Appendix B

Reclaimed Water Program Permits

North Carolina Department of Environment and Natural Resources
Division of Water Quality

Beverly Eaves Perdue
Governor

Coleen H. Sullins
Director

Dee Freeman
Secretary

April 21, 2011

Jamie Revels – Utilities Director
Town of Cary
P.O. Box 8005
Cary, North Carolina 27512

Subject: Permit No. WQ0017923
North Cary Water Reclamation Facility
North Cary Reclaimed Water Program
Wake County

Dear Mr. Revels:

In accordance with your minor permit modification request received September 22, 2010, and subsequent additional information received January 18, 2011 and February 28, 2011, we are forwarding herewith Permit No. WQ0017923 dated April 21, 2011, to the Town of Cary (Town) for the continued operation of the subject wastewater treatment, reclaimed water utilization and bulk distribution program.

The following modifications have been made to the subject permit:

- Approval of the Town's strategy for managing reclaimed water blowoff from the distribution system has been provided, and requirements for blowoff management have been incorporated into the permit. Please note that approval of the Town's reclaimed water blowoff management strategy applies only to the West Cary Reclaimed Service Area portion of the distribution system, which is to be temporarily served by the Durham County Triangle WWTP (WQ0032821). The Town's blowoff strategy and associated standard operating procedures (SOPs) shall be modified as necessary based on operational history and changes in operating conditions. Upon renewal of this permit, the blowoff strategy will be re-evaluated by the Division and shall be modified as necessary based on this evaluation.

- The permit format has been updated to be consistent with the current permit template.

Please note that approval for delegation of the local reclaimed water program was included in the Town's permit prior to implementation of 15A NCAC 02T .0915. Therefore, upon renewal of this permit, the Town shall submit the required documentation to verify compliance with 15A NCAC 02T .0915 and G.S. 143-215.1. If desired, the Town may submit such documentation prior to the permit renewal date.

AQUIFER PROTECTION SECTION
1636 Mail Service Center, Raleigh, North Carolina 27699-1636
Location: 2728 Capital Boulevard, Raleigh, North Carolina 27604
Phone: 919-733-3221 \ FAX 1: 919-715-0588; FAX 2: 919-715-6048 \ Customer Service: 1-877-623-6748
Internet: www.ncwaterquality.org

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On August 5, 2009, Session Law 2009-406, entitled "An Act to Extend Certain Government Approvals Affecting the Development of Real Property Within the State," was enacted by the General Assembly and signed into law. The Act, known as the Permit Extension Act of 2009, extends the expiration date of certain government approvals and permits. As part of the past legislative session (S.L. 2010-177), HB 683 - Permit Extensions extended the Act by another year. Non-discharge permit WQ0017923 is therefore being extended until **June 30, 2014**. Per your permit, a renewal application must still be submitted six months in advance of the extended expiration date. Please note that upon renewal of the permit, the Town's reclaimed water local program ordinance, inspection program, and education program will be evaluated to ensure compliance with current rules.

This permit shall be effective from the date of issuance until June 30, 2014, shall void Permit No. WQ0017923 issued January 31, 2008, and shall be subject to the conditions and limitations as specified therein. Please pay particular attention to the monitoring requirements listed in Attachment A. Failure to establish an adequate system for collecting and maintaining the required operational information shall result in future compliance problems.

Please pay special attention to the following permit conditions:

- Condition I.1. requires the Town to submit detailed maps showing the locations of all proposed blowoff assemblies within 90 days of permit issuance.
- Condition I.2. requires the Town to submit an evaluation of the need for chlorine booster stations within 18 months of commencing operation of the West Cary Reclaimed Service Area portion of the reclaimed water distribution system.
- Condition I.3. states that upon renewal of this permit, the Town's reclaimed water blowoff strategy will be re-evaluated by the Division and shall be modified as necessary based on this evaluation.
- Condition II.4. requires that all reclaimed water blowoff discharged from the distribution system to the ground surface shall be dechlorinated such that the total residual chlorine (TRC) concentration is less than or equal to 0.05 mg/l prior to entering any surface waters.
- Condition III.4. requires that the Operation and Maintenance Plan shall include a plan for monitoring reclaimed water quality within the distribution system at locations determined by the Permittee to be representative of the reclaimed water delivered to users.
- Condition III.10. contains operation and maintenance requirements for the bulk reclaimed water distribution program, including bulk loading for tanker trucks.
- Conditions IV.8., IV.9., IV.10. and IV.11. outline the monitoring and reporting requirements for blowoff activities associated with the reclaimed water distribution system.
- Section VI. – *Local Program Permitting Conditions* – has been added to bring the permit format up to date with the current template. Conditions regarding the local reclaimed water program that were contained in previous permit versions have been incorporated into this section.

- The approved Standard Procedure for Reclaimed Water System Blowoff Operation (submitted February 28, 2011) is attached to this permit.

- Attachment A contains effluent monitoring requirements. Monitoring parameters and frequencies have not been changed.

- Attachment B lists allowable uses for reclaimed water distributed via the bulk fill station(s).

If any parts, requirements or limitations contained in this permit are unacceptable, the Permittee has the right to request an adjudicatory hearing upon written request within 30 days following receipt of this permit. This request shall be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the Office of Administrative Hearings at 6714 Mail Service Center, Raleigh, NC 27699-6714. Unless such demands are made, this permit shall be final and binding.

If you need additional information concerning this matter, please contact Lori Montgomery at (919) 715-6187 or lori.montgomery@ncdenr.gov.

Sincerely,

Coleen H. Sullins

cc: Raleigh Regional Office, Aquifer Protection Section
Timothy D. Baldwin, PE – Greywood Engineering (210 Norham Drive, Cary, NC 27513)
Permit File WQ0017923
Notebook File WQ0017923

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NORTH CAROLINA

ENVIRONMENTAL MANAGEMENT COMMISSION

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

RALEIGH

RECLAIMED WATER PROGRAM PERMIT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations

PERMISSION IS HEREBY GRANTED TO

Town of Cary
Wake County

FOR THE

continued operation of a local reclaimed water permitting program in conformity with 15A NCAC 02T .0915, General Statute §143-215.1(f).

The local reclaimed water permitting program is limited to the following permitted facilities generating reclaimed water meeting the standards established in 15A NCAC 02T .0900, for the approved delegated activities listed in Condition VI.1.

Table 1 – Permitted Reclaimed Water Providers

NPDES Permit Number	Facility Name
NC0048879	North Cary Water Reclamation Facility
NC0065102	South Cary Water Reclamation Facility
NC0026051	Durham County Triangle WWTP [1]

1. The Durham County Triangle WWTP shall temporarily supply reclaimed water to the West Cary Reclaimed Service Area portion of the Town's reclaimed water distribution system.

Reclaimed Water Blowoff Operation: approval to implement the Standard Procedure for Reclaimed Water System Blowoff Operation (submitted February 28, 2011 - attached). This approval applies only to the West Cary Reclaimed Service Area portion of the Town's reclaimed water distribution system that is to be temporarily served by Durham County Triangle WWTP. Approved blowoff procedures shall be conducted in accordance with the requirements in this permit.

Bulk Fill Station: Bulk reclaimed water, following treatment and testing according to the water reclamation facility's existing NPDES permit and the conditions provided herein, may be manually distributed from the permanent fill station located near the southwestern border of the North Cary Water Reclamation Facility, between the residuals management facilities and the 1,000,000 gallon reclaimed water storage tank. Bulk reclaimed water may be distributed to approved trucks and drivers for the uses listed in Attachment B.

North Cary Water Reclamation Facility water generation equipment and distribution system (total capacity = 4.28 MGD): a continuous turbidity monitoring and recording device at the existing ultraviolet disinfection and cascade aeration structure; a diversion structure allowing manual and automatic diversion of reclaimed water from the existing outfall location to the reclaimed water treatment and storage facilities and continuous flow monitoring and recording; approximately 638 linear feet of 24-inch yard piping to convey reclaimed water from the diversion structure to the reclaimed water storage and distribution facilities; a disinfection system comprised of a 6,000-gallon hypochlorite storage tank, a 2,000-gallon hydropneumatic tank, duplex air compressors, and three metering pumps; a hypochlorite injection point to provide a target chlorine residual of 0.5 milligrams per liter in the storage tank; a 1,000,000-gallon covered, vented storage tank with an audible and visual high water alarm, overflow piping, and drain piping; approximately 170 linear feet of 12-inch yard piping conveying reclaimed water from the storage tank overflow and drain piping to an existing return line to the facility's head works; and all meters, valves, fittings, piping, instrumentation/control systems, electrical items and other related appurtenances required to make a complete and operational reclaimed water treatment and storage system. The reclaimed distribution facilities shall consist of the following components: a pumping station with two 150-horsepower vertical turbine pumps with variable frequency drives (i.e., 1,500 gallons per minute at primary capacity, 800 gallons per minute at intermediate capacity, and 400 gallons per minute at secondary capacity), two 300-horsepower vertical turbine pumps with variable frequency drives (i.e., 2,972 gallons per minute at primary capacity, 2,000 gallons per minute at intermediate capacity, and 1,000 gallons per minute at secondary capacity), audible and visual high-water alarms, and a surge valve vault; a hypochlorite injection point to provide a target chlorine residual of 1.0 milligrams per liter in the distribution system; a magnetic flow meter vault; approximately 31,810 linear feet of four-inch distribution piping; approximately 15,480 linear feet of six-inch distribution piping; approximately 13,150 linear feet of eight-inch distribution piping; approximately 14,261 linear feet of 12-inch distribution piping; approximately 10,621 linear feet of 16-inch distribution piping; approximately 2,400 linear feet of 20-inch distribution piping; and all metered services, isolation valves, air release valves, blow-off assemblies, fittings, piping, instrumentation/control systems, electrical items and other related appurtenances required to make a complete and operational reclaimed water distribution system; to serve residential, commercial, industrial, and institutional users located in the service area for the North Cary Reclaimed Water Program.

Weston Lakeside Apartments Extension: operation of a reclaimed water utilization system extension consisting of approximately 581 linear feet of 4-inch force main reclaimed water distribution pipe;

with no discharge of wastes to surface waters, pursuant to the application received September 22, 2010, and subsequent additional information received by the Division of Water Quality, and in conformity with the project plans, specifications, and other supporting data subsequently filed and approved by the Department of Environment and Natural Resources and considered a part of this permit.

This permit shall be effective from the date of issuance until June 30, 2014, shall void Permit No. WQ0017923 issued January 31, 2008 and shall be subject to the following specified conditions and limitations:

I. SCHEDULES

1. Within ninety (90) days following issuance of this permit, the Town of Cary shall submit detailed maps showing the locations of blowoff assemblies. At a minimum, these maps shall include:
   a) Exact blowoff locations;
   b) Blowoff assembly types;
   c) Proximity to surface waters;
   d) Name and classification of nearest surface water;
   e) Documentation of any special risks (SA Waters, Trout waters, ORW, endangered species, etc.);
   f) Documentation of 100 foot setback to any existing wells.

