## PROFESSIONAL SIGNATURES AND SEALS

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<tr>
<td>Michael G. Robinson</td>
<td>034781</td>
<td>12/31/2018</td>
</tr>
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<tr>
<th>Telephone number</th>
<th>FAX number</th>
<th>E-mail</th>
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<tbody>
<tr>
<td>(704) 558-4255</td>
<td></td>
<td><a href="mailto:Michael.Robinson@parsons.com">Michael.Robinson@parsons.com</a></td>
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**DOCUMENT:**

FEASIBILITY STUDY REPORT FOR PUBLIC WATER SERVICES  
CHEMOURS FAYETTEVILLE WORKS  
FAYETTEVILLE, NORTH CAROLINA

Seals, as applicable:
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<tr>
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<td>Granular activated carbon</td>
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<td>Hexafluoropropylene oxide dimer acid</td>
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<td>LCFWSA</td>
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<td>Mean sea level</td>
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<td>Preliminary engineering report</td>
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1.0 INTRODUCTION

In a letter dated May 24, 2018, The North Carolina Department of Environmental Quality (NCDEQ) requested that The Chemours Company FC, LLC (Chemours) work with Bladen, Cumberland, and other counties to develop a plan to install public water at homes with private wells in which hexafluoropropylene oxide dimer acid (HFPO-DA) has been detected above the State’s provisional health goal for drinking water.

Parsons has prepared this Feasibility Study (FS) Report to evaluate the potential for extending existing public water systems (PWSs) into the area around the Chemours Fayetteville Works Plant located near Duart Township in Bladen County, North Carolina (the Site). Expanding public drinking water access to impacted areas around the Site and providing connections to homes is a possible measure to address exceedances of the provisional health goal for HFPO-DA in private wells. Chemours, in coordination with NCDEQ, is also conducting a pilot program on the effectiveness of granular activated (GAC) filtration systems in removing HFPO-DA from water. The initial results from the pilot program demonstrate that the GAC system is highly effective at removing HFPO-DA and can be effectively utilized if either (i) the homeowner prefers the GAC system or (ii) the extension of the PWS to that homeowner is not cost effective.

Chemours has had several meetings and phone calls with representatives of Bladen and Cumberland Counties to discuss issues and timing related to possible connections of impacted homeowners to municipal water. Most recently, on June 21, 2018, Chemours met with County officials, including the County Administrators for Bladen and Cumberland Counties to share information about such potential connections. The Counties and Chemours agreed to continue to work together on the feasibility, scope and implementation of connection to PWS.

2.0 BACKGROUND AND OBJECTIVES

The Site is located on NC Highway 87, 15 miles southeast of the City of Fayetteville and south of the Bladen-Cumberland county line. The Site encompasses 2,177 acres of relatively flat, undeveloped open land and woodland bounded on the east by the Cape Fear River, on the west by NC Highway 87, and on the north and south by farmland (Figure 1).

E.I. du Pont de Nemours and Company (DuPont) purchased the property in parcels from several families in 1970. A former manufacturing area, which was sold in 1992, produced nylon strapping and elastomeric tape.

DuPont sold its Butacite® and SentryGlas® manufacturing units to Kuraray America Inc. in June 2014. On July 1, 2015, DuPont separated its specialty chemicals business into a new publicly-traded company named The Chemours Company FC, LLC. With this separation, Chemours became the owner of the entire 2,177 acres of the Fayetteville Works along with the fluoromonomers, Nafion™ membranes, and Polymer Processing Area (PPA) manufacturing units. The polyvinyl fluoride (PVF) resin manufacturing unit remains with DuPont.
2.1 Regional Topography, Geology and Hydrogeology

The region surrounding the Site is generally level to gently sloping. However, surface topography steepens when approaching the Cape Fear River and its tributaries.

The Chemours Site is in the northwestern portion of Bladen County at the southern border of Cumberland County. Cumberland and Bladen Counties are situated within the Coastal Plain Physiographic Province, which consists of a seaward thickening wedge of sedimentary deposits ranging in age from Cretaceous to Recent. Paleozoic, metamorphic and igneous rocks underlie these deposits. In the northern portion of Bladen County these “basement” rocks are approximately 400 feet below ground surface (bgs). Based on the Geologic Map of North Carolina\(^1\), Bladen and Cumberland counties is underlain by the Black Creek Formation. The Black Creek Formation is characterized by lignitic clay, gray to black, and contains thin beds and laminae of fine-grained micaceous sand as well as thick lenses of cross-bedded sand. The upper portion of the formation may also contain glauconitic, fossiliferous clayey sand lenses. The Black Creek Formation and surficial deposits are the principal potable water aquifers in the region. Shallow groundwater is generally encountered between 15 and 40 feet below grade.

