



HEALTHY ENVIRONMENT, HEALTHY ECONOMY:

DEQ'S ROLE IN ECONOMIC DEVELOPMENT & ENVIRONMENTAL PROTECTION

IMPORTANCE OF PRETREATMENT DISCUSSION

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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.

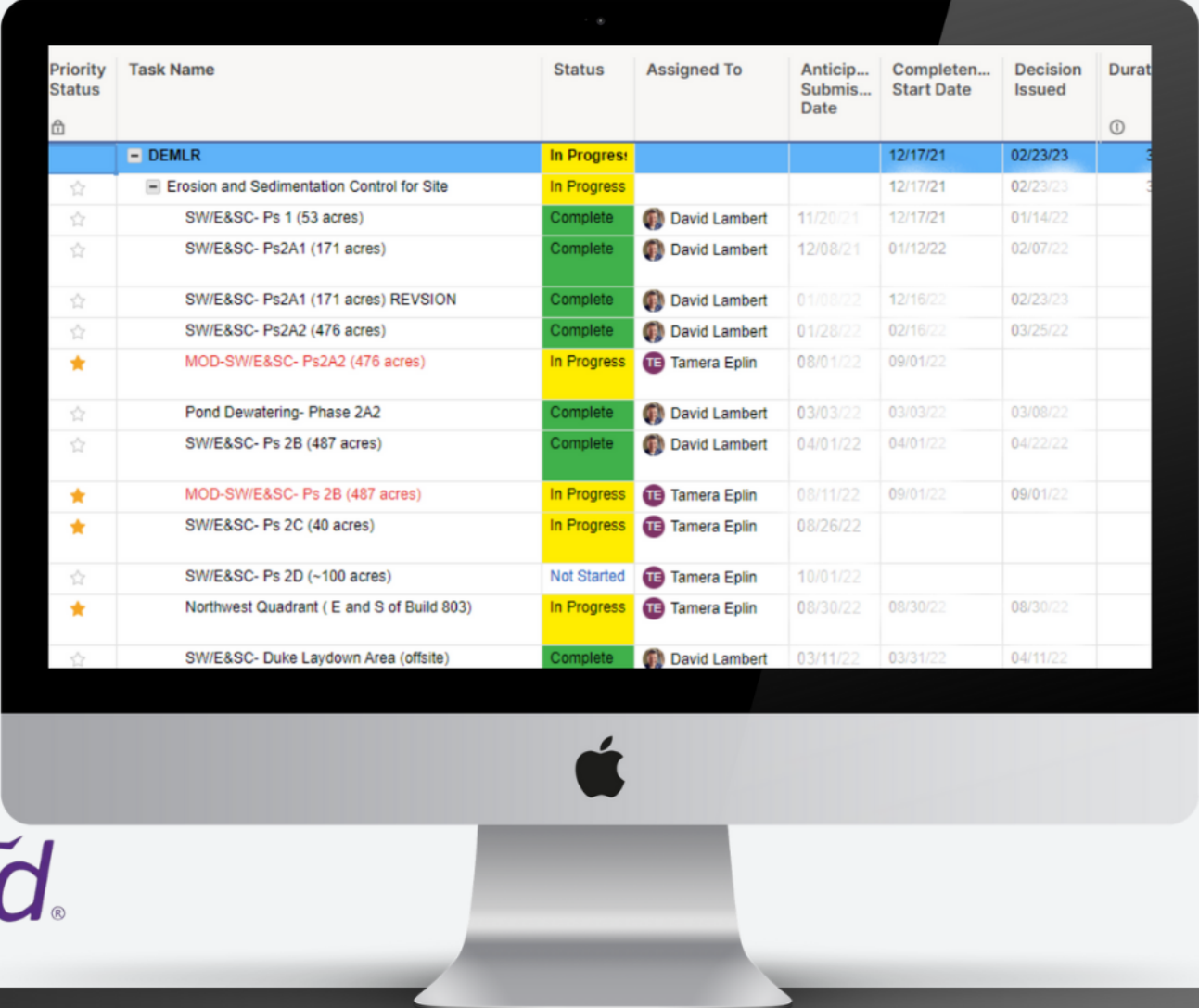
PERMIT COORDINATION

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	
☆	Erosion and Sedimentation Control for Site	In Progress			12/17/21	02/23/23	
☆	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	

ENVIRONMENTAL COORDINATION ON ECONOMIC DEVELOPMENT PROJECTS



WATER QUANTITY & QUALITY

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.



