



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

September 12, 2014

William Mumford – Assistant Secretary
Briar Chapel Utilities, LLC
16 Windy Knoll Circle
Chapel Hill, North Carolina 27516

Subject: Permit No. WQ0028552
Briar Chapel Development
Reclaimed Water Generation,
Conjunctive Reclaimed Water
Utilization, Non-Conjunctive
Reclaimed Water Utilization, and
Wastewater Irrigation System
Chatham County

Dear Mr. Mumford:

In accordance with your permit major modification request received June 2, 2014, and subsequent additional information received August 7, 2014 and August 28, 2014, we are forwarding herewith Permit No. WQ0028552 dated September 12, 2014, to Briar Chapel Utilities, LLC for the additional construction and continued operation of the subject facilities.

Modifications to the subject permit include an approval for construction of Package G; conjunctive reclaimed water utilization consisting of irrigation on additional residential lots and formal parks within Briar Chapel Development, and elimination of an existing non-conjunctive field (Phase 1-A, field C-5A). Please note that PPI 002 is deleted and WQ01parameter to report the total volume of reclaimed water used for conjunctive utilization is moved to PPI 001.

This permit shall be effective from the date of issuance until March 31, 2019, shall void Permit No. WQ0028552 issued October 7, 2013, 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 for they may differ from the previous permit issuance. Failure to establish an adequate system for collecting and maintaining the required operational information shall result in future compliance problems.

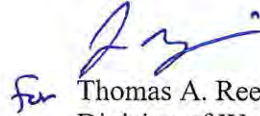
For your convenience, customized electronic copies of your facility's NDMR and NDAR-1 reporting forms are available for download at: <http://portal.ncdenr.org/web/wq/aps/lau/reporting>.

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.

Mr. Mumford
September 12, 2014
Page 2 of 2

One set of approved plans and specifications is being forwarded to you. If you need additional information concerning this matter, please contact Chonticha McDaniel at (919) 807-6337 or chonticha.mcdaniel@ncdenr.gov.

Sincerely,


for Thomas A. Reeder, Director
Division of Water Resources

cc: Chatham County Health Department (Electronic Copy)
Raleigh Regional Office, Water Quality Regional Operations Section
Mark P. Ashness, PE – CE Group (Electronic Copy)
Beth Buffington, PWSS – Protection and Enforcement Branch (Electronic Copy)
Central Files
Digital Permit Archive (Electronic Copy)

NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

RALEIGH

**RECLAIMED WATER GENERATION, CONJUNCTIVE RECLAIMED WATER
UTILIZATION, NON-CONJUNCTIVE RECLAIMED WATER UTILIZATION, &
WASTEWATER IRRIGATION 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

Briar Chapel Utilities, LLC
Chatham County

FOR THE

operation of a wastewater treatment, non-conjunctive reclaimed water, conjunctive reclaimed water and wastewater irrigation facility consisting of the:

continued operation of a 250,000 gallon per day (GPD) extended aeration wastewater treatment plant (i.e., Phase A) consisting of: dual static screens for grit removal (serving Phases A, B and C); a manually cleaned bar screen; a 75,400 gallon aerated flow equalization basin with two 225 gallon per minute (GPM) variable speed pumps each with an influent flow meter and one 7.5 horsepower (hp) aerator; two 31,500 gallon anoxic chambers each with two 3 hp mixers; two 189,000 gallon aeration basins each with two 10 hp aerators; two 31,500 gallon clarifiers each with one variable speed sludge return pump; a 75,400 gallon sludge holding basin with one variable speed decanting pump and one 7.5 hp aerator; a 10,730 gallon chlorine contact chamber with two variable speed chlorine injection pumps; a 16,800 gallon mudwell with two 200 GPM return pumps; two 90 square foot (ft²) tertiary filters; a 13,800 gallon clearwell with four 675 GPM backwash pumps (pumps serve Phases A, B and C); dual banks of ultraviolet (UV) modules each with 10 bulbs; a 6,850 gallon dechlorination chamber with two air diffusers; an effluent flow measuring device (serving Phases A, B and C); an effluent turbidimeter (serving Phases A, B and C); a permanent auxiliary generator (serving Phases A, B and C); and all associated piping, valves and appurtenances; the

continued operation of: a 3.5 million gallon (MG) clay lined five day upset pond; a five day upset return pump station with two 400 GPM submersible pumps and audible/visual high-water alarms; and a 21.3 MG clay lined central storage pond with dual 2,000 GPM flooded suction pumps; the

continued operation of portions of the Phase 1-A non-conjunctive reclaimed water utilization system consisting of: portions of eight irrigation zones (E-1A, E-2A, E-3B, E-3C, E-3D, E-4A, E-4B and E-4C) and irrigation zone E-3A comprising approximately 31.9 acres with a hydraulic capacity of approximately 79,240 GPD; and all associated piping, valves and appurtenances; the

continued operation of portions of the Phase 1-C non-conjunctive reclaimed water utilization system consisting of: approximately 7.5 acres of the permitted 9.48 acre irrigation zone C-1 with a hydraulic capacity of approximately 17,195 GPD; and all associated piping, valves and appurtenances; the

continued operation of portions of the Phase 1-E conjunctive reclaimed water utilization system consisting of: three irrigation zones (E-1, E-2 and E-4) comprising 9.2 acres; and all associated piping, valves and appurtenances; the

continued operation of portions of the Phase 1-F conjunctive reclaimed water utilization system consisting of: portions of two irrigation zones (F-2 and F-3) and irrigation zone F-4 comprising approximately 3.84 acres; and all associated piping, valves and appurtenances; the

construction and operation of two additional 250,000 GPD extended aeration wastewater treatment plants to be constructed (i.e., Phases B and C) with each phase consisting of: a manually cleaned bar screen; a 75,400 gallon aerated flow equalization basin with two 225 GPM variable speed pumps each with an influent flow meter and one 7.5 hp aerator; two 31,500 gallon anoxic chambers each with two 3 hp mixers; two 189,000 gallon aeration basins each with two 10 hp aerators; two 31,500 gallon clarifiers each with one variable speed sludge return pump; a 75,400 gallon sludge holding basin with one variable speed decanting pump and one 7.5 hp aerator; a 10,730 gallon chlorine contact chamber with two variable speed chlorine injection pumps; a 16,800 gallon mudwell with two 200 GPM return pumps; two 90 ft² tertiary filters; dual banks of ultraviolet (UV) modules each with 10 bulbs; a 6,850 gallon dechlorination chamber with two air diffusers; and all associated piping, valves and appurtenances; the

