



South Carolina Department of Health
and Environmental Control

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Edisto Savannah
Environmental Quality Control District
Serving: Aiken, Allendale, Bamberg, Bamwell, Calhoun, and Orangeburg Counties

Promoting Health, Protecting the Environment

August 12, 2003

Town of Denmark
Attn: Carrie Simmons
4768 Carolina Highway
Denmark, South Carolina 29042

Re: Town of Denmark Sanitary Survey
Water System # 0510002
Bamberg County

Dear Ms. Simmons:

As you are aware, the South Carolina Department of Health and Environmental Control conducted a sanitary survey of Denmark's public water system on June 30, 2003. The intent of the sanitary survey is to evaluate Denmark's ability to provide a continuous supply of safe drinking water to its customers.

The Town of Denmark received an overall rating of **Needs Improvement**. Enclosed is a copy of the survey and a report which includes a description of Denmark's public water system, specific findings made during the sanitary survey, and recommendations for correcting any deficiencies. This survey and the report should be kept on file for no less than ten (10) years and be made available to the public or DHEC upon request. It is requested that all parties responsible for the operation and maintenance of the water system review this report promptly.

Please feel free to contact me at (803) 641-7670 if you should have any questions concerning the enclosed report.

Sincerely,

Jennifer R. Hughes
Drinking Water Manager
Edisto Savannah EQC

cc: Susan Alder, Bureau of Water

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
EDISTO SAVANNAH EQC

SANITARY SURVEY REPORT

*Town of Denmark
Water System # 0510002
Bamberg County*

Introduction

The South Carolina Department of Health and Environmental Control conducted a sanitary survey of the Town of Denmark public water system (Water System # 0510002). This survey consisted of a review of the Department files and an on-site inspection by Department personnel on June 30, 2003. The following persons participated in the on-site inspection:

Jennifer Hughes	SCDHEC – Edisto Savannah EQC
Tim Freeman	Town of Denmark

This report includes a description of the water system, a list of findings and recommendations noted during the survey.

System Description

The Town of Denmark owns and operates a groundwater facility and associated potable water distribution system that serves approximately 3800 customers by approximately 1493 service connections. Information on the system's wells are given in the table below. The system has a current rated capacity of 1,046,400 gallons per day.

Well Information

	Type	Horsepower	Yield	Regulated Capacity	Treatment
Well One Brooker Center	Turbine	60	500 gpm	480.00 TGD	Gaseous Chlorine
Well Two Voorhees	Turbine	60	330 gpm	316.80 TGD	Gaseous Chlorine
Well Three Clark Street	Turbine	60	260 gpm	249.60 TGD	Gaseous Chlorine

The Town of Denmark public water system is served by three (3) elevated storage tanks with a total volume of approximately 475,000 gallons.

Storage Capacity

Tank	Capacity (gallons)
City Hall Elevated Tank	100,000
Nibco Elevated Tank	250,000
Voorhees Elevated Tank	125,000

Currently, the Town of Denmark public water system has the following operators:

Name	License	Certification #	Class
Tim Freeman	Water	06651	D
	Distribution	01830	G
JP Robinson	Water	02418	D
	Distribution	00472	D
Lee Davis Jr.	Water	07448	T

Finding and Recommendations

- 1) The system maintained an Unsatisfactory rating for Fire Flow. The purpose of this item is to ensure that the water system can provide adequate flow to protect the integrity of their water system when fire protection is provided. Water systems must confirm their ability to provide fire protection by flow testing each fire hydrant a minimum of once every three years. The minimum flow for a hydrant for fire protection is 500 gpm. The substandard hydrants must be bagged or painted black and the fire department must be notified. The hydrants have not been flow tested since 1998. This deficiency has been noted on past surveys. The systems must take steps to address this deficiency immediately.

- 2) The system received an Unsatisfactory rating for Leak Detection and Repair Program. The system needs to implement a water audit. A water audit is a comparison of the amount of water produced with the amount of finished water sold plus the amount of water used for flushing, fire fighting activities, etc. A system should keep the average loss to no more than 10%. During the survey it was evident that the system has all the necessary components for a water audit, it just needs to be implemented and properly documented.

- 3) The system maintained a Needs Improvement rating for Storage Appurtances. The overflows on 111317883 elevated storage tanks need to be extended within 12 to 24 inches of ground surface. The overflows should be addressed during the next scheduled tank maintenance.

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- 4) The system maintained a Needs Improvement rating for Storage Maintenance. As noted in previous surveys, the Nibco tank has substantial rust on the exterior of the tank. The tank needs exterior painting and the interior needs to be evaluated. It is requested that the system submit to the Department a complete maintenance plan and schedule for addressing all storage tank deficiencies.
- 5) The system received a Needs Improvement rating for Wellhead Piping. Wellhead piping must be configured in such a way as to minimize the potential for contamination of the source. At the Brooker Well, the flow meter must be after the check valve and before the blow off. The flow meter should be moved during the next maintenance period of the well.
- 6) The system received a Satisfactory rating for Chemical Feed Rooms. It was noted during the survey that the chlorine fan at the Brooker Well was inoperable. The system had the new fan ordered and was to be installing it that week. The Department needs confirmation that this was done.
- 7) The system was downgraded to a Needs Improvement rating for its Source Security. The purpose of this item is to ensure that all ground water sources are protected against vandalism, tampering or sabotage. A tree had fallen on the security fence around the Voorhees Well. The security fence needs to be repaired.

Conclusions

Within ninety (90) days the Town of Denmark should submit to the Department a plan and schedule for coming into compliance with all survey items with ratings of Needs Improvement and Unsatisfactory listed above. The system has several deficiencies that have been noted on the past few surveys (fire flows, leak detection, storage maintenance). The system must take the necessary steps to address these deficiencies in the coming year. These items could affect the overall rating of the survey at the next inspection if not addressed. The Department would like to thank Tim Freeman for his assistance in conducting the sanitary survey. The Department looks forward to working with the town in the future to ensure that the residents of Denmark continue to receive the highest quality of drinking water.