CHALLENGES:

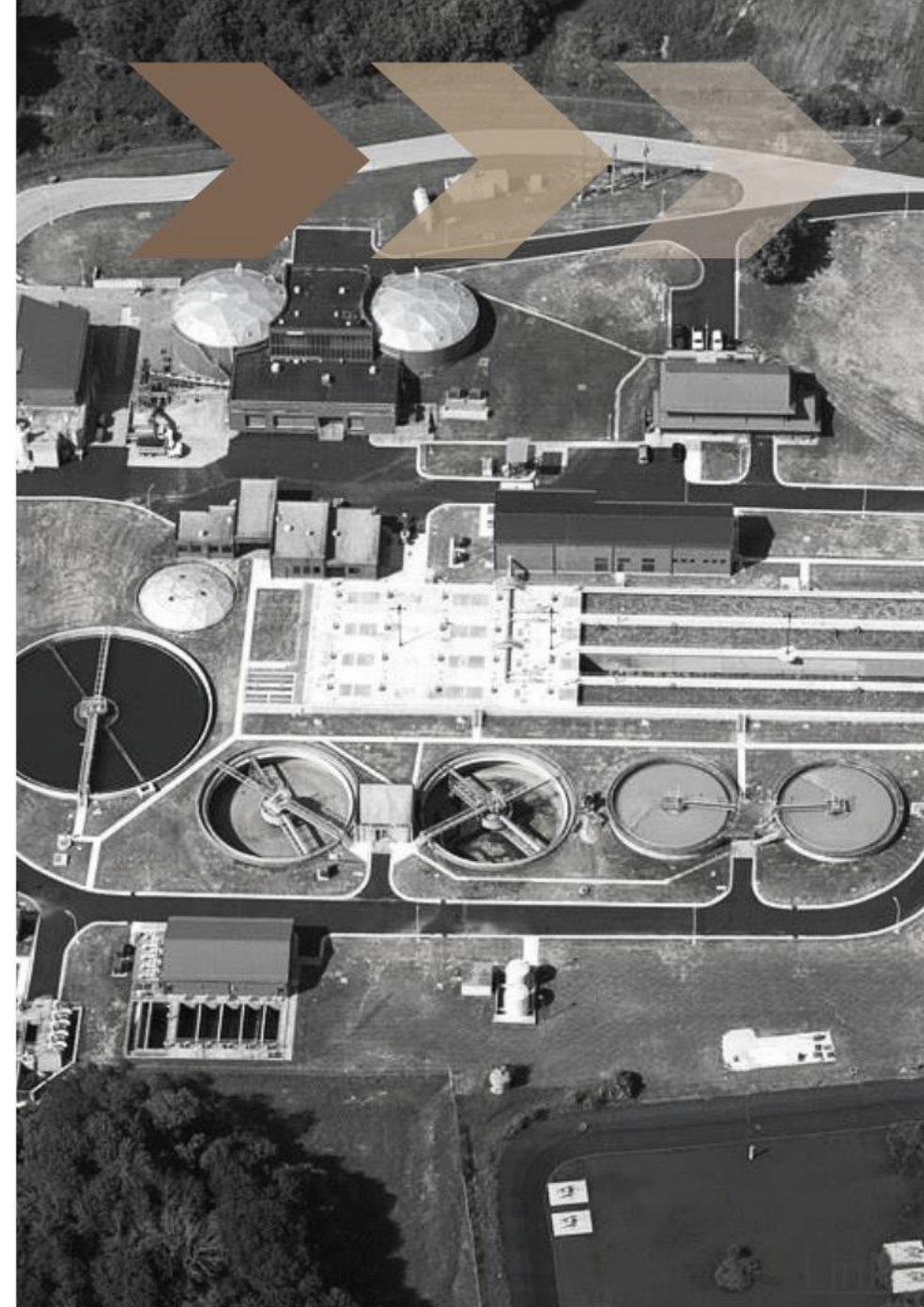
- Companies are trying not to be in the business of wastewater treatment
- Companies seek permitting “certainty” without providing municipalities the required information.
 - Shhh! It’s a secret.
- Those making deals are not always the ones who know the needs (or full scope) of the project’s wastewater needs.
- External pressures: governing board, community, etc.
- No one is speaking the same language.



