation group (TMNVGRP) that already exists in the database.** If the referenced violation has a status of "D" (deleted), *Migration to SDWIS/STATE* will reject the row because SDWIS/STATE does not allow supporting data to be associated to "deleted" violations. If you desire to retain associations between a violation you did not validate and the data behind it, it should be entered with a status of "R" (rejected).
2.	B_FED_FISCAL_YEAR	N	4	10 - 13	MANDATORY - **Field 1 (B_PWS_NUMBER), field 2 (B_FED_FISCAL_YEAR), and field 3 (B_VIOLATION_NUMBER) are used to identify the violation (TMNVIOL) or violation group (TMNVGRP) that already exists in the database.**

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_VIOL_SUPPORT_DATA				
3.	B_VIOLATION_NUMBER	N	5	14 - 18	MANDATORY - **Field 1 (B_PWS_NUMBER), field 2 (B_FED_FISCAL_YEAR), and field 3 (B_VIOLATION_NUMBER) are used to identify the violation (TMNVIOL) or violation group (TMNVGRP) that already exists in the database**.
4. *	B_VIO_GROUP_IND	AN	1	19	OPTIONAL - If valued with "Y," the software will use the values in fields 1, 2, and 3 to identify a Violation Group record (TMNVGRP) rather than an individual violation record (TMNVIOL). If the originating violation is a Group Violation, *Migration to SDWIS/STATE* will create associations between the record(s) specified in the following fields to both the Violation Group record and each of its associated, hidden violations unless otherwise specified.
5.*	B_VIOLATION_LINK_IND	AN	1	20	MANDATORY - The value in this field will define the intent of the migration. It will determine which of the following fields are mandatory in order to link the violation defined in field 1-3 with the supporting data. See list of permitted values for more clarification. All other fields not pertaining to the supporting data defined by this value will be ignored.
6.	B_SAMPLE_LAB_ASSIGNED_ID	AN	20	21 - 40	CONDITIONALLY MANDATORY - Must be valued if field 5 = "1." Must value if field 7 (B_SAMPLE_COLLECTION_DATE) is valued and the intent is to link a valid sample result to the violation. This is the associated sample's Lab Assigned ID Number. (*Developer Note: This change to how the Migration to SDWIS/STATE: Violation code in 7.0 works.*) If field 4 (B_VIO_GROUP_IND) is equal to "Y," and this field is valued, the record will be rejected because results can only be associated to individual violations, not violation groups.

					B_VIOL_SUPPORT_DATA
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
					Associated sample results must be for the same Water System as the violation referenced in fields 1 through 3. If the referenced sample result cannot be found in the database, the row will be rejected. *(Developer Note: This change to how the Migration to SDWIS/STATE: Violation code in 7.0 works.)* You may associate as many sample results as desired by supplying additional rows with the same violation number and federal fiscal year. If subsequent sample results for same water system and violations not found, the row(s) will be rejected.
7.	B_SAMPLE_COLLECTION_DATE	DT	8	41 - 48	CONDITIONALLY MANDATORY - Must be valued if field 5 = "1." Associated sample results must be for the same Water System as the violation referenced in fields 1 through 3. If the referenced sample result cannot be found in the database, the row will be rejected. You may associate as many sample results as desired by supplying additional rows with the same water system, violation number and federal fiscal year. If subsequent sample results for the same violation are not found in the database, the row(s) will be rejected.
8.	B_SAMPLE_ST_LABORATORY_NUMBER	AN	10	49 - 58	CONDITIONALLY MANDATORY - Must be valued if field 5 = "1."
9.	B_SAMPLE_SAMPLING_POINT	AN	11	59 - 69	CONDITIONALLY MANDATORY - Must be valued if field 5 = "1."

					B_VIOL_SUPPORT_DATA
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
10.	B_SCHD_WSF_ST_ASGN_ID	AN	12	70 - 81	CONDITIONALLY MANDATORY - Must be valued if field 5 = "2" or "3." To associate a violation to a Sample Schedule, the schedule must be for the Water System referenced in field 1 (B_PWS_NUMBER) and the following fields must be valued: field 9 (B_SCHD_ST_ASGN_ID), field 11 (B_SCHD_ANALYTE_CODE) or field 12 (B_SCHD_ANALYTE_GROUP_CODE), field 13 (B_SAMPLE_RQT_TYPE), and field 16 (B_EFFECTIVE_PERIOD_BEGIN_DATE). If two or more existing schedules satisfy all of the above, you must also supply values for field 16 (B_START_MONTH) and field 15 (B_START_DAY). If the violation referenced in fields 1 - 4 references a water system facility, then field 10 must be for the same water system facility or the row will be rejected.
11.	B_SCHD_ANALYTE_CODE	AN	4	82 - 85	CONDITIONALLY MANDATORY - Must be supplied if field 5 = "2" and field 12 is not supplied. If field 4 (B_VIO_GROUP_IND) is equal to "Y," and this field is valued, the record will be rejected because individual schedules can only be associated to individual violations, not violation groups.
12.	B_SCHD_ANALYTE_GROUP_CODE	AN	4	86 - 89	CONDITIONALLY MANDATORY - Must be supplied if field 5 = "2" and field 11 is not supplied. If field 4 (B_VIO_GROUP_IND) is equal to "Y," and this field is not valued, the record will be rejected because schedule groups can only be associated to violation groups, not individual violations.
13.	B_SCHD_SAMPLE_RQT_TYPE	AN	2	90 - 91	CONDITIONALLY MANDATORY - Must be supplied if field 5 = "2."

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_VIOL_SUPPORT_DATA				
14.	B_SCHD_START_MONTH	N	2	92 - 93	OPTIONAL - If field 5 = "2' and required to uniquely identify the sample schedule.
15.	B_SCHD_START_DAY	N	2	94 - 95	OPTIONAL - If field 5 = " 2" and required to uniquely identify the sample schedule.
16.	B_SCHD_EFF_PERIOD_BEGIN_DATE	DT	8	96 - 103	CONDITIONALLY MANDATORY - Must be supplied if field 5 = "2."
17.	B_SCHD_SAMPLING_POINT_ID	AN	11	104 - 114	CONDITIONALLY MANDATORY - Must be valued if field 5 = "3." In addition to associating a violation to a Sample Schedule, you can also associate it to the particular Sampling Points at which samples were to be collected. Use field 17 for this purpose. The sampling point supplied in this field must be for the WSF supplied in field 10 and the water system supplied in field 1. You may associate as many Sampling Points as desired by supplying additional rows with the same Violation and Sample Schedule. If subsequent Sampling Point for a Sample Schedule is not found, the row referencing that Sampling Point will be rejected.

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
	B_VIOL_SUPPORT_DATA				
18.	B_FANL_WSF_ST_ASGN_ID	AN	12	115 - 126	CONDITIONALLY MANDATORY - Must be supplied if value of field 5 = "4." To associate a violation to a Facility Analyte Level (FANL), the FANL must be for the Water System referenced in field 1 (B_PWS_NUMBER) and the following fields must be valued: field 18 (B_FANL_WSF_ST_ASGN_ID), field 19 (B_FANL_ANALYTE_CODE), field 20 (B_FANL_EFFECTIVE_BEGIN_DATE) and Field 21 (B_FANL_CONTROL_LEVEL_TYPE). Fields 22 (B_FANL_LEVEL_VIOL_TYPE), and 23 (B_FANL_M&R_VIOL_TYPE) may also be required depending on the characteristics of the desired FANL. If the violation referenced in fields 1 - 4 references a water system facility, then field 18 must be for the same water system facility or the row will be rejected.
19.	B_FANL_ANALYTE_CODE	AN	4	127 - 130	CONDITIONALLY MANDATORY - Must be supplied field 5 = "4."
20.	B_FANL_EFFECTIVE_BEGIN_DATE	DT	8	131 - 138	CONDITIONALLY MANDATORY - Must be supplied field 5 = "4."
21.	B_FANL_CONTROL_LEVEL_TYPE	AN	3	139 - 141	CONDITIONALLY MANDATORY - Must be supplied field 5 = "4."
22.	B_FANL_LEVEL_VIOL_TYPE	AN	2	142 - 143	OPTIONAL - Must value if fields 5 = "4" and field 18 (B_FANL_WSF_ST_ASGN_ID), field 19 (B_FANL_ANALYTE_CODE), field 20 (B_FANL_EFFECTIVE_BEGIN_DATE), and Field 22 (B_FANL_CONTROL_LEVEL_TYPE) do not uniquely identify the desired FANL and the desired FANL has a Level Violation Type that does contribute to its unique identification.

FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
					B_VIOL_SUPPORT_DATA
23.	B_FANL_M&R_VIOL_TYPE	AN	2	144 - 145	OPTIONAL - Must value if field 5 = "4" and field 18 (B_FANL_WSF_ST_ASGN_ID), field 19 (B_FANL_ANALYTE_CODE), field 20 (B_FANL_EFFECTIVE_BEGIN_DATE), and Field 21 (B_FANL_CONTROL_LEVEL_TYPE) do not uniquely identify the desired FANL and the desired FANL has an M&R Violation Type that does contribute to its unique identification.
24.	B_MDBP_SUMMARY_TYPE	AN	4	146 - 149	CONDITIONALLY MANDATORY - Must be valued if field 5 = "5." To associate a violation to a MDBP Summary (MDBP), the MDBP must be for the Water System referenced in field 1 (B_PWS_NUMBER) and the following fields must be valued: field 24 (B_MDBP_SUMMARY_TYPE), field 25 (B_MDBP_WSF_ST_ASGN_ID), field 26 (B_MDBP_ANALYTE_CODE), field 27 (B_MDBP_MON_PER_BEG_DATE), and field 28 (B_MDBP_MON_PER_END_DATE). Field 29 (B_MDBP_SMPL_PNT_ID) may also be required depending on the characteristics of the desired MDBP Summary.
25.	B_MDBP_WSF_ST_ASGN_ID	AN	12	150 - 161	CONDITIONALLY MANDATORY - Must be valued if field 5 = "5." If the violation referenced in fields 1 - 4 references a water system facility, then field 25 must be for the same water system facility or the row will be rejected.
26.	B_MDBP_ANALYTE_CODE	AN	4	162 - 165	CONDITIONALLY MANDATORY - Must be supplied field 5 = "5."
27.	B_MDBP_MON_PER_BEG_DATE	DT	8	166 - 173	CONDITIONALLY MANDATORY - Must be supplied field 5 = "5."
28.	B_MDBP_MON_PER_END_DATE	DT	8	174- 181	CONDITIONALLY MANDATORY - Must be supplied field 5 = "5."

		B_VIOL_SUPPORT_DATA			
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
29.	B_MDBP_SMPL_PNT_ID	AN	11	182 - 192	OPTIONAL - Must value if field 5 = "5" and fields 24 (B_MDBP_SUMMARY_TYPE), field 25 (B_MDBP_WSF_ST_ASGN_ID), field 26 (B_MDBP_ANALYTE_CODE), field 27 (B_MDBP_MON_PER_BEG_DATE), and field 28 (B_MDBP_MON_PER_END_DATE) do not uniquely identify the desired MDBP Summary and the desired MDBP Summary is for a Sampling Point.
30.	B_PN_EA_FED_FISCAL_YR	N	4	193 - 196	CONDITIONALLY MANDATORY - Must be valued if field 5 = "6." To associate a violation to a Public Notification Activity (PN), the violation referenced in fields 1 - 4 must be of type 06, 75 or 76. In addition, the Enforcement Action referenced in fields 30 (B_PN_EA_FED_FISCAL_YR) and 31 (B_PN_EA_NUMBER) (to which the desired PN Activity is associated) must be for the Water System referenced in field 1 (B_PWS_NUMBER). If field 4 (B_VIO_GROUP_IND) is equal to "Y," and this field is valued, the record will be rejected because the Public Notice Scheduuoe can only be associated to individual violations, not violation groups.
31.	B_PN_EA_NUMBER	N	5	197 - 201	CONDITIONALLY MANDATORY - Must be supplied if field 5 = "6."
32.	B_PN_ACTIVITY_NAME	AN	40	202 - 241	CONDITIONALLY MANDATORY - Must be supplied if field 5 = "6."
33.	B_PN_REQUIRED_DATE	DT	8	242 - 249	CONDITIONALLY MANDATORY - Must be supplied if field 5 = "6."
34.	B_COMPL_SCHD_NUMBER	N	5	250 - 254	CONDITIONALLY MANDATORY - Must be supplied if field 5 = "7." To associate a violation to a Compliance Schedule Activity, the Compliance Schedule referenced in this field must be for the Water System referenced in field 1 (B_PWS_NUMBER).

B_VIOL_SUPPORT_DATA					
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
35.	B_COMPL_SCHD_ACTV_NAME	AN	40	255 - 294	CONDITIONALLY MANDATORY - Must be supplied if field 5 = "7."
36.	B_COMPL_SCHD_ACTV_DUE_DATE	DT	8	295 - 302	CONDITIONALLY MANDATORY - Must be supplied if field 5 = "7."
37.	B_DEFICIENCY_NUMBER	N	5	303 - 307	CONDITIONALLY MANDATORY - Must be supplied if field 5 = "8." To associate a violation to a Deficiency, supply the Deficiency Number (which is automatically assigned by the SDWIS/STATE software) in this field. The supplied Deficiency Number must exist for the Water System referenced in field 1 (B_PWS_NUMBER).

30.2 B_Viol_Support_Data Permitted Value List

B_VIOL_SUPPORT_DATA		
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
4.	B_VIO_GROUP_IND	Y
5.	B_VIOLATION_LINK_IND	**1** Sample Results requires fields 6, 7, 8, and 9 to be valued with the targeted sample analytic result. **2** Sample Schedule requires fields 10, 11 or 12, 13, 16, and possibly 14 and 15 to be valued with the targeted sample schedule. **3** Sampling Point requires fields 10 and 17 to be valued with the targeted sampling point. **4** FANL requires fields 18, 19, 20, 21, and possibly 22 and 23 to be valued with the targeted FANL. **5** MDBP Summary Requires fields 24, 25, 26, 27, 28, and possibly 29 to be valued with the targeted MDPB Summary. **6** Public Notice Requires fields 30, 31, 32, 33 must be valued with the targeted Public Notification Activity (PN). **7** Compliance Schedule Activity Requires fields 34, 35, 36 must be valued with the targeted compliance schedule activity. **8** Deficiency requires field 37 to be valued with the targeted deficiency.

