

**Lake Blalock  
Buffer Management Plan  
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## **Section 1 – Introduction**

### ***Lake Blalock History/Purpose***

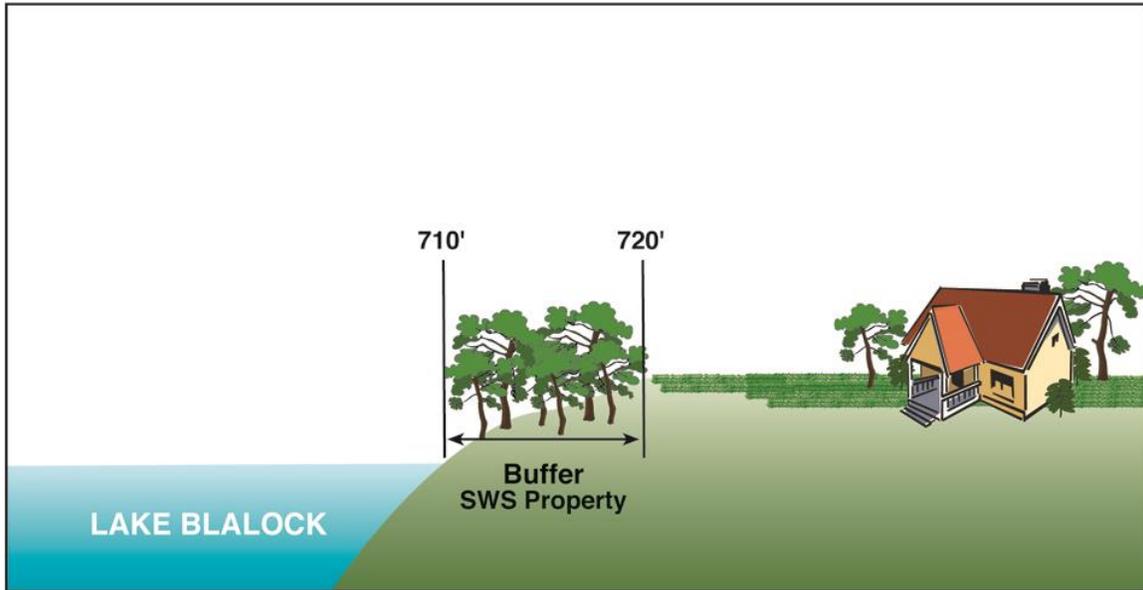
Lake Blalock is a man-made water supply reservoir that was constructed in 1983. The reservoir is owned and managed by the Spartanburg Water System (SWS). The reservoir receives surplus water from the Lake Bowen/Reservoir #1 system combined with flows from the North Pacolet River and its tributaries. Other major tributaries to the reservoir are Buck and Casey Creeks. The dam is located on the Pacolet River. The watershed for the reservoir includes approximately 176,760 acres (276 square miles) of land area within both South Carolina and North Carolina. When originally constructed, the normal pool elevation of Lake Blalock was 700 feet above Mean Sea Level (MSL). In order to meet long-term drinking water needs for its service area, SWS expanded the reservoir in 2006 by raising the Lake Blalock dam, bringing the normal pool elevation to 710 feet above MSL. The surface area of the reservoir is approximately 1,050 acres.

The primary purpose of Lake Blalock is to provide drinking water to SWS's service area. In 1999, SWS began pumping water from the reservoir to the Blalock Water Treatment Facility. Treated water from the facility is distributed into the drinking water system (water mains and storage tanks).

Secondary purposes of the reservoir include providing recreational opportunities such as boating and fishing, as well as educational opportunities for users of the lake. Adjoining landowners' access to Lake Blalock and the buffer land around it is by permission of the owner, SWS. SWS is responsible to the citizens of the area to manage Lake Blalock to ensure that it remains a source of high-quality drinking water to serve them. Adjoining landowners' access to Lake Blalock and its buffer zones is always secondary to Lake Blalock's use as a source of drinking water. Whenever adjoining landowners are granted such access, it is with the express understanding that SWS may terminate that access whenever SWS determines that doing so is necessary to protect SWS's interest in effectively managing the lake.

### ***Lake and Buffer Ownership***

SWS owns property in fee simple to an elevation of 720 feet above MSL around the reservoir. In some areas, such as the Lake Blalock Park, SWS owns lands above the 720 elevation. SWS from time to time may post signs along the SWS boundary at specified intervals to assist in identification of the property boundary. Removal or defacing of such signs is a criminal act. See S.C. Code Ann. § 5-31-1120. If you are uncertain about the limits of SWS property around Lake Blalock, please contact the Lake Blalock Warden's office at 864-578-5442. See Appendix A for full contact information.



### ***SWS Authority/Jurisdiction***

The Commissioners of Public Works of the City of Spartanburg (Commission) operates SWS and Lake Blalock under authority granted by the General Assembly of South Carolina in 1896. See 1896 S.C. Acts 83. The 1896 statute give SWS the authority to build, maintain, and operate facilities needed to meet the water supply needs of its service area. Later Acts provided for the election of the Commission and established the SWS service area. Under its statutes, SWS has the responsibility and legal right to take all action necessary to maintain and protect its water system, including capital assets such as Lake Blalock, and to ensure that these assets have a long and useful lifespan.

This Buffer Management Plan is a regulation of SWS. Under Section 22-102 of the Spartanburg Municipal Code, SWS regulations are enforceable as Spartanburg city ordinances through fines of up to \$500 or 30 days in jail per violation. See S.C. Code Ann. § 5-7-30.

Under other statutes, unauthorized activities on buffer properties can constitute tampering with the property or appurtenances of SWS's system, which is a criminal offense. See S.C. Code Ann. § 5-31-1120. Likewise, it is a crime to pollute the water supply of any city water system, and such pollution can result from unauthorized activities in the Lake Blalock buffer areas. See S.C. Code Ann. § 5-31-1130. In addition, persons who abuse irrigation permits or tamper with their required irrigation water meters are also guilty of a criminal offense under South Carolina law. See S.C. Code Ann. § 5-31-1140. All these offenses can result in criminal fines of up to \$200 and 60 days' imprisonment. See S.C. Code Ann. § 5-31-1170.

In addition, unauthorized activities on buffer properties constitute acts of trespass under South Carolina law, making the persons involved liable for criminal prosecution and for damage claims for any injury to SWS property. Those damage claims can include the cost of restoring any injury to vegetation and any injury to the quality of the water supply

in Lake Blalock. In addition, under statutes related to the unlawful taking of timber, SWS can recover three times the value of any commercial or noncommercial timber removed from its property. See S.C. Code Ann. § 16-11-615; Wimberly v. Barr, 359 S.C. 414, 420, 597 S.E.2d 853, 856-57 (Ct. App. 2004).

Lake Wardens, all of whom are South Carolina Constables, can issue citations for criminal violations and for permit violations. These wardens will be the primary means of enforcement and monitoring of the Buffer Management Plan.

### ***Buffer Management Plan Need and Purpose***

Lake Blalock provides an excellent source of high quality drinking water for the people of the Spartanburg area. Protection of this resource is needed to ensure that current and future generations will continue to enjoy drinking water from the reservoir and also have excellent opportunities for outdoor recreation and education. Protection of the reservoir begins with the surrounding watershed and associated land use practices. This Buffer Management Plan provides guidance on many issues that will ensure protection of water quality within Lake Blalock. Specific purposes of the plan include but are not limited to:

- Protecting water quality within Lake Blalock
- Controlling costs necessary to treat water from Lake Blalock to drinking water standards
- Providing the public and SWS staff with a tool to evaluate proposed activities within the buffer
- Educating reservoir users about the importance of buffer management
- Establishing clear guidelines for allowable activities within the buffer
- Protecting sensitive resources such as protected species
- Reducing current land use practices that could impair water quality within Lake Blalock
- Protection, creation, and maintenance of fish and wildlife habitat and aesthetic quality within the buffer
- Protecting and maintaining Lake Blalock for future users

The management plan applies to all SWS-owned buffer areas around Lake Blalock. Some specific areas around the lake containing populations of *Hexastylis naniflora* (dwarf-flowered heartleaf), a federally protected species, have additional buffer management requirements. Additional information is provided under the Threatened Species section of this document.

### ***Management Plan Implementation***

The Buffer Management Plan became effective beginning on May 1, 2006 and was revised by approval of the Commissioners of Public Works of the City of Spartanburg, SC on April 24, 2007, April 22, 2008, September 22, 2009, and again on January 22, 2013. The Buffer Management Plan will remain in effect until modified or otherwise changed by SWS.

### ***Landowner Access Permits***

As a framework for implementing this plan, landowners adjoining Lake Blalock must obtain a Landowner Access Permit. The Landowner Access Permit is issued at a nominal charge and grants landowners, their families, and guests the non-exclusive right to the passive use and enjoyment of the buffer land as well as access to the lake, and other rights as may be specifically authorized under the Buffer Management Plan. Maintaining a valid Landowner Access Permit is also a requirement of all other permits and authorizations that may be granted to landowners under this plan. By accepting the Landowner Access Permit, landowners agree that they, their families, and guests will respect the terms of this Buffer Management Plan, and will adhere to the Spartanburg Water System Policies and Procedures for Use of Water Supply Reservoirs in any activities that involve buffer land. The permit also requires landowners to be responsible for any costs, damages, or penalties that result from violations of the plan or any permits granted under it.

