



SOUTH ISLAND PUBLIC SERVICE DISTRICT

**RECLAIMED WATER SYSTEM USERS MANUAL  
FOR HOME, VILLA AND COMMERCIAL  
LANDSCAPE IRRIGATION**

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SOUTH ISLAND PUBLIC SERVICE DISTRICT  
RECLAIMED WATER SYSTEM USERS MANUAL

I. INTRODUCTION

A. Purpose and Intent

The purpose of this manual is to provide guidelines and procedures for the use of reclaimed water for irrigation purposes. Reclaimed water is wastewater that has received a high degree of treatment and is regulated to ensure that the water is used for specific purposes. The only use is for 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 District's reclaimed water meets the requirements for irrigation of open-access landscaped areas. It receives secondary treatment followed by chemical addition, filtration and disinfection. The actual treatment level required by South Carolina Department of Health and Environmental Control (SCDHEC) is shown in Appendix B, as amended from time to time.

C. Potential Reclaimed Water Users

Through the use of a Federal EPA grant and local funding, a water distribution system has been constructed through portions of Sea Pines Plantation and Forest Beach for the distribution of reclaimed water. The only use of reclaimed water in the District's service area will be for the irrigation of grass and landscaping of:

- 1) Golf courses

- 2) Condominium complexes
- 3) Resort hotels
- 4) Single family residences
- 5) Athletic fields
- 6) Roadways and other green areas.

D. Regulatory Requirements

The design and construction of the Reclaimed Water System were approved by SCDHEC. The operation of the system will be performed by the District, in accordance with the permits issued by SCDHEC and the regulations adopted by the District. A copy of the District's Consolidated Regulations can be obtained from the District office.

An irrigation system using reclaimed water must be physically separated from the potable water supply and an approved backflow prevention device must be installed on the potable water service lateral. District personnel will perform necessary visual and pressure testing to assure distinct separation of the potable and reclaimed systems, and identify any potential cross-connections.

Regulations for using reclaimed water required that:

- 1) Standard hose bib connections not be allowed to be connected to the reclaimed water system or to landscape irrigation systems that are using reclaimed water.
- 2) Pipes and fixtures extending to individual irrigation systems will be color coded in accordance with the "Guidelines for Reclaimed Water Service" adopted by the Island water utilities for Hilton

Head Island. Red is the color used to identify the reclaimed water system.

- 3) 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 for its review and approval.
- 4) The use and application of reclaimed water must be at a time that is approved by the District. Considerations used in setting the time will ensure no conflict with golf course usage and will minimize the exposure of the public to the reclaimed water.
- 5) Signs indicating that reclaimed water is being used shall be posted in a visible area within the irrigated areas. The applicant will be responsible for ensuring that the on-site irrigation system meets the District's regulations on a continuing basis.

## II. CONVERSION TO RECLAIMED WATER

### A. Cross-Connection Control

No cross-connection between the potable water lines and reclaimed water lines will be permitted. Where existing irrigation systems are converted from potable water use to reclaimed water use, all existing connections to the potable water system must be positively severed. In every case where reclaimed water is used on a site, the system must be tested for cross-connections after construction or conversion is completed. District personnel will 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 building(s) will be opened and residual pressure released. If no other water comes from the open facets 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 District and SCDHEC.

C. Irrigation System Operation

Irrigation systems are typically designed to supply the peak moisture demand of the vegetation on the site. No over spray of sidewalks, driveways and roads is allowed. Drinking fountains, food preparation areas, etc. will be protected from over spray 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.

D. Public Awareness

The public must be informed where reclaimed water is being used. Such use must be identified by signage provided by the District. 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 seeing 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, District personnel will make a site visit. If no irrigation system exists, the plans for the new system will be reviewed to make sure that all district specifications will be satisfied. For an existing irrigation system to be converted to reclaimed water, the District will inspect the system making the following observations:

- 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 over-spray, ponding, and hose connections, and
- 3) Check for cross-connections with the potable supply.

Failing 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 will install a double check valve assembly on the potable water supply line to the property. This assembly must be tested on installation and annually thereafter, in compliance with the district's Cross Connection Control Manual, as amended from time to time. If there is an existing backflow device on the irrigation system, it will be relocated from the irrigation

system to the potable supply line. There is no requirement to have a backflow prevention device on the 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 and will connect to the irrigation system if a line has been extended to the meter location.

Otherwise, the customer will have to arrange 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 PRIVATE IRRIGATION SYSTEMS

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 periodic testing of backflow prevention devices, in accordance with the District's Cross Connection Control Policy; 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 prevented. The time of operating must be in accordance with the operating parameters of the District and may be limited to daytime 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 operating requirements and guidelines are being continually met.

B. Violations and Emergency situations

It is the users responsibility to immediately inform the District 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 District will deal with violations or emergencies as they occur on a case-by-case basis in accordance with the recommendations of SCDHEC. In no case is it authorized to interconnect a potable water supply to an irrigation system that has been connected to a reclaimed water supply system. Failure of the customer to cooperate in the installation, maintenance, testing or inspection of backflow prevention devices is grounds for 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 may be

held personally liable for any problems that may arise due to an unprotected cross-connection.

C. Fees

Although it can be shown that it costs more to treat and distribute reclaimed water than it costs for potable water, the rate set for purchasing reclaimed water is significantly less. This is done as an incentive for customers to convert their irrigation systems to reclaimed water in an effort to conserve our limited drinking water supply.

It is recognized that the customer will incur some expense in making necessary adjustments to the irrigation system, but these are adjustments that should probably be made regardless of the source of water. The District will require that a fee be paid to cover the cost of connecting to the reclaimed water system, in accordance with the District's impact fee schedule, as amended from time to time. Payment of any connection fee must be made 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. **APPLICATIONS FOR 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 document 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. ft.) irrigated by each station, and the anticipated daily water demand.
- 3) A sketch of the site showing the on-site irrigation system and the on-site potable water lines.

B. User Agreement

Having met all regulations and paid the connection fees, the district will 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**  
**RECLAIMED WATER QUALITY REQUIREMENTS**

**APPENDIX B**  
**CHECKLIST FOR CONNECTING**  
**TO**  
**RECLAIMED WATER SYSTEM**

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 \_\_\_\_\_

| <u>Activity</u>  | <u>Date Completed / Inspected By</u> |
|--|--------------------------------------|
| 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<br>Over-spray) | _____ / _____                        |
| 6. Authorization to User Reclaimed Water Issued                  | _____ / _____                        |
| Number of Stations _____   |                                      |

| <u>Station</u> | <u>Flow Rate</u> | <u>Days of Operation</u> |
|----------------|------------------|--------------------------|
| 1.             | _____            | _____                    |
| 2.             | _____            | _____                    |
| 3.             | _____            | _____                    |
| 4.             | _____            | _____                    |
| 5.             | _____            | _____                    |
| 6.             | _____            | _____                    |
| 7.             | _____            | _____                    |
| 8.             | _____            | _____                    |

**APPENDIX C**  
**APPLICATION**  
**FOR**  
**IRRIGATION WATER SERVICE**  
**(RECLAIMED WATER)**

South Island Public Service District

Application for Irrigation Water Service  
(Reclaimed Water)

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 South Carolina Department of Health and Environmental Control standards for use on public and private landscaping.
2. That the use of the reclaimed water is limited to spray irrigation and is not to be used for drinking water or any other purpose.
3. That the use of the reclaimed water may be limited to daytime use.
4. That when the applicant's irrigation system is connected to the district's reclaimed water system that this 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, it is required that an approved backflow preventer be installed on the applicant's potable water supply, near the water