construction and operation of the remaining portions of the Phase 1-A non-conjunctive reclaimed water utilization system consisting of: portions of eight irrigation zones (E-1A, E-2A, E-3B, E-3C, E-3D, E-4A, E-4B and E-4C), and 30 irrigation zones (C-1A through C-20A) comprising approximately 82.9 acres with a hydraulic capacity of approximately 205,686 GPD; a 14.1 MG clay lined east storage pond with dual 1,200 GPM vertical turbine pumps; a single 600 GPM temporary booster pump station and all associated piping, valves and appurtenances; the

construction and operation of the Phase 1-B wastewater irrigation system consisting of: 16 irrigation zones (B-1A through B-9C) comprising approximately 22.0 acres with a hydraulic capacity of approximately 55,508 GPD; and all associated piping, valves and appurtenances; the

construction and operation of the remaining portions of the Phase 1-C non-conjunctive reclaimed water utilization system consisting of: approximately 1.98 acres of irrigation zone C-1 with a hydraulic capacity of approximately 4,540 GPD; and all associated piping, valves and appurtenances; the

construction and operation of the Phase 1-D non-conjunctive reclaimed water utilization system consisting of: 22 irrigation zones (D-2 through D-26) comprising approximately 16.89 acres with a hydraulic capacity of approximately 35,527 GPD; and all associated piping, valves and appurtenances; the

construction and operation of portions of the Phase 1-E conjunctive reclaimed water utilization system consisting of: two irrigation zones (E-3 and E-5) comprising 2.8 acres; and all associated piping, valves and appurtenances;

construction and operation of the Phase 1-F conjunctive reclaimed water utilization system consisting of: one irrigation zone (F-1) and portions of two irrigation zones (F-2 and F-3) comprising 11.26 acres; and all associated piping, valves and appurtenances; and the

construction and operation of the Phase 1-G conjunctive reclaimed water utilization system consisting of: 9 irrigation zones (G-1 through G-9) comprising 26.4 acres; and all associated piping, valves and appurtenances;

to serve Briar Chapel Development, with no discharge of wastes to surface waters, pursuant to the application received June 2, 2014, and subsequent additional information received by the Division of Water Resources, 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 March 31, 2019, shall void Permit No. WQ0028552 issued October 7, 2013, and shall be subject to the following specified conditions and limitations:

I. SCHEDULES

1. Prior to commencing initial irrigation activities, an updated soil scientist site evaluation shall be submitted for all areas that have been significantly impacted during construction or altered by grading, cutting or filling. For conjunctive utilization areas, this report shall address soil compaction and the soil's ability to accept the designed hourly precipitation rate. For non-conjunctive utilization areas, this report shall specifically address, but not be limited to, soil features such as soil compaction and saturated hydraulic conductivity of the least permeable layer, as well as any other properties that might impact the soil's ability to accept irrigation water. The report shall certify that the disturbed areas are capable of accepting the designed annual hydraulic loading rate. The requested information must be received and acknowledged in writing by the Raleigh Regional Office, 1628 Mail Service Center, Raleigh, NC 27699-1628.
2. The old farm gullies present in Phase 1-A, Field C-15C shall be properly filled with suitable soil material prior to its operation.
3. In accordance with 15A NCAC 02T .0116, upon completion of construction and prior to operation of any of the facilities permitted herein, a certification (attached) shall be submitted from a licensed North Carolina Professional Engineer certifying that the permitted facility has been installed in accordance with this permit, Division approved plans and specifications, and other supporting documentation, including the location of all monitoring wells as applicable. 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 Resources, Water Quality Permitting Section, 1636 Mail Service Center, Raleigh, NC 27699-1636.
4. 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 any installed facilities such that an in-place inspection can be made. Notification to the regional supervisor shall be made from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding State Holidays.
5. 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 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, disposal, or utilization facilities.
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. Effluent limitations shall not exceed those specified in Attachment A.

4. Application rates shall not exceed those specified in Attachment B.
5. The irrigation/utilization system (excluding conjunctive utilization sites) shall be connected to a rain or moisture sensor, which shall indicate when utilization is not appropriate in accordance with Conditions III.6 and III.7 of this permit.
6. The following shall be requirements for the reclaimed water distribution, storage, and utilization facilities (at a minimum Phases 1-A, 1-C, 1-D, 1-E, 1-F and 1-G, but may include Phase 1-B at the Permittee's discretion):
 - 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 reclaimed water pipelines in a visible manner, 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. Hose bibs shall be located in locked, below grade vaults that shall be labeled as being of non-potable quality. As an alternative to the use of locked vaults with standard hose bib services, other locking mechanisms such as hose bibs which can only be operated by a tool may be placed above ground and labeled as non-potable water.
7. No direct cross-connections shall be allowed between reclaimed water (at a minimum Phases 1-A, 1-C, 1-D, 1-E, 1-F, and 1-G but may include Phase 1-B at the Permittee's discretion) and potable water systems, unless such connection has been approved by the Department pursuant to 15A NCAC 18C .0406.
8. Reclaimed water distribution lines (at a minimum Phases 1-A, 1-C, 1-D, 1-E, 1-F, and 1-G but may include Phase 1-B at the Permittee's discretion) shall be located at least 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. Reclaimed water distribution lines (at a minimum Phases 1-A, 1-C, 1-D, 1-E, 1-F, and 1-G but may include Phase 1-B at the Permittee's discretion) 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. Reclaimed water distribution lines (at a minimum Phases 1-A, 1-C, 1-D, 1-E, 1-F, and 1-G but may include Phase 1-B at the Permittee's discretion) shall be located at least two feet horizontally from and 18 inches above any sewer 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.
11. The compliance and review boundaries for Phase 1-A non-conjunctive utilization areas are established at the property boundary. Any exceedance of standards at the compliance or review boundary shall require action in accordance with 15A NCAC 02L .0106.
12. The compliance and review boundaries for Phase 1-B [wastewater irrigation complying with 15A NCAC 02T .0506(c)], 1-C, 1-D, 1-E, 1-F, and 1-G are established at the irrigation/utilization area boundaries. Any exceedance of standards at the compliance or review boundary shall require action in accordance with 15A NCAC 02L .0106.
13. The Permittee shall apply for a permit modification to establish a new compliance boundary prior to any sale or transfer of property affecting a compliance boundary.
14. In accordance with 15A NCAC 02L .0107(d), no wells, excluding Division approved monitoring wells, shall be constructed within the compliance boundary except as provided for in 15A NCAC 02L .0107(g).
15. Except as provided for in 15A NCAC 02L .0107(g), the Permittee shall ensure any landowner who is not the Permittee and owns land within the compliance boundary shall execute and file with the Chatham County Register of Deeds an easement running with the land containing the following items:
 - a. A notice of the permit and number or other description as allowed in 15A NCAC 02L .0107(f)(1);
 - b. Prohibits construction and operation of water supply wells within the compliance boundary; and
 - c. Reserves the right of the Permittee or the State to enter the property within the compliance boundary for purposes related to the permit.