### ***Other Permits and Authorizations***

As set forth below, most specific activities conducted within the SWS-owned buffer will require a permit from SWS. The Lake Wardens are the primary point of contact for permits at Lake Blalock. The Lake Wardens, with support from other SWS staff and outside professionals as necessary, will review permit applications. A party requiring a permit from SWS for activities within the SWS-owned buffer is referred to as the “permittee.” The permittee is required to obtain prior written authorization from SWS before conducting activities within the buffer. Prior written authorization can take the form of a letter from SWS addressed to the permittee specifically authorizing the activity requested or an issued valid permit from SWS. All letters, permits, and approvals shall be subject to revocation at any time and unless otherwise specified in writing shall expire within 365 days of the date granted. Those parties not obtaining appropriate permits or authorization from the SWS or not following the conditions of the permit will be subject to enforcement procedures as outlined in SWS’s enforcement guidance documents, which are available on SWS’s web site. These enforcement guidance documents are incorporated into this plan by reference.

## Section 2 – Buffer Management Plan

### ***Vegetation Management***

Currently, the majority of the Lake Blalock buffer owned by SWS is wooded with various aged stands of hardwood and pine trees. These wooded areas typically have thick understory (shrubs and small trees) as well as groundcover (grasses, vines, and other low-growing species) vegetation. Research has shown that vegetation has an integral role in protecting water quality. Several functions provided by vegetation to protect water quality include soil stabilization, trapping of surface runoff (sediments, pollutants, fertilizers, etc.), maintaining/increasing soil nutrients and overall fertility, and wildlife habitat.

The roots of trees, shrubs, grasses, and other plant species spread throughout the soil, forming a dense network that helps to bind the soil in place. This is particularly true during heavy rainfall events, which can quickly erode areas that do not have dense root systems. Eroded soil eventually reaches waterways such as Lake Blalock, where it can cause multiple problems such as the loss of habitat, filling in the reservoir due to sedimentation (settling of the eroded material), loss of recreational areas, and increasing the costs necessary to treat water.

Soil erosion results in the loss of available nutrients because—along with topsoil—they are washed away. This can often lead to the formation of bare spots and gullies that lack vegetation and are not likely to grow vegetation due to harsh soil conditions. Beyond the problem of soil loss and impacting water quality, these areas are not visually pleasing and can have an effect on surrounding land values. Maintaining and establishing vegetated areas helps to hold soil nutrients and improve the overall fertility of the soil, which is favorable to continued plant growth and soil stability.



**Streams, rivers, and lakes are impacted by erosion and sedimentation**

Other than stabilizing soils, one of the most important functions of vegetation is to filter or trap surface runoff from surrounding areas. The majority of runoff flowing toward the lake comes from surrounding private property. The quality of this runoff is affected by

land use practices on the surrounding property. Runoff from sites with poorly managed soil protection measures may be filled with suspended soil particles resulting from erosion. Vegetation within the SWS buffer, as well as surrounding private property, can slow the velocity of the runoff and cause the suspended soil to settle before it reaches the lake. The ability of the vegetation to slow the velocity and filter the sediments depends on the density and root mass of the vegetation. Even very heavily wooded areas can filter only a limited amount of sediment and can be quickly overwhelmed due to poor uphill soil management practices.

In addition to trapping sediment runoff, vegetation can filter or trap various pollutants such as fertilizers and pesticides that run off from upland areas. Unfortunately, some landowners use the approach that if a little fertilizer or pesticide is good, then more must be great. Not following application recommendations results in these chemicals running off-site during rainfall events or as a result of regular irrigation. To a limited extent, vegetation can trap pesticides and other chemicals and convert them into non-toxic substances. Plant roots can remove nitrogen from runoff as a result of over-fertilizing and convert it into organic matter before it reaches the lake. If chemical and fertilizers are overused, the trapping/nutrient uptake capacity of plants is exceeded, which leads to these materials flowing directly into the lake.

A variety of wildlife ranging from birds to deer and other species inhabits the areas surrounding Lake Blalock. Proper management of the vegetation within the buffer is important, as many of these species have specific habitat requirements that are currently provided by the buffer. If these habitats are significantly changed, then wildlife may be impacted.

For the reasons listed above, along with many others, vegetation within the SWS buffer must be managed in a responsible manner to ensure protection of the resource. Specific guidance has been developed for common situations associated with vegetation management within the SWS buffer as provided below. For most situations, permits are available for limited activities within the buffer. Photographs of the buffer area are required for all permit applications.

As a general requirement which applies to all activities and permits discussed below:

- No trees, brush, or vegetation on SWS property may be cut, pruned, or removed without a valid permit or authorization.
- The permittee must use best practices to control erosion and to minimize the damage to soils or vegetation as a result of any activities within SWS property.
- Permitted activities may not involve the ancillary clearing of roads or underbrush unless expressly permitted in writing.
- All damage to soils or vegetation, except as expressly permitted, shall be restored to the satisfaction of SWS, or SWS shall have the right to undertake the restoration itself and to charge the permittee for the restoration activities.

### **Tree/Canopy Management**

A variety of wooded habitats surrounds Lake Blalock. The age, diversity, and density of trees within the buffer vary depending on topography, recent land use activities, and numerous other factors. Typical tree species around the lake include white oak, sweetgum, tulip-poplar, sourwood, Virginia pine, shortleaf pine, American beech, and red maple. For the purposes of this management plan, trees are defined as any species that has a diameter greater than 4 inches at ground level.

No trees may be removed, pruned, damaged, or otherwise harmed without prior authorization from the Lake Warden's office. A permit application for activities within the buffer can be obtained from the Lake Warden's office. Reasons for tree removal include but are not limited to hazardous trees and forestry management to improve vegetative buffer conditions. Improvement of lake views from private property is not considered an acceptable reason for removing trees.

Selective pruning of lower limbs of trees may be conducted with prior written approval and receipt of appropriate permits from the Lake Warden's office. In general, lower limbs of selected trees may be removed up to one-third of the tree height, not to exceed a maximum of 20 feet above ground level measured from the base of the tree.

If authorized, any tree removal or pruning will be conducted at the permittee's expense. The permittee is responsible for removing any cut or pruned trees from SWS property. The permittee will be assessed the cost for removal of any cut or pruned material that is left within the SWS-owned buffer.

### **Hazardous Trees**

Hazardous trees are defined as those trees that are damaged (wind thrown, main trunk broken, or otherwise damaged) and present a danger to human life or immediately adjacent structures. Trees with natural cavities or rotten areas are not considered hazardous trees unless they pose a danger as noted above. Prior approval/permits are needed from the Lake Warden's office before a hazardous tree can be removed. If authorized, hazardous tree removal will be conducted at the permittee's expense. The permittee is responsible for removing any cut or pruned trees from SWS property. The permittee will be assessed the cost for removal of any cut or pruned material that is left within the SWS-owned buffer.

### **Pine Beetles/Forest Pests**

Forest pests are defined as non-native species capable of damaging individual trees or entire stands of trees. Naturally occurring wildlife species are not considered to be pests. Suspected damage to trees and shrubs within the buffer resulting from forest pests such as the southern pine beetle must be verified by the South Carolina Forestry Commission. Removal or other management of damaged trees or shrubs must be recommended by the Forestry Commission and authorized by SWS. For forest management recommendations concerning pest species, contact the Spartanburg County office of the South Carolina Forestry Commission at 864-583-3438.

If the management approach includes removal of trees within the SWS-owned lake buffer, proper erosion control measures must be implemented in disturbed areas. Areas where trees and underbrush have been removed must be replanted and stabilized in coordination with the Lake Warden's office and to the satisfaction of SWS.

### **Shrub/Understory Management**

The shrub/understory community also plays an important role in protecting water quality. Shrub/understory is defined as those woody species that are less than 4 inches in diameter at ground level. Typical examples include tree saplings, viburnum, mountain laurel, muscadine, catbrier, and other species. Selective removal/thinning of shrub/understory vegetation is allowed with prior authorization from the Lake Warden's office. Reasons for shrub/understory removal/thinning include but are not limited to management to improve vegetative buffer conditions, removal of non-native species (see Appendix B for photos of typical non-native invasive plant species known from the Lake Blalock buffer), wildlife habitat improvement, stabilizing eroding/bare areas, and other situations. Improvement of lake views from private property is not considered an acceptable reason for removing shrub/understory plants.

Clearing/thinning cannot result in the total removal of all shrub/understory vegetation such that an obvious maintained appearance develops. Applications should focus on particular areas within the buffer such as walkways and dock areas rather than the entire buffer. Clearing/thinning cannot result in non-vegetated areas that exceed 500 square continuous feet (area of approximately 20 feet by 25 feet) to prevent potential erosion problems from developing. The square footage limitation is cumulative per adjacent property.

While SWS may allow limited access for certain types of motorized equipment within the buffer for permitted planting and buffer restoration activities (see vehicular/motorized access section of the BMP), authorized removal/thinning of shrub/understory species must be conducted with hand-operated, non-wheeled equipment. Examples include chain saws, hand pruners, etc. Bush-hogs, tractors, and similar equipment are not allowed within the SWS buffer for removal/thinning of shrub/understory species unless approved by special permit conditions. With the exception for lawns existing prior to May 1, 2006, lawn mowers are not allowed in the SWS-owned buffer. See the section below for more information pertaining to lawns. If authorized, shrub/understory removal/thinning will be conducted at the permittee's expense, and compliance with the requirements of the plan shall be to the satisfaction of SWS. The landowner shall be responsible for restoring any areas that are damaged or cleared in violation of this pre-approved plan. The permittee is responsible for removing any cut or pruned trees from SWS-owned property. The permittee will be assessed the cost for removal of any cut or pruned material that is left within the SWS-owned buffer.

