Adopted by the North Carolina Geographic Information Coordinating Council December 4, 1997

Geographic Data Content Standard for Water Distribution Systems and Sanitary Sewer Systems

VERSION 3.1

State of North Carolina

Center for Geographic Information & Analysis
301 North Wilmington Street, Suite 700
Raleigh, NC 27601-2825

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Updated September 2011

PREFACE (1997)

The use of geographic information systems (GIS) and related technology to manage vital information about our communities and regions of the state has clearly become more commonplace. Perhaps no other recent effort than the development of this document and the related project to inventory and characterize the water distribution and sanitary sewer systems in rural North Carolina is testament to the growing use of GIS. Through this project, numerous elected officials, town managers, and others from non-urban regions of the state have been exposed to the value of using GIS for managing and understanding large and complex amounts of detailed information. Many are now beginning to use GIS data to help maintain future safe drinking water supplies and to develop environmentally responsible waste treatment plans in hopes to spur or ensure continued economic growth in their communities.

This standard is primarily intended to serve as a specification for the statewide water and sewer inventory project conducted by the North Carolina Rural Economic Development Center and the Western Piedmont Council of Governments. It is anticipated that the standard will be used to

provide a basis for continued maintenance of the inventory and by others that develop and manage data about water and sewer infrastructures.

The development of this standard evolved over many months and its content reflects "in the field" experiences of staff from the Rural Center, McGill & Associates, and the Western Piedmont Council of Governments. The experiences shared from the field were important and significantly improved the document from its first draft.

We expect that many will consider and use the standard as developed and we certainly anticipate that they also will provide their insights and requirements back to us so that subsequent versions of the document are valuable to the community at large.

Zsolt Nagy,
North Carolina Center for Geographic Information and Analysis

John Soles,
North Carolina Rural Development Council
Rural Economic Development Center, Inc.

Francine Stephenson
North Carolina Office of State Planning

ACKNOWLEDGMENTS (1997)

Many served to launch this initiative and provided feedback on specific aspects of this document. The following is a list of key project participants the authors wish to recognize.

DeWitt Blackwell, Western Piedmont Council of Governments
Billy Ray Hall, NC Rural Economic Development Center
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Preface to Update (2011)

The Lumber River Council of Governments led a review of the standard in 2010 and identified additional or updated attributes for water and sewer systems to reflect current practices in local facility management, regional planning, and data management. The review team specified additional data layers that are common in facility management and practical to represent as geospatial data at larger mapping scales than applied in the 1997 efforts. The review included a set of recommendations for applying GIS software to add value to datasets. Those recommendations are contained in a separate document intended to serve as a guide to best practices in developing geospatial data for water and sewer systems.

North Carolina Center for Geographic Information and Analysis
Tim Johnson, Director
Jeff Brown, Coordination Program Manager
David Giordano, Database Administrator and staff to the Statewide Mapping Advisory Committee

Acknowledgements (2011)

This update relied on the following key participants and their respective organizations:

Jim Perry, Executive Director, Lumber River Council of Governments
James Armstrong, GIS Director, Richmond County and member of the Statewide Mapping Advisory Committee
Julie Haigler Cubeta, Senior Director, Physical Infrastructure, NC Rural Economic Development Center
Anne Payne, Chair, Statewide Mapping Advisory Committee

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SECTION 1: INTRODUCTION

Background

The availability of safe drinking water supplies and the ability to economically treat, process, sanitize, and return treated sewerage into the state's rivers and lakes are critical issues for citizens of North Carolina as we approach the next millennium. Thorough knowledge about the location, condition, and capacity of water distribution and sanitary sewer systems and information about the projected need for these systems throughout the state is vital. Federal, state and local officials, planners, and engineers are in need of reliable and comprehensive information that can be used to manage the current infrastructure and plan for the future.

In response to this need, the Rural Economic Development Center conducted a detailed inventory of all water and sewer systems in North Carolina and an assessment of needs for expansion and development of new systems (late 1990s). Information collected in that project has been stored and maintained in the North Carolina OneMap Database, a collection of strategic geographic information.

Two agencies, the Western Piedmont Council of Government, and the North Carolina Rural Economic Development Center, agreed to cooperate with the North Carolina Center for Geographic Information and Analysis (CGIA) on the development of this water distribution and sanitary sewer systems geographic data content standard. This document was used in the project as the data content specifications for the statewide geographic data layer on water and sewer systems.

The information is accessible through the use of geographic information systems technology. Geographic information systems (GIS) are now widely used by public and private organizations to manage information, analyze, predict, and assist with human and natural activities on the earth. GIS is now being used by all 100 counties in North Carolina, as well as lead regional organizations, state departments, federal organizations, and private businesses and utilities.

Since the 1990s, mapping of water and sewer projects is much more common by municipalities and counties and their service providers. In addition, a second statewide project by the Rural Economic Development Center, Water 2030, completed in 2007, developed a statewide representation of service areas (not facilities) that was consistent with this set of standards. Additional data items collected for water and sewer systems for Water 2030, beyond items in this set of standards, are included in a best practices document.

Objective

The objective of this effort is to develop a geographic data content standard for use in the development of a statewide geographic dataset for water distribution and sanitary sewer systems in rural North Carolina. With the guidance and oversight of the Geographic Information Coordinating Council, North Carolina has implemented a strategic plan to guide the growth of

geographic information systems, geographic information, and related technologies. An important aspect of the strategic plan is the development of data and technology standards. The original geographic data content standard was intended to be the basis for the development of a statewide data layer, as a component of the NC OneMap Database, for water distribution and sanitary sewer systems. The updated standard adds facility detail intended to enhance water and sewer asset management. The standard is intended to represent the minimum requirements of data content for all organizations planning, building, and/or maintaining geographic data about water distribution and sanitary sewer systems. The fields specified in this standard enable visual display and analysis of patterns within local systems and across systems. Additional fields related to costs, contractors, facility conditions, and system maintenance, though not specified in the standard, would add value to a database linked to mapped facilities. Modern database software enables multiple related tables that may be linked to map features by a unique identifier.

Geographic Information Coordinating Council

Established by Executive Order Number 16 in May 1993 and mandated by the General Assembly in 2001 (North Carolina General Statutes Article 76, Sections 143-735 through 143-727), the North Carolina Geographic Information Coordinating Council (GICC) is responsible for the oversight and cost-effective development, management, and utilization of geographic information, geographic information systems and other related technologies in the state. The GICC is specifically responsible for (a) strategic planning, (b) resolution of policy and technology issues, (c) coordination, direction and oversight, and (d) advising the Governor and the Legislature as to the needed directions, responsibilities, and funding regarding geographic information.

Statewide initiatives to coordinate the growth and use of geographic information systems and the sharing of geospatial data involves the cooperation of state, federal, and local government agencies; academic institutions; and the private sector. Initiatives are intended to improve the quality, access, and utility of North Carolina's geographic information and to promote geographic information as a strategic resource in the state.

NC OneMap Database

The NC OneMap Database is a statewide strategic resource containing an abundant supply of information about North Carolina. For example, the content of the NC OneMap Database includes information about North Carolina's cultural resources, surface waters, topography, jurisdictional boundaries, environmental regulations, land cover, streets and highways, demographics, and natural resources. Each category of data is geo-referenced, described, and managed in data layers and online services. The data layers and services are produced, maintained, accessed, distributed, hosted, and otherwise used by government and private organizations for a number of purposes. Water and sewer datasets are among the priorities for the GICC and NC OneMap. See www.nconemap.com for more information.

SECTION 2: Content Standards

Methodology (1997)

Development of the data content standard has occurred in several phases.
Phase one activity consisted of an assessment of information needs through an informal survey and through two facilitated workshops. Information needs were identified by a variety of potential data users, including public officials, resource managers, and professional engineers. Phase two activity consisted of the collection and assessment of other water and sewer systems standards and an assessment of existing geographic data files containing features pertaining to water and sewer systems. Phase three activity was an implementation of the standard by two organizations in the state. The working content standard was used in the development of geographic data files by the Rural Economic Development Center and the Western Piedmont Council of Government. Reaction to the standard in the field by both organizations was an important aspect of the development and refinement of the document.

An update phase occurred in 2010, led by the Lumber River Council of Governments, the NC Rural Economic Development Center, Richmond County, the Statewide Mapping Advisory Committee, the Local Government Committee, and a utilities working group. The purpose of this effort was to update the standard to be consistent with current mapping needs and to supplement the standard with recommended practices that take advantage of current technology.

Document (1997)

This document was prepared under a research and demonstration grant provided to the Western Piedmont Council of Governments by the Rural Economic Development Center, Inc. in support of the collaborative efforts with the NC Rural Development Council, the US Department of Agriculture, and the Office of the Governor's "NC Water and Sewer Inventory and Needs Assessment Project."
The document has been prepared for immediate use by all organizations that plan to implement digital geographic water and sewer inventory projects in the state. This document was revised in 2011 with the intention of making the standard consistent with current geospatial data development needs.