   The maps shall be submitted to: Division of Water Quality, Aquifer Protection Section, Land Application Unit, 1636 Mail Service Center, Raleigh, NC 27699-1636.

2. No later than eighteen (18) months following commencement of operation of the West Cary Reclaimed Service Area portion of the reclaimed water distribution system, the Town of Cary shall submit an evaluation of the need for chlorine booster stations within the distribution system. At a minimum, the evaluation shall include the number and locations of proposed booster stations and operating plans for proposed booster stations to minimize reclaimed water blowoff discharges to the greatest extent possible. This evaluation shall be submitted to: Division of Water Quality, Aquifer Protection Section, Land Application Unit, 1636 Mail Service Center, Raleigh, NC 27699-1636. If necessary, the Town shall request future modification of reclaimed water permit WQ0017923 in order to incorporate requirements for chlorine booster stations.

3. No later than six months prior to the expiration of this permit, the Permittee shall request renewal of this permit on official Division forms. Upon receipt of the request, the Division will review the adequacy of the facilities described therein, and if warranted, will renew the permit for such period of time and under such conditions and limitations as it may deem appropriate. Please note Rule 15A NCAC 02T .0105(d) requires an updated site map to be submitted with the permit renewal application. Upon renewal of this permit, the blowoff strategy will be re-evaluated by the Division and shall be modified as necessary based on this evaluation.

II. PERFORMANCE STANDARDS

1. The subject non-discharge facilities shall be effectively maintained and operated at all times so there is no discharge to surface waters, nor any contravention of groundwater or surface water standards. In the event the facilities fail to perform satisfactorily, including the creation of nuisance conditions due to improper operation and maintenance, or failure of the utilization areas to adequately assimilate the reclaimed water, the Permittee shall take immediate corrective actions including Division required actions, such as the construction of additional or replacement wastewater treatment facilities or cessasion of operation of the reclaimed water distribution and/or bulk distribution program(s).

2. This permit shall not relieve the Permittee of their responsibility for damages to groundwater or surface water resulting from the operation of the reclaimed water program and all associated facilities.

3. Effluent limitations for reclaimed water generated at the North Cary Water Reclamation facility and distributed through the Town's distribution system (PPI 001) or distributed through bulk fill operations (PPI 002) shall not exceed those specified in Attachment A.

4. All reclaimed water blowoff released from the distribution system to the ground surface shall be dechlorinated such that the total residual chlorine (TRC) concentration is less than or equal to 0.05 mg/l prior to entering any surface waters.

5. The conjunctive use of reclaimed water permitted herein in no way negates, precludes, or invalidates the most recent reissuance of the Permittee's NPDES permit (NC0048879) and the Permittee shall continue to comply with all conditions provided for therein.

6. The following shall be requirements for the reclaimed water distribution, storage and utilization facilities:

   a. All reclaimed water valves, storage facilities and outlets shall be tagged or labeled to warn the public or employees that reclaimed water is not intended for drinking. Where appropriate, such warning shall inform the public or employees to avoid contact with reclaimed water.

   b. All reclaimed water piping, valves, outlets and other appurtenances shall be color-coded, taped or otherwise marked to identify the source of the water as being reclaimed water.

      i. All reclaimed water piping and appurtenances shall be either colored purple (i.e., Pantone 522) and embossed or integrally stamped or marked "CAUTION: RECLAIMED WATER – DO NOT DRINK" or be installed with a purple (i.e., Pantone 522) identification tape or polyethylene vinyl wrap. The warning shall be stamped on opposite sides of the pipe and repeated every three feet or less.

      ii. Identification tape shall be at least three inches wide and have white or black lettering on purple (i.e., Pantone 522) field stating "CAUTION: RECLAIMED WATER – DO NOT DRINK." Identification tape shall be installed on top of reclaimed water pipelines, fastened at least every 10 feet to each pipe length and run continuously the entire length of the pipe.

      iii. Existing underground distribution systems retrofitted for the purpose of distributing reclaimed water shall be taped or otherwise identified as noted above. This identification need not extend the entire length of the distribution system, but shall be incorporated within 10 feet of crossing any potable water supply line or sanitary sewer line.

   c. All reclaimed water valves and outlets shall be of a type, or secured in a manner, that permits operation by authorized personnel only.

   d. Above-ground hose bibs (i.e., spigots or other hand-operated connections) shall not be present. Hose bibs shall be located in locked below-grade vaults that shall be clearly labeled non-potable. As an alternative to the use of locked below-grade vaults with standard hose bibs services, hose bibs, which can only be operated by a special tool or connected to a special hose connection, may be placed in non-lockable underground services boxes clearly labeled non-potable.

7. The Permittee shall maintain an active cross-connection control program that shall have the following minimum requirements:

   a. No direct cross-connections shall be allowed between the reclaimed water and potable water systems.

   b. Where both reclaimed water and potable water are supplied to a reclaimed water utilization site, a reduced pressure principle backflow preventer, an approved air gap separation or other Division of Environmental Health approved device shall be installed at the potable water service connection to the use area. The installation of the reduced pressure principle backflow prevention device shall allow proper testing.

   c. Where potable water is used to supplement a reclaimed water utilization system, the Permittee or potable water supplier shall approve and regularly inspect the air gap separation.

8. New reclaimed water distribution lines shall be located 10 feet horizontally from and 18 inches below any water line where practicable. Where these separation distances cannot be met, the piping and integrity testing procedures shall meet water main standards in accordance with 15A NCAC 18C.

9. New reclaimed water distribution lines shall not be less than 100 feet from a well unless the piping and integrity testing procedures meet water main standards in accordance with 15A NCAC 18C, but in no case shall they be less than 25 feet from a private well or 50 feet from a public well.

10. New reclaimed water distribution lines shall meet the separation distances to sewer lines in accordance with Rule .0305 of Subchapter 02T.

11. The facilities permitted herein shall be constructed according to the following setbacks:

    a. The setbacks for reclaimed utilization sites: (all distances in feet):

i. Surface waters not classified SA:	25
ii. Surface waters classified SA:	100
iii. Any well with exception to monitoring wells	100

III. OPERATION AND MAINTENANCE REQUIREMENTS

1. No reclaimed water other than that from the generating facilities listed in Table 1 of the permit description is approved for reclaimed water distribution under the conditions of this permit.

2. The facilities shall be properly maintained and operated at all times. The facilities shall be effectively maintained and operated as a non-discharge system to prevent the discharge of any wastewater resulting from the operation of this facility. The Permittee shall maintain an Operation and Maintenance Plan pursuant to 15A NCAC 02T .0913, which at a minimum shall include operational functions, maintenance schedules, safety measures and a spill response plan.

3. Upon the Water Pollution Control System Operators Certification Commission's (WPCSOCC) classification of the subject non-discharge facilities, in accordance with 15A NCAC 08G .0200 the Permittee shall designate and employ a certified operator in responsible charge (ORC) and one or more certified operator(s) as back-up ORC(s). The ORC or their back-up shall visit the facilities in accordance with 15A NCAC 08G .0200, and shall comply with all other conditions specified in the previously cited rules.

4. The Operation and Maintenance Plan shall include a plan for monitoring reclaimed water quality within the distribution system at locations determined by the Permittee to be representative of the reclaimed water delivered to users. At a minimum, monitoring shall include sampling for the following parameters: fecal coliform, pH, and total residual chlorine. Samples shall be taken from a minimum of five locations, or the number of locations equivalent to 25 percent of the service connections to the reclaimed water distribution system, whichever is fewer. In no case however, shall fewer than two locations be sampled for the purpose of complying with this condition.

5. Adequate measures shall be taken to prevent reclaimed water ponding in or runoff from the utilization sites served by the North Cary Reclaimed Water Program.

6. Utilization of reclaimed water for land application activities shall not be performed during inclement weather or when the ground is in a condition that will cause ponding or runoff.

7. Public access to the reclaimed water utilization sites shall be controlled during active site use. Such controls may include the posting of signs showing the activities being conducted at each site as well as distribution of educational materials. Public access to the wastewater treatment facilities shall be prohibited.

8. Diversion or bypassing of untreated or partially treated wastewater from the treatment facilities is prohibited, unless diverted to an alternate treatment or collection system.

9. All effluent shall be routed to the head works of the wastewater treatment plant or discharged in strict accordance with the facility's existing NPDES permit should the limit for fecal coliform (e.g., daily maximum concentration of 25 colonies per 100 ml) or turbidity (e.g., instantaneous maximum of 10 NTU) be exceeded, until the problems associated with the wastewater treatment plant have been corrected.

10. For use of the bulk fill operation the following requirements must be met:

    a. The Permittee shall develop and implement an operation and maintenance plan which includes but is not limited to the following

        i. Description of operation;
        ii. Description of anticipated maintenance;
        iii. Safety measures, including site restrictions;
        iv. Spill prevention and spill response plan;
        v. Contact information for plant personnel, emergency responders, and regulatory agencies;
        vi. Approval procedures of users;
        vii. Operational requirements for users; and
        viii. If reclaimed water is to be stored for greater than 72 hours prior to use, include a description of how compliance with reclaimed water quality standards will be ensured at the time of use.

    b. Use of reclaimed water for vehicle washing shall be conducted in a manner to ensure no surface runoff.

    c. The Permittee shall approve tank truck drivers for participation in the bulk reclaimed water distribution program prior to distribution of reclaimed water. In addition, the Permittee shall provide bilingual (English and Spanish) training to all tank truck drivers approved to participate in the bulk reclaimed water distribution program at a regular frequency. These sessions shall provide training on, but not limited to, the following topics:

        i. Reclaimed water description and safety;
        ii. Allowable and prohibited uses of reclaimed water;
        iii. Procedures for the application (including buffer maintenance), uses, and storage of reclaimed water as well as the disposal of unused reclaimed water;
        iv. Procedures for spill prevention, countermeasures, and control as well as notification requirements;
        v. Personal safety and hygiene issues; and
        vi. Interaction with the general public.

    d. Tank trucks used to transport reclaimed water shall meet the following requirements:
        i. Tank trucks and other equipment used to distribute reclaimed water shall be clearly identified with advisory signs. Signage may include but is not limited to "CAUTION: RECLAIMED WATER – DO NOT DRINK", "NON-POTABLE WATER", or a combination of similar phrases.
        ii. Tank trucks used to transport reclaimed water shall not be used to transport potable water that is used for drinking or other potable purposes.
        iii. Tank trucks used to transport reclaimed water shall not be filled through on-board piping or removable hoses that may subsequently be used to fill tanks with water from a potable water supply. Tank trucks owned and operated by the Permittee and dedicated to be filled by reclaimed water only may be filled through on-board piping.
        iv. Tank trucks shall not have been used to haul septage, biosolids, or other waste or chemical transport.
        v. Tank trucks shall not have any type of removable container or portable bladder except if the tank/bladder is permanently labeled for reclaimed water use only and a letter from the truck owner is submitted to the Permittee indicating that in no case shall any removable container or portable bladder be used for both reclaimed and potable water at any time.

