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May 1, 2020

Ms. Kimberley A. Campbell, Chief Clerk
North Carolina Utilities Commission
430 N. Salisbury Street
Raleigh, NC 27603

RE: *Application for Certificate of Public Convenience and Necessity and Registration Statement for ONSWC Chatham North, LLC in Chatham County*
NCUC Docket No. W-1300 Sub 55
Application for Transfer of Public Utility Franchise and for Approval of Rates from Old North State Water Company to ONSWC- Chatham North, LLC
NCUC Docket No. W-1320 Sub 0
Application for Transfer of Public Utility Franchise of Finch Creations dba Ferrington Utilities to ONSWC - Chatham North, LLC in Chatham Co.
(Amended Purchaser NCUC Docket No. W-1320 Sub 2
Application for Transfer of Public Utility Franchise of Finch Creations dba Ferrington Utilities to ONSWC in Chatham Co. Waste Water Only
NCUC Docket No. W-661 Sub 9

Dear Ms. Campbell:

On behalf of ONSWC - Chatham North, LLC, we herewith submit the **Supplemental Direct Testimony of Lee Bowman** in the above-referenced consolidated dockets.

Pursuant to Commission Order dated April 16, 2020 filed in M-100, Sub 158, the Company will not deliver copies of its testimony and exhibits to the Commission.

Should you have any questions concerning this testimony or exhibits attached thereto, please do not hesitate to contact me.

Sincerely,

/s/ Karen M. Kemerait

CC: All Parties of Record
Enclosures

**BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION**

**DOCKET NO. W-1320, Sub 0
DOCKET NO. W-1300, Sub 55
DOCKET NO. W-1320, Sub 2
DOCKET NO. W-661, Sub 9**

SUPPLEMENTAL DIRECT TESTIMONY

OF

LEE BOWMAN

May 1, 2020

1 Q. PLEASE STATE YOUR NAME, EMPLOYER, POSITION, AND BUSINESS
2 ADDRESS.

3 A. My name is Lee Bowman, and I am the Director of Project and Corporate
4 Development for Envirolink, Inc., a contractor for ONSWC-Chatham North, LLC
5 (“Chatham North”). My business address is 4700 Homewood Court, Suite 108,
6 Raleigh, North Carolina 27609.

7 Q. PLEASE DESCRIBE ENVIROLINK.

8 A. Envirolink first became the Contract Operator for the Briar Chapel reclaimed
9 wastewater utility when Briar Chapel Utilities, LLC (“BCU”) previously owned
10 the system, as discussed below, and Envirolink continues to be the Contract
11 Operator for the system under ownership by Old North State Water Company,
12 LLC.

13 Q. PLEASE SUMMARIZE YOUR CURRENT RESPONSIBILITIES ON BEHALF
14 OF CHATHAM NORTH FOR THE BRIAR CHAPEL RECLAIMED WATER
15 UTILITIY.

16 A. My responsibilities on behalf of Chatham North include oversight and
17 management of Chatham North’s capital projects including relationships with
18 strategic partners.

19 Q. IN ADDITION TO PROVIDING US YOUR WORK ADDRESS, WHERE DO
20 YOU LIVE?

21 A. I was one of the first homeowners to purchase a home in the Briar Chapel
22 community, and I live on Tobacco Farm Way in the heart of the community just

1 about a mile from the wastewater treatment plant. I have lived in Briar Chapel
2 since December, 2008.

3 Q. BEFORE WORKING FOR ENVIROLINK, WHO WAS YOUR EMPLOYER
4 AND WHAT WAS YOUR POSITION?

5 A. Prior to working for Envirolink, I was employed by Newland Communities
6 ("Newland"), the developer of the Briar Chapel community, for almost fourteen
7 years. I began as a Development Manager for the Briar Chapel project and
8 ultimately had increasing responsibilities and oversight for their other projects in
9 the Triangle. At the time I stopped working for Newland, I was the Senior Project
10 Manager for both Briar Chapel and Wendell Falls, two of the top-three selling
11 master-planned communities in the Triangle over the past decade.