The soil in Bladen and Cumberland counties falls within the Norfolk-Goldsboro-Raines general classification\(^2\). These soils are located on old, high stream terraces in the northern part of Bladen County and are generally poorly drained soils that have a sandy or loamy surface layer and loamy subsoil. Based on the lithology logged during on-site investigations, the Site is underlain by a fine- to medium-grained sand unit with thin discontinuous interbedded silt/clay lenses. The sand extends to a depth of approximately 65 feet bgs (elevation of +80 feet mean sea level [MSL]). The saturated portion of this unit has been identified as the Surficial Aquifer. Beneath this unit is a 7- to 15-foot-thick, laterally-continuous dense clay that has been identified as the Black Creek Confining Unit.

2.2 Feasibility Study Objectives

The purpose of this FS is to:

1. Analyze the potential for expanding public drinking water access to homes with private wells having concentrations exceeding the North Carolina provisional health goal for HFPO-DA.
2. Provide a plan for providing required access where such expansion is determined to be feasible.

This report presents the potential options for providing public drinking water to impacted homes around the plant, provides the estimated cost and timeframe to construct the systems, and evaluates the ability to implement the options presented.

---

3.0 PROPOSED SERVICE AREAS AND WATER SOURCES

To facilitate the analysis, the area around the plant was divided into four proposed service areas (based on geography and proximity to water sources) as shown on Figure 2:

1. Bladen County West of Cape Fear River
2. Bladen County East of Cape Fear River
3. Cumberland County West of Cape Fear River
4. Cumberland County East of Cape Fear River

Each area is discussed in detail below. In addition, there are three potential water sources for serving the four areas analyzed below.

3.1 Bladen County (Groundwater)

Bladen County operates a public water system that draws water from groundwater and that currently serves select areas of the county as well as providing wholesale water to Cumberland County to service a small neighborhood in southwestern Cumberland County (SouthPoint). Bladen County has several wells located around the county. The system is divided into geographic areas, and service is currently available in the northwestern portion of the county and a small area in southwestern Cumberland County. Parsons has been working with the county to obtain maps and determine requirements for expanding the existing systems. Two proposals were provided by Bladen County to Chemours in late 2017 for providing service to the area west of the Cape Fear River (Appendix A).

3.2 Cumberland County (Groundwater or Surface Water)

Cumberland County currently operates a small public water system serving the SouthPoint neighborhood located off Chicken Foot Road in southwest Cumberland county. The county purchases water from Bladen County to service this small neighborhood of less than 50 homes. The County has identified the expansion of municipal water as a priority and is conducting an evaluation of such an expansion. Currently, the only water service in southern Cumberland County is in the South Point neighborhood. While Cumberland County operates the system, wholesale water is purchased from Bladen County for this small system.

Cumberland County evaluated expanding municipal water to residences as part of a proposed bond issue, prepared a preliminary engineering report (PER) for providing public drinking water to various areas of the county not currently served by the utility (Cumberland County Rural Water Feasibility Study Preliminary Engineering Report, August 2009; see Appendix B). The PER outlined the cost to expand the system to rural areas located outside the current areas of service. Three potential water sources for the proposed water system were analyzed in the PER:

- Option 1 - developing a County-owned surface water supply;
- Option 2 - developing a County-owned groundwater supply; and
- Option 3 - negotiating a purchase contract with an existing provider.
Two alternative water sources were evaluated as part of Option 3: (a) Fayetteville Public Works Commission (PWC) and (b) Lower Cape Fear Water and Sewer Authority (LCFWSA). The results of the study indicated that “existing supplies preclude the necessity for Cumberland County developing their own County water supply system (surface or groundwater).” Purchasing water from the Fayetteville PWC was determined to be the most economical option. The Fayetteville PWC uses surface water as its source. The report divides the areas into sub-sections and included population growth estimates.