30.3   B_Viol_Support_Data Mapping to SDWIS/STATE Entities

FIELD NO	STRUCTURE SET NAME	STUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME Note that all attributes except fields 2 and 3 are *Foreign Key*s either to Violation (TMNVIOL) or to some other table that has a foreign key in Violation
			B_VIOL_SUPPORT_DATA		
1.	B_VIOL_SUPPORT_DATA	B_PWS_NUMBER	TINWSYS	Water System	NUMBER
2.	B_VIOL_SUPPORT_DATA	B_FED_FISCAL_YEAR	TMNVIOL or TMNVGRP	Violation Violation Group	FED_FISCAL_YEAR
3.	B_VIOL_SUPPORT_DATA	B_VIOLATION_NUMBER	TMNVIOL or TMNVGRP	Violation Violation Group	EXTERNAL_SYSTEM_NUMBER GROUP_NUMBER
4.	B_VIOL_SUPPORT_DATA	B_VIO_GROUP_IND	N.A.	N.A.	This value is not stored.
5.	B_VIOLATION_LINK_IND	B_VIO_LINK_IND	N.A.	N.A.	This value is not stored.
6.	B_VIOL_SUPPORT_DATA	B_SAMPLE_LAB_ASSIGNED_ID	TSASAMPL	Sample	LAB_ASSIGNED_ID_NUMBER
7.	B_VIOL_SUPPORT_DATA	B_SAMPLE_COLLECTION_DATE	TSASAMPL	Sample	COLLECTION_END_DATE
8.	B_VIOL_SUPPORT_DATA	B_SAMPLE_ST_LABORATORY_NUMBER	TSALAB	Laboratory	STATE_ASSIGNED_ID_NUMBER
9.	B_VIOL_SUPPORT_DATA	B_SAMPLE_SAMPLING_POINT	TSASMPPT	Sampling Point	IDENTIFICATION_CODE
10.	B_VIOL_SUPPORT_DATA	B_SCHD_WSF_ST_ASGN_ID	TINWSF	Water System Facility	WSF_STATE_ASGN_ID_CODE
11.	B_VIOL_SUPPORT_DATA	B_SCHD_ANALYTE_CODE	TSAANLYT	Analyte	ANALYTE_CODE
12.	B_VIOL_SUPPORT_DATA	B_SCHD_ANALYTE_GROUP_CODE	TSAANGRP	Analyte Group	ANALYTE_GROUP_CODE
13.	B_VIOL_SUPPORT_DATA	B_SCHD_SAMPLE_RQT_TYPE	TMNMNR	Monitoring Requirement	SAMPLE_RQT_TYPE

		B_VIOL_SUPPORT_DATA			
FIELD NO	**STRUCTURE SET NAME**	**STUCTURE SET ATTRIBUTE NAME**	**SDWIS/STATE TABLE NAME**	**SDWIS/STATE ENTITY NAME**	**SDWIS/STATE ATTRIBUTE NAME** Note that all attributes except fields 2 and 3 are *Foreign Key*s either to Violation (TMNVIOL) or to some other table that has a foreign key in Violation
14.	B_VIOL_SUPPORT_DATA	B_SCHD_START_MONTH	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	START_MONTH
15.	B_VIOL_SUPPORT_DATA	B_SCHD_START_DAY	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	START_DAY
16.	B_VIOL_SUPPORT_DATA	B_SCHD_EFF_PERIOD_BEGIN_DATE	TMNSASCH TMNSSGRP	Sample Schedule Schedule Group	EFFECTIVE_PERIOD_BEGIN_DATE
17.	B_VIOL_SUPPORT_DATA	B_SCHD_SAMPLING_POINT_ID	TSASMPPT	Sampling Point	IDENTIFICATION_CODE
18.	B_VIOL_SUPPORT_DATA	B_FANL_ST_ASGN_ID_CODE	TINWSF	Water System Facility	WSF_STATE_ASGN_ID
19.	B_VIOL_SUPPORT_DATA	B_FANL_ANALYTE_CODE	TSAANLYT	Analyte	ANALYTE_CODE
20.	B_VIOL_SUPPORT_DATA	B_FANL_EFFECTIVE_BEGIN_DATE	TMNFANL	Facility Analyte Level	FANL_EFFECTIVE_BEGIN_DATE
21.	B_VIOL_SUPPORT_DATA	B_FANL_CONTROL_LEVEL_TYPE	TMNFANL	Facility Analyte Level	CONTROL_LEVEL_TYPE
22.	B_VIOL_SUPPORT_DATA	B_FANL_LEVEL_VIOL_TYPE	TMNVTYPE	Violation Type	LEVEL_VIOLATION_TYPE
23.	B_VIOL_SUPPORT_DATA	B_FANL_M&R_VIOL_TYPE	TMNVTYPE	Violation Type	MR_VIOLATION_TYPE
24.	B_VIOL_SUPPORT_DATA	B_MDBP_SUMMARY_TYPE	TSAMDBPS	MDBP Summary	TYPE_CODE_CV
25.	B_VIOL_SUPPORT_DATA	B_MDBP_WSF_ST_ASGN_ID	TINWSF	Water System Facility	WSF_STATE_ASGN_ID
26.	B_VIOL_SUPPORT_DATA	B_MDBP_ANALYTE_CODE	TSAANLYT	Analyte	CODE
27.	B_VIOL_SUPPORT_DATA	B_MDBP_MON_PER_BEG_DATE	TMNMPRD	Monitoring Period	BEGIN_DATE
28.	B_VIOL_SUPPORT_DATA	B_MDBP_MON_PER_END_DATE	TMNMPRD	Monitoring Period	END_DATE
29.	B_VIOL_SUPPORT_DATA	B_MDBP_SMPL_PNT_ID	TSASMPPT	Sampling Point	IDENTIFICATION_CODE

* Designates field with permitted values.   A-368   + Shaded gray blocks designate changes to previously published Structure Sets.

					SDWIS/STATE ATTRIBUTE NAME
FIELD NO	STRUCTURE SET NAME	STUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	Note that all attributes except fields 2 and 3 are *Foreign Key*s either to Violation (TMNVIOL) or to some other table that has a foreign key in Violation
30.	B_VIOL_SUPPORT_DATA	B_PN_EA_FED_FISCAL_YR	TENENACT	Enforcement Action	FED_FISCAL_YEAR
31.	B_VIOL_SUPPORT_DATA	B_PN_EA_NUMBER	TENENACT	Enforcement Action	EXTERNAL_SYSTEM_NUMBER
32.	B_VIOL_SUPPORT_DATA	B_PN_ACTIVITY_NAME	TENACTIV	Activity Type	NAME
33.	B_VIOL_SUPPORT_DATA	B_PN_REQUIRED_DATE	TENPNACT	Public Notification Activity	PN_REQUIRED_DATE
34.	B_VIOL_SUPPORT_DATA	B_COMPL_SCHD_NUMBER	TENSCHD	Compliance Schedule	COMPL_SCHD_NUMBER
35.	B_VIOL_SUPPORT_DATA	B_COMPL_SCHD_ACTV_NAME	TENACTIV	Activity Type	NAME
36.	B_VIOL_SUPPORT_DATA	B_COMPL_SCHD_ACTV_DUE_DATE	TENSCHAT	Schedule Activity	DUE_DATE
37.	B_VIOL_SUPPORT_DATA	B_DEFICIENCY_NUMBER	TINDEFCY	Deficiency	EXTERNAL_SYSTEM_NUMBER

The table above has the title **B_VIOL_SUPPORT_DATA** spanning all columns.