TYPES OF BUSINESSES

Water and Wastewater Capacity

- Quantity of water and wastewater needs for the industry (PLUS Indirect and Induced businesses that will follow the industry and residential demand).
 - **Automotive:** 10.05 MGD (water) & 1.80MGD (wastewater) + other industries/residential
 - **Clean Energy:** 1.43 MGD (water) & 1.25 MGD (wastewater) + other industries/residential
 - **EV Battery:** 3.25 MGD (water) & 1.18 MGD (wastewater) + other industries/residential
 - **Semiconductor:** 22.60MGD (water) & 20.75MGD (wastewater) + other industries/residential



MESSAGE TO THE COMPANY

#1: WHAT ARE YOUR WASTEWATER CONSTITUENTS?

- Businesses need to know the contents of their discharge.
- Municipalities need to know the waste they are accepting (and understand the waste's implications on the treatment plant.) DWR Can not allow indirect dischargers to cause pass-through, upset, interference, or impair sludge quality. etc.
- Decisionmakers need to know what it will take (and if it is responsible).

#2: WHAT ARE YOUR WASTEWATER FLOWS?

- All phases needed (even if permitted in stages).
- The construction ramp-up flow schedule is important.
 - Pump & haul required? Where and how long?

#3: CAN YOU SHOW ME THE DATA?

- Is there an existing facility with a permit in the US?
 - We can provide a list of constituents to consider.
- Is there a desk analysis of the data?

THE MORE DATA PROVIDED, THE MORE DURABLE THE PERMIT.



MESSAGE TO THE COMPANY (CONT.)



WHAT IS DEQ'S RELATIONSHIP IN THIS PROCESS?

DEQ MAKES SURE THAT MUNICIPALITIES ARE MEETING ALL THEIR OBLIGATIONS

DEQ PROVIDES TECHNICAL ASSISTANCE TO MUNICIPAL PARTNERS & OTHERS

MESSAGE TO COMMUNITIES

#1: WHAT IS POSSIBLE AT YOUR WWTP?

- What sort of capacity issues do you have? Is an expansion needed?
- Compliance history and compliance needs?
- What are the financial costs? (Surcharges, pretreatment admin. etc.)

#2: WHAT IS YOUR STRATEGY?

- Are you focusing on a specific business sector?
- Are there regionalization opportunities?

TO WWTP PARTNERS:

- **HOW CAN WE SUPPORT YOU IN GETTING THE INFORMATION YOU NEED?**
- **CAN WE ASSIST/SUPPORT YOU IN DELIVERING THIS MESSAGE TO INTERNAL & EXTERNAL PARTNERS?**



HYPOTHETICAL EXAMPLES OF BUSINESS INTERACTIONS WITH PRETREATMENT



HYPOTHETICAL EXAMPLES



COMPANY 1:

- The City has compliance issues.
- The company is moving quickly and wants to begin construction ASAP.
- “We will agree to the limits set by the municipality”
- “Our waste shouldn’t be bad”
- Wastewater flow projections fluctuate dramatically
- The company provides wastewater constituents over a year later.
- Waste will likely cause issues at the plant and DEQ will have concerns (Perhaps the facility is already in violation?)
- The company is concerned about the proposed limits & will it cost the company lots of money to address.

HYPOTHETICAL EXAMPLES



COMPANY 2:

- The company is moving quickly and wants to begin construction ASAP.
- The city works on bringing water and wastewater options to the site.
- The company has difficulty understanding what it needs to provide for wastewater.
 - “What is an IUP?”- Environmental Staff of Company.
- No consultant. No knowledge of suppliers or waste constituents.
- Investment in the ground. No IUP permit movement.
- The project is at risk.