IV. MONITORING AND REPORTING REQUIREMENTS

1. Any Division required monitoring (including groundwater, plant tissue, soil and surface water analyses) necessary to ensure groundwater and surface water protection shall be established, and an acceptable sampling reporting schedule shall be followed.

2. Per 15A NCAC 02H .0800, a Division certified laboratory shall conduct all laboratory analyses for the required effluent, groundwater or surface water parameters.

3. Flow distributed to the conjunctive reclaimed water system and through the bulk reclaimed water program shall be continuously monitored, and daily flow values shall be reported on Form NDMR.

   The Permittee shall install and maintain an appropriate flow measurement device to ensure the accuracy and reliability of flow measurement consistent with accepted engineering and scientific practices. Selected flow measnrement devices shall be capable of measuring flows with a maximum deviation of less than ten percent from true flow; accurately calibrated at a minimum of once per year; and maintained to ensure the accuracy of measurements is consistent with the selected device's accepted capability. The Permittee shall maintain records of flow measurement device calibration on file for a period of at least five years. At a minimum, documentation shall include:

   a. Date of flow measurement device calibration,
   b. Name of person performing calibration, and
   c. Percent from true flow.

4. The Permittee shall monitor the effluent from the subject facilities at the frequencies and locations for the parameters specified in Attachment A.

5. The Permittee shall maintain adequate records for the bulk reclaimed water program. These records shall include, but are not necessarily limited to, the following information:
   a. Date and time of bulk distribution event;
   b. Town-issued bulk fill certification number;
   c. Name of end customer;
   d. Intended use of the bulk reclaimed water (applicable to tank trucks ouly);
   e. Turbidity measurement result;
   f. Number of gallons provided at each bulk distribution event; and
   g. Total volume of bulk reclaimed water distributed each month.

6. A maintenance log shall be maintained at this facility. This log shall be maintained at the facility for a period of no less than five years, and shall be made available to the Division upon request. At a minimum, this log shall include:
   a. Date of calibration of flow measurement device;
   b. Visual observations of the plant and plant site; and
   c. Record of preventative maintenance.

7. Three copies of all effluent monitoring data (as specified in Attachment A – PPI 001) on Form NDMR for each PPI and three copies of all bulk utilization records (as specified in Attachment A – PPI 002) on Form NDAR-3 shall be submitted on or before the last day of the following month. If no activities occurred during the monitoring month, monitoring reports are still required documenting the absence of the activity. All information shall be submitted to the following address:

   Division of Water Quality
   Information Processing Unit
   1617 Mail Service Center
   Raleigh, North Carolina 27699-1617

8. The Permittee shall maintain monitoring records for each reclaimed water blowoff event where reclaimed water is discharged to the ground surface or to surface waters. The monitoring data shall be summarized and submitted to the Division on a monthly basis. At a minimum, the following data shall be collected:
   a. Date, time, duration, location number, and volume of maintenance discharge;
   b. Total Residual Chlorine (TRC) concentration:
      h. TRC shall be monitored with each use for short term blowoffs (20,000 gallons or less in one day);
      ii. TRC shall be monitored weekly for long term blowoffs;
   c. Indicate whether surface water discharge occurs;
   d. Name of receiving water (if surface water discharge occurs) or nearest water body (if **no** surface water discharge).

9. For all blowoff events that result in a discharge of reclaimed water to surface waters, the receiving water shall be inspected for scour (side erosion and/or stream erosive velocities) both prior to and following each discharge event. The Permittee shall submit reports of these inspections to the Division on a monthly basis.

10. Three copies of all distribution system blowoff monitoring data (as specified in Conditions IV.8. and IV.9.) shall be summarized and submitted to the Division on or before the last day of the following month. If no blowoff activities occurred during the monitoring month, monitoring reports are still required documenting the absence of the activity. All blowoff information shall be submitted to the following address:

    Division of Water Quality
    Aquifer Protection Section – Land Application Unit
    1636 Mail Service Center
    Raleigh, North Carolina 27699-1636

11. Nutrients discharged in reclaimed water blowoff will be assigned to the wastewater treatment plant that generates the reclaimed water. Durham County shall be responsible for tracking nutrient loading to surface waters from blowoff of reclaimed water from the West Cary Reclaimed Service Area portion of the distribution system via NPDES permit NC0026051. For this purpose, the Town of Cary shall report blowoff volumes to Durham County on a monthly basis.

12. **Noncompliance Notification:**

    The Permittee sball report by telephone to the Raleigh Regional Office, telephone number (919) 791-4200, as soon as possible, but in no case more than 24 hours, or on the next working day following the occurrence or first knowledge of the occurrence of any of the following:

    a. Any occurrence at the facility resulting in the treatment of significant amounts of wastes that is abnormal in quantity or characteristic, including the known passage of a hazardous substance.

    b. Any process unit failure (e.g., mechanical, electrical, etc.), due to known or unknown reasons, rendering the facility incapable of adequate wastewater treatment.

    c. Any facility failure resulting in a by-pass directly to receiving surface waters.

    d. Any time self-monitoring indicates the facility has gone out of compliance with its permit limitations.

    e. Any spill or runoff of reclaimed water from the North Cary Water Reclamation Facility or the approved bulk fill station.

Any emergency requiring immediate reporting (e.g., discharges to surface waters, imminent failure of a storage structure, etc.) outside normal business hours shall be reported to the Division's Emergency Response personnel at telephone number (800) 662-7956, (800) 858-0368, or (919) 733-3300. Persons reporting such occurrences by telephone shall also file a written report in letter form within five days following first knowledge of the occurrence. This report shall outline the actions taken or proposed to be taken to ensure the problem does not recur.

V. INSPECTIONS

1. The Permittee shall provide adequate inspection and maintenance to ensure proper operation of the North Cary Reclaimed Water Program and all associated facilities.

2. The Permittee or their designee shall inspect the wastewater treatment and utilization facilities to prevent malfunctions, facility deterioration and operator errors resulting in discharges, which may cause the release of wastes to the environment, a threat to human health or a public nuisance. The Permittee shall maintain an inspection log that includes, at a minimum, the date and time of inspection, observations made, and any maintenance, repairs, or corrective actions taken. The Permittee shall maintain this inspection log for a period of five years from the date of the inspection, and this log shall be made available to the Division upon request.

3. Any duly authorized Division representative may, upon presentation of credentials, enter and inspect any property, premises or place on or related to the wastewater treatment and utilization facilities permitted herein at any reasonable time for the purpose of determining compliance with this permit; may inspect or copy any records required to be maintained under the terms and conditions of this permit, and may collect groundwater, surface water or leachate samples.

4. In accordance with 15A NCAC 02T .0911(f) and to ensure compliance with the conditions of this permit, the Permittee shall inspect the utilization sites of all reclaimed water users who obtain more than 25,000 gallons of bulk reclaimed water in a single day or more than 100,000 gallons of bulk reclaimed water in a single week. Permittee inspection of these bulk distribution reclaimed water utilization sites does not need to exceed one inspection per quarter. The Permittee shall maintain records of these inspections for at least five years, and shall make them available to the Division upon request.

VI. LOCAL PROGRAM PERMITTING CONDITIONS

1. The local reclaimed water permitting program is approved for connecting existing and new residential, commercial, industrial and institutional users within the Town of Cary and areas under the contractual control of the Town of Cary, and bulk distribution of reclaimed water from the North Cary Water Reclamation Facility bulk fill station limited to approved uses as described in 15A NCAC 02T .0910 (see Attachment B).

2. The Permittee is expressly prohibited from self-approving construction of and modifications to wastewater treatment works, including pump stations, reclaimed water distribution systems, and treatment plant capacity adjustments. These actions shall be approved by the Division.

3. The Permittee shall have on staff or shall retain a licensed North Carolina Professional Engineer to review unusual situations or designs, and to answer questions that arise in the review of proposed projects. The Permittee shall also provide staff or retain a consultant to review all other non-engineering related program areas (i.e., soil science, agronomy, hydrogeology, etc.).

4. The Permittee shall implement an enforceable program under which the Permittee can take enforcement against users who have not properly installed, operated and maintained reclaimed water distribution and utilization systems as permitted, or otherwise violated the terms of the local ordinance pertaining to reclaimed water use.

5. The Permittee shall maintain adequate records pertaining to user violations, enforcement actions, and complaints for a minimum of five years. At a minimum, these records shall include:

   a. Date of violation, enforcement or complaint;
   b. Description of the violation or complaint;
   c. Estimated duration of the violation;
   d. Individual from the Division who was informed about the violations and/or complaint, (if applicable); and
   e. Corrective actions (if applicable).

6. The Permittee shall implement an educational program for both residential and non-residential users. The program shall provide information on the proper use of reclaimed water. This program shall address the importance of environmental and public health protection measures, and be directed towards reclaimed water users. Educational material shall be maintained consistent with the reclaimed water uses to be permitted. When reclaimed water is utilized on residential lawns, the Permittee shall ensure the resident receives information on the source of the reclaimed water and the precautionary measures necessary to use reclaimed water. Educational materials shall be provided to all new homeowners. Educational material shall be made available to the Division upon request.

7. The Town of Cary shall maintain a program of routine review and inspection of reclaimed water users.

8. The Permittee shall maintain an accurate and up-to-date comprehensive map of its reclaimed water distribution system. If a comprehensive map of the distribution system has not been established, a rough sketch shall be drawn. At a minimum, the comprehensive map shall include: pipe size; pipe material; pipe location; approximate pipe age; number of active service taps; and each pump station identification, location and capacity. The comprehensive map shall also include the location of all reclaimed water bulk fill stations and shall be updated as necessary.

9. The Permittee shall maintain records of all modifications and extensions to the reclaimed water distribution systems. The Permittee shall maintain a copy of the construction record drawings and specifications for modifications/extensions to the reclaimed water distribution system for the life of the modification/extension. Information concerning the extension shall be incorporated into the comprehensive reclaimed water distribution system map within one year of completion of construction.

10. The Permittee shall properly operate and maintain a reclaimed water permitting program meeting the requirements of 15A NCAC 02T .0915 and General Statute §143-215.1(f). Any future amendment to the requirements in 15A NCAC 02T .0915 shall be incorporated into the local reclaimed water permitting program within 60 days of the effective date of the amendments. At a minimum, the local reclaimed water permitting program shall meet the following:

    a. Require users to obtain a permit from the Permittee prior to construction and utilization of the reclaimed water utilization system;

    b. Require users to develop and implement an educational program targeted at individuals who may come in contact with reclaimed water. The program shall provide information on the proper use of reclaimed water. Educational material shall be maintained consistent with the permitted reclaimed water use. When reclaimed water is permitted for use on residential lawns, the property owner is not required to develop an educational program;

    c. At the Division's request, provide notice and a copy of each permit application, and provide copies of approved local permits and plans;

    d. Provides that plans and specifications for all construction, extensions, alterations and changes be prepared by or under the direct supervision of a North Carolina licensed Professional Engineer;

    e. Provides for the adequate administrative organization, engineering staff, financial and other resources necessary to effectively perform the local plan review program; and

f. Provides for the adequate arrangement for the continued operation, service and maintenance of the reclaimed water distribution and utilization system.