Parsons has been in discussions with representatives from Cumberland County about this study, which is being updated. The County is updating the study to reflect current population estimates and updated growth projections and to add provisions for fire protection service (instead of the rural water service previously proposed). Based on Parsons’ discussions with the county, we expect that Cumberland County may decide to purchase water from the Fayetteville PWC or from Bladen County. We understand, from discussions with the County, that it working to complete the updated study before October 15, 2018.

3.3 Source 3: Lower Cape Fear Water and Sewer Authority (Surface Water)

The LCFWSA operates a surface water treatment plant in Tar Heel, North Carolina, approximately 5.5 miles south of the Site entrance. The treatment plant uses water from the Cape Fear River. Parsons has determined that there are no water lines extending north of the treatment plant. Therefore, the use of this plant as a source was considered impractical given that other sources are significantly closer to the Site. In addition, this system could not practically or cost-effectively serve areas east of the Cape Fear River.

4.0 ASSUMPTIONS

This study relies on publicly-available data, discussions with the Counties, and system information and piping layouts provided to Parsons by the County utilities. Parsons evaluated the available data to determine the most efficient, feasible, and implementable solutions for providing public drinking water to the area. Several assumptions were made while performing the evaluation:

1. The hydraulics of a new delivery system were not analyzed. Parsons assumed that the systems and pipe sizes proposed by Cumberland and Bladen Counties will provide suitable flow and pressure to the homeowners.

2. Proposed costs were based on the costs provided in the PER (adjusted for inflation), cost estimates provided by Bladen County, and professional judgement. The PER can be found in Appendix B. The costs are intended to provide a rough estimate for each option so that a preliminary determination of the cost effectiveness of each alternative could be made. The actual cost may be higher or lower.

3. No cost contingency has been included.

4. Parsons assumed cooperation between the water utility suppliers. Negotiation for intercounty water licenses is not included.
5. The proposed system is for providing drinking water to affected residences and does not include fire suppression protection.

6. Piping will be installed with 3.5 feet of cover for freeze protection. Dewatering of excavation pits is not required.

7. Piping can be installed outside paved areas.

8. The construction schedule assumes an average production rate of 300 feet of pipe laid per day and working 5-day weeks, with 36 weeks of construction time per year.

9. Parsons assumed that the counties will use their powers of eminent domain to obtain the property necessary for implementation of municipal water and that Chemours will not be responsible for purchasing property.

10. This study assumes that water mains will be installed directly to the impacted areas (i.e., it does not include the buildout of other areas the transmission main may pass through).

11. Parsons also reviewed the public record related to the implementation of municipal water connections by Duke Energy to identify issues and evaluate the estimated timeline for implementation of the options reviewed in this study.

5.0 PROCESS OVERVIEW

This section describes the general process that would be followed to determine whether and how Chemours would provide certain homeowners with connections to PWSs. How that general process would be applied to specific geographic areas is discussed in subsequent sections.

For each owner of a home with well water concentrations above the provisional health goal, Chemours will determine in coordination with DEQ whether a connection to public water would be feasible, assuming sufficient acceptance by homeowners. Such a connection would be considered feasible if the respective County is willing to make public water available to that homeowner, and the cost to Chemours of doing so is cost-effective. Based on our understanding of the State’s practice in other situations, to assess whether it is cost effective to provide public water to each service area, the cost per home needs to be calculated. Extension of public water was initially deemed “cost-prohibitive” by the State for connections by Duke Energy when the cost exceeded $35,000 per home. It is our understanding that this value was increased by the State this year to $75,000 per home. For purposes of this report, it is assumed that connections costing over $75,000 per home are not cost effective. For reference, we understand that the cost to install a GAC filtration system is approximately $10,000 per home.

If providing water service to an area is determined to be potentially feasible, Chemours will contact the owner of each home with well water concentrations above the provisional health goal to request their preference for municipal water or a GAC filtration system. Based on their preference, Chemours will obtain the necessary access agreement. If the homeowner prefers municipal water, Chemours will request that they create an account for municipal water (where existing service is available). This process is similar to the one used by Duke Energy for extending public water service to homes around their facilities. Chemours estimates, based on the Duke Energy experience, that most homes will complete these prerequisite steps within one year. Chemours also anticipates that
For areas not currently serviced by an existing public water service, the PWS would only be extended if a sufficient percentage of the homes in that area select the PWS solution and the extension of service was determined to be cost effective. Otherwise, it will not be possible to deliver water of sufficient quality for drinking. The exact number of homes needed to justify the system and provide adequate water quality will be determined based on hydraulic modeling and assistance from the Counties. In addition, some homes may require minor system expansions (e.g., extension of a 2-inch water main). These homes will be evaluated on a case-by-case basis (based on factors such as the ability to obtain rights-of-way and available water supply system capacity).

