

# ***SDWIS -- List Elements By Business Object***

## ***Water System Object***

*Describes an institutional entity that provides water for human consumption. Identifies collections of water system facilities assembled for distribution of water to a specified geographic area(s), owned by a legal entity. Water systems are classified according to rules developed by the U.S. Environmental Protection Agency and each state. Water systems fall into two broad categories: public and non-public. A public water system can be further classified as Community, Non-Transient Non-Community, or Transient Non-Community.*

<i><b>Element Name</b></i>	<i><b>Optionality</b></i>	<i><b>Data Type</b></i>	<i><b>Length/Precision</b></i>	
PWS ID	Required	Alphanumeric	9	0
PWS TYPE	Required	Alpha	4	0
PWS NAME	Required	Alphanumeric	80	0
ACTIVITY FLAG	Required	Alpha	1	0
DEACTIVATION DATE	Conditional	Date(YYYYMMDD)	8	0
WHOLESALEROFWATER	Optional	Alphanumeric	1	0
RETAIL POPULATION SERVED	Required	Numeric	8	0
RETAIL SERVICE CONNECTIONS	Required	Numeric	7	0
NON-COMMUNITY SEASON BEGIN (MONTH AND DAY)	Conditional	Date (MMDD)	4	0
NON-COMMUNITY SEASON END (MONTH AND DAY)	Conditional	Date (MMDD)	4	0
OWNER TYPE	Required	Alphanumeric	1	0

---

# ***SDWIS -- List Elements By Business Object***

---

## ***Water System Facility Source Object***

*Characterizes the source facilities for a water system. A Water System Facility can be any location or facility related to the water system. Examples of source facilities include Intakes, Wells, and Reservoir.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
PWS ID	Required	Alphanumeric	9	0
FACILITY ID	Required	Alphanumeric	12	0
ACTIVITY FLAG	Required	Alpha	1	0
DEACTIVATION DATE	Conditional	Date(YYYYMMDD)	8	0
FACILITY NAME	Required	Alphanumeric	80	0
STATE DATABASE FACILITY ID	Optional	Alphanumeric	40	0
FACILITY TYPE CODE	Required	Alphanumeric	2	0
FACILITY WATER TYPE CODE	Required	Alphanumeric	2	0
AVAILABILITY	Required	Alphanumeric	1	0
SELLER PWS ID	Conditional	Alphanumeric	9	0
SELLER SOURCE TREATMENT CODE	Optional	Alphanumeric	1	0
SOURCE TREATED CODE	Optional	Alphanumeric	1	0
REPORTED FILTRATION STATUS CODE	Optional	Alphanumeric	3	0

---

# ***SDWIS -- List Elements By Business Object***

---

## ***Water System Facility Treatment Plant Object***

*Characterizes the facilities for a water system. A Water System Facility can be any location or facility related to the water system. Examples include distribution systems, treatment plants, pumping facilities, water storage facilities, and the like.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
=====				
PWS ID	Required	Alphanumeric	9	0
FACILITY ID	Required	Alphanumeric	12	0
FACILITY TYPE CODE	Required	Alphanumeric	2	0
ACTIVITY FLAG	Required	Alpha	1	0
DEACTIVATION DATE	Conditional	Date(YYYYMMDD)	8	0
FACILITY NAME	Required	Alphanumeric	80	0
STATE DATABASE FACILITY ID	Optional	Alphanumeric	40	0

---

# ***SDWIS -- List Elements By Business Object***

---

## ***Water System Facility Other Object***

*Characterizes the facilities for a water system. A Water System Facility can be any location or facility related to the water system. Examples include distribution systems, treatment plants, pumping facilities, water storage facilities, and the like.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
=====				
PWS ID	Required	Alphanumeric	9	0
FACILITY ID	Required	Alphanumeric	12	0
ACTIVITY FLAG	Required	Alpha	1	0
DEACTIVATION DATE	Conditional	Date(YYYYMMDD)	8	0
FACILITY NAME	Required	Alphanumeric	80	0
STATE DATABASE FACILITY ID	Optional	Alphanumeric	40	0
FACILITY TYPE CODE	Required	Alphanumeric	2	0