Participants (1997)

An advisory committee consisting of state, regional, and local representatives familiar with the delivery and management of water and sanitary sewer systems were assembled for two information requirement sessions. The advisory committee also included several members who were very familiar with the operations and management of data using geographic information systems and related technologies.

Advisory Committee Members (1997)

E.H. Alexander, REDC Board of Directors, Infrastructure Committee
E. Lee Armour, Centralina Council of Governments
DeWitt Blackwell, Western Piedmont Council of Governments
Bobby Blowe, NC Division of Environmental Management
Steven Dear, NC Rural Assistance Project, Inc.
Bill Gibson, Southwestern NC Planning and Economic Development Commission

Ronald Goswick, Kerr-Tar Regional Council
Wayne Jenkins, Northampton County Public Works
Buck Kennedy, The Wooten Company
Al Leonard, Town of Tabor City
Herman Little, Anson County Commissioner
Rose Ann Mack, Cape Fear Council of Governments
Gary McGill, McGill Associates, P.A.
David Muse, City of New Bern
Lynn Norton, Alexander Water Corporation
Jerry Perkins, NC Division of Environmental Health
Ed Regan, NC Association of County Commissioners
Bob Schley, NC Rural Water Association
Edgar R. Shuller, NC Department of Transportation
Karen Siderelis, NC Center for Geographic Information and Analysis
Paula Thomas, NC League of Municipalities
Bobby White, Burke County
Zettie Williams, Duplin County Commissioner

Participants in the 2011 Update to the Standard

Lumber River Council of Governments

The NC Rural Economic Development Center

Local Government Committee (LGC)

Statewide Mapping Advisory Committee (SMAC)
- Anne Payne, Chair, Wake County
- Utilities Working Group:
  - Chris Butts, Moore County
  - Jeff Cooke, City of Goldsboro
  - Ray Kurtiak, City of Gastonia
  - Rob Bailey, City of Charlotte
  - Mike Mull, Town of Cary
  - Sarah Sheldon, Town of Wake Forest
  - Kathryn Brewer, MSD of Buncombe County
  - Trey Cleaton, City of Salisbury
  - James Armstrong, Richmond County

NC Center for Geographic Information and Analysis (CGIA)
- CGIA received helpful comments on draft revisions from SMAC members as well as Julie Haigler Cubeta of the NC Rural Economic Development Center, Bliss Kite of the NC Public Utilities Commission, Jessica Godreau of the NC Public Water Supply Section, and Wayne Francisco, GHD.

SECTION 3: Content Standard - Water Distribution Systems

Definition

The Water Distribution Systems (WDS) dataset includes information about the primary facilities, mechanical components, and distribution lines that serve as a delivery system for drinking water. The WDS dataset includes a delineation of the service area boundary of each water distribution system. It also contains features of the locations of important mechanical components for the delivery of drinking water from a drinking water supply source to the curbside valve for customers in the system. The database contains attributes that describe all or portions of each component of the system.

Three types of water distribution systems exist for the digital water distribution system inventory: Type A, Type B, and Type P. Type A systems are generally considered large systems and are represented in the dataset as a service area with a variety of components. The components included in Type A systems are: water distribution pipes, groundwater wells, surface water intakes, water tanks, pumping stations, treatment plants, and master meters.

Type B systems are generally smaller and are represented in the dataset as a service area. Type B systems will be delineated by boundaries and stored as polygonal features. Pipes and components are not required for the Type B systems.

Type P systems represent "proposed" expansion areas or "proposed" new systems. Type P systems will be delineated by boundaries and stored as polygonal features. Pipes and mechanical components are not included in the mapping for Type P systems.

Type A, B, and P systems are defined as follows:

Type A Water System

Water Systems defined as public "Community Water Systems" by the NC Department of Environment, Health, and Natural Resources are classified as Type A Water Systems. Type A Water Systems are existing systems for provision to the public of piped water for human consumption which serve fifteen (15) or more connections or which regularly serve at least 25 year-round residents.

Type B Water System

Type B Water Systems are existing systems defined as public "Community Water Systems", which generally represent small private, mobile home, multi-family housing or single subdivision systems and have very limited potential future economic development impact.

Type P Water System

Type P Water Systems are planned or proposed public community water system service areas where public systems do not currently exist and are outside of current service area boundaries. Type P system are areas which have been identified as having sufficient

need and population density to support viable public systems and which have an existing minimum potential user density of 20 existing potential connections per mile of waterline.

The dataset for the water distribution system contains a large amount of descriptive information about each component and the service area. The descriptive information is contained in attribute tables that are linked to each geographic feature in the database. The attribute contents of the water distribution systems geographic dataset are listed in the Attribute Listing for Water Distribution Systems beginning on page 9. Attribute data field names and domain values are itemized for the Water Distribution Systems dataset in Table 1 beginning on page 12. Additional system owner information is stored in a table described in Section 5 on page 38.

Geometric Representation

Water Distribution System (Type A, Type B and P) service areas are to be delineated by boundaries and in the geometric form of one or more contiguous or non-contiguous polygons. Type A, B, and P systems will be stored in separate geographic data files. In circumstances where systems are small and can only be delineated by a point, a polygon is to be generated using a radius of 50 feet.

Mechanical components of the Water Distribution System - Type A are to be delineated as either lines or points. Pipelines will be collected and stored as lines in one geographic data file. Facilities/devices will be collected and stored as points in a separate geographic data file for each facility/device type.

All geographic data files are to be topological.

Geographic Coordinate System, Datum, and Unit of Measure

The water distribution systems datasets will be geo-referenced using the NC State Plane Coordinate System (NAD83).

The unit of measurement will be metric or English.

Annotation

Specifications for annotation of facilities and pipes for this dataset are not included in the standard. All relevant information for each feature is assumed to be recorded as an attribute in the database. Annotation, if desired, should be considered as an optional specification for consideration at the time of data collection or maintenance.

Metadata

Metadata, or data about data, are required for each geographic dataset. Beginning January 1995, all federal organizations involved in the development of geographic data must comply with the Federal Geographic Data Committee's (FGDC) Content Standards for Digital Geospatial Metadata. The FGDC Standard has been adopted by the North Carolina Geographic Information Coordinating Council and is required for all data submitted to the NC OneMap Database. The Center for Geographic Information and Analysis has implemented the Federal Content Standard for Digital Geospatial Metadata for all datasets currently in the NC OneMap Database and will

assist in the development of complete metadata for data layers.

Symbology

Graphic symbols of facilities and pipes for this data layer are not included in the standard. Symbology is considered a product generation standard and not a content issue. However, all relevant information pertaining to symbology is presumed to be recorded as an attribute in the database. Symbology should be considered as an optional specification for consideration at the time of product generation.

Attributes

Physical characteristics and descriptive information about each system and component are contained within the attribute table of each data file. Geometric features such as polygons, lines, nodes, and points identify the location or boundary of a feature in the dataset. An attribute or a set of attributes describe each feature in the dataset. Attribute field names, data type, field domain, and additional comments are described in Table 1 - Attribute Names, Field Definitions, and Supplementary Data Definitions for Water Distribution System Features. A list of all descriptive information for the Water Distribution Systems Dataset follows:

List 1 - Summary of Water Distribution Systems Attribute Fields

Water Distribution Systems - Type A

System Identification Number
Name of System
Owner Identification Number
Part Indicator
Total Parts

Water Pressure Zones

Original Construction Year
Description of Service Area
Supply Sources
Customer Connections - Residential
Customer Connections - Non-Residential
Customer Connections - Bulk Purchasers
Maximum Daily Usage
Average Daily Usage
User Charges - Residential
User Charges - Non-Residential
User Charges - Bulk Purchasers
Average Monthly Usage Per Customer - Residential
Average Monthly Usage Per Customer - Non-Residential
Average Monthly Usage Per Customer - Bulk Purchasers
Inter Basin Transfer
Problems and Needs
Recommendations
Improvement Cost
Expansion Indicator
Maximum Daily Usage - Current Year
Maximum Daily Usage - Plus 10 Years
Maximum Daily Usage - Plus 20 Years
Average Daily Usage - Current Year
Average Daily Usage - Plus 10 Years
Average Daily Usage - Plus 20 Years
Contact Person
Contact Telephone
Contact Person Email

Water Distribution System - Type B Service Areas

System Identification Number
Name of System
Population Served
Contact Person
Contact Telephone
Contact Person Email

Water Distribution System - Type P Service Areas
System Identification Number
Parent ID
New Cost