The Director may terminate the easement when its purpose has been fulfilled or is no longer needed.

16. The facilities permitted herein shall be constructed according to the following setbacks:
 - a. The setbacks for the Phase 1-A, 1-C, 1-D, 1-E, 1-F and 1-G conjunctive reclaimed utilization sites 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 the Phase 1-B wastewater irrigation sites shall be as follows (all distances in feet):

i. Any habitable residence or place of public assembly under separate ownership:	400
ii. Any habitable residence or place of public assembly owned by the Permittee:	200
iii. Any private or public water supply source:	100
iv. Surface waters:	100
v. Groundwater lowering ditches:	100
vi. Surface water diversions:	25
vii. Any well with exception of monitoring wells:	100
viii. Any property line:	0 ¹
ix. Top of slope of embankments or cuts of two feet or more in vertical height:	15

x. Any water line from a disposal system:	10
xi. Subsurface groundwater lowering drainage systems:	100
xii. Any swimming pool:	100
xiii. Public right of way:	50
xiv. Nitrification field:	20
xv. Any building foundation or basement:	15

¹ The Permittee is complying with 15A NCAC 02T .0506(c), therefore the setback to property lines is reduced from 150 feet to 0 feet.

- c. The setbacks for treatment units shall be as follows (all distances in feet):
- | | |
|--|-----|
| i. Any habitable residence or place of public assembly under separate ownership: | 100 |
| ii. Any private or public water supply source: | 100 |
| iii. Surface waters: | 50 |
| iv. Any well with exception of monitoring wells: | 100 |
| v. Any property line: | 50 |

17. Areas in Phases 1-C and 1-D affected by significant compaction shall be identified and the soil aerated prior to any irrigation within these utilization sites listed in Attachment B.

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 reclaimed water or partially treated effluent resulting from the operation of this facility.
2. The Permittee shall maintain an Operation and Maintenance Plan pursuant to 15A NCAC 02U .0801, which at a minimum shall include the following:
 - a. Description of the system in sufficient detail to show what operations are necessary for the system to function and by whom the functions will be conducted;
 - b. A map of all distribution lines and record drawings of all utilization systems under the Permittee's control;
 - c. Description of anticipated maintenance activities;
 - d. Include provisions for safety measures including restriction of access to sites and equipment; and
 - e. Spill control provisions including response to upsets and bypasses including control, containment, remediation, and contact information for plant personnel, emergency responders and regulatory agencies.
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. An operator certified by the Water Pollution Control System Operators Certification Commission (WPCSOCC) of a grade equivalent or greater than the facility classification shall be on call 24 hours per day.

5. A suitable year round vegetative cover shall be maintained on irrigation sites at all times, such that crop health is optimized, allows for even distribution of reclaimed water, and allows inspection of the irrigation system.
6. Adequate measures shall be taken to prevent reclaimed water ponding in or runoff from the irrigation sites.
7. Irrigation shall not be performed during inclement weather or when the ground is in a condition that will cause ponding or runoff.
8. All wastewater irrigation and non-conjunctive reclaimed water irrigation equipment shall be tested and calibrated at least once per permit cycle. Calibration records 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.
9. Only reclaimed water generated at Briar Chapel Development shall be irrigated/utilized in accordance with this permit.
10. An automatically activated standby power source capable of powering all essential treatment units shall be on site and operational at all times. If a generator is employed as an alternate power supply, it shall be tested weekly by interrupting the primary power source.
11. No automobiles or machinery shall be allowed on the wastewater irrigation site (Phase 1-B) except during equipment installation or while maintenance is being performed.
12. Public access to the wastewater irrigation sites (Phase 1-B), wastewater treatment facility, and five day upset pond shall be prohibited.
13. Public access to reclaimed water utilization sites (Phases 1-A, 1-C, 1-D, 1-E, 1-F, and 1-G) shall be controlled during active site use. Such controls may include the posting of signs showing the activities being conducted at each site.
14. Diversion or bypassing of untreated or partially treated wastewater from the treatment facilities is prohibited.
15. Freeboard in the five-day upset pond, central storage pond, and east storage pond shall not be less than two feet at any time.
16. A gauge to monitor waste levels in the five-day upset pond, central storage pond, and east storage pond shall be provided. This gauge shall have readily visible permanent markings at inch or tenth of a foot increments.
17. A protective vegetative cover shall be established and maintained on all earthen embankments (i.e., outside toe of embankment to maximum allowable temporary storage elevation on the inside of the embankment), berms, pipe runs, erosion control areas, and surface water diversions. Trees, shrubs, and other woody vegetation shall not be allowed to grow on the earthen dikes or embankments. Earthen embankment areas shall be kept mowed or otherwise controlled and accessible.
18. All effluent shall be routed to the five day upset pond 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. The wastewater in the five day upset pond shall be pumped back to the treatment plant headworks for re-treatment or treated in the five day upset pond prior to utilization.

19. The Permittee shall develop and implement an education program to inform users (including employees) about the proper use of reclaimed water. Educational material shall be provided to all residents and/or other facilities provided with reclaimed water, and these materials shall be maintained consistent with the reclaimed water uses. All educational materials shall be made available to the Division upon request.
20. In accordance with 15A NCAC 02U .0501, the Permittee shall provide notification to the public and/or employees about the use of reclaimed water, and that reclaimed water is not intended for drinking. Such notification shall be provided to employees in a language they can understand.
21. The residuals generated from the wastewater treatment facilities shall be disposed or utilized in accordance with 15A NCAC 02T .1100. The Permittee shall maintain a residual management plan pursuant to 15A NCAC 02U .0802.
22. The subject permitted wastewater treatment facility shall only treat domestic wastewater. The wastewater treatment plant shall not accept any wastewater from commercial facilities deemed industrial (i.e. from processes of trade or business, Laundromats, or vehicle/equipment washes) under 15A NCAC 02T .0103(20).

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 through the reclaimed water generating facility 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 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 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 reclaimed water from the generating facility at the frequencies and locations for the parameters specified in Attachment A.
 5. The Permittee shall maintain adequate records tracking the amount of conjunctive reclaimed water utilized. Records shall be maintained for a minimum of five years. At minimum, these records shall include the following information for each utilization site listed in Attachment B:
 - a. Date of reclaimed water distributed; and
 - b. Volume of reclaimed water distributed (monthly total).