---

---

# ***SDWIS -- List Elements By Business Object***

---

---

## ***Legal Entity Object***

*Describes a legal entity, such as an individual, corporation, or government agency, including the address and telephone numbers.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
ADDRESS ID	Required	Alphanumeric	20	0
ORGANIZATION	Conditional	Alphanumeric	80	0
ADDRESSEE NAME	Conditional	Alphanumeric	70	0
ADDRESS LINE 1	Required	Alphanumeric	50	0
ADDRESS LINE 2	Optional	Alphanumeric	50	0
CITY	Required	Alphanumeric	40	0
US STATE AND CANADIAN PROVINCE CODE	Conditional	Alpha	2	0
COUNTRY CODE	Required	Alpha	2	0
POSTAL CODE	Conditional	Alphanumeric	14	0
INTERNATIONAL POSTAL CODE	Conditional	Alphanumeric	14	0
TELEPHONE NUMBER	Optional	Alphanumeric	15	0
TELEPHONE EXTENSION NUMBER	Optional	Alphanumeric	5	0
FAX NUMBER	Optional	Alphanumeric	15	0
ELECTRONIC ADDRESS	Optional	Alphanumeric	100	0

---

# ***SDWIS -- List Elements By Business Object***

---

## ***Legal Entity Affiliation Object***

*Characterizes the role assumed by a Legal Entity in different Water System and Water System Facility. For example an individual or government agency can play different roles in a Water System and Water System Facility.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
=====	=====	=====	=====	=====
ADDRESS ID	Required	Alphanumeric	20	0
PWS ID	Required	Alphanumeric	9	0
FACILITY ID	Optional	Alphanumeric	12	0
AFFILIATION TYPE	Required	Alpha	2	0

---

---

# ***SDWIS -- List Elements By Business Object***

---

---

## ***Service Area Object***

*A service area defines the sensitive populations that receive water from the water system.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
=====	=====	=====	=====	=====
PWS ID	Required	Alphanumeric	9	0
PRIMARY NAICS CODE SERVICE AREA	Required	Alphanumeric	6	0
NAICS CODE SERVICE AREA	Optional	Alphanumeric	6	0

---

# ***SDWIS -- List Elements By Business Object***

---

## ***Geographic Area Object***

*Information on political units established by geographic boundaries, such as state, town, or county served by a Water System.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
PWS ID	Required	Alphanumeric	9	0
US STATE CODE	Conditional	Alphanumeric	2	0
CITY NAME	Conditional	Alphanumeric	40	0
FIPS COUNTY CODE	Conditional	Alphanumeric	5	0
TRIBAL CODE	Conditional	Alphanumeric	3	0
SERVICE AREA ZIP CODE	Optional	Numeric	5	0

---



---

# ***SDWIS -- List Elements By Business Object***

---

## ***Locational Detail Object***

*Characterizes a physical location of a Water System facility on the surface of the earth using latitude/longitude and altitude coordinates.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
PWS ID	Required	Alphanumeric	9	0
FACILITY ID	Required	Alphanumeric	12	0
LATITUDE DEG:MINS:SECS	Conditional	Alphanumeric	13	0
LONGITUDE DEG:MINS:SECS	Conditional	Alphanumeric	13	0
LATITUDE MEASURE	Conditional	Alphanumeric	10	0
LONGITUDE MEASURE	Conditional	Alphanumeric	10	0
HORIZONTAL COLLECTION METHOD CODE	Required	Alphanumeric	3	0
HORIZONTAL ACCURACY MEASURE	Required	Numeric	7	2
REFERENCE POINT CODE	Required	Alphanumeric	3	0
HORIZONTAL REFERENCE DATUM CODE	Required	Alphanumeric	3	0
SOURCE MAP SCALE	Required	Alphanumeric	2	0
GEOMETRIC TYPE CODE	Required	Alphanumeric	3	0
DATA COLLECTION DATE	Optional	Date(YYYYMMDD)	8	0
COORDINATE DATA SOURCE CODE	Optional	Alphanumeric	3	0
VERIFICATION METHOD CODE	Optional	Alphanumeric	3	0
VERTICAL MEASURE	Conditional	Numeric	7	2
VERTICAL COLLECTION METHOD CODE	Optional	Alphanumeric	3	0
VERTICAL ACCURACY MEASURE	Optional	Numeric	7	2
VERTICAL REFERENCE DATUM CODE	Optional	Alphanumeric	3	0
LOCATION COMMENT TEXT	Optional	Alphanumeric	150	0

---

# ***SDWIS -- List Elements By Business Object***

---

## ***Treatment Data Object***

*Identifies the treatment objectives and processes for treating water of a Water System Facility intended for safe public consumption.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
PWS ID	Required	Alphanumeric	9	0
FACILITY ID	Required	Alphanumeric	12	0
TREATMENT ID	Required	Alphanumeric	20	0
TREATMENT OBJECTIVE	Required	Alphanumeric	1	0
TREATMENT PROCESS	Required	Numeric	3	0
TREATMENT COMMENT	Conditional	Alphanumeric	2000	0