30.4   B_Viol_Support_Data Structure Set to Staging Table Mapping

		B_VIOL_SUPPORT_DATA		
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
1.	B_VIOL_SUPPORT_DATA	B_PWS_NUMBER	TMGVIOSD	B_VIO_PWS_NUMBER
2.	B_VIOL_SUPPORT_DATA	B_FED_FISCAL_YEAR	TMGVIOSD	B_VIO_FISCAL_YEAR
3.	B_VIOL_SUPPORT_DATA	B_VIOLATION_NUMBER	TMGVIOSD	B_VIO_NUMBER
4.	B_VIOL_SUPPORT_DATA	B_VIO_GROUP_IND	TMGVIOSD	B_VIO_GROUP_IND
5.	B_VIOL_SUPPORT_DATA	B_VIOLATION_LINK_IND	TMGVIOSD	B_VIO_LINK_IND
6.	B_VIOL_SUPPORT_DATA	B_SAMPLE_LAB_ASSIGNED_ID	TMGVIOSD	B_SAMP_LAB_ASG_ID
7.	B_VIOL_SUPPORT_DATA	B_SAMPLE_SAMPLING_POINT	TMGVIOSD	B_SAMPLE_SMP_PT
8.	B_VIOL_SUPPORT_DATA	B_SCHD_ST_ASGN_ID_CODE	TMGVIOSD	B_SAMP_ST_LAB_NO
9.	B_VIOL_SUPPORT_DATA	B_SAMPLE_COLLECTION_DATE	TMGVIOSD	B_SAMP_COLLECT_DAT
10.	B_VIOL_SUPPORT_DATA	B_SCHD_WSF_ST_ASGN_ID	TMGVIOSD	B_SCH_WSF_ST_AS_ID
11.	B_VIOL_SUPPORT_DATA	B_SCHD_ANALYTE_CODE	TMGVIOSD	B_SCH_ANALYTE_CD
12.	B_VIOL_SUPPORT_DATA	B_SCHD_ANALYTE_GROUP_CODE	TMGVIOSD	B_SCH_ANALY_GRP_CD
13.	B_VIOL_SUPPORT_DATA	B_SCHD_SAMPLE_RQT_TYPE	TMGVIOSD	B_SCH_SAMP_RQT_TYP
14.	B_VIOL_SUPPORT_DATA	B_SCHD_START_MONTH	TMGVIOSD	B_SCH_START_MONTH
15.	B_VIOL_SUPPORT_DATA	B_SCHD_START_DAY	TMGVIOSD	B_SCH_START_DAY
16.	B_VIOL_SUPPORT_DATA	B_SCHD_EFF_PERIOD_BEGIN_DATE	TMGVIOSD	B_SCH_EF_PR_BEG_DT
17.	B_VIOL_SUPPORT_DATA	B_SCHD_SAMPLING_POINT_ID	TMGVIOSD	B_SUBSCHD_SAMP_PT
18.	B_VIOL_SUPPORT_DATA	B_FANL_WSF_ST_ASGN_ID_CODE	TMGVIOSD	B_FAN_WSF_ST_AS_ID
19.	B_VIOL_SUPPORT_DATA	B_FANL_ANALYTE_CODE	TMGVIOSD	B_FANL_ANALYTE_CD
20.	B_VIOL_SUPPORT_DATA	B_FANL_EFFECTIVE_BEGIN_DATE	TMGVIOSD	B_FANL_EFF_BEG_DAT
21.	B_VIOL_SUPPORT_DATA	B_FANL_CONTROL_LEVEL_TYPE	TMGVIOSD	B_FANL_CTRL_LV_TYP
22.	B_VIOL_SUPPORT_DATA	B_FANL_LEVEL_VIOL_TYPE	TMGVIOSD	B_FANL_LVL_VIO_TYP
23.	B_VIOL_SUPPORT_DATA	B_FANL_M&R_VIOL_TYPE	TMGVIOSD	B_FANL_MR_VIO_TYP

	B_VIOL_SUPPORT_DATA			
FIELD NO	**STRUCTURE SET NAME**	**STRUCTURE SET ATTRIBUTE NAME**	**STAGING TABLE NAME**	**STAGING TABLE FIELD NAME**
24.	B_VIOL_SUPPORT_DATA	B_MDBP_SUMMARY_TYPE	TMGVIOSD	B_MDBP_SUMMARY_TYP
25.	B_VIOL_SUPPORT_DATA	B_MDBP_ANALYTE_CODE	TMGVIOSD	B_MDBP_ANALYTE_CD
26.	B_VIOL_SUPPORT_DATA	B_MDBP_WSF_ST_ASGN_ID	TMGVIOSD	B_MDB_WSF_ST_AS_ID
27.	B_VIOL_SUPPORT_DATA	B_MDBP_MON_PER_BEG_DATE	TMGVIOSD	B_MDBP_MP_BEG_DAT
28.	B_VIOL_SUPPORT_DATA	B_MDBP_MON_PER_END_DATE	TMGVIOSD	B_MDBP_MP_END_DAT
29.	B_VIOL_SUPPORT_DATA	B_MDBP_SMPL_PNT_ID	TMGVIOSD	B_MDBP_SAMP_PT
30.	B_VIOL_SUPPORT_DATA	B_PN_EA_FED_FISCAL_YR	TMGVIOSD	B_PN_EA_FD_FISC_YR
31.	B_VIOL_SUPPORT_DATA	B_PN_EA_NUMBER	TMGVIOSD	B_PN_EA_NUMBER
32.	B_VIOL_SUPPORT_DATA	B_PN_ACTIVITY_NAME	TMGVIOSD	B_PN_ACTY_NAME
33.	B_VIOL_SUPPORT_DATA	B_PN_REQUIRED_DATE	TMGVIOSD	B_PN_ACTY_RQD_DAT
34.	B_VIOL_SUPPORT_DATA	B_COMPL_SCHD_NUMBER	TMGVIOSD	B_COMP_SCHED_NO
35.	B_VIOL_SUPPORT_DATA	B_COMPL_SCHD_ACTV_NAME	TMGVIOSD	B_COMP_SCH_ACT_NAM
36.	B_VIOL_SUPPORT_DATA	B_COMPL_SCHD_ACTV_DUE_DATE	TMGVIOSD	B_COMP_SCH_ACT_DUE
37.	B_VIOL_SUPPORT_DATA	B_DEFICIENCY_NUMBER	TMGVIOSD	B_DEFICIENCY_NO

31.0   STRUCTURE SET B_Milestone_Event

31.1   B_Milestone_Event File Layout

<table>
<tr><td colspan="6" align="center">B_MILESTONE_EVENT</td></tr>
<tr><td>FIELD NO</td><td align="center">FIELD NAME</td><td>DOMAIN</td><td>SIZE</td><td>POSITION</td><td align="center">OPTIONALITY</td></tr>
<tr><td>1.</td><td>B_PWS_NUMBER</td><td>AN</td><td>9</td><td>1 - 9</td><td>MANDATORY- Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_MILESTONE_ID).</td></tr>
<tr><td>2.</td><td>B_MILESTONE_NUMBER</td><td>N</td><td>5</td><td>10 - 14</td><td>OPTIONAL - Uniqueness/Duplicate check is on the combination of field 1 (B_PWS_NUMBER), field 2 (B_MILESTONE_ID). If not valued, Migration to SDWIS/STATE will populate with an internally generated External System Number. This field must be populated either by the user (through the data supplied in the structure set formatted text file) or by the Migration to SDWIS/STATE software; however, if generated by the software, the change will not appear on the change report.</td></tr>
<tr><td>3.</td><td>B_MILESTONE_DATE</td><td>DT</td><td>8</td><td>15 - 22</td><td>MANDATORY- If field 4 (B_MILESTONE_TYPE_CODE) = PB90 or CU90, and field 6 = "V" (validated), then field 3 may contain a future date.
If field 6 = "P" (preliminary), then field 3 may contain a future date.
For all other conditions, field 3 must be less than or equal to current calendar date.</td></tr>
<tr><td>4. *</td><td>B_MILESTONE_TYPE_CODE</td><td>AN</td><td>4</td><td>23 - 26</td><td>MANDATORY</td></tr>
</table>