6.0 PROPOSED MUNICIPAL WATER EXPANSIONS BY LOCATION

As discussed above, this report focuses on four proposed service areas. The feasibility and implementability of servicing each area based on cost, ability to provide adequate water quality, and schedule is discussed in more detail below.

6.1 Bladen County

As previously mentioned, Parsons has been working with each county to obtain maps and determine requirements for expanding the existing systems. Bladen County provided two proposals in late 2017 to provide service to the area west of the Cape Fear River (Appendix A). Parsons used these proposals and updated sampling results to determine the size and location of water mains necessary to service homes in this area. Bladen County is evaluating expanding both drinking water and fire suppression services to all homes in this area.

In the most recent discussions with Bladen County, Chemours and Bladen County agreed to continue to coordinate on the expansion of municipal water connections west of the Cape Fear River. The next meeting will be scheduled after Bladen County has had an opportunity to review this municipal water plan.

6.1.1 Bladen County West of Cape Fear River

As shown on Figure 3, there are 47 residences whose drinking water sampling results are at or above 140 parts per trillion (ppt) within this area. It is anticipated that municipal water could be expeditiously provided to impacted homes in this area, since existing water service lines are already present in much of the area, and only moderate water main additions are necessary to extend the water service lines to all impacted homes. The existing and proposed extension of water service lines is shown on Figure 3. Water would be provided by an existing groundwater well (Tobermory Road) along with a proposed new well (location to be determined).

The existing Bladen County water supply well is reportedly nearing capacity, and the expansion of municipal water service to additional homes likely will require drilling a new well. According to Bladen County officials, the proposed well would have sufficient capacity to serve both this area of Bladen County and homes exceeding the HFPO-DA advisory level in the Cumberland County area to the north (also west of the Cape Fear River).
Estimated Cost
Chemours estimates the cost of installing municipal water to all 47 homes in Bladen County east of the Cape Fear River at $3,480,000 -- approximately $74,000 per home. The costs are summarized in Table 1, and a detailed breakdown of the estimated costs is provided in Appendix C. The new well accounts for approximately 25% of the total cost for extending service in Bladen County west of the river.

Estimated Schedule
For homes that already have a water line to serve the house (i.e., the home just needs a service connection to the existing line), a homeowner selecting municipal water will simply be connected to the line. Accordingly, the schedule for installation in this area is shorter than in other areas, given the existence of water service to much of the area. Installation of municipal water for most homes in this area can be completed in approximately two to four years. This assumes these households provide an access agreement and complete any other activities required by the county in a timely manner. The schedule details are provided in Table 2. As Chemours continues to coordinate with the County, it plans to explore ways by which this timeline can be shortened.

Conclusion
Based on the foregoing analysis, Chemours has informed Parsons that it is prepared to proceed, subject to further discussions with Bladen County, with installation of municipal water to the 47 homes west of the Cape Fear River in Bladen County, even though the $73,400 per residence is substantially more than the cost to provide a GAC filtration system. Chemours is willing to install municipal water in this area, contingent on approximately 90 percent of the homeowners selecting municipal water, so that the implementation costs do not become cost prohibitive.

6.1.2 Bladen County East of Cape Fear River
As shown on Figure 4, there are only four residences whose drinking water sampling results are at or above 140 ppt within this area. To provide service to Bladen County east of the Cape Fear River from existing sources, installation of an approximately 16,100 linear foot (LF), 6-inch water main would be required to bring water to the area from the existing water service on River Road (Figure 4). An existing groundwater well feeds this system and is assumed to be sufficient for the limited number of homes (four) at which the health advisory level has been exceeded. As an alternative, a water line could be extended from the existing Bladen County system west of the Cape Fear River. However, the length of the line, the need to acquire significant right-of-way, and the cost of drilling underneath the Cape Fear River make this option infeasible. Regardless, the long water main and limited number of customers would require that flushing hydrants be installed to maintain the water quality. The flushing hydrants would result in wasting significant amounts of water. The hydraulics and system capacity indicate that it would be extremely difficult to maintain appropriate water quality over this distance given the number of homes.