12 Q. BECAUSE OF YOUR PRIOR WORK FOR NEWLAND, ARE YOU
13 KNOWLEDGEABLE OF THE DESIGN AND HISTORY OF THE BRIAR
14 CHAPEL RECLAIMED WATER UTILITY?

15 A. Yes, I am very familiar with the entire reclaimed wastewater utility at Briar
16 Chapel -- from the wastewater treatment plant to the reclaimed water irrigation
17 system. In fact, one of my first duties as a Newland manager was to coordinate
18 the development of the reclaimed water utility in 2005.

19 Q. PLEASE DESCRIBE THE HISTORY OF THE BRIAR CHAPEL RECLAIMED
20 WATER UTILITY?

21 A. From 2003 to 2005, Newland completed its initial design of the Briar Chapel
22 community and applied for and received the appropriate and necessary zoning and

1 conditional use permit approvals from Chatham County. The design of the Briar
2 Chapel community and the zoning approvals included an on-site wastewater
3 treatment plant, holding ponds, and spray irrigation of the treated effluent. At that
4 time—and still today—there is no off-site public wastewater treatment system in
5 northern Chatham County, so a public wastewater treatment system was not an
6 option to meet the needs for the community. During the zoning entitlement process,
7 the wastewater treatment and spray irrigation plans were important, and much
8 discussed, components of the plans for the Briar Chapel community.

9 As I mentioned in my preceding answer, I helped coordinate the beginning
10 of the construction of the reclaimed water treatment plant (“RWTP”) in the fall of
11 2005, which included the various early phases of the collection system that
12 connected to the RWTP and the initial infrastructure for the reclaimed irrigation
13 system, including storage ponds, pump stations, and spray areas.

14 The RWTP was designed to achieve a level of treatment necessary to
15 satisfy the North Carolina Department of Environmental Quality (“NCDEQ”),
16 Division of Water Resources (DWR),-approved standards for "reclaimed water
17 system" spray irrigation.

18 Initially, Newland formed BCU as a subsidiary to own the Briar Chapel
19 reclaimed water utility. The core business of Newland, however, was not utility
20 service, and the developer always intended to sell the utility to a company such as
21 ONSWC. Until that time, it contracted out the operations and maintenance of the

1 reclaimed water utility to Envirolink (even prior to Michael J. Myer's ownership
2 and involvement with Envirolink).

3 The RWTP is permitted by DWQ to handle 750,000 gallons per day.
4 Newland's plan was to construct the system in phases -- increasing its capacity
5 over time to meet the increasing demand as homes were built in the community.
6 The very first phase constructed had a capacity of 250,000 gallons per day, its
7 current capacity.

8 Over the years and as the pace of development of the Briar Chapel
9 increased, additional phases were added to both the wastewater collection system
10 and the reclaimed irrigation system. Newland contracted with several of the top
11 engineering and construction firms in the Triangle specializing in wastewater
12 utility and reclaimed irrigation to design, permit, and construct the incremental
13 phases of the infrastructure.

14 Q. HOW WAS THE LOCATION OF THE RWTP IN BRIAR CHAPEL
15 DETERMINED?

16 A. Newland's records reflect that the location of the RWTP and holding ponds in the
17 central part of the community were part of the initial design and Conditional Use
18 Permit (CUP) entitlement approval process by Chatham County. The CUP process
19 required concept plans of the layout of the community showing key facilities and
20 the infrastructure in detail. After the CUP was approved, Newland had the RWTP
21 constructed as shown on that plan. The location is adjacent to a major electric

1 transmission line easement. The centralized location also minimized the length of
2 the initial collection system pipe and irrigation lines to those areas.

3 The RWTP was built prior to any homes being constructed in the area of
4 the Briar Chapel community where the RWTP is located. The first phases of the
5 home construction were on the eastern side of the community, and -- as the
6 community has been built out -- new phases were added to the west, closer the
7 RWTP. Now, homes have been built in closer proximity to the existing RWTP.
8 Required setbacks and a visual buffer consisting of a mix of hardwood and pine
9 trees surrounds the RWTP, separating the RWTP and the closest homes.

