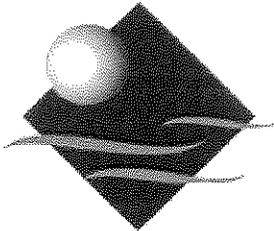


**WATER SUPPLY SYSTEM MANAGEMENT PLAN
FOR
SOUTH KINGSTOWN PUBLIC SERVICES DEPARTMENT
EXECUTIVE SUMMARY**



PREPARED FOR:

TOWN OF SOUTH KINGSTOWN, RHODE ISLAND
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Executive Summary

Background

This Water Supply System Management Plan (WSSMP) has been prepared as required under the Rhode Island General Laws 46-15.3, as amended and titled "The Water Supply System Management Planning Act" (Act). The legislative authority to effectuate the goals and policies of this Act has been conferred to the RIWRB. To this end, the RIWRB has promulgated the Rules and Procedures for Water Supply System Management Planning, October 1998, as amended to implement the provisions of this Act.

Under this regulation, the South Kingstown, Public Services Department, Water Division, as a water purveyor supplying over 50 million gallons of water per year, is responsible for the preparation and adoption of a WSSMP. It also requires that this WSSMP be updated periodically, as significant changes warrant, and every five (5) years, or as otherwise stipulated in the Regulations.

Water Supply System Management Plans are prepared in order to provide the proper framework that will facilitate the effective and efficient conservation, development, utilization and protection of the natural water resources of the State as utilized by the water purveyor. Further, the overall goals incorporate the applicable policies and recommendations of the State Guide Plan Element 721, "Water Supply Policies for Rhode Island." The purpose of this WSSMP is to outline the objectives of the Water Supply System Management Planning process for the South Kingstown municipal water supply and distribution system, and to serve as a guide to employ the proper decision-making processes toward meeting that goal.

This WSSMP contains a detailed description of the water system and includes the policies and procedures related to the general function, operation, and management of the water system. The Emergency Management section relates to the vulnerability assessment of the water system for use in emergency planning. It shall be incumbent upon the Water Division to implement the recommendations and procedures outlined in this WSSMP in order to comply with the overall requirements of the Act.

Water System Description

The Town of South Kingstown, under the Public Services Department, Water Division, owns and operates two (2) separate water systems – South Shore and Middlebridge. The South Shore system is comprised of approximately 36 miles of water transmission and distribution mains, hydrants, meters, a booster pump station, two (2) elevated water storage tanks, and appurtenances that serve 2,451 service accounts (e.g. residential, commercial, and governmental) as of June 30, 2007.

The Middlebridge system is comprised of approximately 4 miles of water transmission and distribution main, hydrants, meters, and appurtenances that serve 280 service accounts (e.g. residential and commercial) within the Town as of June 30, 2007.

There are three (3) water purveyors within the Town of South Kingstown. Of these, only the Kingston Water District has water district boundaries established under Rhode Island General Law.

The transmission and distribution system as a whole consists of approximately 40 miles of water main, ranging in size from 6 to 14 inches, with installation dates from the 1960s to the present. New and replacement mains consist predominantly of cement-lined ductile iron (DI) pipe. The majority of the transmission and distribution system at present is comprised of asbestos-cement water mains.

The Public Services Department owns and operates three (3) wells located in the southern area of town. The wells are currently exercised and maintained by the Town. The RIDOH continues to sample the wells to maintain their active status to provide a standby source of water supply for the South Shore distribution system. The Town now purchases the water for the South Shore system from United Water of Rhode Island (UWRI) on an interim basis. The Middlebridge distribution system does not own or operate any surface or groundwater resources. As such, wholesale purchase from UWRI constitutes the sole source of supply to this system.

The South Shore water system is operated as a single pressure zone, which is controlled by the water elevation in the water storage tank(s). The overflow elevation at each of the water storage tanks is equal to 210 feet Mean Sea Level (MSL). Water is received from the interconnection with UWRI, which in turn fills the Victoria Lane storage tank. A SCADA system controls an altitude valve in the interconnection meter pit such that it is deactivated when the tank reaches overflow elevation and it is activated when the water drops to a preset level in the tank.

An in line booster pump station is located on Card's Pond Road which boosts service to the south-central and southwestern regions of Town. The booster pump station works on radio telemetry with the Mautucket Road storage tank and boosts water from the system to replenish this tank. The hydraulic grade of the South Shore is maintained by the water level in the water storage facilities (i.e. 210 feet MSL).