Estimated Costs
The construction of a new and long water main to carry water to the four homes in Bladen County east of the Cape Fear River, along with connecting the four homes, is estimated to cost $1,770,000 – approximately $442,500 per house. The cost details are
summarized in Table 1, and a detailed breakdown of the estimated costs is provided in Appendix C.

**Estimated Schedule**

Although there are only four homes in this area, the need to construct a new and long water main to reach these households would take considerable time. Therefore, installation of municipal water to these houses would take about the same time as is required for the west side of the river. As shown on Table 2, Parsons estimates that installation would take approximately two to four years.

**Conclusion**

It is not feasible, technically or in terms of cost and timeliness, to install municipal water east of the Cape Fear River in Bladen County. Given the distance to the nearest water mains and the lower density of homes, servicing these areas from the existing PWS will require long dead-end water mains that add significant cost to the system and may not provide a water supply of adequate quality. The combination of a long water main and so few houses means that it will be difficult, if not impossible, to maintain the quality of the water in the municipal system. Further, it would take approximately two to four years to install municipal water, at a cost of approximately $442,500 per house, which is not cost effective. The installation and operation of GAC filter systems at these households is cost effective, and the systems can be installed much more quickly.

6.2 **Cumberland County**

As previously discussed, Cumberland County is currently evaluating the expansion of municipal water to residences in this portion of the county. Parsons used the current residential sampling data (samples collected through May 16, 2018) and the 2009 PER prepared by Cumberland County (Appendix B) to determine the size and location of water mains necessary to service homes in this area. As in Bladen County, Cumberland County’s feasibility study is focused on providing water and fire suppression services to all homes in this area. Chemours has committed to continue working with Cumberland County.

6.2.1 **Cumberland County West of Cape Fear River**

In reviewing potential water sources for Cumberland County west of the Cape Fear River, it was determined that two water source options are available to provide municipal water to the 75 residences with water above 140 ppt threshold. This area could either be serviced by extending water from the Fayetteville PWC (Option 1), or water could be provided from the Bladen County groundwater system (Option 2). Each is described below:

- **Option 1 (Figure 5):** Extension of water mains from Fayetteville PWC to the south. This option includes the installation of approximately 11,000 LF of 16-inch water main along Highway 87 from the nearest existing main (located on Highway 87 just south of U Tyson Road) to bring water to the service area.

- **Option 2 (Figure 6):** Water provided from Bladen County groundwater system located south of the area. For this option, approximately 6,000 LF of 12-inch water main would be extended south into Bladen County to connect with the proposed water mains and new well proposed for providing service to the area.
west of the Cape Fear River as described above. This shorter 12-inch line would be in lieu of the 11,000 LF of 16-inch water main required by Option 1.

**Estimated Costs**

The estimated cost of Option 1 (bringing water from Fayetteville PWC south to these 75 residences) is $15,730,000. This is approximately $209,700 per home. The estimated cost of Option 2 (obtaining water from Bladen County for these 75 residences) is $7,230,000. This is approximately $96,400 per home. The cost details are summarized in Table 1, and a detailed breakdown of the estimated costs is provided in Appendix C.

**Estimated Schedule**

As shown on Table 2, the schedule for installation of municipal water under Option 1 would be approximately six to 10 years. This is due to the extensive network of water mains that must be installed and the long main running down Highway 87 to service the area. Parsons estimates that the period for installation for Option 2 would be somewhat less given the shorter distance from the water source. As shown on Table 2, this option is estimated to take approximately five to eight years.

**Conclusion**

It is technically feasible to extend public water service to the homes in Cumberland County west of the Cape Fear River due to the density of homes combined with the availability of a nearby water source. However, it would take a considerable period of time (six to 10 years) to accomplish this, which raises serious concerns about the implementability of this option. Moreover, the cost per home under either option would appear to be significantly greater than $75,000. Because Cumberland County is already evaluating bringing municipal water to this area, it may be that if the County’s plans proceed sufficiently, the costs needed to implement connections for the homeowners with impacted wells will significantly decline and that such connections could become cost effective in the future. Chemours will continue to work cooperatively with the County to evaluate the feasibility and implementability of these connections.

### 6.2.2 Cumberland County East of Cape Fear River

As shown on Figure 7, there are 35 residences whose drinking water sampling results are at or above 140 ppt within this area. To provide municipal water to these homes, a water main must be extended from Fayetteville PWC to the south. This service area would require extending a 31,500 LF, 12-inch main from the intersection of NC 210 and Cedar Creek Road (in addition to the smaller mains to service the homes). The long water main and limited number of customers may result in water quality issues within the service area. Parsons’s initial analysis indicates that appropriate water quality would be difficult to maintain, given the hydraulics and capacity of the system.