10 Q. WHEN DID OLD NORTH STATE WATER COMPANY PURCHASE BRIAR
11 CHAPEL UTILITIES FROM NEWLAND?

12 A. The contract between ONSWC and Newland was executed in October 2014, but
13 the closing did not occur until the Spring of 2015 after the North Carolina Utilities
14 Commission approved the purchase.

15 Q. THE BRIAR CHAPEL RECLAIMED WATER UTILITY AND IRRIGATION
16 SYSTEM HAS BEEN DESCRIBED AS BEING A COMPLEX SYSTEM.
17 PLEASE DESCRIBE THAT SYSTEM IN DETAIL.

18 A. The reclaimed water utility currently serves approximately 1,967 homes, as well
19 as Margaret Pollard Middle School, Woods Charter School, and several other
20 civic and commercial customers spread out over 1600 acres. A map showing the
21 plans for the overall Briar Chapel community, including the location of the
22 RWTP, is attached hereto as LB-Exhibit 1.

1 The RWTP currently includes a 250,000 GPD extended aeration
2 wastewater treatment plant, including dual static screens for grit removal, a
3 manually cleaned bar screen, a 75,400 gallon aerated flow equalization basin, two
4 (2) 31,500 gallon anoxic chambers, two (2) 189,000 aeration basins, two (2)
5 31,500 gallon clarifiers, a 75,400 gallon sludge holding basin, a 10,730 gallon
6 contact chamber, a 16,800 gallon mudwell, two (2) 90 square foot tertiary filters,
7 a 13,800 gallon clearwell, dual banks of ultraviolet (UV) modules, and a 6,850
8 gallon dechlorination chamber; and a 3.5 million gallon five day upset pond. The
9 collection system consists of multiple phases of infrastructure that has been built
10 over the years pursuant to DWQ approvals and permits with miles of collection
11 pipes and ten operational pump stations with several others in varying stages of
12 completion. An aerial photo showing the RWTP facility is attached hereto as LB-
13 Exhibit 2.

14 The treated wastewater, meeting all DWQ standards, goes from the WFR
15 to the central holding pond until it can be used for irrigation. The central holding
16 pond is a 21.3 MG clay-lines storage pond with an adjoining pump station
17 building. The central pond is connected to a 31.2 million gallon clay-lined
18 effluent storage in the western part of the community.

19 Irrigation spray fields are located throughout the community for the
20 purpose of irrigating common areas, recreational fields, and road rights-of-way
21 (and some individual yards) with the treated effluent from the holding ponds. The
22 distribution system for the Briar Chapel reclaimed water irrigation system is

1 comprised of piping ranging in size from 18 inches to 2 inches, 48 irrigation
2 controllers (each controller can control between 12 and 96 zones, each zone has
3 between 18 and 20 spray heads), and 7,500 irrigation nozzles. A map showing
4 the sprayfield areas within the Briar Chapel community is attached hereto as LB-
5 Exhibit 3.

6 At the RWTP, a central maintenance and operations building houses the
7 reclaimed water irrigation management office. Here, a central management
8 software system is housed along with an on-site weather station that provides
9 continuous monitoring of weather conditions, rainfall events, evapotranspiration,
10 etc. so that the irrigation volumes rates can be managed and regulated. In fact, the
11 integration of the on-site weather station into the central management software
12 system provides for the irrigation to shut down when the site receives one-quarter
13 inch of rain. Flow monitoring equipment is installed throughout the system to
14 measure transmission rates and compare them to actual programmed rates.

15 Q. BASED UPON THE DESCRIPTION THAT YOU JUST PROVIDED, WHAT
16 MAKES THE SYSTEM COMPLEX?

17 A. Because the Briar Chapel property has several areas with considerable elevations
18 changes (i.e., it is hilly), there are several pump stations, which provide some
19 complexity. However, it is really the reclaimed irrigation system that is complex.