### **Lawns**

Lawns are defined as those pre-existing (prior to May 1, 2006) areas dominated by grass species that are routinely maintained so that a shrub/understory or tree canopy is not allowed to develop. These areas are mowed approximately every two to three weeks

during the growing season. In several areas around the lake, existing lawns extend to the 710 MSL contour (normal pool of Lake Blalock). These lawns were established before implementation of the buffer management plan. All existing lawns below the 720 MSL contour at Lake Blalock have been documented by Spartanburg Water officials with the adjacent parcel number identified for the purpose of tracking within a permitting database.

No new lawns are allowed within the SWS buffer (below the 720 MSL contour). In an effort to reduce runoff of chemicals and fertilizers into the buffer, adjacent property owners are encouraged not to establish their lawns to the 720 MSL contour. Existing lawns within the buffer to the 710 MSL contour can be maintained in their current condition and existing footprint (size) as long as soil erosion does not become a problem and water quality is not negatively impacted. Should soil erosion or water quality become an issue in areas where existing lawns are located within the Spartanburg Water buffer area, Spartanburg Water Officials will work with adjacent property owners on ways to resolve the problem but may require limited planting of native species or alternate erosion control methods as needed to protect water quality and prevent loss of soil. For those existing lawns located within the Spartanburg Water buffer area, routine lawn maintenance may consist of mowing, re-seeding (by top-seeding / over-seeding), and placement of straw to temporarily hold the seed. Other activities related to existing lawns may be permitted on a site specific case-by-case basis.

Property owners that chose to revert or convert any portion of existing lawns within the Spartanburg Water buffer into an area that enhances shoreline protection may consider the following two strategies as guidance:

1. Allow the specific lawn area to naturalize within the SWS buffer by discontinuing mowing of the area. This would allow vegetation to naturally “recruit” into the area so that a shrub/understory and eventually a tree canopy are allowed to redevelop. Removal/thinning of the shrub/understory and canopy area would be allowed in accordance with the permitting process previously discussed within this document.
2. Develop and implement a planting plan.

Restoration would be accomplished by planting native grasses, shrubs, and trees. A pre-approved list of native species is provided in Appendix C. Examples of planting plans are also provided in Appendix C. The site-specific planting plan requires prior approval from the Lake Warden’s office. Planted trees should have a caliper at the base of at least 0.5 inches. No single tree or shrub species should comprise more than 25% of the species proposed for planting. Native species not listed in Appendix C can be used with prior authorization from the Lake Warden’s office. The permittee is responsible for developing and implementing the planting plan.



### **Rendering of lawn area restored to forested condition**

#### **Planting in the Buffer**

Planting within the SWS buffer is allowed with the appropriate permits and prior authorization from the Lake Warden's office. Situations warranting planting within the buffer include:

- Stabilizing eroding or potential erosion areas
- Improving wildlife habitat
- Replacement of non-native invasive species
- Replacement of removed hazardous trees
- Replacement of trees damaged by pine beetles
- Improving overall forest canopy/health

Planted vegetation can range from groundcover to tree species. Species should be native to South Carolina. A list of pre-approved species is provided in Appendix C. Other native plants can be used with pre-approval from the Lake Warden's office. Planted trees should have a caliper at the base of at least 0.5 inches. Any mulches applied around planted materials should consist of natural, biodegradable materials (pine straw, bark mulch, etc.). Artificially colored or dyed mulches are not allowed within the buffer.

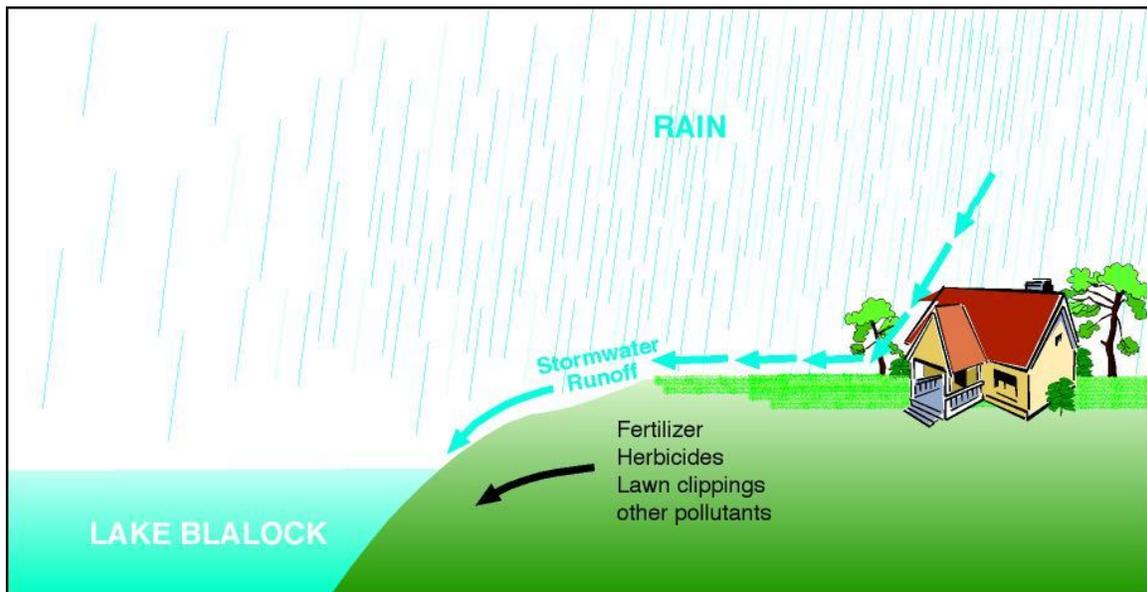
Examples of standard planting plans for the buffer are provided in Appendix C. Use of these standard planting plans will facilitate timely approval of the proposed planting. If proposed planting is not in accordance with the sample planting plans, additional fees could be required to obtain approval of the planting plan. Permit applications should include photographs of current site conditions as well as the proposed planting plan.

#### **Herbicide, Fertilizer, Pesticide, and Other Chemical Use**

The use of chemicals, pesticides, herbicides, and fertilizers within the SWS buffer is not allowed except under special circumstances (pest management, etc., as pre-approved in writing by SWS or by guidance issued by SWS). Using chemicals and fertilizers within the buffer could likely lead to direct runoff into the lake. This can cause multiple problems such as algal blooms within the lake due to increased nutrient loading. Algal

blooms are major contributors to water quality, taste, and odor problems. Ultimately, runoff of organic contaminants such as insecticides and herbicides into the lake and adjacent waterways increases total organic carbon (TOC). Increased levels of TOC beyond natural levels can result in an increase of microorganisms within the water, which depletes available dissolved oxygen.

The cost to treat water increases as a result of problems caused by increased nutrient or chemical loading within the lake. SWS must treat raw water from the lake to remove pollutants. Increased levels of TOC and other contaminants can significantly increase the cost of treating water and affect the overall efficiency of operating water treatment facilities.



Beyond the costs necessary to ensure safe and clean drinking water, increased nutrient loading can negatively affect fish and other aquatic organisms because of the decrease in available dissolved oxygen that results from increased levels of algae and other microorganisms. A lack of available oxygen can lead to a decrease in fish populations.

### **Non-native Invasive Species Management**

Invasive species are those that are not native to the area and tend to out-compete native species and take over their habitat. Within the SWS buffer, plant life is the focus of non-native invasive species management. Numerous plants have been introduced into South Carolina that can quickly take over areas and choke out native species. Examples around Lake Blalock include kudzu, Chinese privet, and Japanese honeysuckle. Photos of these plants are provided in Appendix B. While these species can be unattractive and a nuisance given their fast rate of growth, they do provide ground cover stabilization.

Non-native invasive plant species can be removed from the buffer as long as replacement vegetation is provided where necessary to avoid potential erosion problems. Removal of non-native plants requires a permit from SWS. Vegetation must be removed using hand

tools. Cleared vegetation cannot be left within the buffer. The permittee will be assessed the cost for removal of any cut material that is left within the SWS-owned buffer.

### Threatened Species

Detailed ecological studies were conducted within the buffer around Lake Blalock prior to raising the lake to its current elevation. These studies were necessary to complete the permitting process with various state and federal agencies. A federally protected plant species, dwarf-flowered heartleaf (*Hexastylis naniflora*) was previously known to occur around



the lake. The detailed field studies counted and mapped known as well as previously unknown populations of this plant around Lake Blalock. The population around Lake Blalock is one of the largest known. Prior to raising the lake, plants that would have been flooded were transplanted with the permission of the United States Fish and Wildlife Service (USFWS).

The Section 404 permit that was issued by the U.S. Army Corps of Engineers (USACE) in association with the lake expansion requires SWS to implement a management plan to protect this species on SWS property and to inform adjacent property owners about the protection of the species. The SWS has previously sent a brochure to adjacent property owners regarding this species. The brochure is currently available at [www.spartanburgwater.org](http://www.spartanburgwater.org). Additional information on this species is available at the Warden's office at Lake Blalock Park. Private property owners with dwarf-flowered heartleaf on their property are encouraged not to clear areas with this species or use herbicides or pesticides around these plants. Removal, destruction, use of herbicides, or other actions that could damage/kill this species is not allowed within the SWS buffer.