As an alternative, a water line could be extended underneath the river from the proposed system west of the Cape Fear River. However, the length of the line, the need to acquire significant right-of-way, and the cost of drilling underneath the Cape Fear River make this option infeasible.

**Estimated Costs**

The estimated cost of providing municipal water to the 35 residences in Cumberland County east of the Cape Fear River, is $11,960,000. This is approximately $341,700 per
house. The main cost driver is the long distance from an existing public water source. The cost details are summarized in Table 1, and a detailed breakdown of the estimated costs is provided in Appendix C.

**Estimated Schedule**

Given the current lack of municipal water infrastructure, a new and long water main must be constructed to reach these 35 households. As shown on Table 2, Parsons estimates that such installation, as with the west side of the River, would take approximately five to eight years.

**Conclusion**

It is not feasible, technically or in terms of cost and timeliness, to install municipal water east of the Cape Fear River in Cumberland County. Given the existing lack of municipal water infrastructure, distance to the nearest water mains, and the lower density of homes, installing municipal water means that these residences will be on bottled water for years. Further, servicing these areas from the existing PWS will require long dead-end water mains that add significant cost to the system and may not provide a water supply of adequate quality. Further, it would take approximately five to eight years to install municipal water, at a cost of approximately $341,700 per home, which is not cost effective. The installation and operation of GAC filter systems at these households is cost effective, and the systems can be installed much more quickly.

### 7.0 NEXT STEPS

Parsons recommends that Chemours continue to coordinate with both Bladen and Cumberland Counties to act in the most timely and cost-effective way. The path forward will depend significantly on the actions that the Counties take to expand their municipal water systems.
Site Location Map
Feasibility Study Report Public Water Services
Chemours Fayetteville Works
Fayetteville, North Carolina
Single exceedance in Robeson County not part of this study. Water service is available on NC Hwy 20 across the RR tracks.
Bladen County
West of the Cape Fear River
Fayetteville Works Facility
Fayetteville, North Carolina

Legend
State Sampling Exceedances:
- Equal to or Above 140 ng/L
Chemours Sampling Exceedances:
- Equal to or Above 140 ng/L

Flushing Hydrant
Water Meter
Cumberland County Parcel
Bladen County Parcel
Service Area Border
Approximate Plant Border
Existing 2 inch Water Main
Existing 4 inch Water Main
Existing 6 inch Water Main
Existing 8 inch Water Main
Existing 12 inch Water Main
Proposed Water Mains:
- 16"
- 12"
- 8"
- 6"
- 4"
- 2"

Single exceedance in Robeson County not part of this study. Water service is available on NC Hwy 20 across the RR tracks.
6 inch proposed water main continued approximately 16,100' south to existing 6 inch main
Nearest Cumberland County Water Main on Hwy 87 approximately 11,000 LF north of Alderman Road (located just south of U Tyson Road) and proposed 16" ties in at Schreiber Drive, approx 8000' north of Alderman Road.
12 inch water main continues 31,500 feet to existing water main located at NC210 and Cedar Creek Road
TABLES
Table 1
Estimated Costs Summary

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>ESTIMATED COST</th>
<th>HOMES SERVED</th>
<th>COST PER HOME</th>
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<td>Bladen County West of the CFR (Source: Exist. / New Well)</td>
<td>$3,480,000</td>
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<td>SERVICE AREA</td>
<td>HOMEOWNER NEGOTIATIONS</td>
<td>DESIGN AND PERMITTING</td>
<td>OBTAIN RIGHTS-OF-WAY</td>
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<td>Bladen West</td>
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<td>0.5 - 1</td>
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<tr>
<td>Bladen East</td>
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<td>0.5 - 1</td>
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<td>Cumberland West– Option 1</td>
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<td>2 – 3</td>
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<tr>
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<td>1 – 2</td>
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<td>Cumberland East</td>
<td>1 – 2</td>
<td>1 – 2</td>
<td>1 – 2</td>
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APPENDIX A
BLADEN COUNTY DOCUMENTS
APPENDIX B
2009 PRELIMINARY ENGINEERING REPORT
CUMBERLAND COUNTY