20 The sheer size and magnitude of the irrigation system is one source of the
21 complexity. I am personally not aware of any comparable system in North
22 Carolina that does not involve the irrigation of one or more golf courses or a

1 large, uniform electric power line easement. In Chatham County, for instance, the
2 other communities that have a water reclamation facility utilizing spray irrigation
3 for disposal purposes all have golf courses as their primary, if not sole, irrigation
4 areas. Closest to Briar Chapel, for example, are The Governors Club and The
5 Preserve at Jordan Lake.

6 But much of the operational complexity is the result of all the inputs and
7 variables that need to be considered and balanced – some of which are not always
8 mutually and internally consistent. As an example, there are different irrigation
9 loading rates for different zones based on variable soil conditions and vegetation
10 that have to be balanced with the desires of different stakeholders in the
11 community to have highly maintained areas (or not) that require different
12 irrigation levels. Some irrigated areas are used for active recreation; others are
13 more natural, and then, to illustrate the complexity, there are spray areas in natural
14 areas that have the development's trail system integrated throughout it. There is
15 one phase in Briar Chapel where the lawns around individual homes are irrigated
16 with reclaimed water from the system, as shown in LB-Exhibit 4.

17 The irrigation must comply with applicable DWQ permits and standards,
18 which are very restrictive in some respects, but do not address or account for
19 differing conditions of, among others, wind speed and direction, evaporation,
20 transpiration, solar radiation, pre-irrigation aggregate rainfall, barometric
21 pressures, or humidity – all of which can affect the irrigation spray and vegetative
22 uptake rates. We have even noticed some variability among micro climates

1 within the community, depending upon elevation, vegetation/shade, and
2 impervious/reflective surfaces. We do our best to try to monitor, manage, and
3 adjust the irrigation system, schedules, frequencies, intensities, etc. in light of
4 these other factors, to the maximum extent possible. While the system's software
5 and hardware is extremely sophisticated, it has some limitation in its ability to
6 differentiate among areas to the level of granularity that are expected by many of
7 the community constituents which exceed the requirements of the permit
8 conditions.

9 The regulators at DWQ are hard working and try to work with us, but
10 because of the uniqueness of the Briar Chapel system, it is a challenge for them as
11 well. For example, we have been trying for months to receive approval for a very
12 simple chlorination solution to reduce odor in the reclaimed water irrigation
13 system, but are still waiting on their decision.

14 Stakeholders that are interested in the irrigation areas, schedules,
15 frequency, and intensities include the Briar Chapel Community Association
16 (BCCA), Briar Chapel sub-associations in different phases of the community,
17 Chatham County Schools, Woods Charter School, NC DOT, and Newland as the
18 master developer, along with individual homeowners/customers. This situation is
19 in stark contrast to a system that irrigates only a golf course, which has a single
20 owner and a single purpose, and the only vegetation variables are among the
21 fairways, roughs, and greens.

1 Q. WOULD THE PROPOSED MERGER OF THE BRIAR CHAPEL SYSTEM AND
2 THE FEARRINGTON VILLAGE WASTEWATER TREATMENT AND
3 DISCHARGE SYSTEM HELP WITH THE MANAGEMENT OF THIS
4 COMPLEXITY IN BRIAR CHAPEL?

5 A. Absolutely, yes. Fearrington Utilities has a 500,000 gpd National Pollutant
6 Discharge Elimination System ("NPDES") Permit (Permit No. NC0043559) for
7 discharge of wastewater into an unnamed tributary of Bush Creek, a tributary of
8 Jordan Lake. The ability to use this permit would provide a complementary and
9 alternative means for disposing the treated effluent, especially in the winter and
10 whenever the spray irrigation is constrained due to weather, environmental, or
11 operational reasons. This would result in a more robust and reliable wastewater
12 system for all customers, including current and future Briar Chapel customers, and
13 would likely reduce the amount of additional irrigated area that would otherwise be
14 needed in Briar Chapel in the future.

15 Q. IN ADDITION TO YOUR KNOWLEDGE OF THE BRIAR CHAPEL
16 RECLAIMED WATER UTILITY, ARE YOU FAMILIAR WITH THE
17 CURRENT FEARRINGTON VILLAGE WASTEWATER TREATMENT
18 SYSTEM? IF SO, PLEASE DESCRIBE THAT SYSTEM.