	B_MILESTONE_EVENT				
FIELD NO	**FIELD NAME**	**DOMAIN**	**SIZE**	**POSITION**	**OPTIONALITY**
5.	B_MILESTONE_VALUE	N	16(15(8))	27 - 42	CONDITIONALLY MANDATORY - If field 4 (B_MILESTONE_TYPE_CODE) = (PB90 or CU90). If field 4 (B_MILESTONE_TYPE_CODE) = LSLR, value in this field must be less than or equal to 1.00 If field 4 (B_MILESTONE_TYPE_CODE) = CU90 or PB90, value in this field must be greater than 0.00 For all other values in field 4 (B_MILESTONE_TYPE_CODE), value is equal to zero.
6. *	B_MILESTONE_STATUS	AN	1	43	OPTIONAL - If not supplied, SDWIS/STATE will set value to "V" (Validated).
7.	B_MILESTONE_STATUS_DATE	DT	8	44 - 51	OPTIONAL - If not supplied, SDWIS/STATE will set value to B_MILESTONE_DATE.
8. *	B_MILESTONE_REASON_CODE	AN	5	52 - 56	CONDITIONALLY MANDATORY - Only value if field 4 (B_MILESTONE_TYPE_CODE) is "DEEM." Milestone events that do not meet this criteria will be rejected.
9. *	B_DATA_ORIGIN_CD	AN	1	57	OPTIONAL - If not valued, *Migration to SDWIS/STATE* will set to "S" (State) or "R" (EPA Region) depending on value of TYPE_CODE in TINGOVAG for the Legal Entity record marked as primacy agency. If valued as "ST," will set to "S;" if valued as "RG," will set to "R." If neither, set to "S."
10.	B_MILESTONE_COMMENT	ANmc	120	58 - 177	OPTIONAL
11.	B_END_DATE	DT	8	178 - 185	OPTIONAL - *Migration to SDWIS/STATE* will only recognize the date in this field if the value in field 4 (B_MILESTONE_TYPE_CODE) is "DONE." If value in field 4 (B_MILESTONE_TYPE_CODE) is "DONE" and this field is valued, date must be *after* the date in field 3 (B_MILESTONE_DATE), or the milestone event will be rejected.

31.2 B_Milestone_Event Permitted Value List

	B_MILESTONE_EVENT	
FIELD NO	**ATTRIBUTE NAME**	**PERMITTED VALUES**
4.	B_MILESTONE_TYPE_CODE	**CCSR** Corrosion Control Study Required **CCSC** Corrosion Control Study Completed **CU90** Copper Action Level Exceedance **DEEM** System deemed optimized without OCCT **DONE** System done with OCCT **LSLR** Lead Service Line Replacement Required **MPLS** Max. Permissible Levels in Source Water **OTDE** OCCT Treatment Designated or Approved **OTIN** OCCT Treatment Installed **PB90** Lead 90th Action Level Exceedance **STDE** SOWT Designated or Approved **STIN** SOWT Treatment Installed **WQPS** Water Quality Parameters **MIF** Must Install Filtration
6.	B_MILESTONE_STATUS	**P** Preliminary **V** Validated **R** Rejected
8.	B_MILESTONE_REASON_CODE If field 4 (B_MILESTONE_TYPE_CODE) = DEEM	**B1** Serving fewer than 50,000; met action levels **B3** Serving greater than 50,000; met action levels **WQP** Water Quality Parameters
9.	B_DATA_ORIGIN_CD	**H** Headquarters **R** Region **S** State

31.3   B_Milestone_Event Mapping to SDWIS/STATE Entities

		B_MILESTONE_EVENT			
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	SDWIS/STATE TABLE NAME	SDWIS/STATE ENTITY NAME	SDWIS/STATE ATTRIBUTE NAME
1.	B_Milestone_Event	B_PWS_NUMBER	TINWSYS	Water System	NUMBER *(Foreign Key)*
2.	B_Milestone_Event	B_MILESTONE_NUMBER	TFRMEVNT	Milestone Event	EXTERNAL_SYS_NO
3.	B_Milestone_Event	B_MILESTONE_DATE	TFRMEVNT	Milestone Event	ACTUAL_DATE
4.	B_Milestone_Event	B_MILESTONE_TYPE_CODE	TFRMEVNT	Milestone Event	TYPE_CODE
5.	B_Milestone_Event	B_MILESTONE_VALUE	TFRMEVNT	Milestone Event	MEASURE
6.	B_Milestone_Event	B_MILESTONE_STATUS	TFRMEVNT	Milestone Event	STATUS
7.	B_Milestone_Event	B_MILESTONE_STATUS_DATE	TFRMEVNT	Milestone Event	STATUS_DATE
8.	B_Milestone_Event	B_MILESTONE_REASON_CODE	TFRMEVNT	Milestone Event	REASON_CODE
9.	B_Milestone_Event	B_DATA_ORIGIN_CD	TFRMEVNT	Milestone Event	D_DATA_ORIGIN_CD
10.	B_Milestone_Event	B_MILESTONE_COMMENT	TFRMEVNT	Milestone Event	COMMENT_TEXT
11.	B_Milestone_Event	B_END_DATE	TFRMEVNT	Milestone Event	END_DATE

31.4   B_Milestone_Event Structure Set to Staging Table Mapping

		B_MILESTONE_EVENT		
FIELD NO	STRUCTURE SET NAME	STRUCTURE SET ATTRIBUTE NAME	STAGING TABLE NAME	STAGING TABLE FIELD NAME
1.	B_Milestone_Event	B_PWS_NUMBER	TMGMEVNT	B_PWS_NUMBER
2.	B_Milestone_Event	B_MILESTONE_NUMBER	TMGMEVNT	B_MILESTONE_NUMBER
3.	B_Milestone_Event	B_MILESTONE_DATE	TMGMEVNT	B_MILESTONE_DATE
4.	B_Milestone_Event	B_MILESTONE_TYPE_CODE	TMGMEVNT	B_MILESTONE_TYP_CD
5.	B_Milestone_Event	B_MILESTONE_VALUE	TMGMEVNT	B_MILESTONE_VALUE
6.	B_Milestone_Event	B_MILESTONE_STATUS	TMGMEVNT	B_MILESTONE_STATUS
7.	B_Milestone_Event	B_MILESTONE_STATUS_DATE	TMGMEVNT	B_MILESTN_STAT_DAT
8.	B_Milestone_Event	B_MILESTONE_REASON_CODE	TMGMEVNT	B_MILESTN_REASN_CD
9.	B_Milestone_Event	B_MILESTONE_ORIGIN_CODE	TMGMEVNT	B_DATA_ORIGIN_CD
10.	B_Milestone_Event	B_MILESTONE_COMMENT	TMGMEVNT	B_MILESTON_COMMENT
11.	B_Milestone_Event	B_END_DATE	TMGMEVNT	B_END_DATE

32.0   Notes for Migrating to SDWIS/STATE using an Extract from SDWIS/FED

When migrating to SDWIS/STATE using a SDWIS/FED extract, use the structure sets and procedures outlined in the Migration to SDWIS/STATE chapter of this guide. To ensure a successful migration, you may also need to note the additional information listed below for some of the structure sets.

C   **1.0   STRUCTURE SET B_Legal_Entity**

When migrating legal entities using a SDWIS/FED extract, you will need to manually populate the mandatory B_Type_Code field in the TMGLGENT staging table after you have imported your legal entity extract data from the legal entity structure set formatted file (into the B_Legal_Entity/TMGLGENT staging table). SDWIS/FED does not classify legal entities other than type GA, so this field will be empty for all other legal entity types. After you run Import Text to Staging Table to import your legal entities into the TMGLGENT staging table, users must manually populate the B_Type_Code field with the applicable type code for non-GAs.

C   **27.0   STRUCTURE SET B_Violation**

1.   Please note that when migrating violations from a SDWIS/FED extract, SDWIS/FED does not maintain the Issuing Agency for violations. Prior to migrating violations from a SDWIS/FED extract into SDWIS/STATE, make sure that the agency listed as the "Issuing Agency" for each violation record matches the name of a Government Agency in SDWIS/STATE (all upper case). If the issuing agency is not in your text file or does not match an existing government agency name, you will need to make sure that the TMGVIOL.B_Issuing_Agency field is valued with a government agency name (TINLGENT.Name) prior to migrating your violations into SDWIS/STATE. You may find the easiest way to update this field is by directly updating the field in the TMGVIOL staging table (via MS Access, SQL Plus, or similar tool).