11. The Permittee shall establish by ordinance its legal authority to: require new reclaimed water distribution lines and utilization systems to be properly constructed and operated; ensure proper inspection and testing of reclaimed water distribution lines, service laterals, and utilization systems; and take enforcement action. At a minimum, the ordinance shall provide the following:

    a. Require users to obtain a permit from the local permitting entity prior to construction and utilization of the reclaimed water utilization system.

    b. Establish procedures for administrative review and judicial review of the local permit decision.

    c. Establish enforcement authority (civil, criminal, and injunctive) for failure to obtain the required permit, and violations of the local permit.

    d. Establish procedures for processing local permit applications compatible with those contained in 15A NCAC 02T .0107 – 15A NCAC 02T .0109.

    e. Establish procedures for setting local permit requirements compatible with those contained in 15A NCAC 02T .0900.

12. In accordance with 15A NCAC 02T .0915(d), the Permittee shall submit two copies of a quarterly report to the Division. At a minimum, the quarterly report shall include: a description of all permitting actions taken during the quarter; a list and description of all enforcement actions taken or pending during the quarter; bypasses from distribution lines; and a monitoring summary of the distribution system. The quarters shall begin on January 1, April 1, July 1, and October 1, and the report shall be submitted to the Division within 30 days after the end of each period.

13. In accordance with 15A NCAC 02T .0915(c), the Permittee shall submit two copies of an annual report on or before March 1st of each year. At a minimum, the annual report shall include a copy of all program documents such as minimum design criteria (i.e., specifications), permit applications, permit shells, shell certification forms and a summary of any other program changes (e.g., staffing, processing fees, and ordinance revisions).

VII. GENERAL CONDITIONS

1. Failure to comply with the conditions and limitations contained herein may subject the Permittee to an enforcement action by the Division in accordance with North Carolina General Statutes 143-215.6A to 143-215.6C.

2. This permit shall become voidable if the permitted facilities are not constructed in accordance with the conditions of this permit, the Division approved plans and specifications, and other supporting documentation.

3. This permit is effective only with respect to the nature and volume of wastes described in the permit application, Division approved plans and specifications, and other supporting documentation. No variances to applicable rules governing the construction or operation of the permitted facilities are granted, unless specifically requested and approved in this permit pursuant to 15A NCAC 02T .0105(n).

4. The issuance of this permit does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances, which may be imposed by other jurisdictional government agencies (e.g., local, state, and federal). Of particular concern to the Division are applicable river buffer rules in 15A NCAC 02B .0200; erosion and sedimentation control requirements in 15A NCAC Chapter 4 and under the Division's General Permit NCG010000; any requirements pertaining to wetlands under 15A NCAC 02B .0200 and 02H .0500; and documentation of compliance with Article 21 Part 6 of Chapter 143 of the General Statutes.

5. In the event the permitted facilities change ownership or the Permittee changes their name, a formal permit modification request shall be submitted to the Division. This request shall be made on official Division forms, and shall include appropriate property ownership documentation and other supporting documentation as necessary. The Permittee of record shall remain fully responsible for maintaining and operating the facilities permitted herein until a permit is issued to the new owner.

6. The Permittee shall retain a set of Division approved plans and specifications for the life of the facilities permitted herein.

7. The Permittee shall maintain this permit until all permitted facilities herein are properly closed or permitted under another permit issued by the appropriate permitting authority pursuant to 15A NCAC 02T .0105(j).

8. This permit is subject to revocation or unilateral modification upon 60 days notice from the Division Director, in whole or part for the requirements listed in 15A NCAC 02T .0110.

9. Unless the Division Director grants a variance, expansion of the permitted facilities contained herein shall not be granted if the Permittee exemplifies any of the criteria in 15A NCAC 02T .0120(b).

10. The Permittee shall pay the annual fee within 30 days after being billed by the Division. Failure to pay the annual fee accordingly shall be cause for the Division to revoke this permit pursuant to 15A NCAC 02T .0105(e)(3).

Permit issued this the 21st day of April, 2011

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

for Coleen H. Sullins, Director
Division of Water Quality
By Authority of the Environmental Management Commission

Permit Number WQ0017923

ATTACHMENT B – APPROVED BULK FILL RECLAIMED WATER USES

Certification Date – April 21, 2011

Permit Number: WQ0017923

Version: 2.4

Town of Cary – North Cary Water Reclamation Facility

APPROVED USES	ADDITIONAL REQUIREMENTS AND COMMENTS
For use by Permittee or permitee affiliations (i.e municipal employees, or contracted service providers).[a]	
Fire fighting and fire extinguishing	Must meet Public Water Supply requirements
Reclaimed water distribution line pressure testing	Provided the water is returned to the sanitary sewer, or used for other approved reclaimed water uses after testing.
Vehicle and equipment washing	Provided that no ponding or run-off of the reclaimed water occurs.
For use by certified bulk reclaimed water users. [a]	
Concrete cutting	
Decorative ponds and fountains that drain to sanitary sewer systems	
Hydro-seeding and fertilizer mixing	
Industrial and commercial cooling water or boiler blow down water	Provided that cooling water or boiler blow down water is disposed of according to any necessary disposal permit.
Industrial and commercial fire prevention systems where there are separate non-potable plumbing lines	
Irrigation of public and private landscapes and turf	
Make-up water for brine slurry or similar	Brine slurry to be applied to roads to prevent freezing.
Make-up water for preparation of pesticide solutions or similar	Use of reclaimed water does not exempt user from meeting the use and disposal requirements of the created solution.
Non-potable processes such as asphalt reclamation, concrete production and compost production	Must meet compost permit requirements.
Sewer cleaning	
Soil compaction and dust suppression	May including irrigation to clay or synthetic clay tennis courts, or similar.
Street sweeping (not street washing)	
Subsurface Directional Boring	Does not include borings into bedrock or installation of any wells subject to 15A NCAC 2C - Well Construction Regulations.
Vehicle washing and power washing	Provided that dual disinfection with UV and chlorination is provided, and that no ponding or run-off of the reclaimed water occurs.

[a] All users shall complete educational training and receive certification prior to receiving bulk reclaimed water from the permitted facilities listed in Table 1.

PPI 001 – Reclaimed Water Effluent to Distribution

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS								MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Monthly Average		Monthly Geometric Mean		Daily Minimum		Daily Maximum		Measurement Frequency	Sample Type
50050	Flow, in conduit or thru treatment plant									As Distributed	Recorder
80082	BOD, Carbonaceous 05 Day, 20C	10	mg/l					15	mg/l	Daily (5 X Week)	Composite
00530	Solids, Total Suspended	5	mg/l					10	mg/l	Daily (5 X Week)	Composite
31616	Coliform, Fecal MF, M-FC Broth,44.5C			14	#/100 ml			25	#/100 ml	Daily (5 X Week)	Composite
00610	Nitrogen, Ammonia Total (as N)	4	mg/l					6	mg/l	Daily (5 X Week)	Composite
00400	pH					6.0	s.u.	9.0	s.u.	Daily (5 X Week)	Grab
50060	Chlorine, Total Residual									Continuous	Recorder
00076	Turbidity, HCH Turbidimiter							10 [1]	NTU	Continuous	Recorder

1. Daily maximum for turbidity shall be the maximum daily reading of turbidity for days in which reclaimed water is distributed.

PPI 002 – RECLAIMED WATER BULK FILL STATION

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS								MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Monthly Average		Monthly Geometric Mean		Daily Minimum		Daily Maximum		Measurement Frequency	Sample Type
50050	Flow, in conduit or thru treatment plant									As distributed [1]	Recorder

1. Monthly average flow shall be calculated and reported based on total flow for the month divided by the number of days reclaimed water was distributed during the month.

PWUT Utility Systems Management Division STANDARD PROCEDURE Reclaimed Water System Blowoff Operation	Standard Procedure No. PWUT-XXX
	Effective: XXX
	Supersedes:
	Prepared by: Rick Jordan Title: Reclaimed Water Coordinator
	Approved by: Jamie Revels Title: Utilities Director

Purpose & Background:

The Town of Cary currently operates a reclaimed water distribution system which supplies reclaimed water to several hundred individual end users, mostly for irrigation purposes. Proper operation of the distribution systems requires the installation and use of blowoffs to: help maintain adequate chlorine residual; flush sediment, buildup, or reclaimed water not meeting quality requirements; and, to eliminate entrapped air pockets. While operation of blowoffs is a necessary function, it is the Town's intent to: maximize beneficial use of reclaimed water; minimize the volume of reclaimed water discharged to the wastewater collection system and blown-off to the ground surface; and, to protect surface water quality. This document establishes Standard Operating Procedures (SOP) and Best Management Practices (BMP) to achieve those goals.

Staff Training:

The Town of Cary's Public Works and Utilities department will provide internal training covering the use, handling, regulations, and emergency procedures for working with reclaimed water, and will be made aware of this SOP. The departments included in this training will include, but not be limited to PWUT Operations Division, Water Quality, and Utilities Systems Management.

Blowoff Types:

- There are four blowoff design types currently approved by the Town of Cary for installation in the reclaimed water system. Details and requirements for each type are maintained in the Town of Cary Standard Specifications and Details, however, a brief description for each is provided below. Note that "Type 1", "Type 2", and "Type 3" blowoffs can be located individually, or in any combination at one location (each with their own control valve and flow meter). Every blowoff location should have a "Type 1" blowoff.
- "Type 1" is a 2-inch blowoff with a threaded coupling end located underground in a valve box.
- "Type 2" is a 2-inch blowoff with a diffuser device discharging to the ground surface, and a dechlorinating system located in an underground vault.

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- "Type 3" is a 2-inch blowoff piped directly to a wastewater collection system manhole for discharge.
- "Type Pre-2010" is a 2-inch blowoff with a direct underground connection to a wastewater collection system manhole. This type does not have a flow meter.

