



# HEALTHY ENVIRONMENT, HEALTHY ECONOMY:

DEQ'S ROLE IN ECONOMIC DEVELOPMENT &  
ENVIRONMENTAL PROTECTION

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# DEQ'S APPROACH TO ECONOMIC DEVELOPMENT PROJECTS



# HEALTHY ENVIRONMENT, HEALTHY ECONOMY



## DEQ PROVIDES A “WHOLE-OF-DEPARTMENT” APPROACH TO ECONOMIC DEVELOPMENT PROJECTS

Role created to provide a single point of contact for large projects to ensure that we have a whole-of-department approach to protecting public health and the environment while growing as a state.

### INTER-AGENCY TEAMWORK

Point of contact between economic development partners (EDPNC and Dept. of Commerce) for large projects and initiatives.

### INTRA-AGENCY COLLABORATION

Maintain strong communication between DEQ divisions and coordinate opportunities to maximize collaboration and increase efficiency for large, complex projects.

### PERMIT COORDINATION

Make stakeholders aware of permitting needs and minimize "surprises" for all parties. Ensure that permit reviewers have the information necessary to complete a thorough, science-based evaluation.

# COORDINATION



- DEQ Divisions
- Commerce
- Local Water/Wastewater Treatment Plants
- Local Planning
- Economic Development
- Railroads
- Utilities
- Company Consultants



Priority Status	Task Name	Status	Assigned To	Anticip... Submis... Date	Completen... Start Date	Decision Issued	Durat
	DEMLR	In Progress			12/17/21	02/23/23	3
☆	Erosion and Sedimentation Control for Site	In Progress			12/17/21	02/23/23	3
☆	SW/E&SC- Ps 1 (53 acres)	Complete	David Lambert	11/20/21	12/17/21	01/14/22	
☆	SW/E&SC- Ps2A1 (171 acres)	Complete	David Lambert	12/08/21	01/12/22	02/07/22	
☆	SW/E&SC- Ps2A1 (171 acres) REVISION	Complete	David Lambert	01/08/22	12/16/22	02/23/23	
☆	SW/E&SC- Ps2A2 (476 acres)	Complete	David Lambert	01/28/22	02/16/22	03/25/22	
★	MOD-SW/E&SC- Ps2A2 (476 acres)	In Progress	Tamera Eplin	08/01/22	09/01/22		
☆	Pond Dewatering- Phase 2A2	Complete	David Lambert	03/03/22	03/03/22	03/08/22	
☆	SW/E&SC- Ps 2B (487 acres)	Complete	David Lambert	04/01/22	04/01/22	04/22/22	
★	MOD-SW/E&SC- Ps 2B (487 acres)	In Progress	Tamera Eplin	08/11/22	09/01/22	09/01/22	
★	SW/E&SC- Ps 2C (40 acres)	In Progress	Tamera Eplin	08/26/22			
☆	SW/E&SC- Ps 2D (~100 acres)	Not Started	Tamera Eplin	10/01/22			
★	Northwest Quadrant ( E and S of Build 803)	In Progress	Tamera Eplin	08/30/22	08/30/22	08/30/22	
☆	SW/E&SC- Duke Laydown Area (offsite)	Complete	David Lambert	03/11/22	03/31/22	04/11/22	

# **NORTH CAROLINA'S CIRCULAR ECONOMY**





# CIRCULAR ECONOMY

*A circular economy reduces material use, redesigns materials and products to be less resource intensive, and recaptures “waste” as a resource to manufacture new materials and products.*

**CIRCULAR ECONOMY = JOBS**

**CIRCULAR ECONOMY = ECONOMIC DEVELOPMENT**

## STORY MAP & EXAMPLES:

GSO resident recycles at home > GSO collects > Republic Services sorts material > PET bale is sold to UNIFI (Reidsville) > UNIFI Yadkinville REPREVE turns into yarn > Sold to consumer (North Face, Nike, JCrew, Levi)



## ADDITIONAL HIGHLIGHTS:

**NC CIRCULAR ECONOMY COUNCIL  
IMPACT ON LANDFILLING**



[Link](#)

# LANDFILLING & ECONOMIC DEVELOPMENT



## FACTS:

**Average age of NC MSW landfill: 25.6 Years**

**Waste Generated by NC in 2022-23: 14.4 Million Tons**

**Remaining volume of NC MSW landfills: 360 CY**

- When a landfill closes, where does the waste go?
- How much does it cost?
- Impact of Construction and Demolition?
- What are the consequences of