19 A. Yes, I am. The Fearrington Village wastewater treatment system, comprised of
20 wastewater collection, treatment and disposal components, serves approximately
21 1,383 residential taps and six commercial customers, equivalent to 66 REUs. The
22 Fearrington Village service area is located east of US-15 North/US-501 North

1 (across this highway from the Briar Chapel community), between Jack Bennett
2 Road and Mt. Gilead Church Road. The wastewater system includes a 270,000
3 GPD wastewater treatment plant, approximately 15 miles (79,200 feet) of gravity
4 sewer, three sewer pump stations, and approximately 7,000 feet of force main. .
5 Treatment consists of 3 x 90,000 gallon per day extended aeration wastewater
6 plants with tablet chlorination and dechlorination prior to discharge into the Jordan
7 Lake watershed pursuant to the NPDES permit referenced in my previous answer.
8 A map of the Fearrington sewer system, showing all manhole locations, is attached
9 as LB-Exhibit 5.

10 Q. ARE YOU FAMILIAR WITH THE CURRENT CONDITION OF THE
11 FEARRINGTON VILLAGE WASTEWATER TREATMENT SYSTEM?

12 A. Yes, I am very familiar with it.

13 Q. HOW WOULD YOU DESCRIBE THE CONDITION OF THE FEARRINGTON
14 VILLAGE WASTEWATER TREATMENT SYSTEM?

15 A. The first two phases of the system were constructed in 1984, the last, in 1995, and
16 the system is not able to meet the existing Jordan Lake nutrient limits. It needs
17 significant upgrades and modifications to adapt to current, federally-mandated
18 water quality standards. In short, the wastewater treatment plant needs to be
19 replaced. Photographs of the Fearrington Village facility are attached hereto
20 labelled as LB-Exhibits 6A through 6D.