The water supply and distribution system is 100% metered. The master meters located at the two (2) wholesale interconnections to UWRI and the one at the meter pit at the Narragansett / South Kingstown Town line interconnection, meter 100% of the water purchased via wholesale interconnection. The master meter located downstream of the South Shore wells meters 100% of the Town's water production whenever the well field is in use. Finally, every service connection within the water distribution system is metered at the point of sale, thus providing 100% distribution system metering. The

master meter for UWRI for the South Shore area is located off of Route 1 near the intersection with Kettle Pond Drive.

Recent System Improvements

The South Kingstown Water Division maintains an ongoing, aggressive Capital Improvements Program (CIP) in order to provide its customers with a safe and reliable supply of potable water. There have been several significant improvements to the water distribution system since preparation of the original Water Supply Management Plan (May 1994). The following list identifies the major system improvements that have taken place in recent years.

- Development of a new source (Well No. 3)
- Construction of a booster pump station
- Completion of Meter Repair / Replacement Program
- System-wide control upgrades
- Constructed the interconnection between the South Shore Water System and UWRI

Policy and Procedure

The South Kingstown Water Division continues to focus its efforts on supplying safe and reliable drinking water to its customers, as seen through the accomplishments of the Capital Improvement Program (CIP). The Water Division shall continue to address any and all water system deficiencies by way of this vehicle. Construction of the water filtration plant will alleviate the water quality concerns that have plagued the water system in the past.

The South Kingstown Water Division is equally concerned with water conservation. The current non-account water is 16.1 percent, which is slightly above the State goal of 15 percent (established in State Guide Plan Element 721).

Beginning in August of 2007, the Water Division commenced replacing all customer water meters for the South Shore and Middlebridge water systems using third party installation contractor services. As of June 11, 2008, all but 34 water meters have been replaced, with the remaining meters being problematic due to seasonal customers or meter pits.

The new meter system (manufactured by Master Meter) employs "drive-by" radio reading technology, whereby all water meters can be read within a three (3) hour period as compared to an eight (8) to ten (10) week reading period with the former "walk-by" technology.

The radio reading system will allow all customer water meters and each water system's wholesale (or production) meter to be read within a three (3) hour time span. This

compressed reading timeframe will be able to provide a more accurate analysis of so-called “unaccounted for” water, since the water customer reading (and consumption) period coincides with the same wholesale purchase (or production period).

Preliminary drive-by meter reading data (from March and April of 2008) indicates that unaccounted for water losses are significantly lower than reported in the past. A more accurate determination of “unaccounted for” water can be made once the remaining meters are replaced during the Spring of 2008.

The population of South Kingstown has grown moderately over the past decade. During this same span, the corresponding Average Day Demand (ADD) has grown similarly. The current ADD is approximately 0.415 million gallons per day (mgd) with a Maximum Day Demand (MDD) of approximately 1.04 mgd. Although current available supplies now appear capable of meeting demands, prior to the development of a new source and construction of the booster station, shortfalls in supply during the summer months were not uncommon, as demands exceeded system capabilities.

As mentioned, at present, South Kingstown water resources include three (3) active wells for the South Shore system and wholesale water purchased from the UWRI Company for the Middlebridge system. The available capacity of this water system has been estimated at approximately 1.38 mgd. Anticipated future water demands for the 5- and 20-year planning periods (2012 and 2027, respectively) have been estimated as follows:

	2012	2027
Average Day Demand	0.435 mgd	0.498 mgd
Maximum Day Demand	1.111mgd	1.270 mgd

These projections are based on population projections made by the United States Census Bureau. These estimates do not however, account for significant water savings potentially realized through implementation of demand management strategies. A conservative rate of 15% non-account water has been incorporated into the demand projections for the 5-year planning period, and a 10% rate for the 20-year horizon.

The Emergency Management section of the Plan establishes the responsibilities and authority within the Water Division for responding to most probable emergencies and outlines specific tasks for carrying out functional and constructive solutions based on a review of the potential emergencies and risks. The procedures outlined are consistent with the goals of the State Emergency Water Supply System Management Plan. It is also intended that this document provide guidance to ensure that the primary aspects of recovery from an emergency are addressed in an organized manner to aid in an efficient response and in maintaining drinking water quality and quantity.