



RECLAIMED WATER MANUAL

AUGUST 2015

SOUTH ISLAND PUBLIC SERVICE DISTRICT
RECLAIMED WATER SYSTEM USERS MANUAL

I. INTRODUCTION

A. Purpose & Intent

The purpose of this manual is to provide guidelines and procedures for the use of reclaimed water for irrigation purposes. Reclaimed water is treated wastewater that has received a high degree of treatment and is regulated by State, (the South Carolina Department of Health and Environmental Control (SCDHEC), and Federal, United States of Environmental Protection Agency USEPA), regulations. The only use for reclaimed water is landscape irrigation.

B. Reclaimed Water Quality

The purpose of regulating the use of reclaimed water is to protect the public health and to ensure that a limited resource is not wasted. The South Island PSD's reclaimed water meets the regulatory requirements for irrigation of open-access landscaped areas. The reclaimed water meets the quality standards set forth, by a permit, issued by (SCDHEC).

C. Potential Reclaimed Water Users

The reclaimed water in the District's service areas will be used only for irrigation of grass and landscaping on:

1. Golf courses.

2. Condominium complexes.
3. Resort hotels.
4. Athletic Fields.
5. Roadways and other green areas.

D. Regulatory Requirements

Design and construction of the Reclaimed Water System was approved by SCDHEC.

Operation and maintenance of the system is performed by the South Island Public Service District in accordance with the permits issued by SCDHEC and the regulations adopted by the South Island PSD. A copy of the South Island Public Service District's Reclaimed Water Service Regulations can be obtained from the District office or website.

An irrigation system using reclaimed water must be physically separated from the potable water supply. An approved backflow prevention device must be installed on the potable water service lateral. Assurance of separation will be verified by District personnel who will perform necessary visual and pressure testing to identify possible cross-connections. Annual testing of the backflow prevention device by a SCDHEC certified tester is required and records should be forwarded to the District.

Regulations for using reclaimed water require that:

1. Plans for the reclaimed water irrigation system must be designed by a licensed professional engineer and submitted to the District for review and approval.

2. The reclaimed water irrigations system must be installed by a trade certificate for irrigation installers.
3. Hose bib connections are not allowed to be connected to the reclaimed water system or to landscape irrigation systems that are using reclaimed water.
4. All pipes, fixtures and appurtenances (valve boxes, meter boxes, valve covers, etc.) must be colored coded purple. All reclaimed water fire hydrants are to be colored coded brown.
5. Cross-connections between potable and reclaimed water lines must be prevented. Any changes made to an irrigation system using reclaimed water must be reported to the District (843-785-6224) for its review or approval.
6. The use and application of reclaimed water must be at a time that is approved by the District.
7. Signs indicating that reclaimed water is being used must be posted within the irrigated areas.
8. **Any modifications to the original installation of the irrigation system must be submitted to the District for review and approval before changes are made.**

The applicant will be responsible for ensuring that the on-site irrigation system meets the District's regulations on a continuing basis.

RECLAIMED WATER IRRIGATION SYSTEM

A. Cross-Connection Control

No cross-connection between the potable water lines and reclaimed water lines will be permitted. In every case where reclaimed water is used on a site, the system must be tested for cross-connections after construction is completed. The owner will be responsible to verify that no cross-connections exist by conducting visual and pressure tests of the system. The test will consist of shutting off the potable water supply to the property and operating the irrigation system for all stations. Faucets within the buildings(s) will be opened and residual pressure released. If no other water comes from the open faucets while the irrigation system is running, then it is verified that no cross-connection exists.

B. Backflow Prevention

The reclaimed water system user has the responsibility to prevent contaminants from entering the on-site potable water system. All potable water service connections to a site must be equipped with a backflow prevention device approved by the South Island PSD and SCDHEC. All backflow prevention devices must be tested annually by a tester certified by SCDHEC and test reports forwarded to the District. Failure to comply with this requirement will result in disconnection of the potable water supply. A copy of the South Island PSD's Cross-Connection Control Manual can be obtained from the District's office.