Monthly tracking records for all conjunctive sites shall be summed and reported on Form NDMR (see Attachment A) under parameter WQ01 (Flow, Reclaimed Water Distributed). This value shall represent the total volume of reclaimed water distributed for conjunctive utilization that month.

6. The Permittee shall maintain adequate records tracking the amount of effluent irrigated / non-conjunctive reclaimed water utilized. Records shall be maintained for a minimum of five years. At a minimum, these records shall include the following information for each utilization site listed in Attachment B:
 - a. Date of irrigation / utilization;
 - b. Volume of effluent irrigated / reclaimed water utilized
 - c. Site irrigated/utilized;
 - d. Length of time site is irrigated/utilized;
 - e. Continuous weekly, monthly, and year-to-date hydraulic (inches/acre) loadings;
 - f. Continuous monthly and year-to-date loadings for any non-hydraulic parameter specifically limited in Attachment B;
 - g. Weather conditions; and
 - h. Maintenance of cover crops.
7. Freeboard (i.e., waste level to the lowest embankment elevation) in the five-day upset pond, central storage pond, and east storage pond shall be measured to the nearest inch or tenth of a foot, and recorded weekly. Weekly freeboard records 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.
8. Three copies of all monitoring data (as specified in Conditions IV.3., IV.4. and IV.5.) on Form NDMR, and three copies of all operation and disposal/utilization records (as specified in Conditions IV.6. and IV.7.) on Form NDAR-1 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 Resources, Information Processing Unit, 1617 Mail Service Center, Raleigh, North Carolina, 27699-1617.
9. Pursuant to § 143-215.1C., the Permittee shall provide to its users and the Division of Water Resources an annual report summarizing the performance of the wastewater treatment and utilization facility and the extent to which the facility has violated this permit, or federal or State laws, regulations, or rules related to the protection of water quality. This report shall be prepared on either a calendar or fiscal year basis and shall be provided no later than 60 days after the end of the calendar or fiscal year. Two copies of the annual report provided to the Permittee's users shall be submitted to: Division of Water Resources, Water Quality Permitting Section, 1636 Mail Service Center, Raleigh, North Carolina 27699-1636.
10. A record shall be maintained of all residuals removed from this facility. This record 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 record shall include:
 - a. Name of the residuals hauler;
 - b. Non-Discharge permit number authorizing the residuals disposal, or a letter from a municipality agreeing to accept the residuals;
 - c. Date the residuals were hauled; and
 - d. Volume of residuals removed.

11. 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. Visual observations of treatment plant and plant site;
 - b. Date of calibration of flow measurement device(s);
 - c. Date and results of power interruption testing on alternate power supply;
 - d. Record of preventative maintenance (e.g., changing/adjusting of equipment, pump and valve maintenance, cross connection control, testing, inspections and cleanings, etc.); and
 - e. Record of all unpermitted releases of reclaimed water to surface water or land surface including date of occurrence, estimated volume of release, cause, and corrective action taken.

12. An annual representative soils analysis (i.e., Standard Soil Fertility Analysis) shall be conducted on each wastewater irrigation field in Phase 1-B (See Attachment B). These results 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, the Standard Soil Fertility Analysis shall include the following parameters:

Acidity	Exchangeable Sodium Percentage	Phosphorus
Base Saturation (by calculation)	Magnesium	Potassium
Calcium	Manganese	Sodium
Cation Exchange Capacity	Percent Humic Matter	Zinc
Copper	pH	

13. 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 failure resulting in a discharge of reclaimed water directly to surface waters or any unpermitted release of reclaimed water to land surface greater than or equal to 5,000 gallons. Unpermitted releases less than 5,000 gallons to land surface shall be documented by the permittee in accordance with Condition IV.9, but do not require Regional Office notification.
- d. Any time self-monitoring indicates the facilities permitted herein have gone out of compliance with the limitations contained in this permit.
- e. Ponding in or runoff from the reclaimed water utilization sites.

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, irrigation, and utilization facilities.
2. The Permittee or their designee shall inspect the wastewater treatment, irrigation, and utilization facilities to prevent malfunction, 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, irrigation, 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.


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; National Pollutant Discharge Elimination System (NPDES) requirements under 15A NCAC 02H .0100, 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 written 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 12th day of September 2014

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

for 

Thomas A. Reeder, Director
Division of Water Resources
By Authority of the Environmental Management Commission

Permit Number WQ0028552

Permit No. WQ0028552
Briar Chapel Utilities, LLC
Briar Chapel Development

Conjunctive, Non-Conjunctive, and Wastewater Irrigation System
September 12, 2014
Chatham County

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 RESOURCES
WATER QUALITY PERMITTING SECTION
NON-DISCHARGE PERMITTING UNIT**

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

By Courier/Special Delivery:
512 N. SALISBURY STREET
RALEIGH, NORTH CAROLINA 27604

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PPI 001 - Reclaimed Water Generation System Effluent

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS					MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Units of Measure	Monthly Average	Monthly Geometric Mean	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
00310	BOD, 5-Day (20 °C)	mg/l	10			15	2 x Month	Composite
00940	Chloride (as Cl)	mg/l					3 x Year ^a	Composite
50060	Chlorine, Total Residual	mg/l					5 x Week	Grab
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100ml		14		25	2 x Month	Grab
50050	Flow, in conduit or thru treatment plant	gpd	329,548 ^b				Continuous	Recording
00610	Nitrogen, Ammonia Total (as N)	mg/l	4			6	2 x Month	Composite
00620	Nitrogen, Nitrate Total (as N)	mg/l					2 x Month	Composite
00400	pH	su			6	9	5 x Week	Grab
70300	Solids, Total Dissolved - 180 °C	mg/l					3 x Year ^a	Composite
00530	Solids, Total Suspended	mg/l	5			10	2 x Month	Composite
00076	Turbidity, HCH Turbidimeter	ntu				10	Continuous	Recording
WQ01	Flow, Reclaimed Water Distributed ^c	gallons					Monthly	Recording

- a. 3 x Year monitoring shall be conducted in March, July and November.
- b. The monthly average daily flow is limited to 329,548 GPD due to available wet weather storage capacity.
- c. Total volume of reclaimed water distributed for conjunctive utilization (Phases 1-E, 1-F, and 1-G).