Water Distribution System Pipes
System Identification Number
Original Construction Year
Renovation Year - Most Recent
Material
Diameter
Elevations
Casing
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
Equipment/Device Manufacturer
Year of Installation

Wells, Groundwater Intakes
Groundwater Intake Well Identification Number
Original Construction Year
Renovation - Most Recent
Safe Yield
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

Intakes, Surface Water
Surface Water Intake - ID
Surface Water Intake - Year of Original Installation
Surface Water Intake - Year of Most Recent Renovation
Surface Water Intake Flow Capacity
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

Water Storage Tanks

Water Storage Tank - ID
Water Storage Tank Location Descriptor
Water Storage Tank Year of Original Construction
Water Storage Tank Year of Most Recent Renovation
Water Storage Tank Type
Water Storage Tank Utilization
Water Storage Tank Material
Water Storage Tank Bottom Elevation
Water Storage Tank Overflow Elevation
Water Storage Tank Storage Capacity
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

Water Pumping Stations

Water Pumping Station ID
Water Pumping Station Location Descriptor
Water Pumping Station Year of Original Construction
Water Pumping Station Year of Most Recent Renovation
Water Pumping Station Pumping Capacity
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

Water Treatment Plants

Water Treatment Plant ID
Water Treatment Plant Year of Original Construction
Water Treatment Plant Year of Most Recent Renovation
Water Treatment Plant Permitted Plant Capacity
Water Treatment Plant Maximum Daily Production
Water Treatment Plant Average Daily Production
Water Treatment Plant Type of Water Treatment Technology
Water Treatment Plant Estimated Area
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

Water Master Meters
Master Meter ID
Master Meter Year of Original Construction
Master Meter Year of Most Recent Renovation
Master Meter Size
Master Meter Maximum Available for Purchase Daily
InterSystem Connection
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

Water Hydrants
ID, Hydrant
Original Construction Year
Renovation – Most Recent
Static Pressure
Residual Flow
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation
Model Name
Nozzle Size
Nozzle Type

Water Service Meters
ID, Service Meter
Original Construction Year
Renovation – Most Recent
Size of Meter
Service Account
Type
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

In the following tables, new data fields added in 2011 are indicated by **bold** font.

Table 1- Definitions of Attribute Fields for Water Distribution Systems

Water System - Type A - (POLYGON ATTRIBUTES)		Boundary of legally defined service area, including additional areas being served. Exclude outside areas for which service is planned; these are P systems. Exclude area surrounding intake mains where no customers exist.		
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
WASYID	System ID	Text	7 characters	Water System Number (retain leading zero(s))
WASYNAME	Name of System	Text	50 characters	
WSSYOW1	Owner ID (One)	Text	00000 - 99999	Assign unique number for each within state. Owner ID may be same for both a water and sewer system. Use supplementary table 'TOWNER' for additional information about system owners.
WSSYOW2	Owner ID (Second, if applicable)	Text	00000 - 99999	Additional Owner ID, if multiple owners
WSSYOW3	Owner ID (Third, if applicable)	Text	00000 - 99999	Additional Owner ID, if multiple owners
WSSYOW4	Owner ID (Fourth, if applicable)	Text	00000 - 99999	Additional Owner ID, if multiple owners
WSSYOW5	Owner ID (Fifth, if applicable)	Text	00000 - 99999	Additional Owner ID, if multiple owners
WASYPART	Part Indicator	Integer	1,2,3,4,5,6,7,8,or 9	If the information for any field in polygon attributes has possible multiple values (for different parts of the whole), then the system must be characterized as separate systems that form parts of the whole and each part makes separate record(s).
WASYTOPT	Total Parts	Integer	1,2,3,4,5,6,7,8,or 9	Total parts in entire system. See Part Indicator.
WAPRESZN	**Water Pressure Zones**	**Text**		**Names of water pressure zones.**
WASYCSTR	Original Construction Year	Integer	4 digits	Exclusive of pipes. Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960").

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WASYDESC	Description of Service Area	Text	50 characters	Brief description of extent of service area. Must cover area for which permit is issued.
WASYSUPP	Supply Sources	Text	50 characters	Brief list of all supply sources by name, separated by commas.
WASYCCR	Customer Connections - Residential	Integer	000000 - 999999	Number of residential customer connections for finished water, most recent June 30th. "0" if none, "999999" if unknown.
WASYCCNR	Customer Connections - Non-Residential	Integer	000000 - 999999	Number of non-residential customer connections for finished water, most recent June 30th. "0" if none, "999999" if unknown.
WASYCCBP	Customer Connections - Bulk Purchasers	Integer	000000 - 999999	Number of bulk purchaser connections for finished water, most recent June 30th. "0" if none, "999999" if unknown.
WASYMAXD	Maximum Daily Usage	Numeric	000.000 - 999.999 millions of gallons per day	Maximum daily usage during fiscal year ending most recent June 30. "0" if none, "999.999" if unknown.
WASYAVGD	Average Daily Usage	Numeric	000.000 - 999.999 millions of gallons per day	Average daily usage during fiscal year ending most recent June 30. "0" if none, "999.999" if unknown
WASYCGR	User Charges - Residential	Numeric	000.00 - 999.99 dollars	Average monthly charge per customer for fiscal year ending last June 30. Average of 12 months, each calculated as total monthly charges divided by monthly number of customers. Omit dollar sign. "0" if none, "999.99" if unknown.
WASYCGNR	User Charges - Non-Residential	Numeric	9999999.99 dollars	Average monthly charge per customer for fiscal year ending last June 30. Average of 12 months, each calculated as total monthly charges divided by monthly number of customers. "0" if none, "9999999.99" if unknown.
WASYCGBP	User Charges - Bulk Purchaser	Numeric	9999999.99 dollars	Average monthly charge per bulk purchaser connection for fiscal year ending last June 30. Average of 12 months, each calculated as total monthly charges divided by monthly number of bulk purchaser connections. "0" if none, "9999999.99" if unknown.

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WASYAMR	Average Monthly Usage Per Customer - Residential	Integer	999999 gallons per month	Average monthly usage per customer for fiscal year ending last June 30. Average of 12 months, each calculated as total monthly usage divided by monthly number of customers. "0" if none, "999999" if unknown
WASYAMNR	Average Monthly Usage Per Customer - Non-Residential	Integer	000000000-999999999 gallons per month	Average monthly usage per customer for fiscal year ending last June 30. Average of 12 months, each calculated as total monthly usage divided by monthly number of customers. "0" if none, "999999999" if unknown
WASYAMBP	Average Monthly Usage Per Customer - Bulk Purchaser	Integer	000000000-999999999 gallons per month	Average monthly usage per bulk purchaser connection for fiscal year ending last June 30. Average of 12 months, each calculated as total monthly usage divided by monthly number of bulk purchaser connections. "0" if none, "999999999" if unknown
WASYIBTR	Inter-Basin Transfer	text	Y or N	Yes (Y) if there is transfer of water from one water basin to another by this water distribution system. Otherwise, no (N).
WPRJNEED	Problems and Needs	text	254 characters	Brief narrative documenting current conditions, problems, and needs, citing compliance with federal standards.
WPRJREC	Recommendations	text	254 characters	Brief narrative listing recommendations for improving the system.
WPRJCOST	Improvement Cost	Integer	0000000 - 9999999 thousands of dollars	Estimated cost in current dollars to implement recommendations for 1) adding capacity, (2) rehabilitating assets, and/or (3) replacing assets within current service area boundary (excluding any plans for expanding service area boundaries).
WPRJEXP	Expansion Indicator	text	Y or N	Yes, if recommend expanding current service area boundaries of this system. Otherwise, no.
WPRJMU00	**Maximum Daily Usage - Current**	**Numeric**	**000.000 - 999.999 millions of gallons per day**	**Projected maximum daily usage during fiscal year ending June 30, . "999.999" if unknown**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WPRJMU10	**Maximum Daily Usage - Plus 10**	**Numeric**	**000.000 - 999.999 millions of gallons per day**	**Projected maximum daily usage during fiscal year ending June 30 plus 10 years. "999.999" if unknown**
WPRJMU20	**Maximum Daily Usage - Plus 20**	**Numeric**	**000.000 - 999.999 millions of gallons per day**	**Projected maximum daily usage during fiscal year ending June 30 plus 20 years. "999.999" if unknown**
WPRJAU00	**Average Daily Usage - Current**	**Numeric**	**000.000 - 999.999 millions of gallons per day**	**Projected maximum daily usage during fiscal year ending June 30, "999.999" if unknown**
WPRJAU10	**Average Daily Usage - Plus 10**	**Numeric**	**000.000 - 999.999 millions of gallons per day**	**Projected maximum daily usage during fiscal year ending June 30 plus 10 years. "999.999" if unknown**
WPRJAU20	**Average Daily Usage - Plus 20**	**Numeric**	**000.000 - 999.999 millions of gallons per day**	**Projected maximum daily usage during fiscal year ending June 30 plus 20 years. "999.999" if unknown**
WSYCONT	**Contact Person**	**Text**	**25 characters**	**First name and last name, no titles or middle names.**
WSYPHON	**Contact Telephone**	**Text**	**xxx-xxx-xxxx**	
WSEMAIL	**Contact Person Email**	**hyperlink**		**email address**