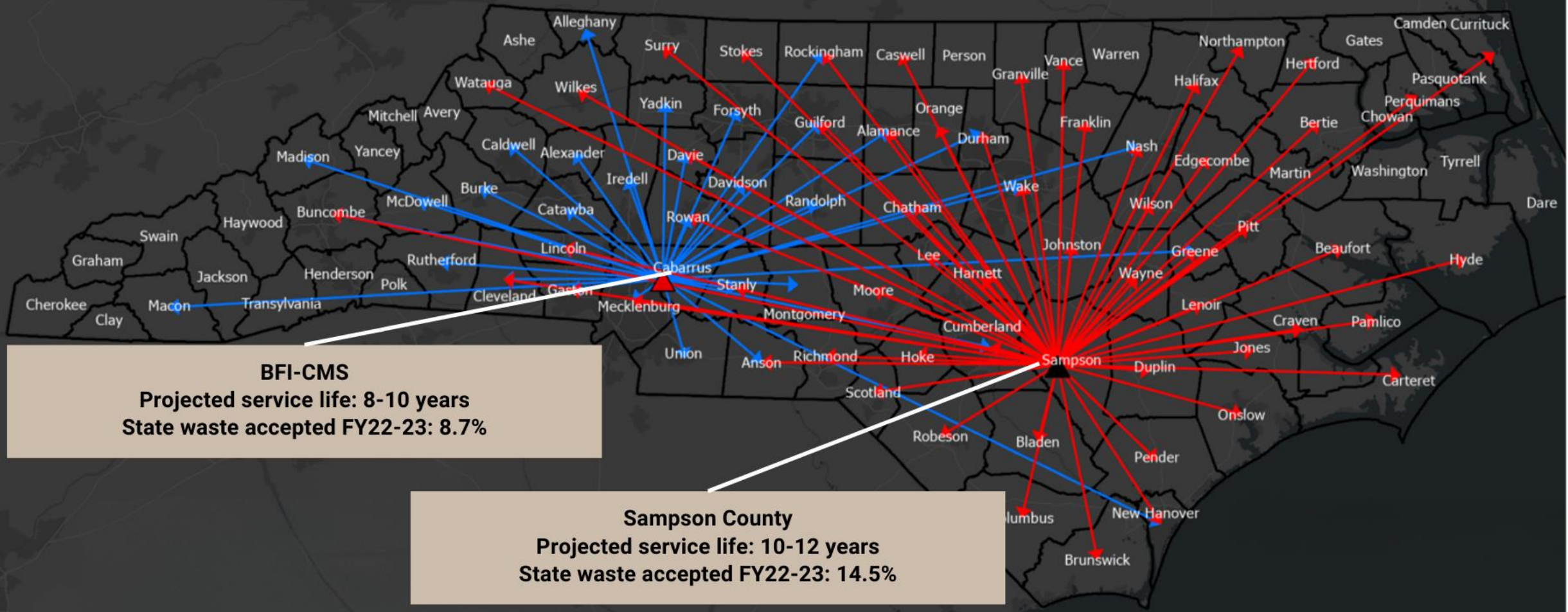
	Local	Regional
Quantity	28 Landfills	12 Landfills
Service Area (NC only)	31 Counties	100 Counties
Remaining Capacity	201,300,000 CY	167,800,000 CY
FY22-23 Waste Acceptance	4,022,000 TN	7,558,000 TN

**IMPACTS OF WASTE DISPOSAL POSE A SIGNIFICANT IMPACT ON ECONOMIC DEVELOPMENT. INVESTING IN THE CIRCULAR ECONOMY IS GOOD (FOR) BUSINESS.**





## County Waste Sources for Sampson County MSWLF and BFI Charlotte Motor Speedway



**BFI-CMS**  
Projected service life: 8-10 years  
State waste accepted FY22-23: 8.7%

**Sampson County**  
Projected service life: 10-12 years  
State waste accepted FY22-23: 14.5%

# ENVIRONMENTAL PERMITTING TIPS





# WETLANDS 401/404

*The 401 & Buffer Permitting Branch (DEQ) is responsible for multiple water quality programs 401 certification, isolated streams permitting, buffer authorization and buffer variance processes.*

## JURISDICTIONAL DETERMINATION:

***Do the aquatic features fall under Section 404 of the Clean Water Act?***

- A Preliminary Jurisdictional Determination (PJD) is not legally binding and doesn't expire.
- An Approved Jurisdictional determination (AJD) is an official determination by the USACE that a site has jurisdictional aquatic resources, and it can be used to make land use decisions.

## TIPS:

- **AJD'S CAN TAKE SOME TIME TO COMPLETE. PLAN ACCORDINGLY**
- **INFLUENCES COST OF MITIGATION**
- **COMPLETE ASAP (BEFORE A COMPANY IS INTERESTED)**
- **DEQ FOLLOWS 404 DETERMINATION. DEQ HAS ADDITIONAL RESPONSIBILITIES.**





# WETLANDS 401/404

DO NOT DO A CONCEPTUAL 401/404 PLAN  
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**Myth:** “I will save time because all we have to do is do a modification when the business is ready!”