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Briar Chapel Utilities, LLC – Briar Chapel Development

IRRIGATION / UTILIZATION AREA INFORMATION								APPLICATION LIMITATIONS			
Phase	Field	Owner	County	Latitude	Longitude	Net Acreage	Dominant Soil Series	Parameter	Hourly Rate	Yearly Max	Units
1-A	C-1A	Briar Chapel Utilities, LLC	Chatham	35° 48' 35"	-79° 06' 47"	8.00	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-2A	Briar Chapel Utilities, LLC	Chatham	35° 48' 45"	-79° 06' 38"	1.40	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	C-2C	Briar Chapel Utilities, LLC	Chatham	35° 48' 38"	-79° 06' 35"	5.90	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-2D	Briar Chapel Utilities, LLC	Chatham	35° 48' 41"	-79° 06' 36"	1.80	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-3A	Briar Chapel Utilities, LLC	Chatham	35° 48' 52"	-79° 06' 55"	0.90	Wedowee	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	C-3B	Briar Chapel Utilities, LLC	Chatham	35° 48' 50"	-79° 06' 50"	0.80	Wedowee	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	C-3C	Briar Chapel Utilities, LLC	Chatham	35° 48' 47"	-79° 06' 49"	0.40	Wedowee	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	C-3D	Briar Chapel Utilities, LLC	Chatham	35° 48' 43"	-79° 06' 46"	0.10	Wedowee	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	C-3E	Briar Chapel Utilities, LLC	Chatham	35° 48' 50"	-79° 06' 53"	9.80	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-3F	Briar Chapel Utilities, LLC	Chatham	35° 48' 42"	-79° 06' 44"	3.40	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-6A	Briar Chapel Utilities, LLC	Chatham	35° 49' 10"	-79° 06' 01"	0.30	Rion	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	C-6C	Briar Chapel Utilities, LLC	Chatham	35° 49' 13"	-79° 06' 58"	0.20	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-9A	Briar Chapel Utilities, LLC	Chatham	35° 49' 21"	-79° 07' 11"	4.20	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	C-9B	Briar Chapel Utilities, LLC	Chatham	35° 49' 15"	-79° 07' 09"	3.20	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-12A	Briar Chapel Utilities, LLC	Chatham	35° 49' 29"	-79° 07' 23"	2.00	Rion	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	C-12B	Briar Chapel Utilities, LLC	Chatham	35° 49' 28"	-79° 07' 12"	2.60	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	C-12C	Briar Chapel Utilities, LLC	Chatham	35° 49' 25"	-79° 07' 19"	3.40	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-12D	Briar Chapel Utilities, LLC	Chatham	35° 49' 18"	-79° 07' 15"	0.40	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-13A	Briar Chapel Utilities, LLC	Chatham	35° 49' 26"	-79° 07' 00"	0.40	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	C-13B	Briar Chapel Utilities, LLC	Chatham	35° 49' 29"	-79° 06' 59"	1.00	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	C-13C	Briar Chapel Utilities, LLC	Chatham	35° 49' 33"	-79° 07' 03"	1.10	Rion	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	C-13D	Briar Chapel Utilities, LLC	Chatham	35° 49' 36"	-79° 06' 59"	1.00	Rion	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	C-13E	Briar Chapel Utilities, LLC	Chatham	35° 49' 31"	-79° 06' 59"	2.70	Pacolet	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-13F	Briar Chapel Utilities, LLC	Chatham	35° 49' 28"	-79° 07' 03"	6.40	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-15B	Briar Chapel Utilities, LLC	Chatham	35° 49' 38"	-79° 06' 40"	0.90	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches

IRRIGATION / UTILIZATION AREA INFORMATION								APPLICATION LIMITATIONS			
Phase	Field	Owner	County	Latitude	Longitude	Net Acreage	Dominant Soil Series	Parameter	Hourly Rate	Yearly Max	Units
1-A	C-15C	Briar Chapel Utilities, LLC	Chatham	35° 49' 25"	-79° 06' 38"	1.30	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-15E	Briar Chapel Utilities, LLC	Chatham	35° 49' 40"	-79° 06' 45"	1.40	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-16A	Briar Chapel Utilities, LLC	Chatham	35° 49' 25"	-79° 06' 26"	3.20	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	C-20A	Briar Chapel Utilities, LLC	Chatham	35° 49' 48"	-79° 07' 00"	0.40	Helena	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	E-1A	Briar Chapel Utilities, LLC	Chatham	35° 49' 21"	-79° 06' 01"	10.40 / 8.50 ¹	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	E-2A	Briar Chapel Utilities, LLC	Chatham	35° 49' 16"	-79° 06' 49"	9.00 / 4.90 ¹	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	E-3A	Briar Chapel Utilities, LLC	Chatham	35° 49' 13"	-79° 05' 30"	0.80 ²	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	E-3B	Briar Chapel Utilities, LLC	Chatham	35° 49' 11"	-79° 05' 22"	2.20 / 1.80 ¹	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	E-3C	Briar Chapel Utilities, LLC	Chatham	35° 49' 10"	-79° 05' 27"	3.50 / 2.50 ¹	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	E-3D	Briar Chapel Utilities, LLC	Chatham	35° 49' 12"	-79° 05' 39"	0.90 / 0.30 ¹	Rion	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-A	E-4A	Briar Chapel Utilities, LLC	Chatham	35° 49' 16"	-79° 05' 35"	3.10 / 2.00 ¹	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	E-4B	Briar Chapel Utilities, LLC	Chatham	35° 49' 18"	-79° 05' 18"	2.90 / 2.60 ¹	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-A	E-4C	Briar Chapel Utilities, LLC	Chatham	35° 49' 16"	-79° 05' 26"	9.30 / 8.50 ¹	Rion	01284 – Non-Discharge Application Rate	0.10	37.31	inches
Total for 1-A (Non-Conjunctive Reclaimed Water Utilization)						114.8 / 31.9¹					
1-B	B-1A	Briar Chapel Utilities, LLC	Chatham	35° 49' 28"	-79° 05' 58"	9.90	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-B	B-1B	Briar Chapel Utilities, LLC	Chatham	35° 49' 25"	-79° 06' 05"	1.70	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-B	B-2A	Briar Chapel Utilities, LLC	Chatham	35° 49' 22"	-79° 06' 15"	0.30	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-B	B-3B	Briar Chapel Utilities, LLC	Chatham	35° 49' 36"	-79° 06' 11"	0.20	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-B	B-3C	Briar Chapel Utilities, LLC	Chatham	35° 49' 41"	-79° 06' 11"	0.20	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-B	B-4A	Briar Chapel Utilities, LLC	Chatham	35° 49' 42"	-79° 06' 17"	0.60	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-B	B-5A	Briar Chapel Utilities, LLC	Chatham	35° 49' 07"	-79° 06' 34"	0.40	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-B	B-6A	Briar Chapel Utilities, LLC	Chatham	35° 49' 07"	-79° 06' 31"	1.10	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-B	B-7A	Briar Chapel Utilities, LLC	Chatham	35° 49' 59"	-79° 06' 28"	2.30	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-B	B-7B	Briar Chapel Utilities, LLC	Chatham	35° 50' 16"	-79° 06' 32"	0.60	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches

IRRIGATION / UTILIZATION AREA INFORMATION								APPLICATION LIMITATIONS			
Phase	Field	Owner	County	Latitude	Longitude	Net Acreage	Dominant Soil Series	Parameter	Hourly Rate	Yearly Max	Units
1-B	B-8A	Briar Chapel Utilities, LLC	Chatham	35° 50' 14"	-79° 06' 26"	0.10	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-B	B-8B	Briar Chapel Utilities, LLC	Chatham	35° 50' 32"	-79° 06' 27"	1.90	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-B	B-8D	Briar Chapel Utilities, LLC	Chatham	35° 50' 25"	-79° 06' 25"	0.70	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-B	B-8E	Briar Chapel Utilities, LLC	Chatham	35° 50' 37"	-79° 06' 22"	0.50	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-B	B-9A	Briar Chapel Utilities, LLC	Chatham	35° 50' 42"	-79° 06' 26"	1.10	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-B	B-9C	Briar Chapel Utilities, LLC	Chatham	35° 50' 41"	-79° 06' 20"	0.40	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
Total for 1-B (Wastewater Irrigation)						22.0					
1-C	C-1	Briar Chapel Utilities, LLC	Chatham	35° 49' 14"	-79° 05' 46"	9.48 / 7.5 ¹	Wedowee	01284 – Non-Discharge Application Rate	0.10	30.84	inches
Total for 1-C (Non-Conjunctive Reclaimed Water Utilization)						9.48 / 7.5 ¹					
1-D	D-2	Briar Chapel Utilities, LLC	Chatham	35° 49' 25"	-79° 06' 38"	0.37	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-3	Briar Chapel Utilities, LLC	Chatham	35° 49' 26"	-79° 06' 43"	0.47	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-D	D-4	Briar Chapel Utilities, LLC	Chatham	35° 49' 41"	-79° 06' 48"	0.26	Fill ⁴	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-5	Briar Chapel Utilities, LLC	Chatham	35° 49' 48"	-79° 06' 35"	1.02	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-6	Briar Chapel Utilities, LLC	Chatham	35° 49' 51"	-79° 06' 42"	0.63	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-7	Briar Chapel Utilities, LLC	Chatham	35° 49' 12"	-79° 07' 04"	1.83	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-D	D-8	Briar Chapel Utilities, LLC	Chatham	35° 49' 12"	-79° 06' 52"	2.62	Fill ⁴	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-D	D-9	Briar Chapel Utilities, LLC	Chatham	35° 49' 10"	-79° 06' 49"	0.15	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
1-D	D-10	Briar Chapel Utilities, LLC	Chatham	35° 49' 05"	-79° 06' 48"	0.06	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-11	Briar Chapel Utilities, LLC	Chatham	35° 49' 05"	-79° 06' 48"	0.04	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-12	Briar Chapel Utilities, LLC	Chatham	35° 49' 08"	-79° 06' 50"	2.12	Fill ⁴	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-13	Briar Chapel Utilities, LLC	Chatham	35° 49' 06"	-79° 06' 46"	0.62	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-15	Briar Chapel Utilities, LLC	Chatham	35° 49' 02"	-79° 06' 46"	0.25	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-16	Briar Chapel Utilities, LLC	Chatham	35° 48' 59"	-79° 06' 47"	0.31	Fill ⁴	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-17	Briar Chapel Utilities, LLC	Chatham	35° 49' 01"	-79° 06' 47"	0.03	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-18	Briar Chapel Utilities, LLC	Chatham	35° 48' 52"	-79° 06' 40"	1.56	Fill ⁴	01284 – Non-Discharge Application Rate	0.10	19.95	inches


IRRIGATION / UTILIZATION AREA INFORMATION								APPLICATION LIMITATIONS			
Phase	Field	Owner	County	Latitude	Longitude	Net Acreage	Dominant Soil Series	Parameter	Hourly Rate	Yearly Max	Units
1-D	D-19	Briar Chapel Utilities, LLC	Chatham	35° 48' 51"	-79° 06' 35"	1.40	Fill ⁴	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-20	Briar Chapel Utilities, LLC	Chatham	35° 48' 49"	-79° 06' 34"	0.17	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-21	Briar Chapel Utilities, LLC	Chatham	35° 48' 52"	-79° 06' 32"	0.54	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-22	Briar Chapel Utilities, LLC	Chatham	35° 48' 56"	-79° 06' 33"	0.08	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-23	Briar Chapel Utilities, LLC	Chatham	35° 49' 57"	-79° 06' 33"	0.20	Wedowee	01284 – Non-Discharge Application Rate	0.10	37.31	inches
1-D	D-26	Briar Chapel Utilities, LLC	Chatham	35° 49' 11"	-79° 06' 57"	2.16	Helena	01284 – Non-Discharge Application Rate	0.10	19.95	inches
Total for 1-D (Non-Conjunctive Reclaimed Water Utilization)						16.89					
1-E	E-1 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 47"	-79° 06' 28"	1.0 ²	Fill ⁴	01284 – Non-Discharge Application Rate	0.25	N/A	inches
1-E	E-2 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 44"	-79° 06' 08"	4.9 ²	Fill ⁴	01284 – Non-Discharge Application Rate	0.25	N/A	inches
1-E	E-3 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 35"	-79° 06' 09"	1.0	Fill ⁴	01284 – Non-Discharge Application Rate	0.15	N/A	inches
1-E	E-4 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 34"	-79° 06' 18"	3.3 ²	Fill ⁴	01284 – Non-Discharge Application Rate	0.25	N/A	inches
1-E	E-5 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 06"	-79° 06' 50"	1.8	Fill ⁴	01284 – Non-Discharge Application Rate	0.15	N/A	inches
Total for 1-E (Conjunctive Reclaimed Water Utilization³)						12.0 / 9.2¹					
1-F	F-1 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 27"	-79° 06' 49"	4.1	Fill ⁴	01284 – Non-Discharge Application Rate	0.25	N/A	inches
1-F	F-2 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 30"	-79° 06' 44"	4.1 / 0.51 ¹	Fill ⁴	01284 – Non-Discharge Application Rate	0.25	N/A	inches
1-F	F-3 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 33"	-79° 06' 43"	4.3 / 0.73 ¹	Fill ⁴	01284 – Non-Discharge Application Rate	0.25	N/A	inches
1-F	F-4 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 35"	-79° 06' 50"	2.6 ²	Fill ⁴	01284 – Non-Discharge Application Rate	0.25	N/A	inches
Total for 1-F (Conjunctive Reclaimed Water Utilization³)						15.1 / 3.8¹					
1-G	G-1 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 20"	-79° 07' 02"	3.5	Fill ⁴	01284 – Non-Discharge Application Rate	0.30	N/A	inches
1-G	G-2 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 24"	-79° 07' 00"	2.2	Fill ⁴	01284 – Non-Discharge Application Rate	0.30	N/A	inches
1-G	G-3 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 22"	-79° 06' 54"	4.2	Fill ⁴	01284 – Non-Discharge Application Rate	0.30	N/A	inches
1-G	G-4 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 17"	-79° 06' 59"	4.0	Fill ⁴	01284 – Non-Discharge Application Rate	0.30	N/A	inches
1-G	G-5 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 39"	-79° 06' 54"	1.2	Fill ⁴	01284 – Non-Discharge Application Rate	0.30	N/A	inches
1-G	G-6 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 11"	-79° 06' 40"	3.1	Fill ⁴	01284 – Non-Discharge Application Rate	0.30	N/A	inches