2.   If Analysis_Result_Measure in SDWIS/FED was not valued for a violation type 01 or 02, then the extract utility does the following:

       For analyte codes 3000 (old total coliform) and 0100 (turbidity), a structure set record is created with a default Analysis_Result_Measure as shown below.

       Analyte Vio
       Code Type Value
       0100 01 6.0
       0100 02 2.0
       3000 01 5.0
       3000 02 2.0

For all other analyte codes, a structure set record is created, and an information message is recorded in the informational report for the violation. The primacy agency will need to add appropriate Analysis_Result_Measure values for these violations before they can be migrated into SDWIS/STATE.

3. In addition, violation uniqueness criteria in SDWIS/FED differs from that of SDWIS/STATE in this way: two SDWIS/FED violation records can have the same PWS ID, Fed Fiscal Year and Violation ID as long as the code representing the source of the ID (fed generated or supplied by state) is different. This is not the case in SDWIS/STATE. Therefore, if SDWIS/FED has violations that, because of this difference, would be duplicate records to SDWIS/STATE, the state may need to request that the SDWIS/FED Project Team renumber the violations prior to the extract. (This renumbering can occur only at the request of the state.) The uniqueness criteria for violations in SDWIS/STATE is as follows: the combination of PWS ID, Federal Fiscal Year, and Violation Number (called IDENTIFICATION_NUMBER in SDWIS/FED).

4. A number of the violations in the extract may have B_VIOLATION_PERIOD_END_DT equal to 12312015. This a default date used by SDWIS/FED in certain circumstances. If this occurs, the date should be changes to spaces to indicate it is null for purposes of migrating the violations into SDWIS/STATE.

5. You will also find that a number of LCR violations may be redundant or overlapping. This may have happened with SDWIS/FED converted violation compliance period dates to come into compliance with their new way of characterizing the compliance period for certain violations. You may want to clean these up before migrating them into SDWIS/STATE. However, before deciding you should discuss this with your SDWIS/FED coordinator.

6. Finally, for violations, you will receive one structure set file and one informational report. The structure set file will contain both the violation records that the team believes will satisfy all of the Migration to SDWIS/STATE edit checks as well as each violation record that will not satisfy all of the Migration to SDWIS/STATE edit checks. The Informational Report will either state a reason why a given violation does not satisfy all the edit checks in Migration to SDWIS/STATE or why there is a question about the violation.

C   28.0   STRUCTURE SET B_Enforcement_Action

1. Please note that when migrating enforcement actions from a SDWIS/FED extract, SDWIS/FED does not maintain the Regulating Agency for enforcement actions. Prior to migrating enforcement actions from a SDWIS/FED extract into SDWIS/STATE,

make sure that the agency listed as the "Regulating Agency" for each enforcement action record matches the name of a Government Agency in SDWIS/STATE (all upper case). If the regulating agency is not in your text file or does not match an existing government agency name, you will need to make sure that the TMGENACT.B_Regulating_Agcny field is valued with a government agency name (TINLGENT.Name) prior to migrating your enforcement actions into SDWIS/STATE. You may find the easiest way to update this field is by directly updating the field in the TMGVIOL staging table (via MS Access, SQL Plus, or similar tool).

2. As with violations, the uniqueness criteria for a SDWIS/FED enforcement action differs from that of SDWIS/STATE. Again, the difference is the code representing the source of the Enforcement Action ID (fed generated or supplied by state). Therefore, if SDWIS/FED has enforcement actions that, because of this difference, would be duplicate records to SDWIS/STATE, the state may need to request that the SDWIS/FED Team renumber the enforcement actions prior to the extract. (This renumbering can occur only at the request of the state.) The uniqueness criteria for enforcement action in SDWIS/STATE is as follows: the combination of PWS ID, Enforcement Action Number (called STATE_ASGN_IDENTIFICATION_NUMBER in SDWIS/FED), and Federal Fiscal Year.

C   31.0   STRUCTURE SET B_Milestone_Event

The SDWIS/FED Team does not renumber Milestone Event records in SDWIS/FED prior to running a milestone event extract. In order to avoid duplicate Milestone Event records that may exist for some states(duplicate as defined by SDWIS/STATE), the extract utility checks for Milestone Events that have the same PWS Number and Milestone Number. If it finds a duplicate, it assigns a unique Milestone Number for the record and reports that the number was changed in a report that you should receive which accompanies your milestone structure set-formatted file.

Appendix B: Reportable Analytes

The *Migration to SDWIS/FED: Sampling* component creates H1 forms for those results that EPA has required primacy agencies to report. The analytes that require reported results have changed over time. The *Migration to SDWIS/FED: Sampling* component knows the results to include based on the begin and end dates stored in the Analytes table. The following table lists analytes that require or required reported results along with the effective dates for each (indicated by the dates under Reportable Dates). Note that the *Migration to SDWIS/FED: Sampling* component reports results for all lead 90th percentile (Pb90) results since monitoring for lead began under the Lead and Copper Rule. EPA does not require that all these results to be reported. However, the ability to report only those Pb90 results required by EPA cannot be fully implemented until the Lead and Copper Rule is implemented in SDWIS/STATE. Therefore, for the time being, *Migration to SDWIS/FED: Sampling* component reports all Pb90 results.

NAME	CODE	CAS_REGISTRY	TYPE_CODE	REPORTABLE DATES	
LEAD 90TH % VALUE	PB90	7439-92-1		7/1/92	
ANTIMONY	1074	7440-36-0	IOC	1/30/91	12/31/92
BERYLLIUM	1075	7440-41-7	IOC	1/30/91	12/31/92
CYANIDE	1024	57-12-5	IOC	1/30/91	12/31/92
NICKEL	1036	7440-02-0	IOC	1/30/91	12/31/92
SULFATE	1055	14808-79-8	IOC	1/30/91	
THALLIUM	1085	7440-28-0	IOC	1/30/91	12/31/92
1,1,1,2-TETRACHLOROETHANE	2986	630-20-6	OC	1/1/88	
1,1,2,2-TETRACHLOROETHANE	2988	79-34-5	OC	1/1/88	
1,1,2-TRICHLOROETHANE	2985	79-00-5	OC	1/1/88	12/31/92
1,1-DICHLOROETHANE	2978	75-34-3	OC	1/1/88	
1,1-DICHLOROPROPENE	2410	563-58-6	OC	1/1/88	
1,2,3-TRICHLOROBENZENE	2420	87-61-6	OC	1/1/88	
1,2,3-TRICHLOROPROPANE	2414	96-18-4	OC	1/1/88	
1,2,4-TRICHLOROBENZENE	2378	120-82-1	OC	1/1/88	12/31/92
1,2,4-TRIMETHYLBENZENE	2418	95-63-6	OC	1/1/88	
1,2-DICHLOROPROPANE	2983	78-87-5	OC	1/1/88	12/31/92
1,3,5-TRIMETHYLBENZENE	2424	108-67-8	OC	1/1/88	
1,3-DICHLOROPROPANE	2412	142-28-9	OC	1/1/88	
1,3-DICHLOROPROPENE	2413	542-75-6	OC	1/1/88	
2,2-DICHLOROPROPANE	2416	594-20-7	OC	1/1/88	
2,3,7,8 TCDD (DIOXIN)	2063	1746-01-6	OC	1/30/91	12/31/92
3-HYDROXYCARBOFURAN	2066	16655-82-6	OC	1/30/91	