**Fact:** Modifications are not necessarily shorter (In fact, concept plans can complicate (prolong) the process.)

Each 401/404 Certificate is based on the specific industry and its needs. (Including layout, utilities, where buildings are placed, etc.)

- Individual vs. Nationwide
- “Single & Complete”





# AIR QUALITY

## THE LEVEL OF AIR PERMITTING CAN IMPACT CONSTRUCTION TIMELINES!

*Minor and (Major) Title V: 90 days from full and complete application.*

*PSD (Prevention of Significant Deterioration) (Federal Rules): 9 months*

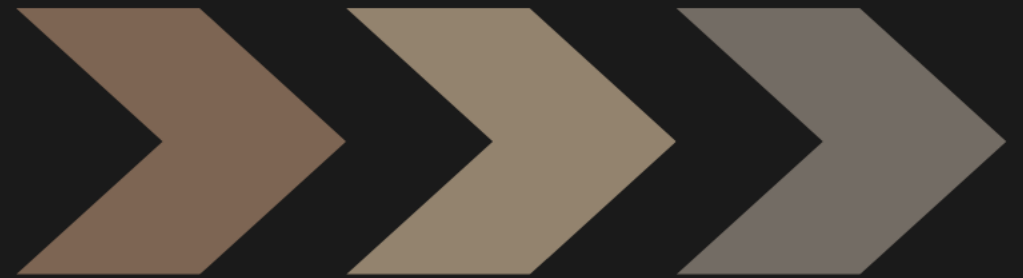
- Title V and PSD: No construction of a permanent nature (footings, foundations, etc.) on any portion that is related to the manufacturing process can occur without a permit.

### TIPS:

- WE WILL PROVIDE AN APPLICABILITY DETERMINATION
- MEET EARLY AND HAVE PRE-SUBMISSION MEETINGS
- THE TIMELINE STARTS WHEN IT IS COMPLETE
  - A GOOD APPLICATION SAVES TIME
- IF THEY ARE PUSHING A TIMELINE ON YOU, PUSH THEM FOR EMISSIONS DATA



# **INFRASTRUCTURE PLANNING & US 421 REGIONALIZATION STUDY**





# WATER QUANTITY

## QUANTITY IS NOT THE ONLY QUESTION TO ASK

- “Not a High Utility User” -- What does that mean? According to whom?
- Water and wastewater projections need to be fairly accurate during the search and clearly projected early on in the process.
  - This should not be a moving target
  - Ramp up schedule

## ...TREATMENT QUALITY IMPACTS QUANTITY.

WATER → WASTEWATER → WATER → WASTEWATER → ETC.