HYPOTHETICAL EXAMPLES



COMPANY 3:

- The municipality has to be careful with impacts on its receiving water.
- There are similar industries in the area.
- The company is very secretive about the process.
- “This is what we are authorized to share with you.” (but we know the flow will be twice this)
- Could the cumulative effect be an issue for the plant?
- Could it jeopardize options for plant expansion needs?

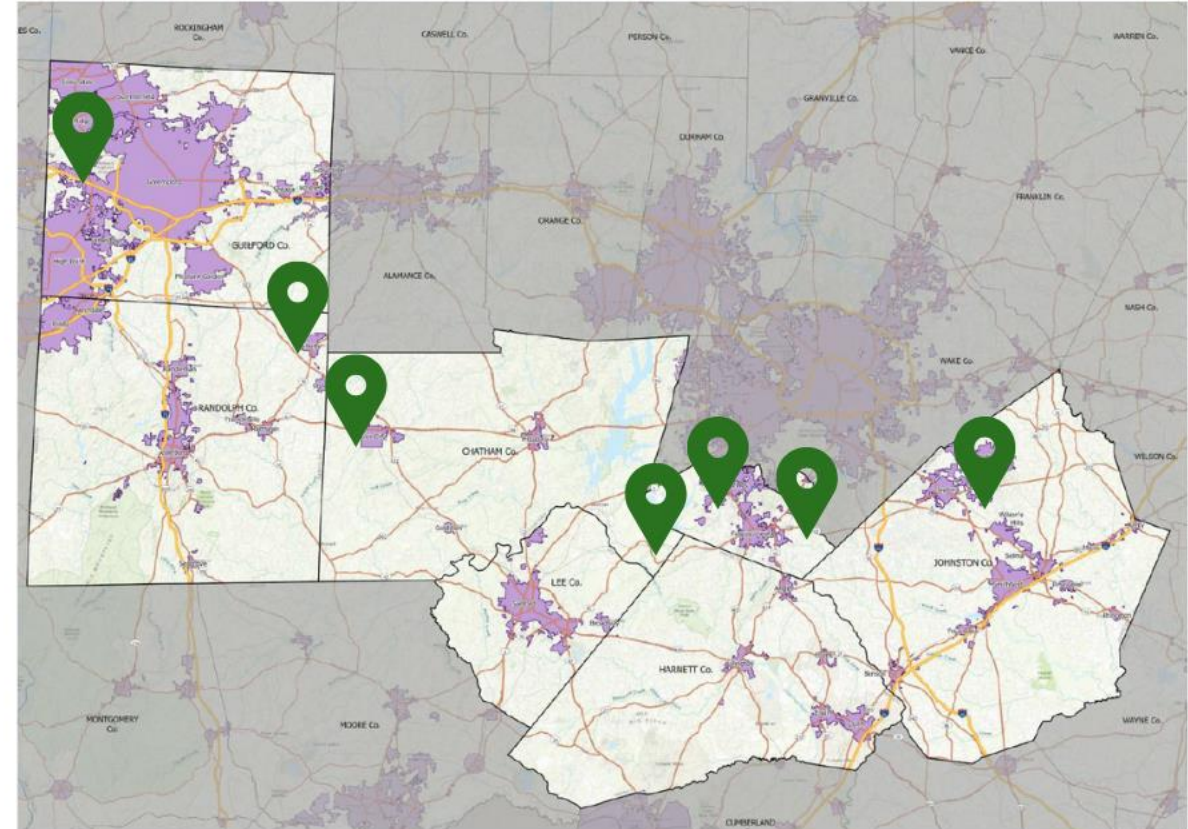
US 421 REGIONALIZATION STUDY