Blowoff Operational Procedures:

The stated intent is to minimize the amount of reclaimed water being flushed from the system. Of the reclaimed water that needs to be flushed, the Town intends to do that in a way that maximizes the beneficial use of flushed reclaimed water and also protects surface water standards. The following procedures, in coordination with the Reclaimed Water System Total Chlorine Residual Maintenance SOP (PWUT-XXX), are established to accomplish those intents:

- The specific location of the blowoff device to be operated should be determined through discussion with the Reclaimed Water Coordinator and referencing the Reclaimed Water System Total Chlorine Residual Maintenance SOP (PWUT-XXX) and the reclaimed water distribution system map. The following factors will be considered in the decision to discharge to sanitary sewer or to the ground surface:
    - Reason for blowoff.
    - Known unusual chemical composition of the blowoff water (high chlorine level, probability of biological contamination, high nutrient concentration, etc.).
    - Estimated duration/quantity of blowoff.
    - Visual observation of the condition and quality of the ground surface, possible travel path, and surface water body that the blowoff water may reach.
    - Weather and possible capacity issues in wastewater collection and treatment system.
- When reclaimed water needs to be blown from the system the Town will evaluate the feasibility of beneficial use of that water, based on factors such as need, economics, and logistics. The beneficial uses allowed are the same as those permitted through the Town's bulk-use permit (filling of truck tanks for watering of plants, street sweeping, dust control, jetting sewer lines, etc.). Only Town vehicles can participate in this blowoff program (vs. the bulk-use program), and only Town staff can operate the blowoffs. When feasible, the Town staff will connect a flexible hose to the remote "Type 1" blowoff connection and fill the respective vehicle's tank with reclaimed water that would otherwise be flushed.
- "Short-Term / One-Time" blowoffs (as described in PWUT-XXX) can be performed at any blowoff type (Type 1, Type 2, Type 3, or Type Pre-2010). If a beneficial use of that water is feasible, follow the procedures described above. Operation of a Type 2, Type 3, or Type Pre-2010 consists of operating the valve and following the Observation and Record Keeping Procedures below. To operate a Type 1 blowoff, Town staff shall connect a temporary standpipe or flexible hose with diffuser to the

threaded coupling and direct the discharge with as low velocity and onto as large an area of permeable ground surface as possible. The Dechlorination Procedures described below must be followed.

- "Long-Term" blowoffs (as described in PWUT-XXX) can be performed only at Type 2, Type 3, or Type Pre-2010 blowoffs, unless otherwise directed by the Utilities Director. Operation of these blowoff types consists of operating the valve and following the Observation and Record Keeping Procedures below. The Dechlorination Procedures described below must be followed.

Dechlorination Procedures:

- If blowoff discharge will not be applied to the ground surface, no dechlorination is needed. This includes:
    - Blowoff discharge to a sanitary sewer system unless specifically required by the receiving wastewater treatment facility (Type 3 or Type Pre-2010 blowoff device)
    - Blowoff discharge into a tank or vehicle to be used for beneficial purposes
- If blowoff discharge will be applied to the ground surface, dechlorination procedures should be followed, and the dechlorination procedure to be used will depend on the length of time the discharge is expected to occur and the type of blowoff connection installed at that location. The goal of the dechlorination will be to meet the requirements of the current DWQ "Guidance for Reclaimed Water System Maintenance Discharges". The draft version of that document dated June 11, 2010 requires that the discharge to surface waters be dechlorinated such that the total residual chlorine (TRC) is less than or equal to 0.05 mg/L. If dechlorination procedures are not capable of meeting that limit (or other limit if Guidance is updated) at any time during a blowoff event, the blowoff operation will be discontinued and either the dechlorination procedures will be modified to achieve the limit, or alternative blowoff arrangements will be analyzed (switching to blowoff to sanitary sewer or tank if possible).

Observation and Record Keeping Procedures:

Visual observations and data collection shall be performed and recorded during every site visit to a blowoff activity. The approved reporting form lists the observations and information that are required. The reclaimed water system blowoff database shall be maintained by the Reclaimed Water Coordinator. Information shall be recorded and submitted to Durham County and DWQ as required.

Operational Procedure Modifications:

One of the most common reasons for operation of blowoffs on the reclaimed water distribution system is to maintain an adequate total-chlorine residual, which is a very difficult task on such a complicated, dynamic system. This SOP should cover most

operating conditions, however, there will most likely be occasional unusual circumstances in which alternative procedures may need to be implemented. These temporary alternative procedures can be approved on a case-by-case basis by the Utilities Director or their designated staff member. If permanent modifications to this SOP/BMP are necessary due to changes in technology or practice, or to better fit certain future applications, conditions, or regulations, then a formal process of revision with approval by the Utilities Director shall take place. At a minimum, this SOP/BMP should be reviewed for possible modifications every five years or whenever the Town of Cary Reclaimed Water System permit is renewed or modified, or the rules governing reclaimed water are modified.

Contingency and Emergency Response:

In the event of a blowoff malfunction or break, or any other malfunction or deviation from normal operations, the following procedures shall be followed:

- Identify the problem and appropriately stop the flow of reclaimed water. This would likely involve shutting down the shut-off valve located on the blowoff line, or the nearest mainline valve, or if necessary, the entire reclaimed water system.
- Notify the Reclaimed Water Coordinator at:

  Office: 919-460-4939

  Mobile: 919-621-7989
- Follow appropriate containment, mitigation, notification, and remedy procedures found in the PWUT "Reclaimed Water Emergency Response Procedure".

Reference Documents and Related Documents:

- Town of Cary Standard Specifications and Details (Section 06500)
- Town of Cary Reclaimed Water System Master Plan
- Town of Cary Reclaimed Water System Permits (WQ0017923 and WQ0018489 dated July 18, 2005)
- Town of Cary Standard Operating Procedure PWUT-XXX: Reclaimed Water System Total Chlorine Residual Maintenance
- Town of Cary Policy Statement 132 – Effective Utilization of Reclaimed Water System
- Town of Cary Ordinance Sections 36-203 to 36-220 (Establishes the Town of Cary's intent to establish a reclaimed water system)
- Town of Cary Ordinance Section 36-37 (States a permit is required for construction, operation, or alteration of the reclaimed water system)
- Town of Cary Ordinance Section 36-83 (prohibits wasting of water by irrigating on impervious surfaces, over-irrigating landscaped areas, not repairing leaks and breaks, etc.)

- Reclaimed Water Emergency Response Procedure
- Town of Cary Land Development Ordinance
- NCDENR Regulations (link to the NCDENR Land Application Unit reclaimed water permitting program: http://h2o.enr.state.nc.us/lau/reclaimed.html)
- NCDENR approval letter of chlorine residual/blowoff operation program (forthcoming)

North Carolina Department of Environment and Natural Resources
Division of Water Quality

Beverly Eaves Perdue
Governor

Coleen H. Sullins
Director

Dee Freeman
Secretary

August 26, 2011

Jamie E. Revels, PE – Public Utilities Director
Town of Cary
P.O. Box 8005
Cary, NC 27512

Subject: Permit No. WQ0018489
South Cary Water Reclamation Facility
Conjunctive Reclaimed Water
Utilization Program
Wake County

Dear Mr. Revels:

In accordance with your minor modification request received July 6, 2011, and subsequent additional information received August 5, 2011, we are forwarding herewith Permit No. WQ0018489 dated August 26, 2011, to the Town of Cary for the construction and continued operation of the subject wastewater treatment and conjunctive reclaimed water utilization facilities.

Modifications to the subject permit are as follows:

- The permit description has been revised to include the new 500,000-gallon reclaimed water storage tank, reflect the relocation of the existing reclaimed water pump station, modification of plant water pumps (currently not in service), and addition of a sodium hypochlorite feed pump.
- The permit has been reformatted to be consistent with the most current reclaimed water permit template.
- Rule references have been updated pursuant to the new 15A NCAC 02U rules which became effective on June 18, 2011.
- Reclaimed water monitoring requirements and limits are now located in Attachment A.
- Allowable uses for bulk reclaimed water are now listed in Attachment B.

AQUIFER PROTECTION SECTION
1636 Mail Service Center, Raleigh, North Carolina 27699-1636
Location: 2728 Capital Boulevard, Raleigh, North Carolina 27604
Phone: 919-733-3221 \ FAX 1: 919-715-0588; FAX 2: 919-715-6048 \ Customer Service: 1-877-623-6748
Internet: www.ncwaterquality.org

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Please note that on August 5, 2009, Session Law 2009-406, entitled "An Act to Extend Certain Government Approvals Affecting the Development of Real Property Within the State," was enacted by the General Assembly and signed into law. The Act, known as the Permit Extension Act of 2009, extends the expiration date of certain government approvals and permits. As part of the 2010 legislative session, (S.L. 2010-177) HB 683 - Permit Extensions extended the Act by another year. Non-discharge permit WQ0018489 has therefore been extended until **June 30, 2014**. Per your permit, a renewal application must still be submitted six months in advance of the extended expiration date.

This permit shall be effective from the date of issuance until June 30, 2014, shall void Permit No. WQ0018489 issued January 31, 2008, and shall be subject to the conditions and limitations as specified therein. Please pay particular attention to the monitoring requirements listed in Attachments A and B. Failure to establish an adequate system for collecting and maintaining the required operational information shall result in future compliance problems.

Please pay special attention to the following items which have changed since the previous permit issuance:

- Condition I.1.- requires a completed engineering certification to be submitted prior to operation of the new 500,000-gallon reclaimed water storage tank.

- Condition II.8. – the cross connection control requirement has been revised to be consistent with Session Law 2011-218 (House Bill 388).

- Condition III.1. – states that the Permittee shall maintain an Operation and Maintenance Plan pursuant to 15A NCAC 02U .0801.

- Condition III.2. – requires that the Operation and Maintenance Plan include a plan for monitoring reclaimed water quality within the distribution system at locations determined by the Permittee to be representative of the reclaimed water delivered to users. Please note that the distribution system monitoring results **do not** need to be reported on form NDMR. Records of these monitoring results shall be kept by the Permittee and made available to the Division upon request.

- Attachment A – PPI 001 contains reporting requirements for reclaimed water utilized via the distribution system. PPI 002 requires reporting of flows distributed through bulk fill activities. Please note that one NDMR form should be submitted for PPI 001 and one NDMR form should be submitted for PPI 002. For your convenience an electronic copy of your facility's NDMR forms will be available for download at the following web address: http://portal.ncdenr.org/web/wq/aps/lau/reporting.

- Attachment B – contains allowable uses and requirements for bulk distribution of reclaimed water.

If any parts, requirements or limitations contained in this permit are unacceptable, the Permittee has the right to request an adjudicatory hearing upon written request within 30 days following receipt of this permit. This request shall be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the Office of Administrative Hearings at 6714 Mail Service Center, Raleigh, NC 27699-6714. Unless such demands are made, this permit shall be final and binding. One set of approved plans and specifications is being forwarded to you. If you need additional information concerning this matter, please contact Lori Montgomery at (919) 715-6187 or Lori.Montgomery@ncdenr.gov.