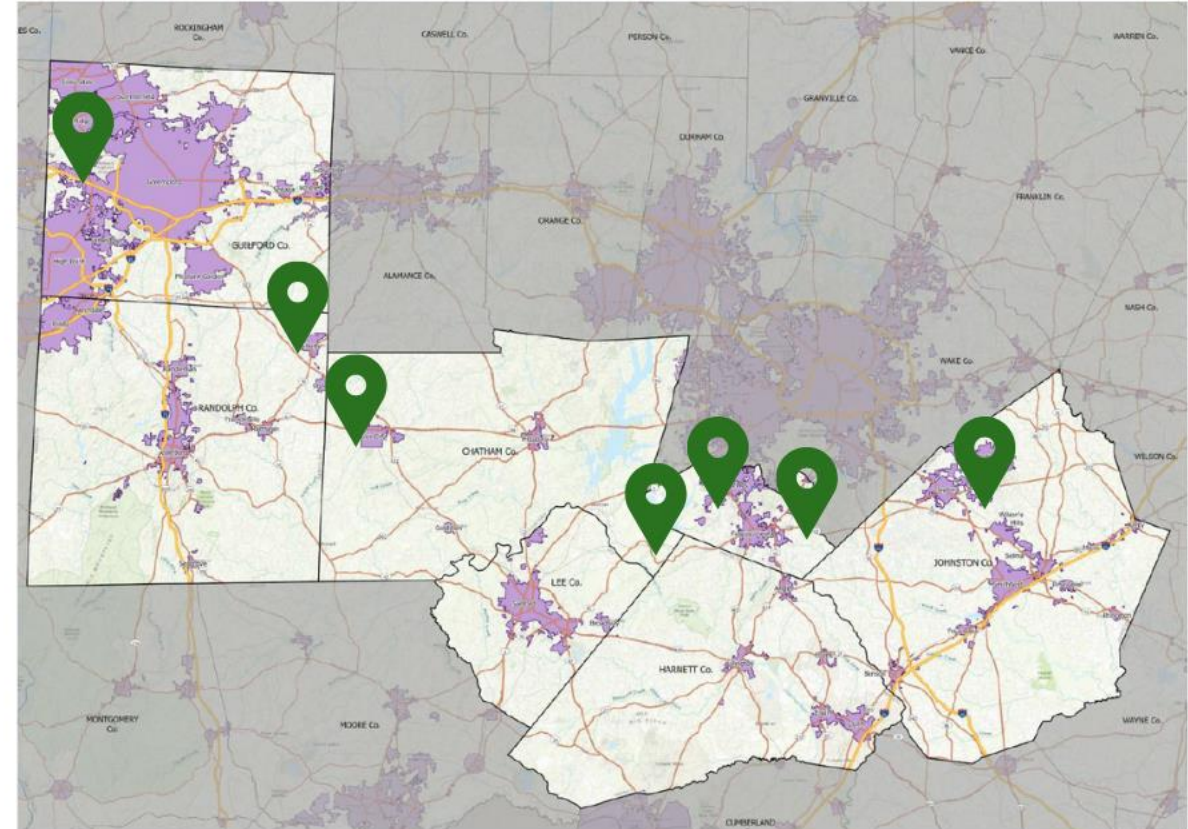




# US 421 INFRASTRUCTURE STUDY



- **EQ: Do we have enough infrastructure to meet the expected economic development needs in the region? (Spoiler: no)**
- **S.L 2023-134** directed DEQ to review water & wastewater infrastructure needs and economic projects in the region and make recommendations.
- Used data from NC Commerce and EDPNC to project utility needs (business and residential).
- Identified potential concepts given that could address anticipated economic and environmental trends
  - Additional studies are necessary and all proposals require data to support permitting.



# SIGNIFICANT CHALLENGES OVERVIEW

- Impairments within the Upper Cape Fear River Basin (phosphorus and nitrogen)
- Several small and underfunded utilities in the area
- Larger utility systems are challenged to meet rapid demand
- Compliance and other environmental issues
- Emerging contaminants (and managing impact downstream)
- Older treatment processes

## POTENTIAL UNKNOWN:

- The willingness of communities to work together to solve this complex problem
- Potential for another transformative project in the region that could alter timelines/costs/available resources
- Actual “permittability” of recommendations





# METHODOLOGY OVERVIEW: INDUSTRY DEMAND



## EXISTING PROJECT DEMAND

Evaluated Economic Development Agreements of six recently incentivized projects to capture the water/wastewater needs of each project.



## ASSUMED ADDITIONAL ED ACTIVITY

Assumed that at least one Economic Development site in proximity of a recently incentivized project would be a future home to an indirect or induced business



## ACCOUNTED FOR POTENTIAL CAPACITY NEEDS

Utilized EDPNC's anticipated demand for projects in likely business sectors as reflected in the SelectSite Study. Average demand (minus semiconductor) 2.81 MGD water and 1.01 MGD wastewater