Water System - Type B - (POLYGON ATTRIBUTES)		All Type B systems will be recorded as polygons, regardless of size. Systems too small to outline should be represented as a circle with a 50 foot radius.		
Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WBSYID	System ID	Text	7 characters	Water System Number
WBSYNAME	Name of System	Text	50 characters	
WBSYPOP	Population Served	Integer	000000 - 999999 persons	Estimate if unknown
WBSYCONT	Contact Person	Text	25 characters	First name and last name, no titles or middle names.
WBSYPHON	Contact Telephone	Text	xxx-xxx-xxxx	
WSEMAIL	**Contact Person Email**	**hyperlink**		**email address**

Water System - Type P - (POLYGON ATTRIBUTES)		Boundary determined by current need and viability. Includes contiguous areas (outside any current water system service area) that average at least 20 existing potential connections per linear highway/street mile. May or may not abut existing system(s).		
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
WPSYID	System ID	Text	7 characters	First digit is a "9", the next three are county FIPS code (primary county if crosses counties), and the final three set as desired, to avoid duplicating an existing system ID. Initial "9" indicates "new" or "P" system.
WPSYPAR	Parent ID	Text	7 characters	ID of parent system, if this is a proposed expansion outside service area of a current system. Otherwise blank.
WPSYCOST	New Cost	Numeric	000000.0 - 999999.9 in thousands of dollars	Cost in current dollars to put proposed system in place. Customer pool for driving cost estimates is to be derived from projections of population growth rates since 1970.

Water Pipes (Line Attributes)		A new pipe segment is designated each time any pipe attribute changes. A segment of pipe may include many vertices.		
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
WASYID	System ID	Text	7 characters	Water System Number (retain leading zero(s))
WAPICSTR	Original Construction Year	Integer	4 digits	Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.
WAPIRENV	Renovation or Renewal - Most Recent	Integer	4 digits	Estimate of the year (or decade) of the most recent renovation or renewal, defined as replacement or substantial repair / rehabilitation of at least 400 linear ft. Data management may require additional line segments. "0" if none, "9999" if unknown.

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WAPIMATR	Material	Text	asbestos cement, cast iron, concrete, copper, ductile iron, galvanized steel, polystyrene, polyvinyl chloride, steel, unknown, other. 25 characters	Material currently in place. Declare one material type, exactly as shown
WAPIDIAM	Diameter	Integer	00 - 99 inches	All pipes two (2) inches in diameter and larger must be reported. Smaller diameter pipes may be reported. "99" if unknown.
WAPIPELEV	**Elevations**	**Text**	**Above Ground, Below Ground**	
WACASE	**Casing**	**Text**	**Yes, No**	**Indicator if pipe is within a protective casing**
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Ground Water Intakes, Wells (Point Attributes)				
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
WAWEID	ID, Groundwater Well	Text	13 characters	First three digits are FIPS county code; next 7 digits are water system ID, last 3 digits are assigned to be unique within county.
WAWECSTR	Original Construction Year	Integer	4 digits	Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown
WAWERENV	Renovation - Most Recent	Integer	4 digits	Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown
WAWEYELD	Safe Yield	Numeric	000.000 - 999.999 mgd	If water is purchased, there may be no well data and no safe yield. "0" if none, "999.999" if unknown
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Surface Water Intakes (Point Attributes)				
Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WAINID	ID, Surface Water Intakes	Text	13 characters	First three digits are FIPS county code; next 7 digits are water system ID, last 3 digits are assigned to be unique within county.
WAINCSTR	Original Construction Year	Integer	4 digits	Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown
WAINRENV	Renovation - Most Recent	Integer	4 digits	Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown
WAINFLOW	Flow Capacity	Numeric	000.000 - 999.999 mgd	7 day/10 year low flow in million gallons per day
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Water Storage Tanks (Point Attributes)				
Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WATKID	ID, Water Tanks	Text	13 characters	First three digits are FIPS county code; next 7 digits are water system ID, last 3 digits are assigned to be unique within county.
WATKLOC	Location Descriptor	Text	20 characters	Name of area of location.
WATKCSTR	Original Construction Year	Integer	4 digits	Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown
WATKRENV	Renovation - Most Recent	Integer	4 digits	Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown
WATKTYPE	Type	Text	elevated, hydro-pneumatic, ground storage, other, unknown. 25 characters	Use one option for type, exactly as shown
WATKUTIL	Utilization	Text	raw water, finished water. 25 characters	Use one option for type, exactly as shown

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WATKMATR	Construction Material	Text	metal, concrete, pond, lake, reservoir, other, unknown. 15 characters	Use one option for type, exactly as shown
WATKEBOT	Elevation, Bottom	Numeric	00000.0 - 99999.9 feet above mean sea level	"99999.9" if unknown. Use 0.0 if WATKTYPE is hydropneumatic.
WATKEOFL	Elevation, Overflow	Numeric	00000.0 - 99999.9 feet above mean sea level	"99999.9" if unknown. Use 0.0 if WATKTYPE is hydropneumatic.
WATKCPTY	Storage Capacity	Numeric	000.000 - 999.999 millions of gallons	"999.999" if unknown
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Water Pumping Stations (Point Attributes)				
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
WAPSID	ID, Pumping Stations	Text	13 characters	First three digits are FIPS county code; next 7 digits are water system ID, last 3 digits are assigned to be unique within county.
WAPSLOC	Location Descriptor	Text	50 characters	Name of area of location.
WAPSCSTR	Original Construction Year	Integer	4 digits	Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown
WAPSRENV	Renovation - Most Recent	Integer	4 digits	Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown
WAPSCPTY	Pumping Capacity	Numeric	000000.0 - 999999.9 gallons per minute	"999999.9" if unknown
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Water Treatment Plant (Point Attributes)				
Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WATPID	ID, Treatment Plants	Text	13 characters	First three digits are FIPS county code; next 7 digits are water system ID, last 3 digits are assigned to be unique within county.
WATPCSTR	Original Construction Year	Integer	4 digits	Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown
WATPRENV	Renovation - Most Recent	Integer	4 digits	Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown.
WATPCPTY	Permitted Plant Capacity	Numeric	000.000 - 999.999 millions of gallons per day	"999.999" if unknown
WATPMDP	Maximum Daily Production	Numeric	000.000 - 999.999 millions of gallons per day	"999.999" if unknown
WATPADP	Average Daily Production	Numeric	000.000 - 999.999 millions of gallons per day	"999.999" if unknown

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WATPTRMT	Type of Water Treatment Technology	Text	Ground water w. disinfection, ground water w. reverse osmosis, ground water w. softener, ground water w. iron remover, ground water w. softener and iron removal, surface water w. direct filter, surface water w. coagulation, sedimentation and filter, other	Description of treatment type up to 100 characters. Use one or more options, exactly as shown. Also, use "unknown" if unknown.
WATPAREA	Estimated Area	Numeric	00000.00 - 99999.99 acres	Estimate of area of water treatment plant. "99999.99" if unknown.
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Water Master Meters (System) (Point Attributes)				
Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WAMMID	ID, Master Meters	Text	13 characters	First three digits are FIPS county code; next 7 digits are water system ID, last 3 digits are assigned to be unique within county.
WAMMCSTR	Original Construction Year	Integer	4 digits	Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.
WAMMRENV	Renovation - Most Recent	Integer	4 digits	Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown.
WAMMSIZE	Size	Integer	00-99 inches	
WAMMMAAV	Max. Available for Purchase, Daily	Numeric	000.000 - 999.999 million gallons per day	Maximum daily amount of water available for purchase at this meter site. "999.999" if unknown.
WAMMCON	**InterSystem Connection**	**Text**	**13 characters**	**System to which connection is being made. First three digits are FIPS county code; next 7 digits are water system ID, last 3 digits are assigned to be unique within county.**
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Water Hydrants (Point Attributes)				
Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WAHYID	**ID, Hydrant**	**Text**	**15 characters**	**First three digits are FIPS county code; next 7 digits are water system ID, last 5 digits are assigned to be unique within county.**
WAHYCSTR	**Original Construction Year**	**Date**	**4 digits**	**Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.**
WAHYRENV	**Renovation - Most Recent**	**Date**	**4 digits**	**Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown.**
WAHYSTATIC	**Static Pressure**	**Integer**		**Static Pressure as measured at Hydrant**
WAHYRESID	**Residual Flow**			**Residual Flow as measured at Hydrant**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Water Service Meters (Point Attributes)				
WASMID	ID, Service Meter	Text	25 characters	First three digits are FIPS county code; next 7 digits are water system ID, last 15 digits are assigned to be unique within county.
WASMCSTR	Original Construction Year	Date	4 digits	Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.
WASMRENV	Renovation - Most Recent	Date	4 digits	Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown.
WASMSIZE	Size of Meter	Integer		Size of meter service.
WASMACCT	Service Account	Text / Integer		Service Account from billing data base associated with Service meter
WASMTYPE	Type	Text	Residential, Commercial, Industrial, Irrigation	Type of service meter is providing.
SERVSTAT	Service Status	Text	In Services, Out of Service, Planned, Future, In Construction, Abandoned	Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.
CREATDAT	Date Created in GIS	Date		
CREATBY	Created By (Person)	Text		A domain of person allowed to edit should be created for this attribute.
UPDTON	Date of Last Update	Date		
UPDTBY	Edited By (Person)	Text		A domain of person allowed to edit should be created for this attribute.
LIFECYC	Expected Life of Asset	Text		Number of years that asset is expected to be in use before being renewed.
DATASOURCE	Source of Data	Text	GPS, Paper Maps, Digital Maps	
DATACOLL	Data Collector	Text		Name of person or firm collecting the field data