NAME	CODE	CAS_REGISTRY	TYPE_CODE	REPORTABLE DATES	
ALDICARB	2047	116-06-3	OC	5/27/92	
ALDICARB SULFONE	2044	1646-88-4	OC	5/27/92	
ALDICARB SULFOXIDE	2043	1646-87-3	OC	5/27/92	
ALDRIN	2356	309-00-2	OC	1/30/91	
BENZO (A) PYRENE	2306	50-32-8	OC	1/30/91	12/31/92
BROMOBENZENE	2993	108-86-1	OC	1/1/88	
BROMOCHLOROMETHANE	2430	74-97-5	OC	1/1/88	
BROMODICHLOROMETHANE	2943	75-27-4	OC	1/1/88	
BROMOFORM	2942	75-25-2	OC	1/1/88	
BROMOMETHANE	2214	74-83-9	OC	1/1/88	
BUTACHLOR (MACHETE)	2076	23184-66-9	OC	1/30/91	
CARBARYL	2021	63-25-2	OC	1/30/91	
CHLORODIBROMOMETHANE	2944	124-48-1	OC	1/1/88	
CHLOROETHANE	2216	75-00-3	OC	1/1/88	
CHLOROFORM	2941	67-66-3	OC	1/1/88	
CHLOROMETHANE	2210	74-87-3	OC	1/1/88	
CIS-1,2-DICHLOROETHYLENE	2380	156-59-2	OC	1/1/88	12/31/92
DALAPON	2031	75-99-0	OC	1/30/91	12/31/92
DI(2-ETHYLHEXYL) - ADIPATE	2035	103-23-1	OC	1/30/91	12/31/92
DI(2-ETHYLHEXYL) - PHTHALATE	2039	117-81-7	OC	1/30/91	12/31/92
DIBROMOCHLOROPROPANE (DBCP)	2931	96-12-8	OC	1/1/88	12/31/92
DIBROMOMETHANE	2408	74-95-3	OC	1/1/88	
DICAMBA	2440	1918-00-9	OC	1/30/91	
DICHLORODIFLUOROMETHANE	2212	75-71-8	OC	1/1/88	
DICHLOROMETHANE	2964	75-09-2	OC	1/1/88	12/31/92
DIELDRIN	2070	60-57-1	OC	1/30/91	
DINOSEB	2041	88-85-7	OC	1/30/91	12/31/92
DIQUAT	2032	85-00-7	OC	1/30/91	12/31/92
ENDOTHALL	2033	145-73-3	OC	1/30/91	12/31/92
ETHYLBENZENE	2992	100-41-4	OC	1/1/88	12/31/92
ETHYLENE DIBROMIDE (EDB)	2946	106-93-4	OC	1/1/88	12/31/92
GLYPHOSATE	2034	1071-83-6	OC	1/30/91	12/31/92
HEXACHLOROBENZENE	2274	118-74-1	OC	1/30/91	12/31/92
HEXACHLOROBUTADIENE	2246	87-68-3	OC	1/1/88	
HEXACHLOROCYCLOPENTADIENE	2042	77-47-4	OC	1/30/91	12/31/92
ISOPROPYLBENZENE	2994	98-82-8	OC	1/1/88	
M-DICHLOROBENZENE	2967	541-73-1	OC	1/1/88	
METHOMYL	2022	16752-77-5	OC	1/30/91	
METOLACHLOR	2045	51218-45-2	OC	1/30/91	
METRIBUZIN (SENCOR)	2595	21087-64-9	OC	1/30/91	
MONOCHLOROBENZENE	2989	108-90-7	OC	1/1/88	12/31/92

NAME	CODE	CAS_REGISTRY	TYPE_CODE	REPORTABLE DATES	
N-BUTYLBENZENE	2422	104-51-8	OC	1/1/88	
N-PROPYLBENZENE	2998	103-65-1	OC	1/1/88	
NAPHTHALENE	2248	91-20-3	OC	1/1/88	
O-CHLOROTOLUENE	2965	95-49-8	OC	1/1/88	
O-DICHLOROBENZENE	2968	95-50-1	OC	1/1/88	12/31/92
OXAMYL (VYDATE)	2036	23135-22-0	OC	1/30/91	12/31/92
P-CHLOROTOLUENE	2966	106-43-4	OC	1/1/88	
P-ISOPROPYLTOLUENE	2030	99-87-6	OC	1/1/88	
PICLORAM	2040	1918-02-1	OC	1/30/91	12/31/92
PROPACHLOR	2077	1918-16-7	OC	1/30/91	
SEC-BUTYLBENZENE	2428	135-98-8	OC	1/1/88	
SIMAZINE	2037	122-34-9	OC	1/30/91	12/31/92
STYRENE	2996	100-42-5	OC	1/1/88	12/31/92
TERT-BUTYLBENZENE	2426	98-06-6	OC	1/1/88	
TETRACHLOROETHYLENE	2987	127-18-4	OC	1/1/88	12/31/92
TOLUENE	2991	108-88-3	OC	1/1/88	12/31/92
TRANS-1,2-DICHLOROETHYLENE	2979	156-60-5	OC	1/1/88	12/31/92
TRICHLOROFLUOROMETHANE	2218	75-69-4	OC	1/1/88	
XYLENE, META	2995	108-38-3	OC	1/1/88	12/31/92
XYLENE, ORTHO	2997	95-47-6	OC	1/1/88	12/31/92
XYLENE, PARA	2962	106-42-3	OC	1/1/88	12/31/92

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Appendix C: Violation Compliance Period Durations

Violation Compliance Period Durations Accepted by SDWIS/FED and Enforced by Migration to SDWIS/FED

The following compliance period durations are accepted by SDWIS/FED. *Migration to SDWIS/FED* only creates violation transactions (Form D1) for violations that meet these duration edit checks. These edit checks are not included either in online SDWIS/STATE (Violation Maintenance) or *Migration to SDWIS/STATE* software.

Violation Type/Analyte Code	Duration(s)	
01 - 06, 28	**MN**	Monthly
	QT	Quarterly
	6M	Every 6 months
	YR	Yearly
	2Y	Every 2 years
	3Y	Every 3 years
	4Y	Every 4 years
	5Y	Every 5 years
	6Y	Every 6 years
	7Y	Every 7 years
	8Y	Every 8 years
	9Y	Every 9 years
	10Y	Every 10 years
21 - 26	**MN**	Monthly
	QT	Quarterly
	6M	Every 6 months
	YR	Yearly
31, 36, or 41	**MN**	Monthly
53 or 59	**QT**	Quarterly
	6M	Every 6 months
	YR	Yearly
	3Y	Every 3 years

Violation Type/Analyte Code	Duration(s)	
1***, 2***, 2U15, 2U34, 2U36, 2V07, 2V08	**MN**	Monthly
	QT	Quarterly
	6M	Every 6 months
	YR	Yearly
	2Y	Every 2 years
	3Y	Every 3 years
	4Y	Every 4 years
	5Y	Every 5 years

Appendix D: Analyte Levels To Be Modified or Deleted

Modifications to the TMNALRA Table

The Analyte Level Rule Asgmt (TMNALRA) table is under the control of the SDWIS/STATE Administrator and, therefore, is not automatically updated by schema migration. SDWIS/STATE Administrators need to use the Analyte Level Maintenance function to make the following modifications and additions to the Analyte Level Rule Asgmt (TMNALRA) table after installation but prior to letting users have access to the new software. These modifications are necessary in order for *CDS Setup* and the new CDS Reports that target the new rules to work correctly.