Sincerely,

for Coleen H. Sullins

cc: Wake County Health Department
Raleigh Regional Office, Aquifer Protection Section
Dan Williams – Jacobs (111 Corning Road, Suite 200, Cary, NC 27518)
Permit File WQ0018489
Notebook File WQ0018489

NORTH CAROLINA

ENVIRONMENTAL MANAGEMENT COMMISSION

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

RALEIGH

CONJUNCTIVE RECLAIMED WATER UTILIZATION SYSTEM PERMIT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations

PERMISSION IS HEREBY GRANTED TO

Town of Cary
Wake County

FOR THE

construction and operation of: construction of a new 500,000-gallon reclaimed water storage tank with an internal mixer; relocation of the existing two (2) 475 gallon per minute (GPM) reclaimed water pumps; modification of the two (2) existing 150 GPM plant water pumps that will be used to fill the new storage tank; and addition of one (1) sodium hypochlorite feed pump;

continued operation of: a 300,000 gallon per day (GPD) bulk reclaimed water distribution program and all associated facilities at the South Cary Water Reclamation Facility (NPDES Permit No. NC0065102). Bulk reclaimed water, following treatment and testing according to the water reclamation facility's existing NPDES permit and the conditions provided herein, may be manually distributed from a two-inch hose connected to a quick-connect coupling and gate valve tapped onto an existing four-inch non-potable water line that serves the water reclamation facility. All reclaimed water distributed must be measured and recorded by a flow-metering device. Bulk reclaimed water may only be distributed to approved trucks and drivers for the uses specified in Attachment B.

Reclaimed water, following treatment and testing according to the most recent issuance of the South Cary Water Reclamation Facility's NPDES permit and compliance with the conditions provided herein, may be diverted to the permitted reclaimed water treatment and distribution facilities for the purpose of supplying a reclaimed water demand not to exceed 864,000 gallons per peak day to residential, commercial, industrial, and institutional users (i.e., including Middle Creek Park and Middle Creek High School).

The reclaimed water treatment and distribution facilities associated with the South Cary Water Reclamation Facility shall consist of the following minimum components: two (2) continuous turbidity monitoring and recording devices with audible and visual alarms and automatic shut-off controls at the existing ultraviolet disinfection and effluent structure; two (2) 600 gallon per minute (GPM) vertical turbine constant speed pumps with a low water level alarm and automatic shut-off control; a treatment system consisting of a 1,000 gallon fiberglass reinforced plastic hypochlorite storage tank, two (2) five GPM metering pumps, two (2) 12 GPM booster pumps, and an in-line hypochlorite static mixer; a 8,000 gallon hydropneumatic tank with a water level control system and air compressor; a magnetic flow meter; a pressure gauge; a chlorine residual analyzer; and all associated piping, valves, and appurtenances required to make a complete and operational reclaimed water treatment and distribution facility;

to serve residential, commercial, industrial, and institutional users in the service area for the South Cary Reclaimed Water Program, with no discharge of wastes to surface waters, pursuant to the application received July 6, 2011, and subsequent additional information received by the Division of Water Quality, and in conformity with the project plans, specifications, and other supporting data subsequently filed and approved by the Department of Environment and Natural Resources and considered a part of this permit. This permit shall be effective from the date of issuance until June 30, 2014, shall void Permit No. WQ00018489 issued January 31, 2008 and shall be subject to the following specified conditions and limitations:

I. SCHEDULES

1. In accordance with 15A NCAC 02T .0116, upon completion of construction and prior to operation of the newly constructed 500,000-gallon reclaimed water storage tank, a certification (attached) shall be submitted from a licensed North Carolina Professional Engineer certifying that the new equipment has been installed in accordance with this permit, Division approved plans and specifications, and other supporting documentation. If this project is to be completed in phases and partially certified, the Permittee shall retain the responsibility to track further construction approved under the same permit, and shall provide a final certificate of completion once the entire project has been completed. Mail the Certification to the Division of Water Quality, Aquifer Protection Section, 1636 Mail Service Center, Raleigh, NC 27699-1636.

2. The Raleigh Regional Office, telephone number (919) 791-4200, shall be notified at least 48 hours in advance (excluding weekends and holidays) of operation of the newly installed reclaimed water storage tank such that an in-place inspection can be made. Notification to the Aquifer Protection Section's regional supervisor shall be made from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding State Holidays.

3. No later than six months prior to the expiration of this permit, the Permittee shall request renewal of this permit on official Division forms. Upon receipt of the request, the Division will review the adequacy of the facilities described therein, and if warranted, will renew the permit for such period of time and under such conditions and limitations as it may deem appropriate. Please note Rule 15A NCAC 02T .0105(d) requires an updated site map to be submitted with the permit renewal application.

II. PERFORMANCE STANDARDS

1. The subject reclaimed water facilities shall be effectively maintained and operated at all times so there is no discharge to surface waters, nor any contravention of groundwater or surface water standards. In the event the facilities fail to perform satisfactorily, including the creation of nuisance conditions due to improper operation and maintenance, or failure of the utilization areas to adequately assimilate the reclaimed water, the Permittee shall take immediate corrective actions including Division required actions, such as the construction of additional or replacement wastewater treatment facilities or cessation of reclaimed water distribution activities.

2. This permit shall not relieve the Permittee of their responsibility for damages to groundwater or surface water resulting from the operation of this facility.

3. The Permittee shall maintain a Spill Prevention, Countermeasures, and Control Plan for the water reclamation facility, as well as for the bulk reclaimed water distribution program.

4. Effluent limitations shall not exceed those specified in Attachment A.

5. Application rates, whether hydraulic, nutrient or other pollutant, shall not exceed those specified in Attachment B.

6. The conjunctive use of reclaimed water permitted herein in no way negates, precludes, or invalidates the most recent reissuance of the Permittee's NPDES permit (NC0065102), and the Permittee shall continue to comply with all conditions provided for therein.

7. The following shall be requirements for the reclaimed water distribution, storage and utilization facilities:

   a. All reclaimed water valves, storage facilities and outlets shall be tagged or labeled to warn the public or employees that reclaimed water is not intended for drinking. Where appropriate, such warning shall inform the public or employees to avoid contact with reclaimed water.

   b. All reclaimed water piping, valves, outlets and other appurtenances shall be color-coded, taped or otherwise marked to identify the source of the water as being reclaimed water.

      i. All reclaimed water piping and appurtenances shall be either colored purple (i.e., Pantone 522) and embossed or integrally stamped or marked "CAUTION: RECLAIMED WATER – DO NOT DRINK" or be installed with a purple (i.e., Pantone 522) identification tape or polyethylene vinyl wrap. The warning shall be stamped on opposite sides of the pipe and repeated every three feet or less.

      ii. Identification tape shall be at least three inches wide and have white or black lettering on purple (i.e., Pantone 522) field stating "CAUTION: RECLAIMED WATER – DO NOT DRINK." Identification tape shall be installed on top of reclaimed water pipelines, fastened at least every 10 feet to each pipe length and run continuously the entire length of the pipe.

   c. All reclaimed water valves and outlets shall be of a type, or secured in a manner, that permits operation by authorized personnel only.

   d. Above-ground hose bibs (i.e., spigots or other hand-operated connections) shall not be present. Hose bibs shall be located in locked below-grade vaults that shall be clearly labeled non-potable. As an alternative to the use of locked below-grade vaults with standard hose bibs services, hose bibs, which can only be operated by a special tool or connected to a special hose connection, may be placed in non-lockable underground services boxes clearly labeled non-potable.

8. No direct cross-connections shall be allowed between the reclaimed water and potable water systems, unless such connection has been approved by the Department pursuant to 15A NCAC 18C .0406.

9. The compliance and review boundaries are established at the property boundary for any utilization area within the South Cary Reclaimed Water Program an all associated facilities.

10. The facilities permitted herein shall be constructed according to the following setbacks:

    a. The setbacks for reclaimed utilization sites within the South Cary Reclaimed Water Program (sites permitted prior to September 1, 2006) shall be as follows (all distances in feet):

       i. Surface waters not classified SA: 25

       ii. Surface waters classified SA: 100

       iii. Any well with exception to monitoring wells: 100

    b. The setbacks for reclaimed utilization sites within the South Cary Reclaimed Water Program (sites permitted after to September 1, 2006) shall be as follows (all distances in feet)::

       i. Surface waters not classified SA: 25

       ii. Surface waters classified SA: 100

       iii. Water supply wells: 100

       iv. Non-potable wells: 10

III. OPERATION AND MAINTENANCE REQUIREMENTS

1. The facilities shall be properly maintained and operated at all times. The facilities shall be effectively maintained and operated as a non-discharge system to prevent the discharge of any wastewater resulting from the operation of this facility. The Permittee shall maintain an Operation and Maintenance Plan pursuant to 15A NCAC 02U .0801, which at a minimum shall include operational functions, maintenance schedules, safety measures and a spill response plan.

2. The Operation and Maintenance Plan shall include a plan for monitoring reclaimed water quality within the distribution system at locations determined by the Permittee to be representative of the reclaimed water delivered to users. At a minimum, monitoring shall include sampling for the following parameters: fecal coliform, pH, and total residual chlorine. Samples shall be taken from a minimum of five locations, or the number of locations equivalent to 25 percent of the service connections to the reclaimed water distribution system, whichever is fewer. In no case however, shall fewer than two locations be sampled for the purpose of complying with this condition. Should the quality of the reclaimed water sampled within the distribution system deviate substantially from the allowable limits listed in Attachment A, the Permittee shall investigate the cause of the deviate and take any necessary steps to correct the issue. Records of distribution system monitoring shall be kept by the Permittee for a minimum of five years and shall be made available to the Division upon request.

3. Upon the Water Pollution Control System Operators Certification Commission's (WPCSOCC) classification of the subject non-discharge facilities, in accordance with 15A NCAC 08G .0200 the Permittee shall designate and employ a certified operator in responsible charge (ORC) and one or more certified operator(s) as back-up ORC(s). The ORC or their back-up shall visit the facilities in accordance with 15A NCAC 08G .0200, and shall comply with all other conditions specified in the previously cited rules.

4. Adequate measures shall be taken to prevent reclaimed water ponding in or runoff from the utilization sites.

5. Land-based utilization shall not be performed during inclement weather or when the ground is in a condition that will cause ponding or runoff.

6. Only reclaimed water from the South Cary Water Reclamation Facility (NPDES No. NC0065102) shall be distributed through the South Cary Reclaimed Water Program and associated facilities.

7. Public access to the reclaimed water treatment, storage, and distribution facilities associated with the South Cary Reclaimed Water Program as well as contact with reclaimed water shall be controlled during reclaimed water use. Such controls may include fencing as well as various educational materials/programming. Signage located at the public restroom building at 161 Middle Creek Park Avenue indicating use of reclaimed water for toilet flushing must be provided.

8. The Permittee shall ensure that sufficient, permanent notification is posted in all use areas connected to the South Cary Reclaimed Water Program and all associated facilities that intend to use the reclaimed water for industrial purposes such as process or cooling water, aesthetic purposes such as decorative ponds or fountains, dust control, soil compaction for construction purposes, and street sweeping. The notification shall be designed to inform employees and the public of the use of reclaimed water in the use area and that the reclaimed water is not intended for drinking.