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Water Valves (Point Attributes)				
Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WAWVALID	**ID, Water Valve**	**Text**	**25 characters**	**First three digits are FIPS county code; next 7 digits are water system ID, last 15 digits are assigned to be unique within county.**
WAWVACSTR	**Original Construction Year**	**Date**	**4 digits**	**Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.**
WAWVARENV	**Renovation - Most Recent**	**Date**	**4 digits**	**Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown.**
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
UPDATON	**Date of Last Update**	**Date**		
UPDATBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data.**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**
ASSETNAME	**Name of the Asset**	**Text**		
VALVETYPE	**Type of Valve**	**Text**		

SECTION 4: Content Standard - Sanitary Sewer Systems

Definition

The Sanitary Sewer Systems (SSS) dataset includes information about the primary facilities, mechanical components, and collection lines that function as a discharge and treatment system for sewerage. The SSS dataset includes a delineation of the service area boundary of each sanitary sewer system. It also contains features of the locations of important mechanical components for the delivery and treatment of sewerage from the curbside connection point to the site where treated sewerage is released back into the natural environment. The database contains attributes that describe all or portions of each component of the system.

Three types of sanitary sewer systems exist for the digital sanitary sewer system inventory: Type A, Type B, and Type P. Type A systems are generally considered large systems and are represented in the dataset by a service area with a variety of system components. The components included in Type A systems are: sewer pipes, pumping stations, treatment plants, discharges, and land application areas.

Type B systems are generally smaller and are represented in the dataset as a service area. Type B systems will be delineated by boundaries and stored as polygonal features. Pipes and components are not required for the Type B systems.

Type P systems represent "proposed" expansion areas or "proposed" new systems. Type P systems will be delineated by boundaries and stored as polygonal features. Pipes and mechanical components are not included in the mapping for Type P systems.

Type A, B, and P systems are defined as follows:

Type A Sewerage Systems

Existing community sanitary sewer systems including collection lines, transport lines or pumping and treatment facilities which serve the general public and accept domestic wastewater are classified as Type A Sewerage Systems.

Type B Sewerage Systems

Type B Sewerage Systems are existing community sanitary sewer systems which serve the general public and accept domestic wastewater, but generally represent small, private, business, industrial, mobile home, multi-family housing or single subdivision systems which have very limited potential future economic development impact.

Type P Sewerage Systems

Type P Sewerage Systems are planned or proposed public community sanitary sewer system service areas, outside of current service area boundaries, where public systems do not currently exist. Type P systems are areas which have been identified as having sufficient need and population density to support viable public systems and which have an existing minimum potential user density of 40 existing potential connections per mile of wastewater collection line.

The dataset for the sanitary sewer system contains a large amount of descriptive information about each component and the service area. The descriptive information is contained in attribute tables that are linked to each geographic feature in the database. The attribute contents of the sanitary sewer systems geographic dataset are listed in the Attribute Listing for Sanitary Sewer System beginning on page 26. Attribute data field names and domain values are itemized for the Sanitary Sewer System dataset in Table 2 beginning on page 28. Additional system owner information is stored in a table described in Section 5 on page 38.

Geometric Representation

Sanitary Sewer Systems (Type A, Type B and Type P) service areas are to be delineated by boundaries and in the geometric form of one or more contiguous or non-contiguous polygons. Type A, B, and P systems will be stored in separate geographic data files. In circumstances where systems are small and can only be delineated by a point, a polygon is to be generated using a radius of 50 feet.

Mechanical components of the Sanitary Sewer System - Type A are to be delineated as either lines or points. Pipelines will be collected and stored as lines in one geographic data file. Facilities/devices will be collected and stored as points in a separate geographic data file for each facility/device type.

All geographic data files will be topological.

Geographic Coordinate System, Datum, and Unit of Measurement

The sanitary sewer systems data sets will be geo-referenced using the NC State Plane Coordinate System (NAD83).
The unit of measurement will be metric or English.

Annotation

Specifications for annotation of facilities and pipes for this dataset are not included in the standard. All relevant information for each feature is assumed to be recorded as an attribute in the database. Annotation, if desired, should be considered as an optional specification for consideration at the time of data collection or modification.

Metadata

Metadata, or data about data, are required for each geographic dataset. Beginning January 1995, all federal organizations involved in the development of geographic data must comply with the Federal Geographic Data Committee's (FGDC) Content Standards for Digital Geospatial Metadata. The FGDC Standard has been adopted by the North Carolina Geographic Information Coordinating Council and is now required for all data submitted to the NC OneMap Database. The Center for Geographic Information & Analysis has implemented the Federal Content Standard for Digital Geospatial Metadata for all datasets currently in the NC OneMap Database and will assist in the development of complete metadata for corporate data layers.

Symbology

Graphic symbols of facilities and pipes for this data layer are not included in the standard. Symbology is considered as a product generation standard and not a content issue. However, all relevant information pertaining to symbology is presumed to be recorded as an attribute in the

database. Symbology should be treated as an optional specification for consideration at the time of product generation.

Attributes

Physical characteristics and descriptive information about components are contained within the attribute table of each data set. Polygons, lines, areas, nodes, and points identify the location or boundary of a feature in the dataset. An attribute or a set of attributes describe each feature in the dataset. Attribute field names, data type, field domain, and additional comments are described in Table 2 - Attribute Names, Field Definitions, and Supplementary Data Definitions for Sanitary Sewer System Features. A list of all descriptive information for the Sanitary Sewer Systems Dataset follows:

List 2 - Summary of Sanitary Sewer Systems Attribute Fields

Sanitary Sewer System - Type A

System Identification Number
Name of System
Owner Identification Number
Part Indicator
Total Parts
Original Construction Year
Description of Service Area
Customer Connections - Residential
Customer Connections - Non-Residential
Customer Connections - Bulk Purchaser
Maximum Daily Flow
Average Daily Flow
User Charges - Residential
User Charges - Non-Residential
User Charges - Bulk Purchasers
Average Monthly Flow Per Customer - Residential
Average Monthly Flow Per Customer - Non-Residential
Average Monthly Flow Per Customer - Bulk Purchaser
Inter Basin Transfer Amount
Problems and Needs
Recommendations
Improvement Cost
Expansion Indicator
Maximum Daily Flow Current Year
Maximum Daily Flow Plus 10 Years
Maximum Daily Flow Plus 20 Years
Average Daily Flow Current Year
Average Daily Flow Plus 10 Years
Average Daily Flow Plus 20 Years
Contact Person
Contact Telephone
Contact Person Email

Sanitary Sewer System - Type B Service Areas

System Identification Number
Name of System
Population Served
Contact Person
Contact Telephone
Contact Person Email

Sanitary Sewer System - Type P Service Areas

System Identification Number
Parent System ID
New Cost

Land Application Areas

Land Application Area - ID
Land Application Area Year of Original Construction
Land Application Area Year of Most Recent Renovation
Land Application Area - Permit Expiration Date
Land Application Area - Estimated Area

Sanitary Sewer System Pipes

System Identification Number
Original Construction Year
Renovation Year - Most Recent
Material
Diameter
Type - Pressure, Gravity, Vacuum
Utilization Type - Interceptor, Outfall, Collection
Elevations
Slope
Casing
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
Equipment/Device Manufacturer
Year of Installation

Pumping Stations

Pumping Station - ID
Pumping Station Location Descriptor
Pumping Station Year of Original Construction
Pumping Station Year of Most Recent Renovation
Pumping Station Capacity
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