SWS buffer areas with this species are managed differently and typically more stringently than other buffer areas around the lake. If you are unsure if *Hexastylis* occurs on the buffer adjacent to your property, contact the Lake Warden's office. *Hexastylis* buffer areas have been placed under a restrictive covenant as required by USACE. A restrictive covenant is a legally binding document that applies to specific tracts of land. This document limits uses of the property. Please contact the Lake Warden's office to obtain the buffer management plan for sites with dwarf-flowered heartleaf.

While it is not anticipated that adjacent landowners would damage, remove, kill, or otherwise harm *Hexastylis* plants located within the buffer, it should be noted that the more stringent requirements associated with the restrictive covenant areas remain with the land even if plants are removed; therefore, no benefits would be gained by adjacent property owners from the removal of the species. Damaging *Hexastylis* plants within the

buffer and restrictive covenant areas could include penalties under Section 7 of the Endangered Species Act.

### **Boundary Line Marking**

As previously noted, SWS owns the land immediately adjacent to Lake Blalock. Generally, SWS property extends to the 720 MSL contour around the lake. From time to time, SWS may place signs along the SWS boundary at specified intervals to assist in identification of the property boundary. Under the terms of the Landowner Access Permits, as a condition of receiving access to the buffer property, adjoining landowners take responsibility for protecting the boundary markers from being removed, defaced, or destroyed. SWS may charge the adjoining landowner a reasonable charge (not to exceed \$25 per marker) for replacing boundary markers that are not so protected. If you are uncertain about the limits of SWS property around Lake Blalock, please contact the Lake Blalock Warden's office at 864-578-5442. Landowners with property adjacent to Lake Blalock should refer to their deed to review the location of individual private property boundaries. Disputed property boundaries regarding SWS buffer limits should be immediately brought to SWS's attention.

No boundary line marking is allowed below the 720 MSL contour. This includes cutting or removal of vegetation, painting trees, or the placement of iron pins or other property markers.

### ***Irrigation***

Previously, SWS has issued one-time irrigation permits authorizing the withdrawal of water from the lake for watering lawns and other landscape plants. The permits were valid as long as the permittee remained at the residence. Given the nature of the reservoir as a water supply source and concerns raised as a result of recent drought conditions, all pre-existing irrigation permits are no longer valid effective January 1, 2006. Property owners adjacent to Lake Blalock desiring an irrigation permit can submit an application to the Lake Warden's office. The Wardens will review the permit application and issue permits. All irrigation permits must be reauthorized on an annual basis. To ease tracking of irrigation permits, they will be valid for one calendar year and will expire on December 31 of each year. No irrigation water can be withdrawn from the lake without a valid permit.

A fee study was undertaken to determine the amount needed to support the cost of the irrigation permitting program. Spartanburg Water relies on user fees, not tax revenue, to operate and provide services to the community. To help cover expenses related to the management of the Lake Blalock Irrigation Program, a fee schedule has been implemented (please refer to the fee schedule located in Appendix F). For new permit applications, an initial application fee will be required to initiate lake irrigation. Approved permits will include a validation sticker that must be prominently displayed at the intake location. Irrigation systems that are currently permitted will be assessed only an annual renewal fee.

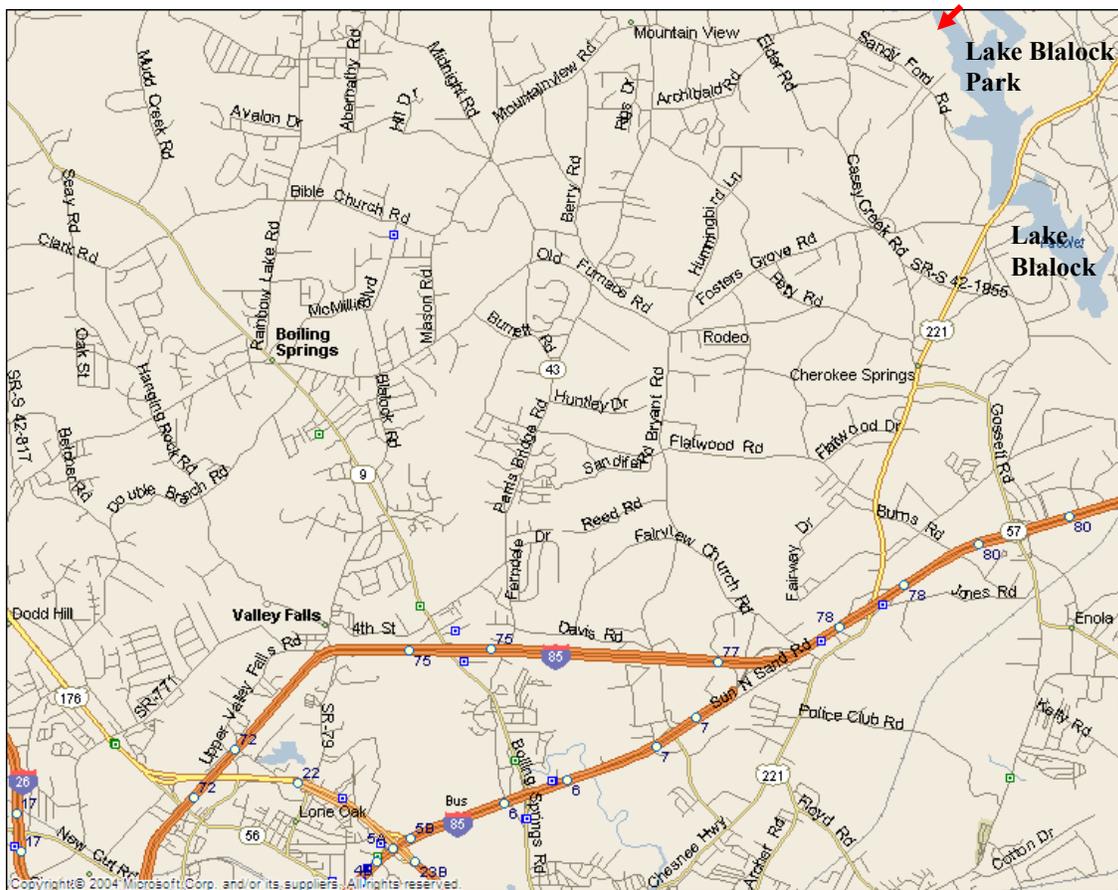
The updated irrigation program includes several requirements that must be followed as outlined below.

- The amount of water used for irrigation and applied to the permittee's property should be suited to the hydraulic loading rate for on-site soils. That is, experience indicates that many homeowners tend to over-water their lawns. Over-watering leads to frequent surface water runoff. It is this surface water runoff that carries pollutants to the lake. Permittee's will be assigned an hourly and cumulative daily limit on the amount of irrigation water that may be applied (in inches), based on typical soil types and slopes documented around Lake Blalock.
- Water withdrawn from the lake is for non-potable use only.
- SWS will perform periodic inspections to determine if septic tanks and their associated drain fields are functioning properly. Should SWS observe potential or apparent problems, SWS will contact the property owner and refer these issues to the South Carolina Department of Health and Environmental Control (SCDHEC). Irrigation permits may be suspended or revoked at the sole discretion of SWS. SWS recommends that property owners have their septic tanks cleaned on a regular basis. For information regarding recommendations on septic tank cleaning frequency, contact SCDHEC's Environmental Health section or visit their website at <http://www.scdhec.gov/environment/envhealth/septic/index.htm> for further useful information.
- The Spartanburg Sanitary Sewer District (SSSD) offers a rebate to property owners for all septic waste (originating within the district) that is disposed at an approved SSSD treatment facility.
- There may be occasions (e.g., during drought conditions) that the permittees will not be allowed to withdraw water from the lake. The permittee agrees to discontinue irrigation activities during these times. Property owners with irrigation permits will be notified when restrictions occur. Withdrawing water from the lake when restrictions are in place may result in the revocation of all SWS-issued permits for that property owner.
- If irrigation permits expire or are revoked, permittees will have a reasonable time, but not more than 45 days, to remove all associated equipment from the buffer. After that time, the SWS may have the equipment removed and disposed of at the permittee's expense.
- Upon revocation of an irrigation permit or expiration of an irrigation permit without renewal, existing customers that fail to meet the irrigation renewal deadline will be required to install an irrigation system electrical disconnect safety switch. Once installed, Spartanburg Water reserves the right to disconnect the irrigation system at any time. New irrigation system applicants are required to install an irrigation system electrical disconnect safety switch upon approval.

## Lake Access

### Authorized Access Points/Dock Locations

A permit must be obtained from the Lake Warden's office prior to installing a boat dock at Lake Blalock. The permit application must include photographs documenting the current condition of the buffer. The permit process will include a site visit with a Lake Warden(s) to site the location of the dock and access to the dock. The warden will mark and record the approved location of the dock. The location for the dock will be based on a variety of factors, including depth of water, topography of the surrounding buffer, vegetation within the buffer, and other factors. This effort will ensure that the dock is sited so that it is accessible, while limiting potential impacts to the buffer. The dock must be constructed at the approved location or the permit will be revoked and the dock removed. The dock must be constructed in accordance with guidelines provided in Spartanburg Water System Policies and Procedures for Use of Water Supply Reservoirs. The dock must be constructed from the water or constructed off-site and floated to the permittee's lot to avoid damage to the buffer. The dock tag must be affixed to the dock as required in the approved permit.



