

WATER CONSERVATION PLAN

Water Conservation Overview:

The Georgia Board of Natural Resources has adopted revised Water Conservation Rules as amendments to the Rules for Water Quality Control and Rules for Groundwater Use in accordance with the requirements of Senate Bill 10 (SB 10), which was passed by the 1994 Georgia General Assembly. The Rules became effective on December 29, 1994.

As required by SB 10, the amendments to the Rules include revisions to the requirements pertaining to the content and submissions of water conservation plans by applicants for **new or increased water withdrawal permits (excluding agriculture)**. The following outline is provided to help the applicant develop effective water conservation programs, which are based upon specific needs and conditions of the water system to which they apply.

The Water Conservation Rules have been written in general terms to allow water users flexibility in determining what programs are needed and would be cost effective for their purposes. In addition, the Water Conservation Rules primarily address water conservation programs of public governmentally owned water systems. Rather than develop separate water conservation guidelines (based on the rules) to address all types of self supplied golf course users, EPD has developed a standard water conservation plan outline, which must be completed by all golf course applicants in order to fulfill the water conservation requirements as mandated by SB 10. Applicants must develop and implement effective water conservation programs in accordance with accepted standards for their industry and which address local water resource constraints, cost/benefit analysis, etc. In areas where the water resources are subject to the greatest impact by increasing water withdrawals, whether by industry use and/or population growth, water users should implement more aggressive, proactive water conservation programs. The following basic elements should be addressed in any water conservation program.

1. **Water Loss:** Reduce water loss and/or unaccounted for water (UAW) through enhanced system management programs such as meter installation, replacement and calibration; leak detection and repair; etc.
2. **Water Demand Management:** Establish programs to improve long-term efficiency of water use for this facility. Metering of all water usage is a basic component of any water conservation strategy. Compliance with plumbing code provisions requiring the use of ultra-low flow plumbing fixtures and the installation of other water saving technology are also desirable elements of a comprehensive conservation strategy. Where needed, more aggressive conservation measures may be practical such as greater use of recycling, replacement of insufficient water wasting equipment, etc. To be successful, employee education and involvement should also be included as high priority components of the water conservation plan.
3. **Long Range Planning:** Develop long term water demand projections (outlook covering twenty year time period) based on incorporating water conservation efforts as described for this facility.

The Water Conservation Plan also must address the attached items (or contain a statement why the item is not an appropriate part of the plan).

CONTENTS OF A COMPREHENSIVE WATER CONSERVATION PLAN

In preparation of a permit application for a new or modification of an existing permit, which includes an increase in the permitted water use (except for a farm use permit application); the applicant must submit to the Director for approval a Water Conservation Plan in accordance with Chapter 391-3-2-.04 (11) of the Georgia Dept. of Natural Resources, Environmental Protection Division Groundwater Use Rule, and the United States Environmental Protection Agency Water Conservation Plan Guidelines. The Water Conservation Plan must contain the following items (or contain a statement why the item is not an appropriate part of the plan).

1. System Management

- Provide company policy that establishes a commitment to water conservation efforts.
- Provide a schematic flow diagram of the input and output water flow throughout the golf course, along with a generalized water balance. Describe the specific processes or equipment metered throughout the grounds.
- Describe method used to determine quantity of water used throughout the golf course.
- Provide some measure of the golf course's water efficiency, in terms of gallons of water used per irrigated acre.
- Within the most recent 24-month period, provide percentage of Unaccounted for Water (UAW) for the system.
- Provide a list of alternate sources of water available (surface water, recycled water, wastewater, etc.) and discuss potential for use at the golf course.

2. Identification of Water Conservation Measures

- Provide a review of conservation measures that have been implemented and that are planned for implementation:
 - Leak detection and elimination;
 - Availability of accurate maps of the system;
 - Meter maintenance, testing, replacement, calibration, etc.;
 - Recycling or reuse of water within the system;
 - Upgrading old equipment with new water-efficient equipment;
 - Enforcement of plumbing ordinances and/or other codes, which promote water conservation;
 - Implementation of xeriscaping techniques (low water demand landscaping); and,
 - Prevention of unauthorized or excessive water use.
- Provide selection criteria for choosing conservation measures and improvements.
- Provide overview of conditions, legal, or other barriers that might affect implementing planned water conservation measures and improvements.
- Identification of other water conservation efforts or measures for further analysis.

3. Drought Contingency Plan

- Develop a system for determining drought severity based on some approved indicator (e.g., system demands, groundwater levels, surface water levels, other, etc.).
- Provide restrictions on water use and a description of circumstances or events that put the restrictions into effect.

4. Implementation of Water Conservation Measures

- Provide detailed strategy and timetable for implementing planned/existing water conservation measures and improvements.
- Describe affects on water usage from implemented water conservation measures and improvements

5. Education Efforts

- Description of plan for employee involvement.

- Description of golf course's participation in any industry-wide organizations that promote water efficiency, new technologies.

6. **Preparation of Demand Forecast**

- Description of methods of collecting current and future water demand data.
- Forecast of anticipated water demand for future time periods (20 years).
- Adjustments to demand based on known and measurable factors.
- Discussion of uncertainties and "what if" (sensitivity) analysis.

7. **Evaluation of Strategy**

- Provide schedule and review plan for updates and revisions to the water conservation plan.
- Provide certification of the conservation plan by the facility's management.