Treatment Plants

Treatment Plant - ID
Treatment Plant Location Descriptor
Treatment Plant Year of Original Installation
Treatment Plant Year of Most Recent Renovation
Treatment Plant Permitted Flow Capacity
Treatment Plant Maximum Daily Flow
Treatment Plant Average Daily Flow
Treatment Plant Type of Treatment Technology
Treatment Plant Sludge Disposal Technology
Treatment Plant Infiltration/Inflow
Treatment Plant Estimated Area
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

Discharge Points

Discharge -ID
Discharge Location Descriptor
Discharge Year of Original Construction
Discharge Year of Most Recent Renovation
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

Sewer Manholes

ID, Manhole
Location Descriptor
Original Construction Year
Renovation – Most Recent
Top Elevation
Invert Out
Invert 1
Invert 2
Invert 3
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

Sewer Valves

ID, Valve
Location Descriptor
Original Construction Year
Renovation – Most Recent
Pipe Connection
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

Sewer Cleanouts

ID, Cleanout
Location Descriptor
Original Construction Year
Renovation – Most Recent
Pipe Connection
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

Sewer Stream Crossings

ID, Crossing
Location Descriptor
Original Construction Year
Renovation – Most Recent
Name of Stream
Service Status
Date Created in GIS
Created By (Person)
Date of Last Update
Edited By (Person)
Expected Life of Asset
Source of Data
Data Collector
X Coordinate
Y Coordinate
Z Coordinate
Picture of Asset
Equipment/Device Manufacturer
Year of Installation

In the following tables, data fields added in 2011 are indicated by **bold** font.

Table 2 - Definitions of Attribute Fields for Sanitary Sewer Systems

Sanitary Sewer System - Type A (Polygon Attribute)		Boundary of legally defined service area, including additional areas being served. Exclude outside areas for which service is planned; these are P systems. Exclude area surrounding intake mains where no customers exist.		
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
SSSYID	System ID	Text	7 characters	First three digits are FIPS county code (primary co. of location), next 4 digits are unique identifier. Note: cannot use permit number for discharge due to multiple discharges.
SSSYNAME	Name of System	Text	50 characters	
SSSYOW1	Owner ID (One)	Text	00000 - 99999	Assign unique number for each within state. Owner ID may be same for both a water and sewer system. Use supplementary table 'TOWNER' for additional information about system owners.
SSSYOW2	Owner ID (Second, if applicable)	Text	00000 - 99999	Additional Owner ID, if multiple owners.
SSSYOW3	Owner ID (Third, if applicable)	Text	00000 - 99999	Additional Owner ID, if multiple owners.
SSSYOW4	Owner ID (Fourth, if applicable)	Text	00000 - 99999	Additional Owner ID, if multiple owners.
SSSYOW5	Owner ID (Fifth, if applicable)	Text	00000 - 99999	Additional Owner ID, if multiple owners.
SSSYPART	Part Indicator	Integer	1,2,3,4,5,6,7,8, or 9	If the information for any field in polygon attributes table has possible multiple values (for different parts of the whole), then the system must be characterized as separate systems that form parts of the whole and each part makes separate record(s).
SSSYTOPT	Total Parts	Integer	1,2,3,4,5,6,7,8, or 9	Total parts in entire system. See Part Indicator.

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
SSSYCSTR	Original Construction Year	Integer	4 digits	Exclusive of pipes. Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"). "9999" if unknown.
SSSYDESC	Description of Service Area	Text	50 characters	Brief description of service area. Must cover area for which permit is issued.
SSSYCCR	Customer Connections - Residential	Integer	000000 - 999999	Number of residential customer connections for sanitary sewer, most recent June 30th. "0" if none, "999999" if unknown.
SSSYCCNR	Customer Connections - Non-Residential	Integer	000000 - 999999	Number of non-residential customer connections for sanitary sewer, most recent June 30th. "0" if none, "999999" if unknown.
SSSYCCBP	Customer Connections - Bulk Purchasers	Integer	00000 - 99999	Number of bulk purchaser connections for sanitary sewer, most recent June 30th. "0" if none, "99999" if unknown.
SSSYMAXF	Maximum Daily Flow	Numeric	000.000 - 999.999 millions of gallons per day	Maximum daily flow during fiscal year ending most recent June 30. "999.999" if unknown.
SSSYADGD	Average Daily Flow	Numeric	000.000 - 999.999 millions of gallons per day	Average daily flow during fiscal year ending most recent June 30. "999.999" if unknown.
SSSYCGR	User Charges - Residential	Numeric	000.00 - 999.99 dollars	Average monthly charge per customer for fiscal year ending last June 30. Average of 12 months, each calculated as total monthly charges divided by monthly number of customers. "0" if none, "999.99" if unknown.
SSSYCGNR	User Charges - Non-Residential	Numeric	0.00 - 9999999.99 dollars	Average monthly charge per customer for fiscal year ending last June 30. Average of 12 months, each calculated as total monthly charges divided by monthly number of customers. "0" if none, "9999999.99" if unknown.

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
SSSYCGBP	User Charges - Bulk Purchasers	Numeric	0.00 - 9999999.99 dollars	Average monthly charge per bulk purchaser connection for fiscal year ending last June 30. Average of 12 months, each calculated as total monthly charges divided by monthly number of bulk purchaser connections. "0" if none, "9999999.99 if unknown.
SSSYAMR	Average Monthly Flow Per Customer - Residential	Integer	999999 gallons per month	Average monthly usage per customer for fiscal year ending last June 30. Average of 12 months, each calculated as total monthly Flow divided by monthly number of customers. "0" if none, "999999" if unknown.
SSSYAMNR	Average Monthly Flow Per Customer - Non-Residential	Integer	999999999 gallons per month	Average monthly flow per customer for fiscal year ending last June 30. Average of 12 months, each calculated as total monthly Flow divided by monthly number of customers. "0" if none, "999999999" if unknown.
SSSYAMBP	Average Monthly Flow Per Customer - Bulk Purchasers	Integer	999999999 gallons per month	Average monthly flow per bulk purchaser connection for fiscal year ending last June 30. Average of 12 months, each calculated as total monthly Flow divided by monthly number of bulk purchaser connections. "0" if none, "999999999" if unknown.
SSSYIBTR	Inter-Basin Transfer	Text	Y or N	Yes(Y) if there is transfer of wastewater or processed wastewater from one water basin to another by this sanitary sewer system. Otherwise, no (N).
SPRJNEED	Problems and Needs	Text	254 characters	Brief narrative documenting current conditions, problems, and needs, citing compliance with federal standards.
SPRJREC	Recommendations	Text	254 characters	Brief narrative listing recommendations for improving the system.

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
SPRJCOST	Improvement Cost	Integer	0000000 - 9999999 thousands of dollars	Estimated cost in current dollars to implement recommendations for improving the system including expansion within current service area boundary (excluding any plans for expanding service area boundaries).
SPRJEXP	Expansion Indicator	Text	Y or N	Yes, if recommend expanding current service area boundaries of this system. Otherwise, no.
SPRJMF00	**Maximum Daily Flow - Current**	**Numeric**	**000.000 - 999.999 millions of gallons per day**	**Projected maximum daily usage during fiscal year ending June 30, "999.999" if unknown.**
SPRJMF10	**Maximum Daily Flow - Plus 10 Years**	**Numeric**	**000.000 - 999.999 millions of gallons per day**	**Projected maximum daily usage during fiscal year ending June 30 plus 10 years. "999.999" if unknown.**
SPRJMF20	**Maximum Daily Flow - Plus 20 Years**	**Numeric**	**000.000 - 999.999 millions of gallons per day**	**Projected maximum daily usage during fiscal year ending June 30 plus 20 years. "999.999" if unknown.**
SPRJAF00	**Average Daily Flow - Current**	**Numeric**	**000.000 - 999.999 millions of gallons per day**	**Projected maximum daily usage during fiscal year ending June 30, "999.999" if unknown.**
SPRJAF10	**Average Daily Flow - Plus 10 Years**	**Numeric**	**000.000 - 999.999 millions of gallons per day**	**Projected maximum daily usage during fiscal year ending June 30 plus 10 years. "999.999" if unknown.**
SPRJAF20	**Average Daily Flow - Plus 20 Years**	**Numeric**	**000.000 - 999.999 millions of gallons per day**	**Projected maximum daily usage during fiscal year ending June 30 plus 20 years. "999.999" if unknown.**
SSYCONT	**Contact Person**	**Text**	**25 characters**	**First name and last name, no titles or middle names.**
SSYPHON	**Contact Telephone**	**Text**	**xxx-xxx-xxxx**	
SSEMAIL	**Contact Person Email**	**hyperlink**		**email address**