**Location of Lake Blalock Park, 1925 Sandy Ford Road, 864-578-5442**

## **Pathway/Walkway Requirements**

Access to the lake is an important part of enjoying the aesthetics, recreation, and wildlife observation opportunities that are provided by SWS. This access should be developed in a manner that maintains the water quality and habitat functions of the SWS-owned buffer. To achieve these goals, pathways, walkways, and other access points through the SWS-owned buffer must minimize both short-term and long-term impacts on the buffer.

SWS must pre-approve any pathway (including motorized cart pathways), walkway, or other pedestrian access that requires the removal of vegetation that could lead to wearing away vegetation/natural ground cover due to repeated use, or that could lead to soil erosion within its buffer. This includes access points to permitted docks. Installation of an approved pathway/walkway is a requirement for obtaining dock permit approval on SWS property. Dock permits and any other permit issued by SWS may be revoked if walkway/pathways are not constructed or maintained as required. The type (mulch, boardwalk, stairs, etc.) and location of walkways/pathways will be determined based on the topography and sensitivity of the site in conjunction with input from the Lake Warden's office. Regardless of access type, grading or otherwise changing the surface topography is not allowed within the SWS-owned buffer. Applications for access through the buffer should include existing-condition photographs, location of proposed access, type of access (soft surface, stairs, boardwalk, etc.), and a sketch of the proposed access plan. The proposed location of the access should be flagged by the permittee for inspection by SWS.

Motorized cart access is allowed through the SWS owned buffer on approved pathways and/or by permit only. In general, motorized cart paths must be permitted, constructed and maintained in accordance with SWS requirements for Access Type (see below). Further guidance and requirements for motorized cart path access is listed in Appendix E.

Access through areas of the SWS-owned buffer that have populations of *Hexastylis naniflora* are regulated differently and have different access requirements. Contact the Lake Warden's office for regulations applying to buffer areas containing this species.

## **Access Type**

Access into the SWS-owned buffer will vary based on site-specific conditions such as slope, vegetation, and other factors. The access type selected for a site should be suitable for specific conditions and should not result in soil erosion. Two general permanent access types are allowed within the SWS-owned buffer: soft surface and hard surface. A combination of soft surface and hard surface access types may be utilized for permanent access through the buffer as approved by SWS on a case-by case basis. Soft surface access refers to mulch or soil covered pathways and is allowed on flat to gentle slopes. Hard surface access is required on steeper slopes and consists of elevated boardwalks, stairs, or a combination of these two. Materials are typically pressure-treated lumber but can include other products. Each of these access types is discussed below.

- ***Soft Surface*** – Soft surface access is suitable for those sites with flat to gently sloping conditions ranging from 0 to 8%. This access type uses the existing

ground surface. The surface can consist of low-growing vegetation, mulches, natural materials approved by SWS, or native rock. Mulch must consist of natural, undyed materials. In general, all access types should follow natural surface contours and transition down gradient through the buffer at appropriate intervals. This will result in pathways that meander through the buffer rather than going directly down the slope through the buffer, which could lead to erosion problems. Soft surface access with slopes less than 5% can have a more direct route through the buffer given that these flatter slopes are less likely to result in erosion. Slopes from 5% to 8% require that the soft access pathway follow natural surface contours to the extent possible. Detailed coordination with the Lake Wardens will determine the actual location of all permanent access through the buffer.

Soft access pathways should not be wider than 3 feet for pedestrian access or 5 feet for pedestrian/motorized cart access. Selected vegetation can be removed in accordance with the permit. Vegetation clearing cannot exceed one foot on either side of the pathway. Given the flexibility of soft surface access routes, no woody plants with a diameter greater than 4 inches at ground level can be removed. Typical sketches showing trail clearing, a cross-section, and standard notes for soft access pathways through the SWS-owned buffer are shown in Appendix D.

- ***Hard Surface*** – Slopes that exceed 8% require hard surface access. This is necessary to prevent erosion. As previously noted, grading is not allowed within the buffer. Hard surface access consists of elevated pathways built through the buffer. Examples of hard surface access include boardwalks, elevated ramps and stairs. The extent of required boardwalk, elevated ramps or stairs will vary based on site conditions. Most instances will require the combined use of boardwalks, elevated ramps or stairs to create safe access conditions through the buffer. Hard surface access must be built by hand. Minimal land disturbance such as that necessary to install post holes for boardwalk support is allowed. The route for hard surface access should follow natural surface contours to the extent possible. Detailed coordination with the Lake Wardens will determine the actual location of all permanent access through the buffer. Boardwalks, elevated ramps or stairs that are higher than 30 inches from the ground's surface will require a handrail.

Hard access pathways should not be wider than 4 feet for pedestrian access or 5 feet for pedestrian/motorized cart access. Suitable materials for construction include pressure-treated lumber and other materials commonly accepted for boardwalk construction such as recycled plastic decking. All scrap material, construction debris, etc., must be removed from the SWS-owned buffer. Site clean-up should be complete immediately following construction. The permittee will be charged a fee equal to SWS staff time to remove construction debris, etc., remaining as a result of access construction.



Selected vegetation can be removed in accordance with the permit. Vegetation clearing cannot exceed one foot on either side of the pathway. Typical sketches showing trail clearing and a cross-section and standard notes for hard access pathways through the SWS-owned buffer are provided in Appendix D.

The permittee is responsible for the cost of installation, stability, and maintenance of the walkway/pathway. This responsibility includes ensuring the safety of those that use the access.

The Lake Wardens must be notified at least seven days prior to constructing any type of access through the SWS-owned buffer.

If pathway or walkway permits are withdrawn or revoked, permittees will have a reasonable time, but not more than 45 days, to remove the permitted structures. After that time, SWS may have the structures removed and disposed of at the permittee's expense.

### **Boat Launches**

All boats must be launched from the public landing at Lake Blalock Park or from permitted docks. Launching from docks must be conducted in accordance with SWS-owned buffer requirements such as no vehicle access within the buffer and other applicable requirements.

### **Vehicular/Motorized Access**

The use of motorized vehicles is not allowed within the SWS buffer except as permitted on a case-by-case basis for approved buffer restoration, approved planting, permitted tree or vegetation removal, mulch placement as part of a permitted activity or other limited access activities specifically approved by SWS. Motorized carts may be utilized to access the SWS owned buffer on permitted motorized cart paths. In general, types of motorized vehicles utilized within the buffer for specific permitted activities must have turf tires or otherwise have specific written approval from SWS for their limited use in support of these approved activities. Passive or recreational use of motorized vehicles within the SWS buffer (excepting motorized carts utilized on permitted pathways) is not allowed. Motorized vehicle access through the SWS buffer in support of permitted buffer activities must cease at the conclusion of a permitted activity. Conclusion of a permitted activity occurs at the time of permit expiration, or as deemed complete by SWS, whichever comes first. SWS may at any time further restrict, suspend, or revoke motorized vehicular access as it deems appropriate to protect its resources. Refer to the Lawns section of this document for information pertaining to the use of lawn mowers within the SWS-owned buffer.

## ***Docks***

Docks at Lake Blalock must be permitted by the Lake Warden's office. Installation of a SWS approved pathway/walkway is a requirement for obtaining dock permit approval on SWS property. Dock permits and any other permit issued by SWS may be revoked if walkway/pathways are not constructed or maintained as required. All docks must be constructed in accordance with guidelines provided in Spartanburg Water System Policies and Procedures for Use of Water Supply Reservoirs. Contact the Lake Warden's office to obtain a copy of these guidelines. If dock permits are withdrawn or revoked, permittees will have a reasonable time, but not more than 45 days, to remove their docks and all associated structures. After that time, the SWS may have the facilities removed and disposed of at the permittee's expense.

## ***Erosion and Sedimentation Control***

As previously noted in the vegetation management section, erosion and resulting sedimentation can negatively impact water quality. In addition to poor water quality, gullies and rills that form from erosion can lower land values. Development has steadily increased in the watershed surrounding Lake Blalock. This is particularly true of the property immediately adjoining SWS's buffer around the lake. Unfortunately, erosion has occurred as a result of recent land disturbance activities and has contributed sediment into the buffer and lake. SWS is committed to protecting the quality of the buffer and the lake. This section provides guidance regarding this critical issue. In addition to information contained within this Buffer Management Plan, SCDHEC has detailed information and guidance on their website related to stormwater, erosion and sediment control practices. The DHEC stormwater Best Management Practices Handbook and Field Manual as well as links to other detailed guidance and regulations related to erosion and sediment control can be found at <http://www.scdhec.gov/environment/water/swater/index.htm>.

## ***Existing Problem Areas***

While minor, some areas of erosion currently exist immediately adjacent to and within the SWS buffer. SWS encourages adjacent property owners to address these problem areas by establishing native vegetation and avoiding channelizing stormwater flows onto steep slopes such as those around the lake. Working within the guidance provided in the vegetation management section, SWS will work with adjacent property owners to plant and stabilize currently eroding areas within the buffer. A valuable resource for information pertaining to reducing erosion and stabilizing eroding areas is the local Natural Resource Conservation Service office (864-814-2471 Ext. 111 or <http://www.spartanburgswcd.org/about.htm>).