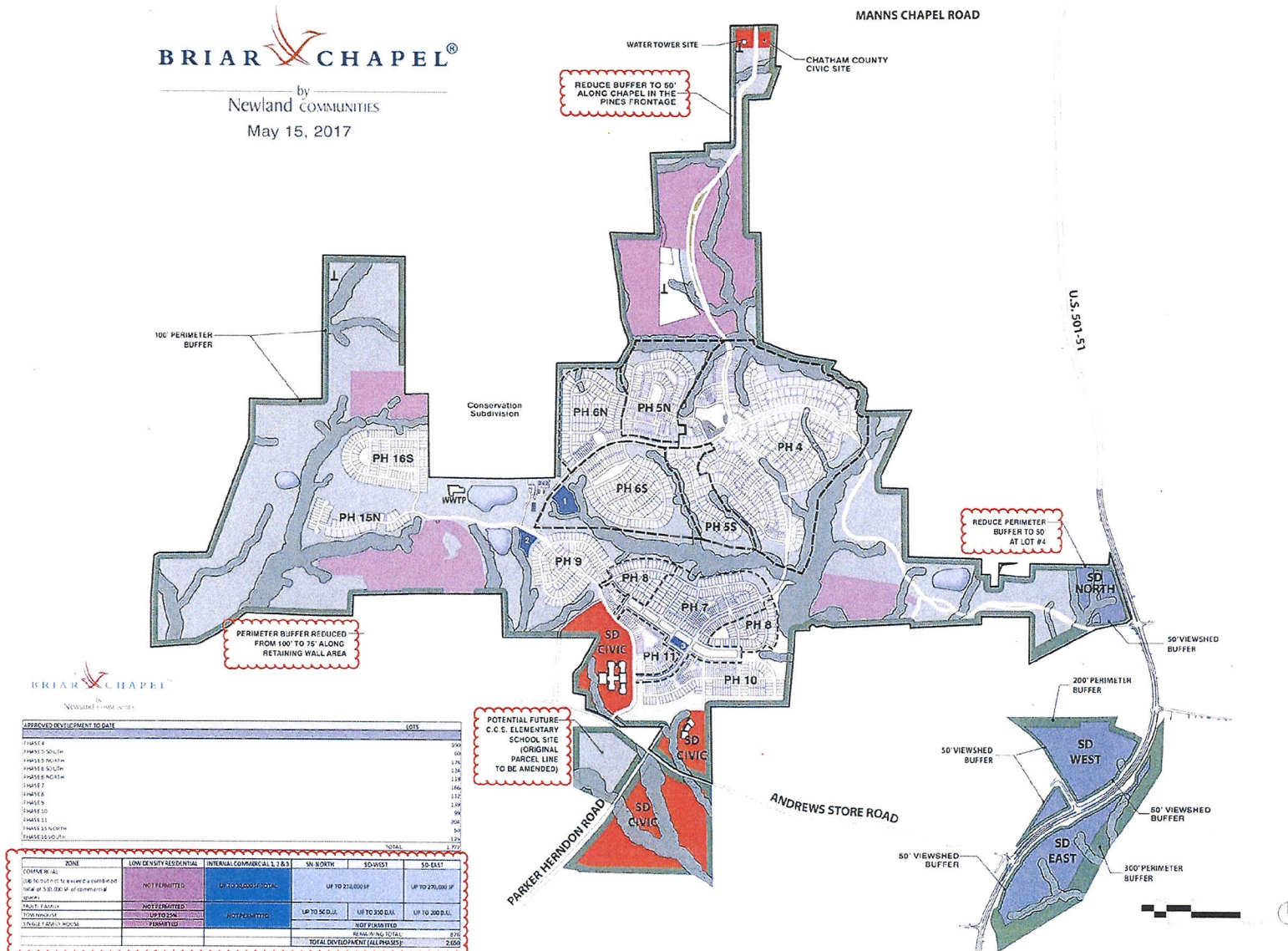
1 Q. HOW IS THE CURRENT CONDITION OF THE FEARRINGTON
2 WASTEWATER TREATMENT FACILITY RELATED TO THE PENDING
3 MERGER APPLICATION IN THIS DOCKET?

4 A. The proposed merger of the two systems, as requested to be approved in this docket,
5 would be a beneficial and cost effective means of addressing the need to replace
6 the Fearington Village wastewater treatment facility. The cost of replacing this
7 facility, that would otherwise need to be incurred and borne by the ratepayers,
8 would be avoided by utilizing the Briar Chapel treatment facility that will be
9 expanded anyway, as explained in other testimony. Given the benefits to the Briar
10 Chapel customers, as described above and in testimony of Michael J. Myers, and
11 the benefits to the Fearington Village customers, I would describe the proposed
12 merger as being very much a proverbial "win-win."

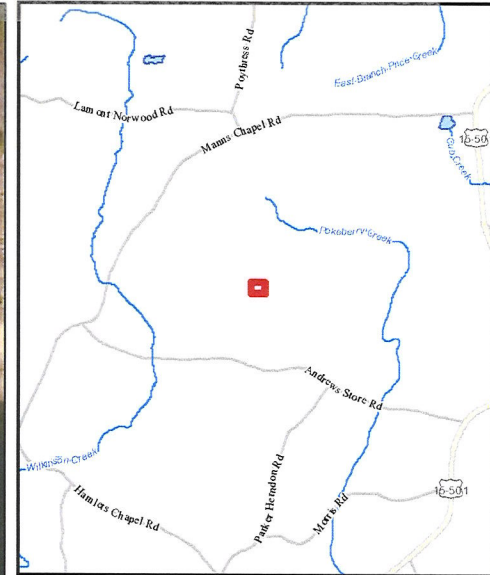
13 Q. DOES THIS COMPLETE YOUR TESTIMONY?