Sanitary Sewer System - Type B (Polygon Attribute)		All type B systems will be recorded as polygons, regardless of size. Systems too small to outline should be represented as a circle with a 50 foot radius.		
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
SBSYID	System ID	Text	7 characters	First three digits are FIPS county code (primary co. of location), next 4 digits are unique identifier.
SBSYNAME	Name of System	Text	50 characters	
SBSYPOP	Population Served	Integer	000000 - 999999 persons	If unknown, provide best estimate of population.
SBSYCONT	Contact Person	Text	25 characters	First name and last name, no titles or middle names.
SBSYPHON	Contact Telephone	Text	xxx-xxx-xxxx	
SBSEMAIL	**Contact Person Email**	**hyperlink**		**email address**

Sanitary Sewer System - Type P (Polygon Attribute)		Boundary determined by current need and viability. Includes contiguous areas (outside any current sewer system service area) that average at least 40 existing potential connections per linear highway/street mile. May or may not abut existing system(s).		
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
SPSYID	System ID	Text	7 characters	First digit is a “9”, the next three are county FIPS code, and the final three set as desired, to avoid duplicating an existing system ID. Initial “9” indicates "new" or "P" system.
SPSYPAR	Parent ID	Text	7 characters	ID of parent system, if this is a proposed expansion outside service area of a current system. Otherwise blank.
SPSYCOST	New Cost	Numeric	000000.0 - 999999.9 in thousands of dollars	Cost in current dollars to put proposed system in place. Customer pool for driving cost estimates is to be derived from projections of population growth rates since 1970.

Land Application Areas (Polygon Attribute)				
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
SSTPLAID	ID, Land Application Areas	Text	11 characters	Nine digits: seven digit Land Application Number (exclude 'WQ') and two digits for unique identifier.
SSLACSTR	Original Construction Year	Integer	4 digits	Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.
SSLARENV	Renovation - Most Recent	Integer	4 digits	Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown.
SSLADATE	Permit Expiration Date	Date	YYMMDD	
SSLAAREA	Estimated Area	Numeric	000000.00 - 999999.99 acres	Estimate of area. "999999.99" if unknown.

Sewer Pipes (Line Attribute)		A new pipe segment is designated each time any pipe attribute changes. A segment of pipe may include many vertices.		
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
SSSYID	System ID	Text	7 characters	First three digits are FIPS county code (primary co. of location), next 4 digits are unique identifier. Note: cannot use permit number for discharge due to multiple discharges.
SSPICSTR	Original Construction Year	Integer	4 digits	Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.
SSPIRENV	Renovation - Most Recent	Integer	4 digits	Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown.
SSPIMATR	Material	Text	ABS, asbestos cement, brick, cast iron, concrete, corrugated metal, ductile iron, fiberglass, galvanized steel, polystyrene, polyvinyl chloride, steel, vitrified clay, unknown, other.25.	Material currently in place. Declare one type, exactly as shown.
SSPIDIAM	Diameter	Integer	00 - 99 inches	For gravity systems, all interceptors and forced mains must be reported, as well as all collection lines 8 in. and larger. For low pressure and other systems, all lines 2 in. and greater must be reported. Smaller pipes may be reported. "99" if unknown.
SSPITYPGV	Type - Pressure, Gravity, Vacuum	Text	pressure, gravity, vacuum, other, unknown. 15 characters.	Negative pressure implies a vacuum.

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
SSTYIOC	Utilization Type - Interceptor, Outfall, Collection	Text	interceptor, outfall, collection, other, unknown. 15 characters.	State one option, exactly as shown.
SSPIPELEV	**Elevations**	**Text**	**Above Ground, Below Ground**	
SSSLOPE	**Slope**	**Integer**		**Slope of Sewer Line**
SSCASE	**Casing**	**Text**	**Yes, No**	**Indicator if pipe is within a protective casing**
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use without repair.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Sewer Pumping Stations (Point Attributes)				
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
SSPSID	ID, Pumping Station	Text	11 characters	First 7 digits are same as those of sewer system ID, last 4 digits are unique identifying code within system. Note fewer digits in last segment may be practical.
SSPSLOC	Location Descriptor	Text	30 characters	Name of area of location.
SSPSCSTR	Original Construction Year	Integer	4 digits	Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.
SSPSRENV	Renovation - Most Recent	Integer	4 digits	Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown.
SSPSCPTY	Capacity	Integer	000000 - 999999 gallons per minute	"999999" if unknown.
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data.**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Sewer Treatment Plant (Point Attributes)				
Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
SSTPID	ID, Treatment Plant	Text	7 characters	National Pollutant Discharge Elimination System Identification Number assigned by NC Div. of Environmental Management (Exclude "NC").
SSTPLOC	Location Descriptor	Text	20 characters	Name of area of location.
SSTPCSTR	Original Construction Year	Integer	4 digits	Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
SSTPRENV	Renovation - Most Recent	Integer	4 digits	Estimate of the year (or decade) of the most recent renovation. "0" if none. "9999" if unknown.
SSTPCPTY	Permitted Flow Capacity	Numeric	00000.0 - 999.999 mgd	7 day, 10 year low flow. "999.999" if unknown.
SSTPMDPR	Maximum Daily Flow	Numeric	000.000 - 999.999 mgd	“999.999” if unknown.
SSTPADPR	Average Daily Flow	Numeric	000.000 - 999.999 mgd	“999.999” if unknown.
SSTPTRMT	Type of Treatment Technology	Text	Stabilization lagoon, secondary treatment, advanced secondary treatment, tertiary treatment, secondary treatment plus nutrient removal, tertiary treatment plus nutrient removal, land application, created wetlands, rapid infiltration, other. 100 chars.	State one or more options, exactly as shown. Also use "unknown" if unknown.
SSTPSLUD	Sludge Disposal Technology	Text	50 characters	Brief, free text to describe sludge disposal treatment and handling.
SSTPINFT	Infiltration/Inflow	Numeric	000.000 - 999.999 millions of gallons per day	Estimate of system-wide maximum daily infiltration/inflow measured at the plant. "999.999” if unknown.
SSTPAREA	Estimated Area	Numeric	000000.00 - 999999.99 acres	Estimate of total area (excluding land application area extent). "999999.99" if unknown.
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data.**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Sewer Discharge Outlets (Point Attributes)				
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
SSTPDCID	ID, Discharges	Text	10 characters	7 digits from the Treatment Plant ID (National Pollutant Discharge Elimination System Identification Number) and the 3 digit outfall code.
SSDCLOC	Location Descriptor	Text	30 characters	Name of area of location. Include name of stream in location descriptor.
SSDCCSTR	Original Construction Year	Integer	4 digits	Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.
SSDCRENV	Renovation - Most Recent	Integer	4 digits	Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown.
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data.**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Sewer Manholes (Point Attributes)				
Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
SSMHID	**ID, Manhole**	**Text**	**11 characters**	**First 7 digits are same as those of sewer system ID, last 4 digits are unique identifying code within system. Note fewer digits in last segment may be practical.**
SSMHLOC	**Location Descriptor**	**Text**	**30 characters**	**Name of area of location. Include name of stream in location descriptor.**
SSMHCSTR	**Original Construction Year**	**Integer**	**4 digits**	**Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
SSMHRENV	**Renovation - Most Recent**	**Integer**	**4 digits**	**Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown.**
SSMHTOP	**Top Elevation**	**Double**		**Top of Rim Elevation.**
SSMHOUT	**Invert Out**	**Double**		**Elevation of Invert Out**
SSMHINVERT1	**Invert 1**	**Double**		**Elevation of Invert 1 going Clockwise from North.**
SSMHINVERT2	**Invert 2**	**Double**		**Elevation of Invert 2 going Clockwise from North.**
SSMHINVERT3	**Invert 3**	**Double**		**Elevation of Invert 3 going Clockwise from North.**
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data.**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Sewer Valves (Point Attributes)				
Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
SSVID	**ID, Valve (or fitting)**	**Text**	**11 characters**	**First 7 digits are same as those of sewer system ID, last 4 digits are unique identifying code within system. Note fewer digits in last segment may be practical.**
SSVLOC	**Location Descriptor**	**Text**	**30 characters**	**Name of area of location. Include name of stream in location descriptor.**
SSVCSTR	**Original Construction Year**	**Integer**	**4 digits**	**Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.**
SSVRENV	**Renovation - Most Recent**	**Integer**	**4 digits**	**Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown.**
SSVPIPE	**Pipe Connection**	**Text**		**Sewer Pipe (force) to which valve is connected.**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Sewer Cleanouts (Point Attributes)				
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
SSCOID	**ID, Cleanout**	**Text**	**11 characters**	**First 7 digits are same as those of sewer system ID, last 4 digits are unique identifying code within system. Note fewer digits in last segment may be practical.**
SSCOLOC	**Location Descriptor**	**Text**	**30 characters**	**Name of area of location. Include name of stream in location descriptor.**
SSCOCSTR	**Original Construction Year**	**Integer**	**4 digits**	**Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.**
SSCORENV	**Renovation - Most Recent**	**Integer**	**4 digits**	**Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown.**
SSCOPIPE	**Pipe Connection**	**Text**		**Sewer Pipe (force) to which valve is connected.**
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