9. Diversion or bypassing of untreated or partially treated wastewater from the treatment facilities is prohibited.

10. All effluent shall either be routed to the headworks of the reclaimed water facility or discharged in accordance with the conditions of the facility's existing NPDES permit should the limit for fecal coliform (e.g., daily maximum concentration of 25 colonies per 100 mL) or turbidity (e.g., instantaneous maximum of 10 NTU) be exceeded, until the problems associated with the wastewater treatment plant have been corrected.

11. All reclaimed water distributed through the South Cary Bulk Reclaimed Water Program and all associated facilities, but not used within a period not to exceed 72 hours from the time of delivery (i.e., not including time spent in storage at the South Cary Reclaimed Water Facility or in the reclaimed water distribution system), shall be reintroduced at the headworks of the reclaimed water facility for treatment or otherwise disposed in a manner that is approved by the Division.

12. The bulk reclaimed water distribution main isolation/operating valve shall be located in a below-grade vault that shall be labeled as being of non-potable quality. The facilities shall be accessible and operated by authorized personnel only.

13. The following uses of reclaimed water distributed through the South Cary Reclaimed Water Program and all associated facilities shall be strictly forbidden by the Permittee:

    a. Filling of swimming pools, hot tubs, or similar uses;
    b. Use as a raw potable water supply;
    c. Any use that would result in runoff of reclaimed water from the location of application or point of use.

    The following uses of reclaimed water distributed through the South Cary Reclaimed Water Program and all associated facilities except the bulk fill station shall be:

    a. Sewer line flushing;
    b. Street sweeping;
    c. Process and cooling water uses;
    d. Aesthetic uses such as fountains and decorative ponds;
    e. Landscape irrigation and watering,
    f. Construction uses such as soil compaction, dust control, and asphalt reclamation; and
    g. Any use that would not result in measurable runoff of reclaimed water from the location of application or point of use (e.g., make-up water for concrete, cleaning paint brushes, sponge washing of vehicles, etc.),
    h. Toilet flushing at the public restroom building at 161 Middle Creek Park Avenue (additional toilet flushing applications must be approved by the Division prior to connection).

    In the event there is a desire for the permitting of additional uses, a formal permit modification request must be submitted to the Division accompanied by an application fee and other supporting materials as may be appropriate. The approval of this request shall be considered on its merits and may or may not be approved.

14. The Permittee shall be approved to connect existing and new residential, commercial, industrial, and institutional users to the South Cary Reclaimed Water Program and all associated facilities without prior application and receipt of a permit modification from the Division. Note, however, that this approval shall not extend to self-permitting of extensions to the reclaimed water distribution system. As part of this approval, the Permittee shall be responsible for developing, implementing, and maintaining the following minimum programs for ensuring the effective management of the local approval program as well as its compliance with the conditions of this permit:

    a. An application program that would require each proposed user to gain prior approval from the Permittee to connect to the reclaimed water distribution system or modify their existing reclaimed water use. During the application review, the Permittee shall be responsible for completing the following minimum tasks: reviewing the proposed reclaimed water use, approving the design of any permanent reclaimed water distribution system within the reclaimed water use area, ensuring that cross-connection control issues and compliance with all applicable local ordinances are addressed within the reclaimed water use area, as well as consulting with the user regarding allowable reclaimed water loading rates and volumes. This application process shall also be initiated any time that a property transfers to a new proposed user (e.g., sale of a house, etc.).

    b. A connection inspection program that would require the Permittee to perform an on-site assessment of the proposed user's reclaimed water use area. During the connection inspection, the Permittee shall be responsible for completing the following minimum tasks: ensuring that no cross connections between the reclaimed water system and potable water system exist and that the appropriate cross-connection control devices have been installed within the reclaimed water use area and are functioning properly; verifying that any permanent reclaimed water distribution system within the reclaimed water use area will not result in overspray, over application, or runoff from the location of application or point of use; determining that adequate notification is provided to employees and the public regarding reclaimed water uses that are industrial in nature; as well as disseminating educational material regarding use of the reclaimed water system and compliance with all applicable local ordinances.

    c. A follow-up inspection program that would require an on-site assessment of each residential, commercial, industrial, and institutional user connected to the reclaimed water distribution system once per permit cycle. The minimum tasks associated with the follow-up inspection shall be the same as that associated with the connection inspection.

    d. A compliance and enforcement program that would require the Permittee to ensure compliance with the conditions of this permit as well as all applicable local ordinances. The program shall include a component to address non-compliance with respect to the use of the reclaimed water system by each type of user (i.e., residential, commercial, industrial, and institutional).

    e. A spill prevention, control, and notification program that would require the Permittee to comply with other conditions contained in this permit.

15. The Permittee shall develop, implement, and maintain an on-going, comprehensive educational program regarding the South Cary Reclaimed Water Program and all associated facilities. This program shall be designed to be multi-faceted in that several audiences that may use, come into contact with, or install systems associated with reclaimed water shall be specifically targeted. Target audiences shall include, but shall not be limited to, the following:

    a. Permittee's staff (i.e., especially inspection staff);
    b. Residential, commercial, industrial, and institutional users;
    c. Landscaping and lawn care companies;
    d. Irrigation system installers;
    e. Tank truck drivers; and
    f. Construction companies and other contractors (i.e., especially plumbing contractors).

    All educational programming and materials shall be available in English and Spanish and may be in the form of formal training sessions, public meetings, publication of notices in local newspapers, notification through television and radio news programs, maintenance of an informational web site, as well as the distribution of flyers or any combination thereof. The following is a non-inclusive list of topics that may be included in educational programming and materials (i.e., various target audiences may have needs that are specific to their involvement with the South Cary Reclaimed Water Program and all associated facilities):

    a. Reclaimed water description and safety;
    b. Review of all applicable local ordinances (i.e., "Waste While Watering," "Rain Sensor," and "Reclaimed Water") as well as the consequences associated with violating any of the requirements contained therein;
    c. Review of application and review process, permit approval, and inspection requirements;
    d. Approved and disapproved uses of reclaimed water;
    e. Procedures for application (i.e., including buffer maintenance and application rate determination), use, and storage of reclaimed water as well as the disposal of unused reclaimed water;
    f. Procedures for spill prevention, control, and notification requirements;
    g. Personal safety and hygiene issues;
    h. Description of labeling requirements and security measures (i.e., special hose fittings, locked valve boxes, special pipe color, etc.);
    i. Cross-connection control program description.

16. For use of the bulk fill operation the following requirements must be met:

a. The Permittee shall develop and implement an operation and maintenance plan which includes but is not limited to the following

i. Description of operation,
ii. Description of anticipated maintenance,
iii. Safety measures, including site restrictions,
iv. Spill prevention and spill response plan,
v. Contact information for plant personnel, emergency responders, and regulatory agencies,
vi. Approval procedures of users,
vii. Operational requirements for users, and
viii. If reclaimed water is to be stored for greater than 72 hours prior to use, include a description of how compliance with reclaimed water quality standards will be ensured at the time of use.

b. Use of reclaimed water for vehicle washing shall be conducted in a manner to ensure no surface runoff.

c. The Permittee shall approve tank truck drivers for participation in the bulk reclaimed water distribution program prior to distribution of reclaimed water. In addition, the Permittee shall provide bilingual (English and Spanish) training to all tank truck drivers approved to participate in the bulk reclaimed water distribution program at a regular frequency. These sessions shall provide training on, but not limited to, the following topics:

i. Reclaimed water description and safety,
ii. Allowable and prohibited uses of reclaimed water,
iii. Procedures for the application (including buffer maintenance), uses, and storage of reclaimed water as well as the disposal of unused reclaimed water,
iv. Procedures for spill prevention, countermeasures, and control as well as notification requirements,
v. Personal safety and hygiene issues, and
vi. Interaction with the general public.

d. Tank trucks used to transport reclaimed water shall meet the following requirements:
i. Tank trucks and other equipment used to distribute reclaimed water shall be clearly identified with advisory signs. Signage could include but is not limited to "CAUTION: RECLAIMED WATER – DO NOT DRINK", "NON-POTABLE WATER", or a combination of similar phrases.
ii. Tank trucks used to transport reclaimed water shall not be used to transport potable water that is used for drinking or other potable purposes.
iii. Tank trucks used to transport reclaimed water shall not be filled through on-board piping or removable hoses that may subsequently be used to fill tanks with water from a potable water supply. Tank trucks owned and operated by the Permittee and dedicated to be filled by reclaimed water only may be filled through on-board piping.
iv. Tank trucks shall not have been used to haul septage, biosolids, or other waste or chemical transport.
v. Tank trucks shall not have any type of removable container or portable bladder except if the tank/bladder is permanently labeled for reclaimed water use only and a letter from the truck owner is submitted to the Permittee indicating that in no case shall any removable container or portable bladder be used for both reclaimed and potable water at any time.

IV. MONITORING AND REPORTING REQUIREMENTS

1. Any Division required monitoring (including groundwater, plant tissue, soil and surface water analyses) necessary to ensure groundwater and surface water protection shall be established, and an acceptable sampling reporting schedule shall be followed.

2. Per 15A NCAC 02H .0800, a Division certified laboratory shall conduct all laboratory analyses for the required effluent, groundwater or surface water parameters.

3. Flow distributed to the conjunctive reclaimed water system shall be monitored as distributed, and daily flow values shall be reported on Form NDMR.

   The Permittee shall install and maintain an appropriate flow measurement device to ensure the accuracy and reliability of flow measurement consistent with accepted engineering and scientific practices. Selected flow measurement devices shall be capable of measuring flows with a maximum deviation of less than ten percent from true flow; accurately calibrated at a minimum of once per year; and maintained to ensure the accuracy of measurements is consistent with the selected device's accepted capability. The Permittee shall maintain records of flow measurement device calibration on file for a period of at least five years. At a miuimum, documentation shall include:

   a. Date of flow measurement device calibration,
   b. Name of person performing calibration, and
   c. Percent from true flow.

4. Reclaimed water distributed through the South Cary Reclaimed Water Program shall be treated in the South Cary Water Reclamation Facility (i.e., NPDES Permit No. NC0065102) prior to distribution. Reclaimed water shall be monitored at the frequencies and locations for the parameters specified in Attachment A. Effluent not meeting the limits specified in Attachment A shall either be discharged in accordance with the existing NPDES permit, or reintroduced to the headworks of the South Cary Water Reclamation Facility for further treatment.

5. The Permittee shall maintain adequate records for the bulk reclaimed water program. These records shall include, but are not necessarily limited to, the following information:
   a. Date and time of bulk distribution event,
   b. Name and drivers license number of truck operator,
   c. Town-issued bulk fill certification number,
   d. Intended use of the bulk reclaimed water,
   e. Number of gallons provided at each bulk distribution event, and
   f. Total volume of bulk reclaimed water distributed each month.