C. Irrigation System Operation

Irrigation systems are typically designed to supply the peak moisture demand of the vegetation on the site. **Reclaimed water overspray or runoff on sidewalks, driveways and roads is not permitted.** Drinking fountains, food preparation areas, etc. must be protected from overspray of reclaimed water. Where any of these conditions exist, the irrigation systems must be modified to correct the deficiency. It is the user's responsibility to make these modifications. **Service will be terminated for any irrigation system not complying with these requirements**

D. Public Awareness

The public must be informed where reclaimed water is being used. Such use must be identified by signage provided by the South Island PSD. The signs will have a red background engraved with the words "Reclaimed Water Used for Irrigation, Do Not Drink". The signs will be placed **prominently** within the irrigated area. The user has the responsibility for ensuring that these signs are not removed, vandalized or hidden from view.

III. START-UP OF IRRIGATION SYSTEMS USING RECLAIMED WATER

A. Inspection of Irrigation System

Following the submittal of application for reclaimed water use a site visit will be made by District personnel. The new system will be reviewed to make sure that all District specifications will be satisfied. Inspection of the reclaimed water system will include: (1) Record the flow rate (GPM) for each station and show the irrigation frequency in minutes per day for each day of the week, (2) check each station for overspray, ponding, and hose connections, and (3) check for cross-connections with the potable supply. Failure to meet any of the specifications will require correcting the deficiency and rescheduling another inspection.

B. Backflow Prevention

When the irrigation system has been found to meet all District specifications, the owner must install an approved backflow prevention device valve on the potable water supply line to the property. The backflow prevention device must be tested on installation, after any repairs, and at least annually thereafter by a SCDHEC certified tester. There is no requirement to have a backflow prevention device on the reclaimed water irrigation system when it is connected to the District's reclaimed water system.

C. Connection to Reclaimed Water System

Having met all conditions of A and B above, the District will install a meter on the Reclaimed Water System lateral at the property line. The customer is responsible for extending the irrigation system to the meter and making the connection. When connected, the District will make a final inspection of the irrigation system using the reclaimed water. Adjustments may have to be made to the individual irrigation heads due to a change in delivery pressure.

IV. OPERATION OF A PRIVATE IRRIGATION SYSTEM

A. Normal Site Operation

Normal operation of the on-site irrigation system with reclaimed water consists of routine checking and maintenance of valves, controllers, and caution signs; the annual testing of backflow prevention devices; the periodic checking for cross-connections; and the ongoing operation of the reclaimed water system. The irrigation system must be operated so that ponding, runoff, or over spraying on sidewalks, buildings, or unintended-use areas is eliminated. The time of operation must be in accordance with the operating parameters of the South Island PSD and may be limited to daytime or nighttime operation only.

It is critical that the user's irrigation personnel be fully familiar with the special requirements of using reclaimed water. All reclaimed water facilities should be observed sufficiently often by responsible user management during operation to be assured that the operation requirements and guidelines are being continually met.

B. Violations and Emergency Situations

It is the user's responsibility to immediately inform the South Island PSD of any problems, violations of contractual or regulatory requirements, or emergency situations during the on-going operation of the reclaimed water irrigation site. Examples of violations would include destruction of caution signs, ponding or runoff of reclaimed water or over spraying of reclaimed water on unintended-use areas. Examples of emergency situations would include rupture or malfunction of reclaimed water facilities, discovery of a cross-connection, or a claim by a person that individual harm

has been experienced from reclaimed water as a result of visiting or using the site. The South Island PSD can be contacted at (843)785-6224. The South Island PSD will deal with violations or emergencies as they occur on a case-by-case basis in accordance with the recommendations of SCDHEC. Interconnects of a potable water supply to an irrigation system that has been connected to a reclaimed water supply system is prohibited. Failure of the customer to cooperate in the installation, maintenance, testing or inspection of backflow prevention devices will result in the termination of water service to the premises.

The customer should recognize his responsibility in correcting all cross-connections within his irrigation system. He should also recognize he will be held personally liable for any problems which arise due to an unprotected cross-connection.