Sewer Stream Crossings (Point Attributes)				
Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
SSSTRID	**ID, Crossing**	**Text**	**11 characters**	**First 7 digits are same as those of sewer system ID, last 4 digits are unique identifying code within system. Note fewer digits in last segment may be practical.**
SSSTRLOC	**Location Descriptor**	**Text**	**30 characters**	**Name of area of location. Include name of stream in location descriptor.**
SSSTRCSTR	**Original Construction Year**	**Integer**	**4 digits**	**Use closest decade if exact year is unknown (e.g., if the original construction year was sometime between 1965 and 1970, specify "1970"; likewise if you believe it to be sometime between 1960 and 1964, specify "1960"). "9999" if unknown.**

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
SSSTRRENV	**Renovation - Most Recent**	**Integer**	**4 digits**	**Estimate of the year (or decade) of the most recent renovation. "0" if none, "9999" if unknown**
SSSTRNAME	**Name of Stream**	**Text**		**Names of Stream that sewer crosses.**
SERVSTAT	**Service Status**	**Text**	**In Services, Out of Service, Planned, Future, In Construction, Abandoned**	**Note: planned service is ready to be funded and put in place; future service is anticipated or projected without specific plans.**
CREATDAT	**Date Created in GIS**	**Date**		
CREATBY	**Created By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
UPDTON	**Date of Last Update**	**Date**		
UPDTBY	**Edited By (Person)**	**Text**		**A domain of person allowed to edit should be created for this attribute.**
LIFECYC	**Expected Life of Asset**	**Text**		**Number of years that asset is expected to be in use before being renewed.**
DATASOURCE	**Source of Data**	**Text**	**GPS, Paper Maps, Digital Maps**	
DATACOLL	**Data Collector**	**Text**		**Name of person or firm collecting the field data.**
XCOORD	**X coordinate**	**Double**		**GPS collected X Coordinate**
YCOORD	**Y coordinate**	**Double**		**GPS collected Y Coordinate**
ZCOORD	**Z coordinate**	**Double**		**GPS collected Z Coordinate**
ASSETPIC	**Picture of Asset**	**URL**		**A link to an image of the asset.**
MANUFACT	**Equipment/Device Manufacturer**	**Text**		**Current asset**
INSTALL_YR	**Year of Installation**	**Integer**		**Current asset**

SECTION 5: Content Standard - Supplementary Owner Information

Additional Information about Water Distribution and Sewer System Owners are stored as a data table in the dataset. The data is linked to the systems data files through the owner identification number.

List 3 - Supplementary System Owner Information

Owner ID
Owner Name
Owner Type
County of Owner
Bond Rating, NC Municipal Council
Capital Improvement Plan Availability
Cash Reserves
Outstanding Indebtedness - Water
Outstanding Indebtedness - Sewer

Table 3- Definitions of Attribute Fields for Owners

Supplemental Table: TOWNER				
Data Field Name	***Attribute (Alias)***	***Data Type***	***Domain and Units***	***Comments***
WSSYOWID	Owner ID	Text	00000 - 99999	Assign unique numbers statewide.
WSSYOWNM	Owner Name	Text	50 characters	Assign unique numbers statewide. May have same owner ID for a water and sewer system.
WSSYOWTP	Owner Type	Text	town, city, county, water dst, sewer dst, wat & sew dst, metro wat dst, metro sew dst, metro wat&sew dst, wat auth, sew auth, wat&sew auth, sanitary dst, state, fed, non-profit, profit corp, private, special purpose dst, home owner assoc., other. 50 chars.	Also use "unknown" if unknown.
WSCOFIPS	County of Owner	Text	001 - 199	FIPS Code. County of Business Address of System Owner.
WSSYOWRA	Bond Rating, NC Municipal Council	Text	000 - 100, or "NR" for No Rating, or "NSR" for Not Subject to Rating.	Use North Carolina Municipal Council, Inc. Ratings of Counties, Cities, and Towns. Latest Available Publication.
WSSYOWCI	Capital Improvement Plan Availability	Text	Y or N	

Data Field Name	*Attribute (Alias)*	*Data Type*	*Domain and Units*	*Comments*
WSSYOWCR	Cash Reserves	Numeric	0000000.0 - 9999999.9 thousands of dollars	Based on latest audit. Omit dollar sign.
WSSYOWIW	Outstanding Indebtedness - Water	Numeric	0000000.0 - 9999999.9 thousands of dollars	Based on latest audit. Omit dollar sign.
WSSYOWIS	Outstanding Indebtedness - Sewer	Numeric	0000000.0 - 9999999.9 thousands of dollars	Based on latest audit. Omit dollar sign.

Glossary

Component
Any natural or man-made entity that is a categorical part of a water distribution or a sanitary sewer system. Examples of components may include water tanks, sewer pipes, and fire hydrants.

Discharge Point
The location where treated wastewater is released into a receiving stream or body of water.

Feature
The unique segment or part of a system that is spatially represented by a geometric figure, such as a polygon, line, point, or node.

Wells, Ground Water Intake
The location at which raw water is drawn into the water system from an underground source.

Hydrant
An upright pipe with a nozzle or spout for drawing water from a water main.

Intake, Surface Water
The location at which raw water is drawn into the water system from a surface water source.

Land Application Area
An area on which treated wastewater or sludge is applied to be absorbed into the soil.

Manhole
A chamber built upon a sewer line to facilitate inspection and cleaning.

Master Meter
A device generally used to measure the volume of water flow to bulk purchasers whereby the water is intended for resale to users within the purchaser's system.

Sanitary Sewer Pumping Station
Any device or facility used to force wastewater from one elevation or location to another within a wastewater system.

Sanitary Sewer System
All facilities used to collect, treat, pump, and dispose of sewerage. The boundaries comprising the sanitary sewer system may or may not be coincident with the water distribution system.

Sanitary Sewer System - Type A
Existing community sanitary sewer systems including collection lines, transport lines or pumping and treatment facilities which serve the general public and accept domestic wastewater are classified as Type A Sewerage Systems.

Sanitary Sewer System - Type B
Type B Sewerage Systems are existing community sanitary sewer systems which serve the general public and accept domestic wastewater, but generally represent small, private, business, industrial, mobile home, multi-family housing or single subdivision systems which have very limited potential future economic development impact.

Sanitary Sewer System - Type P
Type P Sewerage Systems are planned or proposed public community sanitary sewer system service areas, outside of current service area boundaries, where public systems do not currently exist. Type P systems are areas which have been identified as having sufficient need and population density to support viable public systems and which have an existing minimum potential user density of 40 existing potential connections per mile of wastewater collection line.

Sanitary Sewer Treatment Plant
A facility used to treat wastewater and the related appurtenant works.

Sewer Cleanout
A small chamber, not intended for a person, usually located on a system line (such as a lateral) for cleaning purposes.

Sewer Pipe
A pipe that is used to carry wastewater from one location in the system to another.

Sewer Stream Crossing
The location where a sewer pipe crosses a stream.

Sewer Valve
A movable device by which the flow of wastewater is started, stopped, or regulated.

Water Pipe
A pipe that is used to carry water from one location to another in a water supply or distribution system.

Water Distribution System
All facilities used to supply, treat, store, and distribute water. The boundaries comprising the water system may or may not be coincident with the Sanitary Sewer System.

Water Distribution System - Type A
Water Systems defined as public "Community Water Systems" by the NC Department of Environment, Health, and Natural Resources are classified as Type A Water Systems. Type A Water Systems are existing systems for provision to the public of piped water for human consumption which serve fifteen (15) or more connections or which regularly serve at least 25 year- round residents.

Water Distribution System - Type B
Type B Water Systems are existing systems defined as public "Community Water Systems",

which generally represent small private, mobile home, multi-family housing or single subdivision systems and have very limited potential future economic development impact.

Water Distribution System - Type P
Type P Water Systems are planned or proposed public community water system service areas where public systems do not currently exist and are outside of current service area boundaries. Type P system are areas which have been identified as having sufficient need and population density to support viable public systems and which have an existing minimum potential user density of 20 existing potential connections per mile of waterline.

Water Pumping Station
A device or facility used to force water from one elevation or location to another within the water supply or distribution system.

Water Service Meter
A device that measures the flow of water to a customer for billing purposes.

Water Storage Tank
A natural or manmade facility where water is stored for the water system.

Water Treatment Plant
A facility where raw water is treated and purified for human consumption.