## DETAILED LIKELY BUSINESS SECTORS BASED ON MODEL

Identified supporting businesses sectors based on recently incentivized projects



# EXAMPLE OF INDUSTRIAL & RESIDENTIAL DEMAND

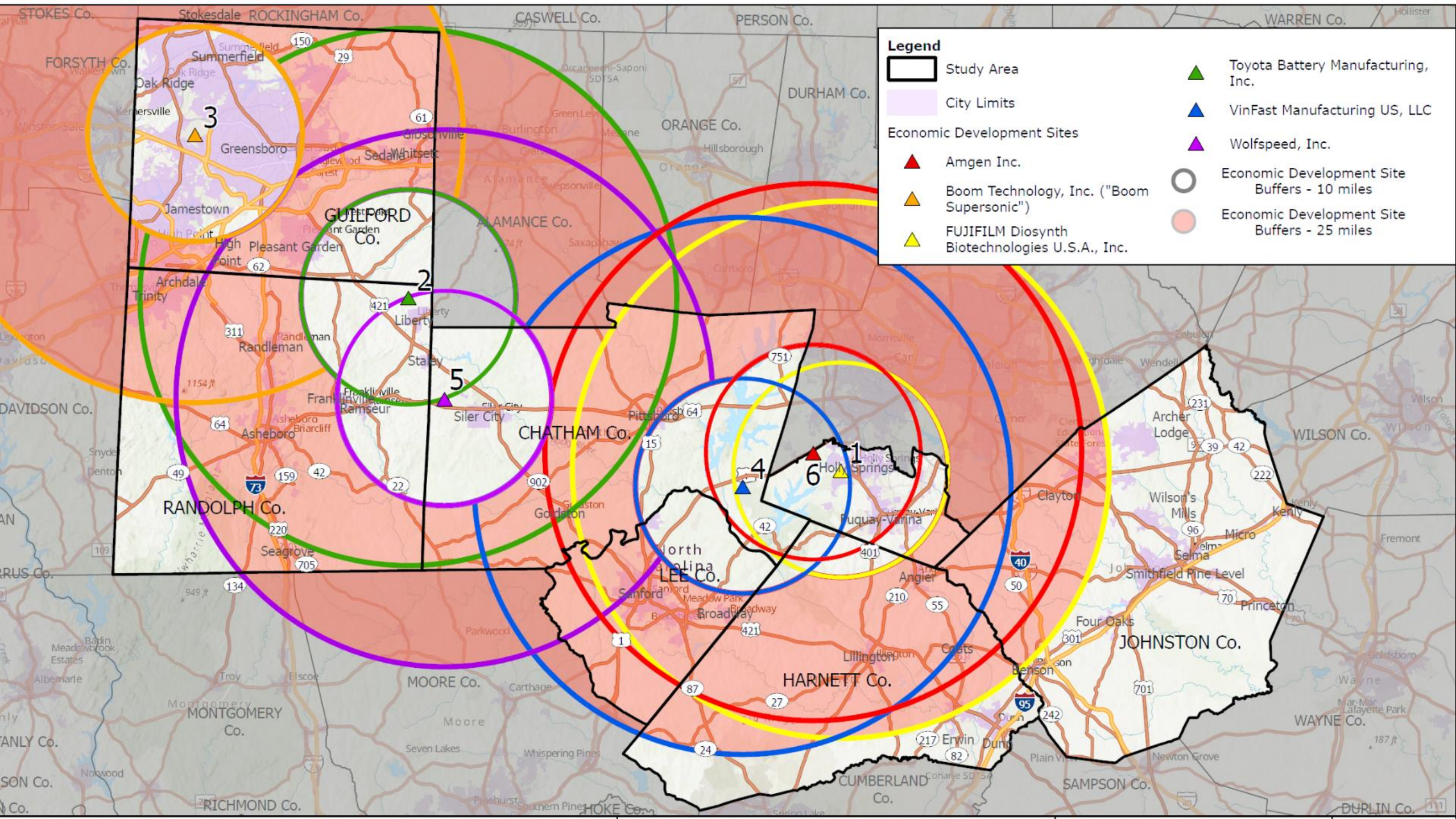


## WOLFSPEED

ANTICIPATED JOBS WITHIN REGION	
Direct	1,802
Indirect	2,476
Induced	2,196
<b>Total</b>	<b>6,475</b>

ANTICIPATED RESIDENTS WITHIN REGION	
New Direct Resident Employees	829
New Indirect Resident Employees	1079
New Induced Resident Employees	957
<b>Total</b>	<b>2866</b>





**Legend**

Study Area

City Limits

**Economic Development Sites**

Amgen Inc.

Boom Technology, Inc. ("Boom Supersonic")

FUJIFILM Diosynth Biotechnologies U.S.A., Inc.

Toyota Battery Manufacturing, Inc.

VinFast Manufacturing US, LLC

Wolfspeed, Inc.

Economic Development Site Buffers - 10 miles

Economic Development Site Buffers - 25 miles



# METHODOLOGY OVERVIEW: INDUSTRY DEMAND



## WATER DEMAND

Water Demand Projections	Difference Average Day Demand (2022-2050) (MGD)	Difference Maximum Day Water Demand (2022-2050) (MGD)
Johnston County	+19.31	+27.2
Harnett County	+29.3	+31.4
Wake (Fuquay-Varina/Holly Springs)	+10.6	+18.1
Lee/Chatham	+30.52	+41.83
Triad (Guilford/Randolph)	+32.79	+41.76

## WASTEWATER DEMAND

Wastewater Demand Projections	Difference Annual Average WW Flow (2022-2050) (MGD)	Difference Maximum Day Wastewater Flow (2022-2050) (MGD)
Johnston County	+25.61	+31.01
Harnett County	+11.4	+15
Wake (Fuquay-Varina/Holly Springs)	+14.7	+17.9
Lee/Chatham	+21.07	+27.46
Triad (Guilford/Randolph)	+30.82	+38.46

# BY THE NUMBERS:

Region-Wide Infrastructure  
Need for Economic Development  
(All Sectors)

## 122.52 MGD

Total amount of additional water demand  
necessary by 2050 (Average Day)

## 103.50 MGD

Total amount of additional wastewater  
flow necessary by 2050 (Average Day)

## \$10.1B

Total Costs for regional infrastructure  
updates

What is the cost of not addressing the capacity  
issues on State and Local Government ED?