IRRIGATION / UTILIZATION AREA INFORMATION								APPLICATION LIMITATIONS			
Phase	Field	Owner	County	Latitude	Longitude	Net Acreage	Dominant Soil Series	Parameter	Hourly Rate	Yearly Max	Units
1-G	G-7 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 05"	-79° 06' 44"	2.5	Fill ⁴	01284 – Non-Discharge Application Rate	0.30	N/A	inches
1-G	G-8 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 06"	-79° 06' 27"	3.1	Fill ⁴	01284 – Non-Discharge Application Rate	0.30	N/A	inches
1-G	G-9 ³	Briar Chapel Utilities, LLC	Chatham	35° 49' 13"	-79° 06' 27"	2.6	Fill ⁴	01284 – Non-Discharge Application Rate	0.30	N/A	inches
Total for 1-G (Conjunctive Reclaimed Water Utilization³)						26.4					
Total						212.57 / 52.4 ²					

1. The second value represents portions of that field which are certified and operational.
2. This notation represents fields that are entirely certified and operational.
3. Records for conjunctive utilization sites are not required to be reported on Form NDAR-1. Instead, the total monthly flow distributed should be reported on Form NDMR for parameter WQ01.
4. Fields permitted with "Fill" as the dominant underlying soil shall be rototilled and amended with topsoil to a suitable depth to support growth of the intended vegetative cover and in no case less than six inches in depth.

**North Carolina Department of Environmental Quality
Division of Water Resources
Public Water Supply Section**

Application for Approval of Engineering Plans and Specifications For Water Supply Systems

Applicant	Design Engineer
Chatham County <small>(Name of Board, Council or Owner – the Applicant)</small>	Gareth Avant, P.E. <small>(Name of Design Engineer of Record)</small>
Renee Paschal, County Manager <small>(Name and Title of Authorized Official or Representative of the Applicant)</small>	McKim & Creed, Inc. <small>(Name of Engineering Firm)</small>
12 East Street, Courthouse Annex <small>(Mailing Address)</small>	1730 Varsity Drive, Suite 500 <small>(Mailing Address)</small>
Pittsboro, NC 27312 <small>(City, State & ZIP)</small>	Raleigh, NC, 27606 <small>(City, State & ZIP)</small>
(919) 542-8200 <small>(Phone Number)</small>	(919) 233-8091 <small>(Phone Number)</small>
(919) 542-8272 <small>(FAX Number)</small>	(919) 233-8091 <small>(FAX Number)</small>
Renee.Paschal@chathamnc.org <small>(Email address)</small>	gavant@mckimcreed.com <small>(Email address)</small>
 <small>(Signature of Authorized Official or Representative of the Applicant)</small>	

Project Name: Briar Chapel - Phase 16 North
(Name of Project to appear on Public Water Supply Section records and tracking system)

of 8-inch DI water main

Approximately 958 LF of 6-inch ductile iron water main and 1,789 LF and all associated appurtenances.
(description of project)

North of Briar Chapel - Phase 16N and west of US Steel Section 1.
(general location of project)

in Chatham County.

Date _____
(for DEQ use only)

Serial No. _____
(for DEQ use only)

Application for Approval of Engineering Plans and Specifications for Water Supply Systems

To: Division of Water Resources,
Department of Environmental Quality

The **Applicant** applies under and in full accord with the provision of NCGS 130A-317, and such other statutes and rules as relate to public water systems. The **Authorized Official or Representative** of the **Applicant** represents that he is authorized to act for the **Applicant**. The **Authorized Official or Representative** of the **Applicant** understands and agrees to the following:

1. The **Applicant** shall not award contracts or begin construction without first receiving "Authorization to Construct" from DEQ.
2. The **Applicant** shall make no change or deviation from the engineering plans and specifications approved by DEQ except as allowed by 15A NCAC 18C .0306 or with the written consent and approval of DEQ.
3. The **Applicant** shall obtain Final Approval in accordance with 15A NCAC 18C .0306 prior to placing the project (or any portion thereof) into service.
4. Digital (PDF) submittals are true image copy of the original sealed/signed documents.

An authorized representative of the **Public Water System** (not always the same as the **Applicant**) is to complete and sign the following WSMP section.

Status of Water System Management Plan (WSMP)

Check one of the following, and if applicable, provide the required information:

- The WSMP for the project, as defined in the attached engineering plans and specifications, has not been submitted.
- Three copies of the WSMP for the project, as defined in the attached engineering plans and specifications, are submitted with this application.
- The WSMP that includes this project, as defined in the attached engineering plans and specifications, was previously submitted.

Provide the following:

Public Water System Name: North Chatham
 Owner Name: Chatham County
 Water System No.: NC 03-19-126
 Serial Number of Deemed Complete WSMP: 12-00936

By my signature below, I certify that the previously submitted WSMP contains the information required by 15A NCAC 18C .0307(c) for the project defined in the attached engineering plans and specifications.

Renee Paschal
 (Type or print name of authorized representative of Public Water System)
County Manager, Chatham County
 (Title of authorized representative of Public Water System)
Renee Paschal
 (Signature of authorized representative of Public Water System)

4/9/18
 (Date)

Application for Approval of Engineering Plans and Specifications for Water Supply Systems

In accordance with NCGS 130A-328, the Public Water Supply Section charges a fee for plan review. **Any documents submitted for review must be accompanied by a check payable to DEQ-Public Water Supply Section before the review will begin.**

There is a \$25 fee for returned checks.