---

---

---

# ***SDWIS -- List Elements By Business Object***

---

---

## ***Facility Flow Object***

*Describes the relationship or connection between the different water system facilities of a water system.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
PWS ID	Required	Alphanumeric	9	0
FACILITY ID FLOW FROM	Required	Alphanumeric	12	0
FACILITY ID FLOW TO	Required	Alphanumeric	12	0

---

---

# ***SDWIS -- List Elements By Business Object***

---

## ***Violation Object***

*Violations are issued for a public water system when there is a failure to meet certain state/region or federal drinking water regulations. Violations are detected by assessment of sample results or reviews (including on site visits). Violations may lead to legal actions or compliance orders. Violations are publicized, when required, by public notification. Violations may be remedied by compliance/enforcement, for example by improved filtration techniques or changes in procedures.*

---

<i><b>Element Name</b></i>	<i><b>Optionality</b></i>	<i><b>Data Type</b></i>	<i><b>Length/Precision</b></i>	
=====				
PWS ID	Required	Alphanumeric	9	0
FACILITY ID	Optional	Alphanumeric	12	0
VIOLATION ID	Required	Alphanumeric	20	0
VIOLATION TYPE	Required	Alphanumeric	2	0
CONTAMINANT CODE	Conditional	Alphanumeric	4	0
COMPLIANCE PERIOD BEGIN DATE	Required	Alphanumeric	6	0
COMPLIANCE PERIOD END DATE	Conditional	Alphanumeric	6	0
ANALYSIS RESULT	Conditional	Numeric	15	9
LEVEL VIOLATED	Conditional	Numeric	15	9
MAJOR VIOLATION INDICATOR	Conditional	Alphanumeric	1	0
PUBLIC NOTICE UNDERLYING VIOLATION ID	Conditional	Alphanumeric	20	0
REPORTING DATE	Required	Date(YYYYMMDD)	8	0

---

# ***SDWIS -- List Elements By Business Object***

---

## ***Enforcement Action Object***

*Enforcement Action details the actions taken against a Water System. May include requirements that must be met in order to rectify a failure to perform under the PWSS Program. Enforcement actions are informal and formal. They are typically issued by the primacy agency but may be issued by its representative or the EPA.*

---

<i><b>Element Name</b></i>	<i><b>Optionality</b></i>	<i><b>Data Type</b></i>	<i><b>Length/Precision</b></i>	
PWS ID	Required	Alphanumeric	9	0
ENFORCEMENT ID	Required	Alphanumeric	20	0
ENFORCEMENT DATE	Required	Date(YYYYMMDD)	8	0
ACTION CODE	Required	Alphanumeric	3	0
ENFORCEMENT COMMENT	Optional	Alphanumeric	2000	0
ASSOCIATED J5000 GROUP		Alphanumeric	0	0
ASSOCIATED VIOLATION IDS (Y5000)		Alphanumeric	12	0
ASSOCIATED SCHEDULE IDS		Alphanumeric	12	0
REPORTING DATE	Required	Date(YYYYMMDD)	8	0

---

---

---

# ***SDWIS -- List Elements By Business Object***

---

---

## ***Event Schedule Object***

*The Event Schedule Object describes activities related to enforcement actions, enforcement cases, site visits, or any other schedule.*

*Note: Only the validations for the Lead and Copper Rule (Milestone Activities) have been documented.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
PWS ID	Required	Alphanumeric	9	0
EVENT SCHEDULE ID	Required	Alphanumeric	20	0
REGULATING AGENCY	Required	Alphanumeric	80	0
SCHEDULE RULE CODE	Required	Alpha	4	0
EFFECTIVE DATE	Required	Date(YYYYMMDD)	8	0
CLOSE DATE	Conditional	Date(YYYYMMDD)	8	0
SCHEDULE STATUS	Optional	Alphanumeric	1	0
REPORTING DATE	Required	Date(YYYYMMDD)	8	0

---

---

# ***SDWIS -- List Elements By Business Object***

---

## ***Event Schedule Activity Object***

*The Event Schedule Activity describes actions taken with respect to an enforcement, an enforcement case, site visits, milestones or any other schedule.*

*Note: Only the validations for the Lead and Copper Rule (Milestone Activities) have been documented.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
PWS ID	Required	Alphanumeric	9	0
EVENT SCHEDULE ID	Required	Alphanumeric	20	0
EVENT SCHEDULE ACTIVITY ID	Required	Alpha	20	
ACTIVITY TYPE CODE	Required	Alphanumeric	40	0
ACTIVITY ACHIEVE DATE	Optional	Date(YYYYMMDD)	8	0
ACTIVITY DUE DATE	Required	Date(YYYYMMDD)	8	0
REASON CODE	Conditional	Alphanumeric	5	0
ACTIVITY COMMENT	Optional	Alphanumeric	2000	0