14 A. Yes, at this time.

15



Chatham County Tax Map



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Service Layer Credits: Chatham
County, Chatham County Tax
Department

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BRIAR CHAPEL

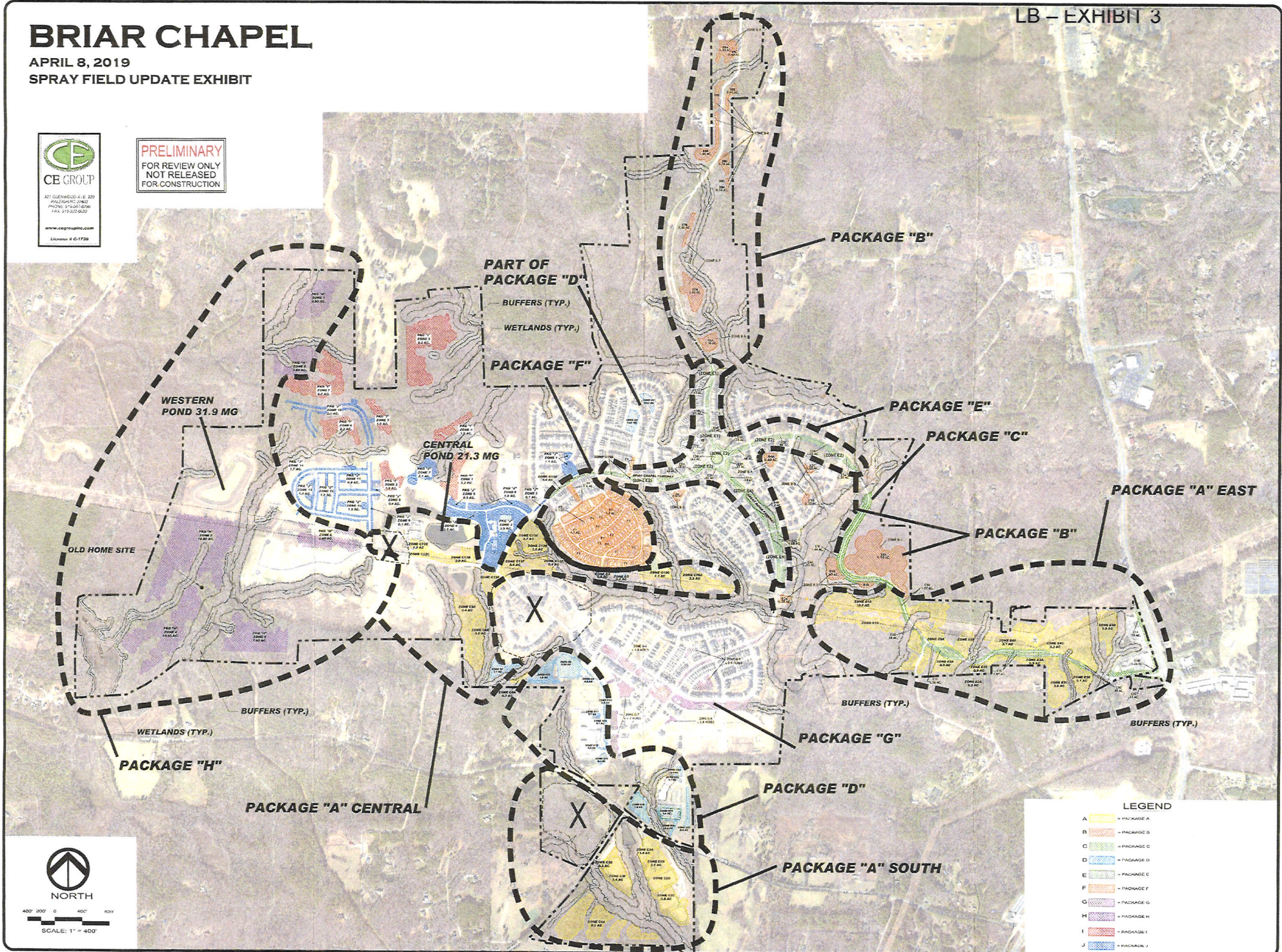