C. Fees

The District will require that a fee be paid to cover the cost of connecting to the reclaimed water system. Included in the fee is the cost for a new water meter for the reclaimed water, a pressure reducing valve, and the related fittings. An itemized list of parts and required labor will be prepared for each connection. The connection fee must be paid before final approval is granted and service provided. Any existing parts such as meters, check valves, and pressure reducing valves that are found to be functioning correctly may be used in the new connection, thus reducing the cost of conversion.

V. APPLICATION FOR THE USE OF RECLAIMED WATER

A. Preparation of Application Form

For each irrigation system connected to the District's reclaimed water system, an application must be submitted using the form provided by the District. The application form identifies the location of the irrigation system, the owner of record of the property being served, a contact person knowledgeable of the irrigation system who will meet with District personnel, and estimates of reclaimed water to be used.

The general terms and conditions for using reclaimed water are stated on the application form and the applicant's signature indicates knowledge and acceptance of them. The application has a probate section that must be completed so that the documents can be recorded in the County Courthouse. This recording ensures that any future owner of the property will be made aware of the conditions agreed to in using reclaimed water.

Information required to be submitted with the application includes:

1. Site location.
2. Description of the irrigation system that indicates the number of stations, the type of sprinkler heads for each station, the area (sq.) irrigated by each station, and the anticipated daily water demand.
3. A schematic of the site showing the on-site irrigation system and the on-site potable water lines.

B. User Agreement

Having met all regulations and having paid the connection fees, the District will then issue a final approval and authorization to use reclaimed water. The terms and conditions agreed to in the application are incorporated into this user agreement.

APPENDIX A

SOUTH ISLAND PUBLIC SERVICE DISTRICT

CHECKLIST FOR CONNECTING TO RECLAIMED WATER SYSTEM

LOCATION: _____ ACCT. # _____

USER CONTACT: _____ PHONE: _____

DISTRICT CONTACT: _____ PHONE: _____

AVERAGE USAGE PER DAY _____ GPD

DAYS PER WEEK USED _____

Activity

Date Completed/Inspected By

1. Submitted Application and Plans _____ / _____

2. Site Inspection and Approval _____ / _____

3. Deficiencies Corrected _____ / _____

4. Protection of Critical Areas Checked _____ / _____

5. Final System Check (backflow, cross-connection,
and overspray) _____ / _____

6. Authorization to Use Reclaimed Water Issued _____ / _____

Number of Stations _____

Station

Flow Rate

Days of Operation

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

AURTHORIZATION FORM

LOCATION: _____ DATE: _____

OWNER'S NAME: _____ PHONE: _____

ADDRESS: _____

OWNER'S CONTACT: _____ PHONE: _____

ADDRESS: _____

Approximate area to be irrigated _____ acres.

Maximum daily water usage _____ GPD _____ IN/WK

Minimum daily water usage _____ GPD _____ IN/WK

Size meter required _____

In making application for the use of reclaimed water for irrigation purposes, the applicant understands and agrees to the following conditions:

1. That the reclaimed water delivered by the District is wastewater that has been treated to the degree that it meets the South Carolina Department of Health & Environmental Control's standards for use on public and private landscaping.
2. That the use of the reclaimed water is limited to spray irrigation and is not be used for drinking water or any other purpose.
3. That the use of the reclaimed water may be limited to daytime or nighttime use.
4. That when the applicant's irrigation system is connected to the District's reclaimed water system it must be the sole source of water used in the irrigation system.
5. That the applicant grants permission to the District to enter the applicant's premises to inspect the irrigation system and to make necessary settings of the time clock(s) to ensure compliance with the District's rules and regulations.
6. That the applicant agrees to pay the appropriate rate for the reclaimed water upon receipt of a bill from the District that will indicate the quantity of water used during the indicated service period.
7. That the applicant understands that with the connection of the irrigation system to the District's reclaimed water system, an approved backflow preventer must be installed on the applicant's potable water supply, at the water meter. The device will be installed in such a manner as to ensure that any contamination of the applicant's potable water system from any source within the applicant's property will not reenter the District's potable water system.