# ***SDWIS -- List Elements By Business Object***

## ***Site Visit Object***

*Characterizes a site visit conducted by a representative of a regulatory agency for the purpose of compliance inspection, technical support, or complaint investigation. The results of the site visit are documented and can result in violations.*

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
PWS ID	Required	Alphanumeric	9	0
VISIT ID	Required	Alphanumeric	20	0
VISIT DATE	Required	Date(YYYYMMDD)	8	0
VISIT REASON	Required	Alphanumeric	4	0
VISIT AGENCY TYPE	Required	Alphanumeric	2	0
CATEGORY EVALUATION MANAGEMENT AND OPERATIONS	Optional	Alphanumeric	1	0
CATEGORY EVALUATION SOURCE	Optional	Alphanumeric	1	0
CATEGORY EVALUATION SECURITY	Optional	Alphanumeric	1	0
CATEGORY EVALUATION PUMPS	Optional	Alphanumeric	1	0
CATEGORY EVALUATION OTHER	Optional	Alphanumeric	1	0
CATEGORY EVALUATION OPERATOR COMPLIANCE	Optional	Alphanumeric	1	0
CATEGORY EVALUATION MONITORING REPORTING DATA VERIFICATION	Optional	Alphanumeric	1	0
CATEGORY EVALUATION TREATMENT	Optional	Alphanumeric	1	0
CATEGORY EVALUATION FINISHED WATER STORAGE	Optional	Alphanumeric	1	0
CATEGORY EVALUATION DISTRIBUTION	Optional	Alphanumeric	1	0
REPORTING DATE	Required	Date(YYYYMMDD)	8	0
ASSOCIATED SCHEDULE IDS		Alphanumeric	12	0
SITE VISIT COMMENT	Optional	Alphanumeric	2000	0



---

# ***SDWIS -- List Elements By Business Object***

---

## ***Sample Object***

*Sample object describes a water specimen taken for the purpose of analyzing water quality. Samples may be taken from either raw (untreated) or treated water sources. Samples are typically taken at different locations within the distribution system or at entry points to the distribution system. The object details the sample collection date, sample analytical results, contaminant details (if found), etc.*

---

<i><b>Element Name</b></i>	<i><b>Optionality</b></i>	<i><b>Data Type</b></i>	<i><b>Length/Precision</b></i>	
PWS ID	Required	Alphanumeric	9	0
SAMPLE ID	Required	Alphanumeric	20	0
FACILITY ID	Conditional	Alphanumeric	12	0
SAMPLE BEGIN DATE	Conditional	Date(YYYYMMDD)	8	0
SAMPLE DATE	Required	Date(YYYYMMDD)	8	0
SOURCE TYPE	Conditional	Alphanumeric	3	0
QTY COMPOSITED	Optional	Numeric	1	0
SAMPLE TYPE	Conditional	Alphanumeric	1	0
SAMPLING RECONCILIATION ID	Optional	Alphanumeric	40	0
REPORTING DATE	Required	Date(YYYYMMDD)	8	0

---

---

---

# ***SDWIS -- List Elements By Business Object***

---

---

## ***Sample Result Object***

*Result of sample analysis by laboratory and field equipment. Typically identifies a contaminant, the level present in the sample, and the method used for analysis.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
PWS ID	Required	Alphanumeric	9	0
SAMPLE ID	Required	Alphanumeric	20	0
SAMPLE CONTAMINANT	Required	Alphanumeric	4	0
SAMPLE ANALYSIS METHOD	Optional	Alphanumeric	5	0
SAMPLE RESULT SIGN	Conditional	Alphanumeric	1	0
SAMPLE ANALYSIS RESULT	Required	Numeric	15	9
UNIT OF MEASURE	Conditional	Alphanumeric	4	0

---

---

# ***SDWIS -- List Elements By Business Object***

---

## ***Assignment Criteria Object***

*Assignment Criteria describes the link between a particular Enforcement Action and a Violation or Schedule. It also describes the link between a particular Schedule and Site Visit.*

---

<i>Element Name</i>	<i>Optionality</i>	<i>Data Type</i>	<i>Length/Precision</i>	
ASSOCIATED VIOLATION IDS (Y5000)	Optional	Alphanumeric	12	0
ASSOCIATED J5000 GROUP	Optional	Alphanumeric	0	0
ASSOCIATED SCHEDULE IDS	Optional	Alphanumeric	12	0

---