## ***Logging, Clearing and Grubbing, Grading on Adjacent Property***

Residential and other development has steadily increased around Lake Blalock, and this trend is expected to continue. Whether a subdivision or a single-family lot, the majority of these developments will require land disturbance activities. Typical disturbances include logging, clearing and grubbing, and grading lots to make them suitable for construction. State and local laws require controlling potential erosion so that it remains

within the construction area. This is best accomplished by installing and maintaining erosion and sediment control Best Management Practices (BMPs) during construction. BMPs include installation of silt fences, temporary and permanent grassing, mulches, erosion control blankets and other methods to control erosion and to prevent eroded material from flowing onto adjacent properties. Development adjacent to the SWS buffer that involves land-disturbing activities should employ BMPs to limit erosion and to reduce sediment that flows into the lake. In general, efforts should be made to grade the smallest area required for construction. Temporary stabilization measures should be employed immediately to avoid potential impact to adjacent buffer areas and water quality within the lake. As applicable, development projects must obtain all necessary permits.

Lake Wardens routinely conduct inspections of the buffer area. These inspections include observing the effect of adjacent development on the buffer. Sedimentation on SWS property that originates from a development, logging, or other adjacent activity will be noted and reported to the property owner so that the problem area(s) can be addressed. If sediment continues to leave these sites and reach the SWS buffer, the situation will be reported to the responsible local or state agency for enforcement.

Allowing erosion and sedimentation to affect the lake or buffer properties is a violation of this management plan. Property owners can be held liable for the damage incurred and the cost of restoration that results from a failure to control erosion and sedimentation under enforcement provisions of this plan and the associated enforcement guidance documents. Damage to SWS property resulting from sediment runoff from adjacent property can result in legal or other actions necessary to remediate these impacts. To avoid this situation, property owners, developers, and others conducting land disturbance activities adjacent to the buffer are encouraged to coordinate with local experts such as the Natural Resources Conservation Service for information regarding erosion control.

### ***Small, Non-permanent Structures in Buffer***

It is understood that residents and lake users want to enjoy the buffer and the lake. Currently, some residents have placed swings, benches, and other small, non-permanent structures within the buffer. The primary concern associated with these types of structures is changing grades (leveling out an area to install a swing, etc.), large areas of impervious surface that inhibit stormwater infiltration, or the creation of bare soil areas that could lead to soil erosion. No buildings or permanent or covered structures are allowed within the buffer.

Placing benches, small swings, and similar small, non-permanent structures within the buffer is allowed with the following conditions:

- Vegetation removal is conducted in accordance with the vegetation management requirements
- No grading/changing of elevations is required to place the small, non-permanent structure(s)

- The cumulative contiguous area occupied by the structure(s) cannot exceed 10 feet by 10 feet (100 square feet)
- Permit issued by Lake Warden's office
- All unauthorized structures will be removed from the buffer
- Permitted structure is maintained by permittee and replaced or removed from the buffer if damaged or unserviceable
- Permittee is in compliance with other buffer management requirements
- No impact to *Hexastylis naniflora* or habitat of *Hexastylis naniflora*

All existing structures in the buffer region require a permit, or they will be subject to removal at the owner's expense on or after May 1, 2006. Permits are not required for the installation of bird feeders, bird houses, bat boxes, and similar wildlife structures as long as damage does not occur to SWS property and no vegetation is removed.

No phone service lines can be installed below the 720 MSL contour.

### **Temporary Structures within SWS Buffers**

It is understood that residents and lake users want to enjoy the buffer and the lake. Often, residents plan functions that may involve additional activities within the Spartanburg Water System (SWS) buffer. SWS will approve the use and placement of temporary structures (e.g., outdoor tents used for social functions, chairs and tables) within SWS buffer areas to property owners with a valid LAP with the following conditions:

- Approval for the placement of temporary structures within SWS buffer areas must be provided by SWS Lake Wardens prior to the placement of the temporary structures within SWS buffer areas.
- Temporary Structures placed within SWS buffer areas must be removed from the SWS buffer area within seven (7) days of placement.
- No removal of vegetation will be approved for the placement of temporary structures within SWS buffer areas.
- No grading or changing of elevations will be allowed for the placement of temporary structures within SWS buffer areas.
- Temporary Structures may not be placed where they impact *Hexastylis naniflora* or the critical habitat of *Hexastylis naniflora*.

### **Shoreline Stabilization**

It is anticipated that through time shoreline stabilization/erosion problems may occur due to normal wave action. Currently, potential problem areas cannot be identified. Therefore, shoreline stabilization through the placement of rip-rap, native rock, or other structural materials (seawalls, etc.) is not allowed. In accordance with the vegetation management section, native vegetation can be planted to assist with shoreline stabilization. Shoreline stabilization requests will be considered on a case-by-case basis and require prior approval from SWS. Several plant species suitable for shoreline stabilization are included in Appendix C.

## ***Island Management***

An island that was previously a peninsula has developed as a result of the lake expansion. The island is located near the confluence of Buck Creek and Lake Blalock. When SWS originally purchased the property that is now an island, the previous landowner required that the area be maintained in its current state as habitat for wildlife. This commitment requires that no access is allowed to the island.

## ***Agriculture, Livestock, and Pets***

### **Gardens**

Due to the potential for erosion and required use of chemicals and fertilizers, no gardens or other agricultural activities can be established within the SWS buffer. Any pre-existing gardens must be removed from the buffer by May 1, 2006.

### **Livestock**

No livestock (cows, horses, goats, chickens, etc.) are allowed within the buffer.

### **Pet Kennels and Access**

Pet kennels, pens, fences, dog houses, enclosures, etc., are not allowed within the SWS buffer. Any pre-existing pet facilities must be removed from the buffer by May 1, 2006.

## ***General Land Use Maintenance***

### **Fires**

No fires are allowed within the SWS buffer.

### **Leaf Raking/Blowing**

Some adjacent landowners have previously blown or raked leaves from their private property into the SWS buffer. In some instance, leaves and other yard debris have been blown directly into the lake. This type of organic debris can cause water quality problems similar to overuse of fertilizers such as increased levels of microorganisms and algal growth. This leads to decreased oxygen within the water and adds to the cost of treating water.

To resolve this problem, adjacent property owners/residents are not allowed to blow, rake, or otherwise dispose of yard debris within the SWS buffer.

### **Camping/Overnight Use**

No camping is allowed within the SWS buffer. Ongoing activities within the SWS buffer may be allowed with a permit.

## ***Fish Habitat/Attractors***

Fish attractors are any natural or man-made structure used by various fish species as a form of cover, as protection from predators, and sometimes as spawning areas. Natural fish attractors include logs, brush, and stumps. Man-made fish attractors include yard debris, Christmas trees, or any other “non-natural” structure specifically placed within a

water body to attract fish. SWS is committed to maintaining Lake Blalock as a valuable source of drinking water while providing ample habitat for fish. Placement of fish attractors is not allowed without a permit from the Lake Warden's office. Any structure improperly placed in the lake could become a safety hazard.

Historically, lake users have requested permission to place Christmas trees and other biodegradable structures in the lake to provide fish habitat. Experience has shown that Christmas trees and other biodegradable materials will eventually float to the surface and drift toward the dam. These trees lodge against the dam, water intake structure, and other areas and become a maintenance issue and potentially a safety issue. Decomposition of organic debris also adds to the nutrient load of the lake, resulting in possible algal blooms and more difficulty treating the drinking water.



Vegetative and other biodegradable materials such as Christmas trees will no longer be allowed in the lake as fish attractors; however, approved structures consisting of man-made materials can be used as fish attractors. Examples include structures made from PVC pipe. Property owners wanting to place constructed fish attractors must receive prior approval from the Lake Warden's office. Contact the Lake Warden's office for suggestions and available reference information regarding the construction of these structures. Structure placement coordinates will be required to be accurately mapped or, preferably, to be recorded using a Global Positioning System (GPS). A comprehensive map detailing the locations of all fish attractors placed in the lake will be maintained at the Lake Warden's office for public use.

### ***Nuisance Wildlife Control***

A wide variety of wildlife exists around the lake. Some of these species, such as beavers and Canada geese, can cause damage and become a nuisance. Depending on the situation, various measures can be employed to discourage the presence of these species or to protect trees and other property from wildlife damage. Trapping, destroying, or otherwise harming nuisance wildlife is not allowed without prior coordination with the Lake Warden's office. Trapping or removal of wildlife, if authorized by SWS, must be conducted in accordance with local and state laws and cannot endanger humans or non-targeted wildlife. Refer to the South Carolina Department of Natural Resources website for more information regarding nuisance wildlife species control <http://www.dnr.sc.gov/wildlife/control.html>.

The beaver population within the lake has continued to expand. Beavers chew, girdle, and cut down trees for food and lodging. SWS allows installing materials around tree trunks within the buffer to prevent beaver damage. For consistency, hardware cloth, chicken wire, or similar materials should be used to protect the trees. Solid materials such as metal flashing, tin panels, etc., are not allowed for use to protect trees from beaver damage within the buffer.

## ***Adjacent Property Management Recommendations***

SWS encourages all property owners to practice good land use practices regardless of their location. It is particularly important for those landowners adjacent to Lake Blalock to implement good land use practices to promote water quality within the lake and to limit/prevent potential pollutants from entering the lake. While not meant to be a comprehensive list or overview, below are some property management recommendations for adjacent property owners.

### **Herbicide, Fertilizer, Pesticide, and Other Chemical Use on Adjacent Property**

The use of chemicals, pesticides, herbicides and fertilizers within the SWS buffer is not allowed except under special circumstances (pest management, etc., as pre-approved in writing by SWS or by guidance issued by SWS).