Analyte Code	Analyte Name	Level	Measure	Measure Unit	MCL Compliance Method	Begin Date	End Date	Rule
0999	Chlorine	MRDL	4.0	mg/l		01/01/2002		DBP1
0999	Chlorine	MRDG	4	mg/l		01/01/2002		DBP1
1004	Bromide	TRL	0.05	mg/l		01/01/2002		DBP1
1006	Chloramine	MRDL	4.0	mg/l		01/01/2002		DBP1
1006	Chloramine	MRDG	4	mg/l		01/01/2002		DBP1
1008	Chlorine Dioxide	MRDL	0.8	mg/l		01/01/2002		DBP1
1008	Chlorine Dioxide	TRL	0.8	mg/l		01/01/2002		DBP1
1009	Chlorite	TRL	0.8	mg/l		01/01/2002		DBP1
1009	Chlorite	MCL	1.0	mg/l		01/01/2002		DBP1
1009	Chlorite	MCLG	0.8	mg/l		01/01/2002		DBP1
1011	Bromate	MCL	0.010	mg/l		01/01/2002		DBP1
1011	Bromate	MCLG	0	mg/l		01/01/2002		DBP1
1011	Bromate	TRL	0.010	mg/l		01/01/2002		DBP1
1094	Asbestos	RMDL	0.01	MFL		07/30/1992		PH2
2451	Dichloroacetic Acid	MCLG	0	mg/l		01/01/2002		DBP1
2452	Trichloroacetic Acid	MCLG	0	mg/l		01/01/2002		DBP1
2456	HAA5	MCL	0.060	mg/l		01/01/2002		DBP1
2456	HAA5	TRL	0.030	mg/l		01/01/2002		DBP1
2941	Chloroform	MCLG	0	mg/l		01/01/2002		DBP1
2943	Bromodichloromethane	MCLG	0	mg/l		01/01/2002		BP1
2942	Bromoform	MCLG	0	mg/l		01/01/2002		DBP1
2944	Dibromochloromethane	MCLG	0.06	mg/l		01/01/2002		DBP1
2949	THM Maximum Potential	ACL				12/31/2001		THM
2950	TTHM	MCL				12/31/2003		THM
2950	TTHM	TRL	0.040	mg/l		01/01/2002		DBP1
2950	TTHM	MRDL	0.0005	mg/l		01/01/2002		DBP1
2950	TTHM	MCL	0.080	mg/l		01/01/2004		
4000	Gross Alpha	TRL	5	pCi/L		12/08/2003		RADR
4010	Radium 226 & 228	MCLG	0	pCi/L		12/08/2003		RADR

Deletions From The TMNALRA Table

The following table lists records in the TMNALRA table that are recommended for deletion by SDWIS/STATE Administrators. There are currently no regulatory or system needs for these records. Some of these records were used in past releases but are no longer needed.

Analyte Code	Analyte Name	Level	Measure	Measure Unit	MCL Compliance Method	Begin Date	End Date	Rule
0200	Surface Water Treatment Rule (SWTR)	PRL				12/31/1991		SWTR
1024	Cyanide	PRL				07/17/1992	12/31/1992	PH2
1036	Nickel	PRL				07/17/1992	12/31/1992	PH2
1055	Sulfate	ACL	250	mg/l		12/31/1990		PH2
1074	Antimony	PRL				01/01/1993		PH2
1075	Beryllium	PRL				07/17/1992	12/31/1992	PH2
1085	Tallium	PRL				07/17/1992	12/31/1992	PH2
2030	p-IsoPropyltoulene	PRL				01/01/1988		PH1
2031	Dalapon	PRL				07/17/1992	12/31/1992	PH2
2032	Diquat	PRL				07/17/1992	12/31/1992	PH2
2033	Endothall	PRL				07/17/1992	12/31/1992	PH2
2034	Glyphosate	PRL				07/17/1992	12/31/1992	PH2
2035	Di-(2-ethylhexyl) adipate	PRL				07/17/1992	12/31/1992	PH2
2036	Oxamyl (Vydate)	PRL				07/17/1992	12/31/1992	PH2
2037	Simazine	PRL				07/17/1992	12/31/1992	PH2
2039	Di-(2-ethylhexyl) phthalate	PRL				07/17/1992	12/31/1992	PH2
2040	Pichloram	PRL				07/17/1992	12/31/1992	PH2
2041	Dinoseb	PRL				07/17/1992	12/31/1992	PH2
2042	Hexachlorocyclopentadiene	PRL				07/17/1992	12/31/1992	PH2
2063	2,3,7,8 TCCD (Dioxin)	PRL				07/17/1992	12/31/1992	PH2
2066	3-Hydroxycarbofuran	PRL				01/30/1991		PH2
2070	Dieldrin	PRL				01/30/1991		PH2
2076	Butachlor	PRL				01/30/1991		PH2
2214	Bromomethane	ACL	0.1	mg/l		12/31/1990		PH1
2216	Chloroethane	PRL				01/01/1988		PH1
2274	Hexachlorobenzene	PRL				07/17/1992	12/31/1992	PH2
2306	Benzo(A)pyrene	PRL				07/17/1992	12/31/1992	PH2
2452	Trichloracetic Acid	MCLG	0.3	mg/l		12/31/1990	12/31/1992	DBP1
2356	Aldrin	PRL				01/30/1991		PH2
2378	1,2,4 Trichlorbenzene	PRL				01/09/1989	12/31/1992	PH1
2380	cis-1,2-Dichlorethylene	PRL				01/09/1989	12/31/1992	PH1
2408	Dibromomethane	PRL				01/01/1988		PH1
2410	1,1-Dichloropropene	PRL				01/01/1988		PH1
2412	1,3-Dichloropropane	PRL				01/01/1988		PH1
2413	1,3-Dichloropropene	PRL				01/01/1988		PH1
2416	2,2-Dichloropropane	PRL				01/01/1988		PH1
2418	1,2,4-Trimethlybenzene	PRL				01/01/1988		PH1
2420	1,2,3-Trichlorbenzene	PRL				01/01/1988		PH1
2422	n-Butlybenzene	PRL				01/01/1988		PH1
2426	tert-Butlybenzene	PRL				01/01/1988		PH1
2428	sec-Butlybenzene	PRL				01/01/1988		PH1

Analyte Code	Analyte Name	Level	Measure	Measure Unit	MCL Compliance Method	Begin Date	End Date	Rule
2931	Dibromochloropropane (DBCP)	PRL				01/09/1989	12/31/1992	PH1
2941	Chloroform	ACL				01/01/1988		PH1
2942	Bromoform	ACL				12/31/1990		PH1
2943	Bromodichloromethane	ACL				01/01/1988		PH1
2944	Chlorodibromomethane	ACL				01/01/1988		PH1
2946	Ethylene Dibromide (EDB)	PRL				01/09/1989	12/31/1992	PH1
2964	Dichlormethane	PRL				01/09/1989	12/31/1992	PH1
2967	m-Dichlorbenzene	ACL				12/31/1990		PH1
2968	o-Dichlorbenzene	PRL				01/09/1989	12/31/1992	PH1
2978	1,1-Dichloroethane	PRL				01/01/1988		PH1
2979	trans-1,2-dichlorethlyene	PRL				01/09/1989	12/31/1992	PH1
2983	1,2-Dichloropropane	PRL				01/09/1989	12/31/1992	PH1
2985	1,1,2-Trichlorethane	PRL				01/09/1989	12/31/1992	PH1
2987	Tetrachlorethylene	PRL				01/09/1989	12/31/1992	PH1
2988	1,1,2,2-Tetrachlorethane	PRL				01/01/1988		PH1
2989	Monochlorbenzene	PRL				01/09/1989	12/31/1992	PH1
2991	Toulene	PRL				01/09/1989	12/31/1992	PH1
2992	Ethylbenzene	PRL				01/09/1989	12/31/1992	PH1
2993	Bromobenzene	PRL				01/01/1988		PH1
2994	Isopropylbenzene	PRL				01/01/1988		PH1
2996	Styrene	PRL				01/09/1989	12/31/1992	PH1
2998	N-Propylbenzene	PRL				01/01/1988		PH1
2U15	15 Unregulated Phase 1 VOCs	PRL				01/01/1975		PH1
2U34	34 Unregulated Phase 1 VOCs	PRL				01/01/1975		PH1
2U36	36 Unregulated Phase 1 VOCs	PRL				01/01/1975		PH1
2R07	7 Regulated Phase 1 VOCs	PRL				01/01/1975		PH1
2R08	Regulated Phase 1 VOCs	PRL				01/01/1975		PH1

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