Recently Incentivized  
Project Impact within Study Area

## 45,883

# of Direct, Indirect, and Induced  
Jobs related to recently incentivized  
projects in the region

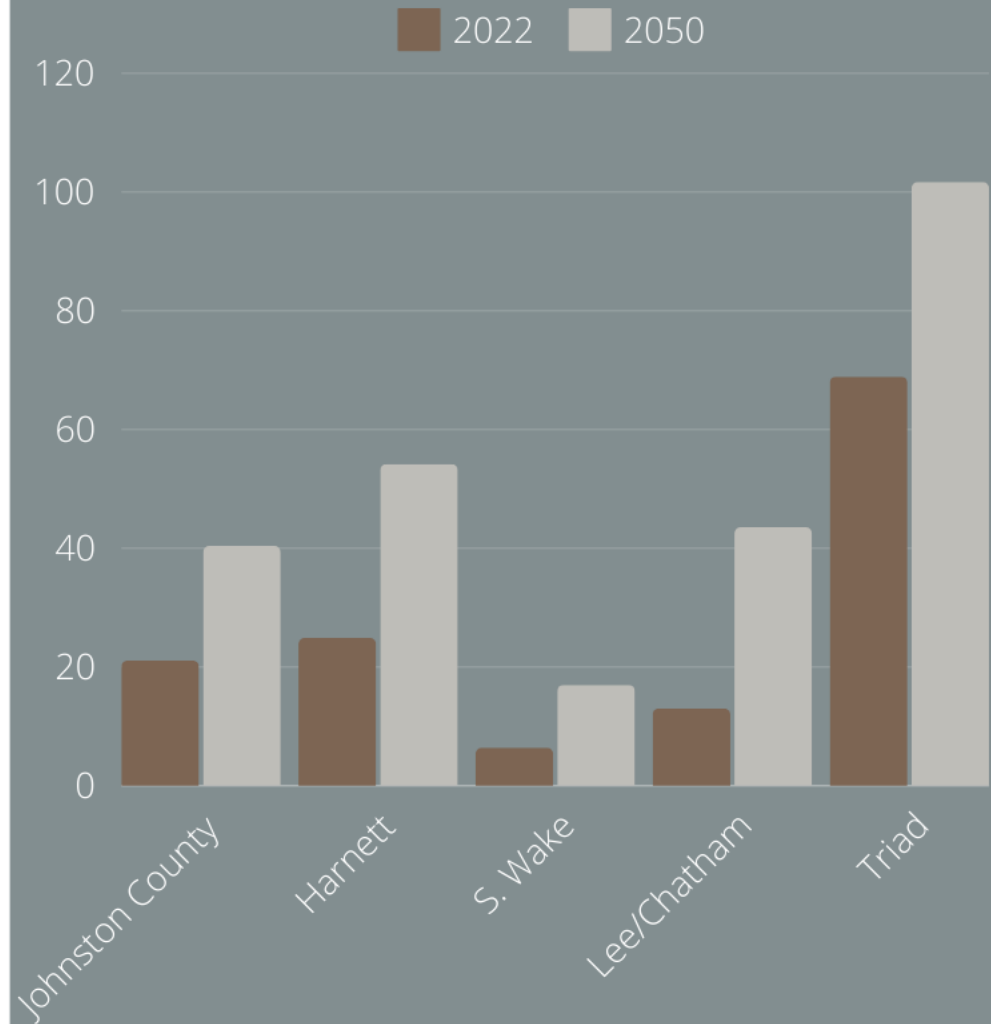
## 21,594

# of people moving to the  
Study Area to fill direct, indirect, and  
induced jobs.

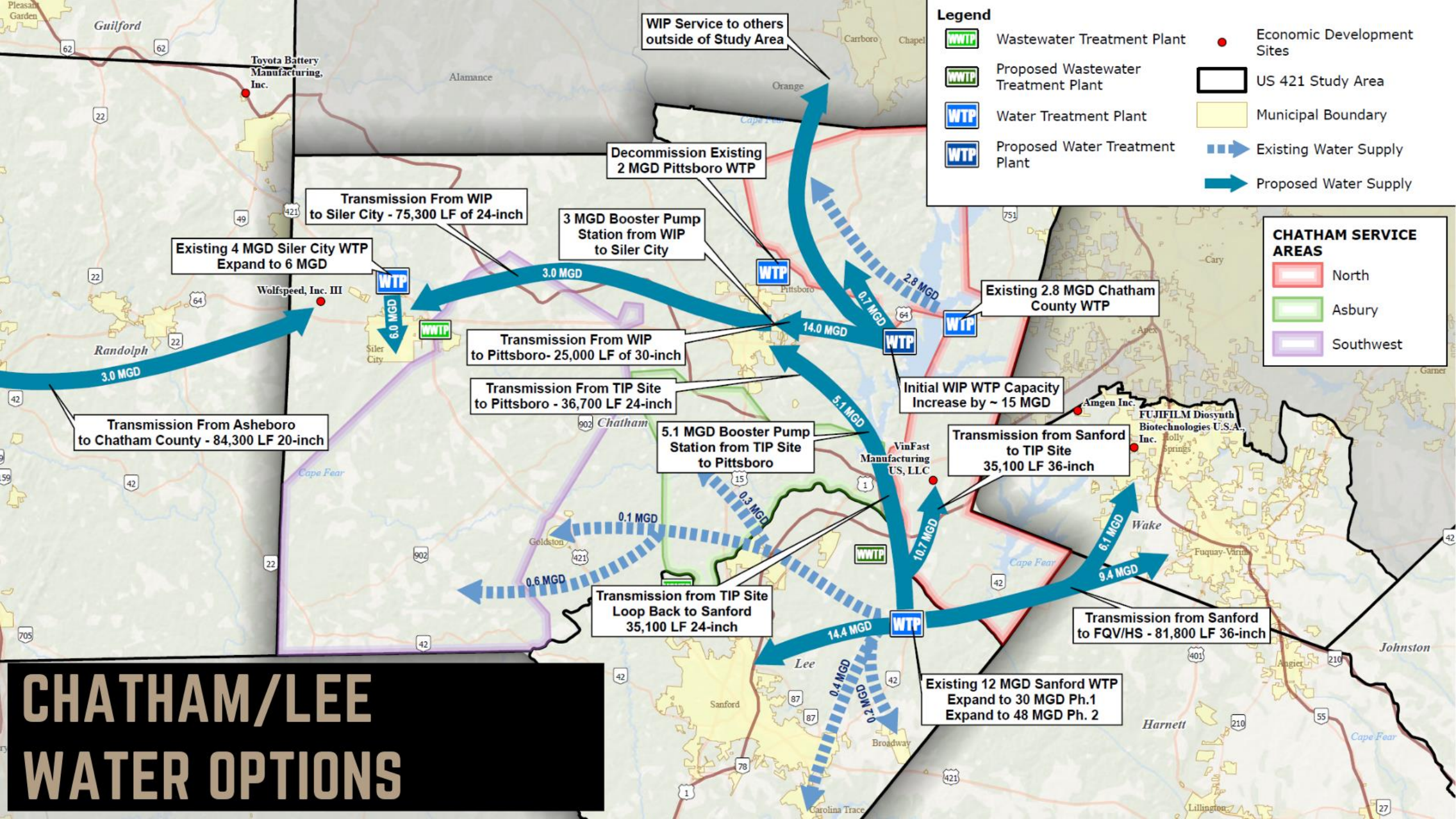
## 3.23 MGD

Additional residential water demand  
necessary within the Study Area.

# Avg. Day Demand (Water)







**Legend**

- Wastewater Treatment Plant
- Proposed Wastewater Treatment Plant
- Water Treatment Plant
- Proposed Water Treatment Plant
- Economic Development Sites
- US 421 Study Area
- Municipal Boundary
- Existing Water Supply
- Proposed Water Supply

**CHATHAM SERVICE AREAS**

- North
- Asbury
- Southwest

# CHATHAM/LEE WATER OPTIONS

Transmission From WIP to Siler City - 75,300 LF of 24-inch

Existing 4 MGD Siler City WTP Expand to 6 MGD

Wolfspeed, Inc. III

3 MGD Booster Pump Station from WIP to Siler City

Decommission Existing 2 MGD Pittsboro WTP

Transmission From WIP to Pittsboro - 25,000 LF of 30-inch

Transmission From TIP Site to Pittsboro - 36,700 LF 24-inch

5.1 MGD Booster Pump Station from TIP Site to Pittsboro

Initial WIP WTP Capacity Increase by ~ 15 MGD

Transmission from Sanford to TIP Site 35,100 LF 36-inch

Transmission from TIP Site Loop Back to Sanford 35,100 LF 24-inch

Existing 12 MGD Sanford WTP Expand to 30 MGD Ph.1 Expand to 48 MGD Ph. 2

Transmission from Sanford to FQV/HS - 81,800 LF 36-inch

Existing 2.8 MGD Chatham County WTP

Transmission From Asheboro to Chatham County - 84,300 LF 20-inch

Toyota Battery Manufacturing, Inc.

Alamance

Orange

Pittsboro

VinFast Manufacturing US, LLC

FUJIFILM Diosynth Biotechnologies U.S.A., Inc.