### **Septic Tanks**

All septic tanks on private property adjoining SWS property around the lake should be maintained in proper working order. Improperly maintained septic systems can cause water quality problems within the lake. All septic tanks must have a permit from the South Carolina Department of Health and Environmental Control (SCDHEC). Regulations require that septic tanks and their drain lines be at least 50 feet from the high pool of Lake Blalock—710 feet MSL—and above the 720 elevation. Prior to installing a septic tank and drain lines, the Lake Warden's office must be contacted. An SWS representative will mark the 720 MSL elevation (and 710 MSL if necessary) so that the appropriate minimum setback is met.

All residents are encouraged to maintain their septic systems. The Spartanburg Sanitary Sewer District (SSSD) offers a rebate to property owners within the district for all septic waste that is disposed at an approved SSSD treatment facility. Proof of septic cleaning must be submitted to be eligible for the rebate. Septic tanks adjacent to Lake Blalock that are observed to be malfunctioning or are documented as having chronic or recurring problems will be referred to the local Environmental Health Section of SCDHEC.

### **Stormwater**

Residents adjacent to SWS property should not direct concentrated stormwater runoff into the SWS-owned buffer (such as from rooftops, gutters, patios, driveways, channels, swales or pipes). As previously noted, concentrated flows can lead to erosion as well as the deposition of pollutants into the buffer and lake, and are a violation of the Buffer Management Plan. Stormwater must also be managed in accordance with local regulations.

## Section 3 – Enforcement

Lake Blalock is a valuable resource for SWS, residents, water system users, boaters, fishermen, wildlife, and many others. This resource needs to be protected. The Buffer Management Plan establishes guidelines for many issues affecting the lake and its water quality. SWS is committed to consistent application and enforcement of these guidelines for its buffer around the lake. Unfortunately, some circumstances will require enforcement ranging from fines, required restoration, permit revocation/denial, and other enforcement means as required and provided for by law. Some of these enforcement policies are presented below.

### ***Vegetation Management Enforcement Policies***

SWS is committed to maintaining and protecting water quality within Lake Blalock. A key component of protecting water quality is maintaining and, where applicable, improving the vegetative buffer around the lake. This plan establishes general policies regarding the protection of the vegetative buffer around the lake. The policies above will be enforced by SWS. Lake Wardens and other SWS representatives will conduct routine inspections of the buffer. Non-permitted or unauthorized activities will be evaluated and, where applicable, the responsible party will be issued a notice of an assessment fine and/or civil penalty.

SWS, through its Lake Wardens, may issue citations for violations of the Buffer Management Plan. These citations will be issued under the statutes that prohibit violations of municipal ordinances, trespassing, unauthorized cutting of timber, and the unauthorized use of or damage to property of water systems. These are criminal citations, and the resulting fines or jail terms will be as permitted under the applicable statutes such as S.C. Code Ann. §§ 5-7-30, 5-31-1170.

Under the terms of their permits, landowners contractually agree to pay any assessments related to SWS's damages and costs incurred because of violations of the Buffer Management Plan. These assessments can be enforced through civil lawsuits, as well as claims for restitution where criminal prosecutions are successful. In addition, SWS may seek recovery of these assessments as civil penalties from violators under S.C. Code Ann. § 5-7-30, as interpreted by the Supreme Court in Municipal Ass'n v. AT&T, 361 S.C. 576, 580, 606 S.E.2d 468, 471 (2004).

In determining its damages and costs, SWS may seek to recover from violators the costs of repairing any damage to land, trees, vegetation, or other property; the cost of replacing or replanting any destroyed vegetation; staff time, legal fees, consultants' fees, and other costs incurred in responding to the issues and prosecuting the claim; and any other cost incurred by SWS. The replacement cost of vegetation will be determined by SWS in its reasonable discretion using industry standards. The cost of shrubs and trees removed without authorization will be calculated using the most current edition of the *Guide for Plant Appraisal* or other commonly accepted methodologies as determined by SWS. Any professional assistance (such as an arborist) needed to determine the extent of

removed vegetation as well as the type and value of removed vegetation will also be incorporated into the assessment.

The responsible party will also be required to develop and implement a revegetation plan that restores the encroached buffer area to pre-existing conditions. The plan should include replanting species that were removed from the buffer. Prior to implementation by the responsible party, SWS must approve the revegetation plan. The cost to develop and implement the plan is the responsibility of the party responsible for the unauthorized activity. Failure to develop and implement a revegetation plan will result in additional assessments for the responsible party. These fines could include, but are not limited to, SWS having an outside party develop and implement the restoration plan. As necessary, other mechanisms will be employed by SWS to ensure that the buffer management plan is followed.

### ***General Policy Enforcement***

Non-compliance with the Buffer Management Plan or with the terms of any permits or authorization issued under it can involve several levels of enforcement, depending on the specific situation. SWS will make reasonable efforts to work with and provide information to permittees and adjacent landowners to avoid or resolve non-compliance with the buffer plan. If a resolution suitable to SWS cannot be reached through this coordination, SWS will take additional steps to ensure compliance. Enforcement options include, but are not limited to, those presented below.

### **Fines and Jail**

In appropriate circumstances, SWS has the authority to issue citations for fines and other criminal penalties for non-compliance with the Buffer Management Plan. The applicable fines or other penalties are as set by the relevant statutes, as discussed above. These include fines of up to \$500 per occurrence and imprisonment for up to 60 days.

### **Assessments for Costs and Damages**

As indicated above, SWS may assess a violator for all SWS's costs and damages arising out of a violation of the plan, which can include such things as the damage to Lake Blalock as a source of water, the value of lost timber or vegetation, or the cost of restoration of any damage to soils, timber, or vegetation, SWS staff time and administrative costs for responding to the violation, and SWS's fees and costs for consultants, experts, and attorneys to assess the damages and prosecute the claim.

### **Permit Revocation/Denial**

A variety of permits are needed for activities within the buffer area. Compliance with all aspects of the Buffer Management Plan is a condition of each and every permit or authorization SWS issues. Violations of the terms of the plan or any permit may result in the revocation of all permits held by a landowner. Unless all matters related to the violation are resolved promptly and to the satisfaction of SWS—including the payment of any assessments—SWS may remove structures on buffer property, including docks, irrigation facilities, and walkways, and dispose of them at the permittee's expense. No additional permits will be issued with reference to any parcel of property until all existing

issues related to a violation are resolved, including restoration of any damage and payment of all required fines and assessments. The transfer of title while violations remain unresolved will not remove the suspension.

**Non-Admittance**

SWS owns all property around SWS extending to the 720 MSL elevation and has the right to control access onto this property. In its discretion, SWS can fence any area within the property around Lake Blalock or post it for no trespassing at any time. If necessary, SWS can seek a legal injunction against any person to prohibit access onto SWS property.

## **APPENDIX A**

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### **Contact Information**

## **Contact Information**

### **Spartanburg Water System**

PO Box 251  
200 Commerce Street  
Spartanburg, South Carolina 29306

Administrative Office Phone: 864-583-7361

Fax: 864-596-4937

Website: [www.spartanburgwater.org](http://www.spartanburgwater.org)

### **Lake Blalock Warden's Office**

1925 Sandy Ford Road  
Chesnee, SC 29323  
Telephone Number: 864-578-5442

### **South Carolina Department of Health and Environmental Control**

Spartanburg EQC Field Office and Public Health Department  
151 East Wood Street  
Spartanburg, SC 29303  
(864) 596-3800 Fax: (864) 596-2136  
<http://www.scdhec.gov/environment/envserv/region2.htm>

### **Natural Resource Conservation Service**

105 Corporate Drive, Suite G  
Spartanburg, SC 29303  
Telephone Number: 864-814-2471 ext. 3  
Website: <http://www.spartanburgswcd.org/about.htm>

### **South Carolina Department of Natural Resources**

Nuisance Wildlife  
Website: [www.dnr.sc.gov/wildlife/control.html](http://www.dnr.sc.gov/wildlife/control.html)

### **South Carolina Forestry Commission**

#### **Piedmont Region**

39 General Henderson Rd  
Newberry, SC 29108  
Telephone Number: 864-583-3438.  
Website: [www.state.sc.us/forest/index.htm](http://www.state.sc.us/forest/index.htm)

### **South Carolina Native Plant Society**

PO Box 491  
Norris, SC 29667  
Website: [www.scnps.org](http://www.scnps.org)

## **APPENDIX B**

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### **Typical Non-Native Invasive Plant Species Lake Blalock Buffer**

## APPENDIX C

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### Planting Reference List and Example Planting Plans