6. A maintenance log shall be maintained at this facility. This log shall be maintained at the facility for a period of no less than five years, and shall be made available to the Division upon request. At a minimum, this log shall include:
   a. Date of calibration of flow measurement device;
   b. Visual observations of the plant and plant site; and
   c. Record of preventative maintenance (e.g., changing of equipment, adjustments, testing, inspections and cleanings, etc.).

7. Three copies of all monitoring data (as specified in Conditions IV.3. and IV.4.) **on Form NDMR for each PPI** shall be submitted on or before the last day of the following month. If no activities occurred during the monitoring month, monitoring reports are still required documenting the absence of the activity. All information shall be submitted to the following address:

Division of Water Quality
Information Processing Unit
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

8. All records maintained in accordance with Conditions IV.5. and IV.6. shall be kept for a minimum of five years, and shall be made available to the Division upon request.

9. **Noncompliance Notification:**

The Permittee shall report by telephone to the Raleigh Regional Office, telephone number (919) 791-4200, as soon as possible, but in no case more than 24 hours, or on the next working day following the occurrence or first knowledge of the occurrence of any of the following:

a. Any occurrence at the facility resulting in the treatment of significant amounts of wastes that is abnormal in quantity or characteristic, including the known passage of a hazardous substance.

b. Any process unit failure (e.g., mechanical, electrical, etc.), due to known or unknown reasons, rendering the facility incapable of adequate wastewater treatment.

c. Any facility failure resulting in a by-pass directly to receiving surface waters.

d. Any time self-monitoring indicates the facility has gone out of compliance with its permit limitations.

e. Any spill or runoff of reclaimed water from the South Cary Reclaimed Water Program and all associated facilities.

Any emergency requiring immediate reporting (e.g., discharges to surface waters, imminent failure of a storage structure, etc.) outside normal business hours shall be reported to the Division's Emergency Response personnel at telephone number (800) 662-7956, (800) 858-0368, or (919) 733-3300. Persons reporting such occurrences by telephone shall also file a written report in letter form within five days following first knowledge of the occurrence. This report shall outline the actions taken or proposed to be taken to ensure the problem does not recur.

V. INSPECTIONS

1. The Permittee shall provide adequate inspection and maintenance to ensure proper operation of the wastewater treatment and reclaimed water distribution facilities.

2. The Permittee or their designee shall inspect the wastewater treatment and reclaimed water distribution facilities to prevent malfunctions, facility deterioration and operator errors resulting in discharges, which may cause the release of wastes to the environment, a threat to human health or a public nuisance. The Permittee shall maintain an inspection log that includes, at a minimum, the date and time of inspection, observations made, and any maiutenance, repairs, or corrective actions taken. The Permittee shall maintain this inspection log for a period of five years from the date of the inspection, and this log shall be made available to the Division upon request.

3. Any duly authorized Division representative may, upon presentation of credentials, enter and inspect any property, premises or place on or related to the wastewater treatment and reclaimed water distribiton facilities permitted herein at any reasonable time for the purpose of determining compliance with this permit; may inspect or copy any records required to be maintained under the terms and conditions of this permit, and may collect groundwater, surface water or leachate samples.

4. In accordance with 15A NCAC 02U .0501 and to ensure compliance with the conditions of this permit, the Permittee shall inspect the utilization sites of all reclaimed water users who obtain more than 10,000 gallons per day of bulk distributed reclaimed water. Permittee inspection of these bulk distribution reclaimed water utilization sites does not need to exceed one inspection per quarter. The Permittee shall maintain records of these inspections for at least five years, and shall make them available to the Division upon request.

VI. GENERAL CONDITIONS

1. Failure to comply with the conditions and limitations contained herein may subject the Permittee to an enforcement action by the Division in accordance with North Carolina General Statutes 143-215.6A to 143-215.6C.

2. This permit shall become voidable if the permitted facilities are not constructed in accordance with the conditions of this permit, the Division approved plans and specifications, and other supporting documentation.

3. This permit is effective only with respect to the nature and volume of wastes described in the permit application, Division approved plans and specifications, and other supporting documentation. No variances to applicable rules governing the construction or operation of the permitted facilities are granted, unless specifically requested and approved in this permit pursuant to 15A NCAC 02T .0105(n).

4. The issuance of this permit does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances, which may be imposed by other jurisdictional government agencies (e.g., local, state, and federal). Of particular concern to the Division are applicable river buffer rules in 15A NCAC 02B .0200; erosion and sedimentation control requirements in 15A NCAC Chapter 4 and under the Division's General Permit NCG010000; any requirements pertaining to wetlands under 15A NCAC 02B .0200 and 02H .0500; and documentation of compliance with Article 21 Part 6 of Chapter 143 of the General Statutes.

5. In the event the permitted facilities change ownership or the Permittee changes their name, a formal permit modification request shall be submitted to the Division. This request shall be made on official Division forms, and shall include appropriate property ownership documentation and other supporting documentation as necessary. The Permittee of record shall remain fully responsible for maintaining and operating the facilities permitted herein until a permit is issued to the new owner.

6. The Permittee shall retain a set of Division approved plans and specifications for the life of the facilities permitted herein.

7. The Permittee shall maintain this permit until all permitted facilities herein are properly closed or permitted under another permit issued by the appropriate permitting authority pursuant to 15A NCAC 02T .0105(j).

8. This permit is subject to revocation or unilateral modification upon 60 days notice from the Division Director, in whole or part for the requirements listed in 15A NCAC 02T .0110.

9. Unless the Division Director grants a variance, expansion of the permitted facilities contained herein shall not be granted if the Permittee exemplifies any of the criteria in 15A NCAC 02T .0120(b).

10. The Permittee shall pay the annual fee within 30 days after being billed by the Division. Failure to pay the annual fee accordingly shall be cause for the Division to revoke this permit pursuant to 15A NCAC 02T .0105(e)(3).

Permit issued this the 26th day of August, 2011

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

for Coleen H. Sullins, Director
Division of Water Quality
By Authority of the Environmental Management Commission

Permit Number WQ0018489

ENGINEERING CERTIFICATION

☐ Partial ☐ Final

In accordance with 15A NCAC 02T .0116, I,_____, as a duly registered Professional Engineer in the State of North Carolina, having the Permittee's authorization to ☐ periodically ☐ weekly ☐ fully observe the construction of the permitted facility, hereby state to the best of my abilities that due care and diligence was used in the observation of the construction, such that the facility was built within substantial compliance and intent of this permit, the Division approved plans and specifications, and other supporting documentation.

☐ Any variation to this permit, the Division approved plans and specifications, and other supporting documentation has been documented in the attached as-built drawings, and shall serve as the Permittee's minor modification request to amend the permit accordingly.

Provide a brief narrative description of any variations: _____

_____

_____

_____

Professional Engineer's Name		
Engineering Firm		
Mailing Address		
City	State Zip	
Telephone	E-mail	NC PE Seal, Signature & Date

THE COMPLETED ENGINEERING CERTIFICATION, INCLUDING ALL SUPPORTING INFORMATION AND MATERIALS, SHALL BE SENT TO THE FOLLOWING ADDRESS:

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY
AQUIFER PROTECTION SECTION
LAND APPLICATION UNIT

By U.S. Postal Service:
1636 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1636

By Courier/Special Delivery:
2728 CAPITAL BOULEVARD
RALEIGH, NORTH CAROLINA 27604

PPI 001 – Reclaimed Water Effluent – Prior to Entering Distribution System

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS								MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Monthly Average		Monthly Geometric Mean		Daily Minimum		Daily Maximum		Measurement Frequency	Sample Type
50050	Flow, in conduit or thru treatment plant		GPD							As Distributed [1]	Recording
00076	Turbidity, HCH Turbidimeter							10	NTU	As Distributed [1]	Recording
00310	BOD, 5-Day (20 Deg. C)	10	mg/l					15	mg/l	5 X Week	Composite
00530	Solids, Total Suspended	5	mg/l					10	mg/l	5 X Week	Composite
00610	Nitrogen, Ammonia Total (as N)	4	mg/l					6	mg/l	5 X Week	Composite
31616	Coliform, Fecal MF, M-FC Broth,44.5C			14	#/100 ml			25	#/100 ml	5 X Week	Grab
00400	pH					6.0	s.u.	9.0	s.u.	5 X Week	Grab
50060	Chlorine, Total Residual		mg/l							5 X Week	Grab

1. Flow and turbidity shall be recorded and reported on all days when reclaimed water is distributed.

PPI 002 – Bulk Distribution of Reclaimed Water

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS								MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Monthly Average		Monthly Geometric Mean		Daily Minimum		Daily Maximum		Measurement Frequency	Sample Type
50050	Flow, in conduit or thru treatment plant		GPD							As distributed [1]	Recorder

2. Monthly average flow shall be calculated and reported based on total flow for the month divided by the number of days reclaimed water was distributed during the month.

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ATTACHMENT B – APPROVED BULK FILL RECLAIMED WATER USES

Certification Date – August 26, 2011

Permit Number: WQ0018489 Version: 2.3

Town of Cary – South Cary Water Reclamation Facility

APPROVED USES	ADDITIONAL REQUIREMENTS AND COMMENTS
For use by Permittee or permitee affiliations (i.e municipal employees, or contracted service providers).[a]	
Fire fighting and fire extinguishing	Must meet Public Water Supply requirements
Reclaimed water distribution line pressure testing	Provided the water is returned to the sanitary sewer, or used for other approved reclaimed water uses after testing.
Vehicle and equipment washing	Provided that no ponding or run-off of the reclaimed water occurs.
For use by certified bulk reclaimed water users. [a]	
Concrete cutting	
Decorative ponds and fountains that drain to sanitary sewer systems	
Hydro-seeding and fertilizer mixing	
Industrial and commercial cooling water or boiler blow down water	Provided that cooling water or boiler blow down water is disposed of according to any necessary disposal permit.
Industrial and commercial fire prevention systems where there are separate non-potable plumbing lines	
Irrigation of public and private landscapes and turf	
Make-up water for brine slurry or similar	Brine slurry to be applied to roads to prevent freezing.
Make-up water for preparation of pesticide solutions or similar	Use of reclaimed water does not exempt user from meeting the use and disposal requirements of the created solution.
Non-potable processes such as asphalt reclamation, concrete production and compost production	Must meet compost permit requirements.
Sewer cleaning	
Soil compaction and dust suppression	May include irrigation to clay or synthetic clay tennis courts, or similar.
Street sweeping (not street washing)	
Subsurface Directional Boring	Does not include borings into bedrock or installation of any wells subject to 15A NCAC 2C - Well Construction Regulations.
Vehicle washing and power washing	Provided that dual disinfection with UV and chlorination is provided. , and that no ponding or run-off of the reclaimed water occurs.

[a] All users shall complete educational training and receive certification prior to receiving bulk reclaimed water from the Permittee.

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