APRIL 8, 2019

SPRAY FIELD UPDATE EXHIBIT

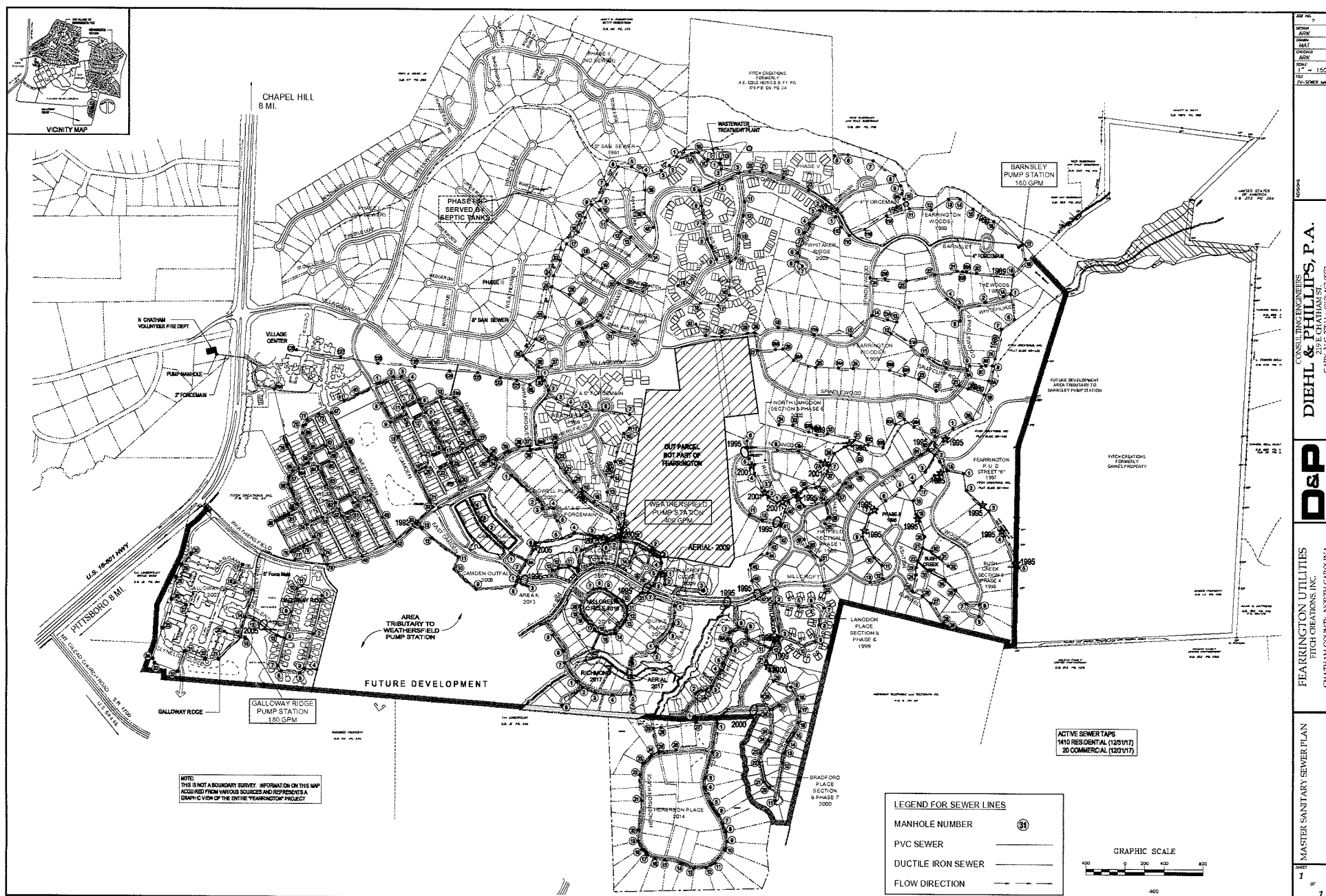
LB - EXHIBIT 3



PRELIMINARY
FOR REVIEW ONLY
NOT RELEASED
FOR CONSTRUCTION



400' 200' 0 200' 400' RDW
SCALE: 1" = 400'









LB - EXHIBIT 6C

LB - EXHIBIT 6C