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#### Native Plants Pre-Approved for SWS-owned Buffer Planting & Suggested Planting Zone Locations

| <b>Native plants for Xeriscaping planting</b> |                       |                        |
|---|-----------------------|------------------------|
| <b>Plant Species</b>                          | <b>Common Name</b>    | <b>Vegetation Type</b> |
| <i>Acer barbatum</i>                          | Southern sugar maple  | Tree                   |
| <i>Acer negundo</i>                           | Boxelder              | Tree                   |
| <i>Acer rubrum</i>                            | Red maple             | Tree                   |
| <i>Amelanchier arborea</i>                    | Serviceberry          | Tree                   |
| <i>Betula nigra</i>                           | River birch           | Tree                   |
| <i>Callicarpa americana</i>                   | American beauty berry | Tree                   |
| <i>Carpinus caroliniana</i>                   | Musclewood/ironwood   | Tree                   |
| <i>Cercis canadensis</i>                      | Redbud                | Tree                   |
| <i>Cornus florida</i>                         | Flowering dogwood     | Tree                   |
| <i>Diospyros virginiana</i>                   | Persimmon             | Tree                   |
| <i>Fraxinus americana</i>                     | White ash             | Tree                   |
| <i>Ilex opaca</i>                             | American holly        | Tree                   |
| <i>Liquidambar styraciflua</i>                | Sweetgum              | Tree                   |
| <i>Liriodendron tulipifera</i>                | Tulip poplar          | Tree                   |
| <i>Magnolia grandifolia</i>                   | Southern magnolia     | Tree                   |
| <i>Ostrya virginiana</i>                      | Ironwood              | Tree                   |
| <i>Oxydendrum arboretum</i>                   | Sourwood              | Tree                   |
| <i>Pinus echinata</i>                         | Shortleaf pine        | Tree                   |
| <i>Pinus taeda</i>                            | Loblolly pine         | Tree                   |
| <i>Pinus virginiana</i>                       | Virginia pine         | Tree                   |
| <i>Quercus alba</i>                           | White oak             | Tree                   |
| <i>Quercus falcata</i>                        | Southern red oak      | Tree                   |
| <i>Quercus lyrata</i>                         | Overcup oak           | Tree                   |
| <i>Quercus michauxii</i>                      | Swamp chestnut oak    | Tree                   |
| <i>Quercus montana</i>                        | Mountain chestnut oak | Tree                   |
| <i>Quercus nigra</i>                          | Water oak             | Tree                   |
| <i>Quercus phellos</i>                        | Willow oak            | Tree                   |
| <i>Quercus shumardii</i>                      | Shumard red oak       | Tree                   |
| <i>Quercus stellata</i>                       | Post oak              | Tree                   |
| <i>Quercus velutina</i>                       | Black oak             | Tree                   |
| <i>Sassafras albidum</i>                      | Sassafras             | Tree                   |
| <i>Taxodium distichum</i>                     | Bald cypress          | Tree                   |

| <b>Native plants for Xeriscaping planting</b> |                      |                        |
|---|----------------------|------------------------|
| <b>Plant Species</b>                          | <b>Common Name</b>   | <b>Vegetation Type</b> |
| <i>Aralia spinosa</i>                         | Devil's walkingstick | Shrub                  |
| <i>Hamamelis virginiana</i>                   | Witchhazel           | Shrub                  |
| <i>Hibiscus coccineus</i>                     | Scarlet mallow       | Shrub                  |
| <i>Hibiscus lasiocarpus</i>                   | Rose mallow          | Shrub                  |
| <i>Hibiscus militaris</i>                     | Halberd-leaf mallow  | Shrub                  |
| <i>Hibiscus moscheutos</i>                    | Swamp rose mallow    | Shrub                  |
| <i>Hypericum species</i>                      | St. John's-wort      | Shrub                  |
| <i>Ilex deciduas</i>                          | Possumhaw            | Shrub                  |
| <i>Ilex vomitoria</i>                         | Yaupon holly         | Shrub                  |
| <i>Kalmia latifolia</i>                       | Mountain laurel      | Shrub                  |
| <i>Myrica cerifera</i>                        | Wax myrtle           | Shrub                  |
| <i>Rhododendron austrinum</i>                 | Yellow azalea        | Shrub                  |
| <i>Rhododendron calendulaceum</i>             | Flame azalea         | Shrub                  |
| <i>Rhododendron canescens</i>                 | Piedmont azalea      | Shrub                  |
| <i>Viburnum acerifolium</i>                   | Mapleleaf viburnum   | Shrub                  |

|                                 |  |           |
|---------------------------------|--|-----------|
| <i>Asclepias tuberosa</i>       | Butterfly weed                                     | Perennial |
| <i>Echinacea purpurea</i>       | Purple cone flower                                 | Perennial |
| <i>Eupatorium coelestinum</i>   | Wild/Hardy ageratum                                | Perennial |
| <i>Helianthus angustifolius</i> | Swamp sunflower                                    | Perennial |
| <i>Liatris species</i>          | Blazing stars                                      | Perennial |
| <i>Phlox divaricata</i>         | Blue phlox   | Perennial |
| <i>Solidago species</i>         | Goldenrod  | Perennial |
| <i>Rudbeckia fulgida</i>        | Orange rudbeckia,<br>perennial black-eyed<br>Susan | Perennial |

|                                 |                 |              |
|---------------------------------|-----------------|--------------|
| <i>Andropogon gerardii</i>      | Big bluestem    | Native grass |
| <i>Chasmanthium latifolium</i>  | River oats      | Native grass |
| <i>Muhlenbergia capillaries</i> | Pink muhly      | Native grass |
| <i>Schizachyrium scoparium</i>  | Little bluestem | Native grass |
| <i>Sorghastrum nutans</i>       | Indian grass    | Native grass |

|                               |                   |      |
|-------------------------------|-------------------|------|
| <i>Gelsemium sempervirens</i> | Yellow jasmine    | Vine |
| <i>Lonicera sempervirens</i>  | Coral honeysuckle | Vine |

## Planting Plan Checklist

### Start the Tree & Vegetation Management Application Process

- Provide the Lake Bowen Warden's Office with a copy of the property deed and plat.
- Fill out the appropriate application and obtain the signatures of all those listed on the deed.

### Submit a Tree and Vegetation Application

- Provide a detailed written description of the proposed planting project and impacts on Spartanburg Water property.
- Develop a list of native, non-invasive species using the pre-approved native species planting list provided by Spartanburg Water. Factors to consider include the slope, moisture content of the soil, soil fertility and sun exposure (south facing slopes generally receive more sun than north facing slopes).
- Vary the native, noninvasive species to form diverse layers of vegetation within the buffer; no one species should compose more than 25 percent of the total planting list.
- Include the number and gallon size of each plant listed and the number, gallon size and caliper of each tree listed (trees should have a caliper at the base of at least 0.5 inches).
- Create a detailed drawing of the area, indicating the location of each proposed individual plant and/or tree. Use the following recommended spacing: 10-25 feet on-center for trees, 3-6 feet on-center for small-growing shrubs and 5-8 feet on center for large-growing shrubs.
- On the plan, intermix proposed trees and shrubs in a random pattern with herbaceous species being used to fill in the spaces between the trees and shrubs.
- Ensure that the drawings and application specify that mulches will be applied around the base of the plantings.
- Include photographs of the current site conditions.
- Submit the application and all supporting materials (including drawings) of the proposed planting plan to the Lake Blalock Warden's Office.

### Steps Following the Tree and Vegetation Application

- Flags will be provided to the applicant to mark the exact location and name of each plant species.
- A Spartanburg Water Warden will perform a site visit to reference locations and gather information for the Approval Committee.
- The Committee typically approves or denies the request within two (2) weeks and notifies the property owner. Please note that no planting may be conducted on Spartanburg Water property without an approved permit or written authorization.

## **APPENDIX D**

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### **Typical Walkway/Pathway Plan View**

## **APPENDIX E**

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### **Motorized Cart Access/Pathway Guidance**

## **Spartanburg Water System**

### **Appendix E – Motorized Cart Path Guidance**

In response to stakeholder feedback from residents around Lake Blalock, the Spartanburg Water System has outlined some general requirements for motorized cart paths that cross the Spartanburg Water System-owned buffer below the 720' contour as follows:

- Cart Paths must be permitted by Spartanburg Water System.
- As determined by SWS, those properties that have less than 150 feet fronting and abutting on the ponded water at normal pool elevation are limited to one access pathway (whether this is simply a pedestrian pathway or a pedestrian/cart pathway) through the buffer to a permitted structure (e.g. dock).
- As determined by SWS, those properties that have a minimum of 150 feet fronting and abutting on the ponded water at normal pool elevation are limited to two access pathway areas per adjacent parcel (final location of both access pathway areas must be coordinated and approved by SWS.) One of these pathways may be a cart/pedestrian pathway and one must be a pedestrian only pathway.
- Cart paths must be constructed in accordance with the pathway/walkway section requirements of the BMP.
- Cart paths may not exceed 5' in width.
- Access type (soft surface pathway, hard surface pathway, or a combination of hard and soft access) is determined by slope within the buffer. Sections of the buffer with a slope of 0-8% may utilize soft surface material at ground level. Sections of the buffer with a slope greater than 8% require installation of elevated hard surface pathways. A combination of soft surface material and hard surface material cart pathway types may be utilized for access through the buffer as approved by SWS on a case-by-case basis.
- Once approved/permitted and constructed, cart paths must be maintained by the permittee to the satisfaction of SWS.
- Carts may only be utilized within the SWS buffer on approved/permitted pathways, except as permitted on a case-by-case basis for approved buffer restoration, approved planting, permitted tree or vegetation removal, mulch placement as part of a permitted activity or other limited access activities specifically approved by SWS (see “Vehicular/Motorized Access” section of the BMP).

Approved by the BLPOA Advocacy Committee **02/13/07**

**APPENDIX F**

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**Irrigation Fee Schedule**

**Initial Application Fee:** The fee for new or currently unpermitted irrigation systems on the lake involves an initial application fee of \$115, which includes the first year’s permit fee.

**Annual Renewal Fee:** Irrigation systems currently permitted will be assessed only a \$40 annual renewal fee.

| <b>Initial Application Fee</b> | <b>Annual Renewal Fee</b> |
|--------------------------------|---------------------------|
| \$115.00                       | \$40.00                   |