Wake

Sanford

Broadway

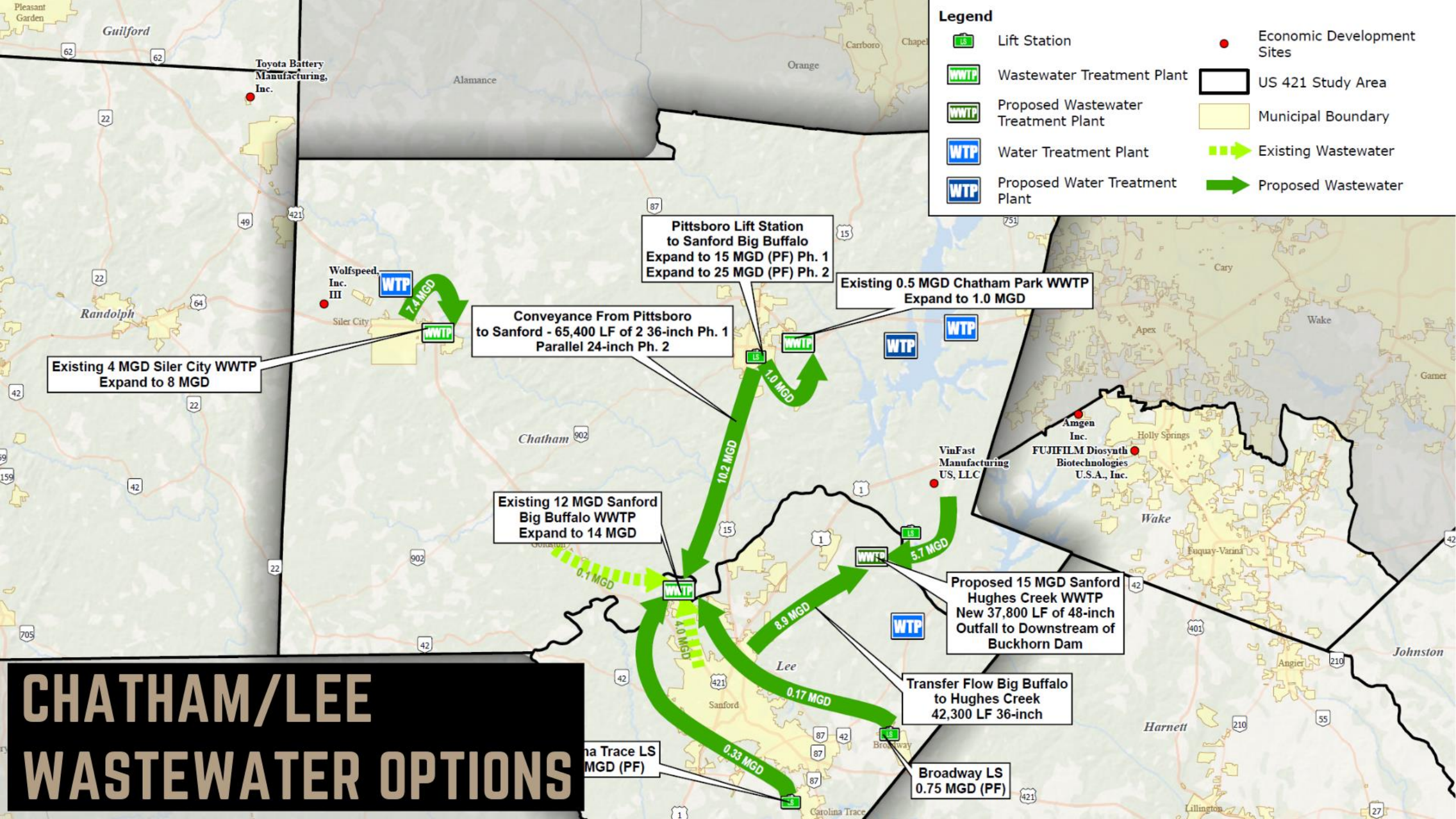
Harnett

Johnston








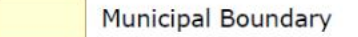
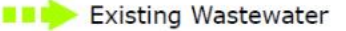
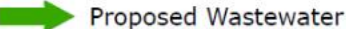
Lillington

Carolina Trace





**Legend**

-  Lift Station
-  Wastewater Treatment Plant
-  Proposed Wastewater Treatment Plant
-  Water Treatment Plant
-  Proposed Water Treatment Plant
-  Economic Development Sites
-  US 421 Study Area
-  Municipal Boundary
-  Existing Wastewater
-  Proposed Wastewater

# CHATHAM/LEE WASTEWATER OPTIONS

# CONTACT INFORMATION



For the US 421 full report:

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