The charges for review of plans are shown below. Check one of the following.

Distribution System fees

- | | | |
|-------------------------------------|---|-------|
| <input checked="" type="checkbox"/> | Construction of water lines, less than 5000 linear feet | \$150 |
| <input type="checkbox"/> | Construction of water lines, 5000 linear feet or more | \$200 |
| <input type="checkbox"/> | Other construction or alteration to a distribution system | \$ 75 |

Ground Water System fees

- | | | |
|--------------------------|--|-------|
| <input type="checkbox"/> | Construction of a new ground water system or adding a new well | \$200 |
| <input type="checkbox"/> | Alteration to an existing ground water system | \$100 |

Surface water system fees

- | | | |
|--------------------------|---|-------|
| <input type="checkbox"/> | Construction of a new surface water intake or treatment facility | \$250 |
| <input type="checkbox"/> | Alteration to existing surface water intake or treatment facility | \$150 |

Other fees

- | | | |
|--------------------------|--|-------|
| <input type="checkbox"/> | Water System Management Plan review | \$ 75 |
| <input type="checkbox"/> | Miscellaneous changes or maintenance not covered above | \$ 50 |

Notes:

1. Projects for Tank Rehabilitation use separate "Application for Water Tank Reconditioning Plan Approval."
2. The fee is not refundable if the plans are not approved.
3. Revisions to plans to address the Public Water Supply Section's or other state agency's comments do not incur an additional fee.
4. If one set of plans has multiple related items (such as a new well with construction of water lines) only one fee must be submitted for highest price item. The amounts are not cumulative, except for fees for Water System Management Plans.
5. **If the appropriate plan review fee is not received within ten days after the receipt of plans, specifications, and reports for approval, then all plan documents will be recycled. A new set of documents must then be submitted with the appropriate fee for approval.**

This approval does not address all applicable laws, rules, standards and criteria, and other approvals and licenses that may be required by the local, state or federal government.

The Public Water Supply Section has stamped and sealed the official copies of plans and specifications accompanying this application with the serial number of this application _____. Any erasures, additions or alterations of the proposed improvements except those permitted in 15A NCAC 18C .0306 make this approval null and void.

This approval does not constitute a warranty of the design, construction or future operation of the water system.

Signed: _____
Robert W. Midgette, P.E., Operations Branch Head
Public Water Supply Section
Division of Water Resources

Application for Approval of Engineering Plans and Specifications for Water Supply Systems

Other Information and Checklist Page

- Attached is a check for the proper plan review fee amount, in accordance with NCGS 130A-328. See note 4 on page 3.

This-submittal includes one paper original with two digital (PDF) CDs of the following items, each item in separate folders:

- This completed "Application for Approval of Engineering Plans and Specifications for Water Supply Systems"
- The sealed plan drawings, separate file in PDF format for each drawing. Cover sheet must include drawings index;
- The project-specific Engineering Report (ER) describing the scope and purpose of the project and addressing each of the items listed in 15A NCAC 18C .0307(b), including the design basis of the project. [15A NCAC 18C .0307(b) (12)];
- Specifications for this project; **OR**
- The project will use the following system's previously approved standard specifications for waterline extensions:

Name of System: _____

Serial Number: _____

The Serial Numbers for previously approved standard specifications can be found at the following website:

<http://www.ncwater.org/?page=424>

One of the following:

- Attached is a letter signed by an authorized representative of the Public Water System agreeing to serve the project and stating that the system has adequate supply;

OR

- The **Applicant** is the Public Water System.

If the project has sought funding (for example, DWSRF loan) list the program and (if available) the application or funding number below:

Program Name	Application or Funding Number, if available

- Yes No
- Project will be completed with significant expenditure of state moneys, greater than ten million dollars (\$10,000,000) in accordance with G.S. 113A-9 (7a).
 - Project will cause substantial, permanent land-disturbing activity of an area greater than 10 acres of public lands in accordance with G.S. 113A-9 (11).



ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
LINDA CULPEPPER
Interim Director

May 11, 2018

Chatham County
Attention: Renee Paschal, County Manager
12 East Street, Courthouse Annex
Pittsboro, North Carolina 27312

Re: Engineering Plans and Specifications Approval
Distribution Extension
Briar Chapel – Phase 16 North
Chatham Co - North
Water System No.: NC0319126, Chatham County
Serial No.: 18-00354

Dear Applicant:

Enclosed please find one copy of the "Application for Approval..." together with one copy of the referenced engineering plans and specifications bearing the Division of Water Resources stamp of approval for the referenced project. These engineering plans and specifications are approved under Division of Water Resources Serial Number 18-00354, dated May 11, 2018.

Engineering plans and specifications prepared by Gareth Avant, P.E., call for the installation of approximately 1790 feet of 8-inch water main, 960 feet of 6-inch water main, fire hydrants, valves and associated appurtenances to serve 62 single family residences within Briar Chapel – Phase 16 North located along Middleton Place in Chatham County. The proposed 8-inch water main will connect to an existing 8-inch water main along Middleton Place.

Please note that in accordance with 15A NCAC 18C .0309(a), no construction, alteration, or expansion of a water system shall be placed into service or made available for human consumption until the Public Water Supply Section has issued Final Approval. Final Approval will be issued and mailed to the applicant upon receipt of both an Engineer's Certification and an Applicant's Certification submitted in accordance with 15 A NCAC 18C .0303 (a) and (c).

These plans and specifications in the foregoing application are approved insofar as the protection of public health is concerned as provided in the rules, standards and criteria adopted under the authority of Chapter 130A-317 of the General Statutes. This approval does not constitute a warranty of the design, construction or future operation of the water system.



Chatham County
Attention: Renee Paschal, County Manager
Page 2 of 2
May 11, 2018

One copy of the "Application for Approval..." and a copy of the plans and specifications with a seal of approval from the department are enclosed. One copy of the approved documents is being forwarded to our Raleigh Regional Office. The third copy is being retained in our office.

If the Public Water Supply Section can be of further service, please call (919) 707-9100.

Sincerely,

Handwritten signature of Robert W. Midgette in cursive script, followed by the text "/for".

Robert W. Midgette, P.E.
Operations Branch Head
Public Water Supply Section

RWM/LARP

Enclosures: Approval Documents

cc: Allen Hardy, Raleigh Regional Office
Chatham County Health Department
McKim & Creed, Inc.