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



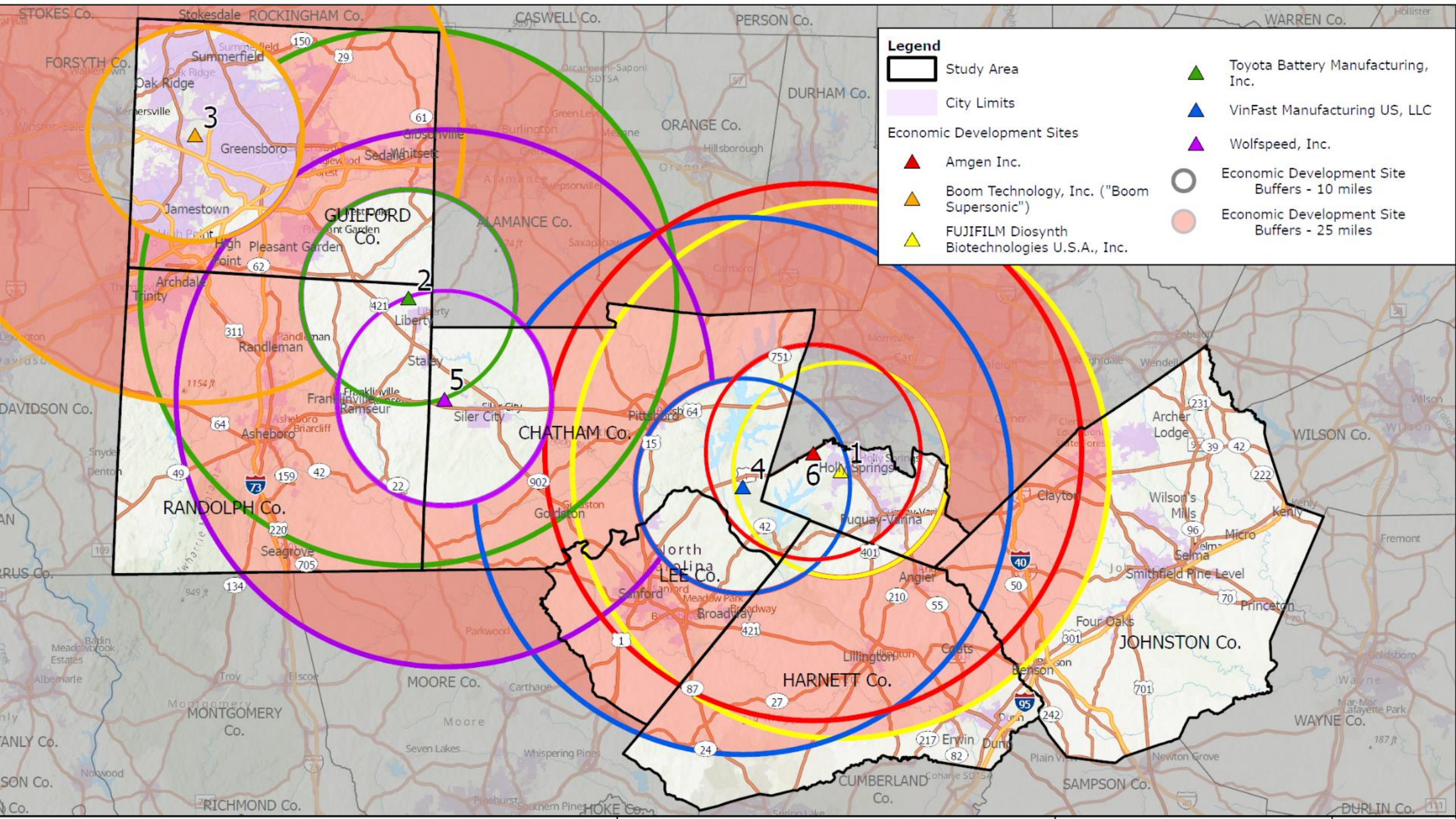
EXAMPLE OF INDUSTRIAL & RESIDENTIAL DEMAND



WOLFSPEED

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

ANTICIPATED RESIDENTS WITHIN REGION	
New Direct Resident Employees	829
New Indirect Resident Employees	1079
New Induced Resident Employees	957
Total	2866



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

Wasteater 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

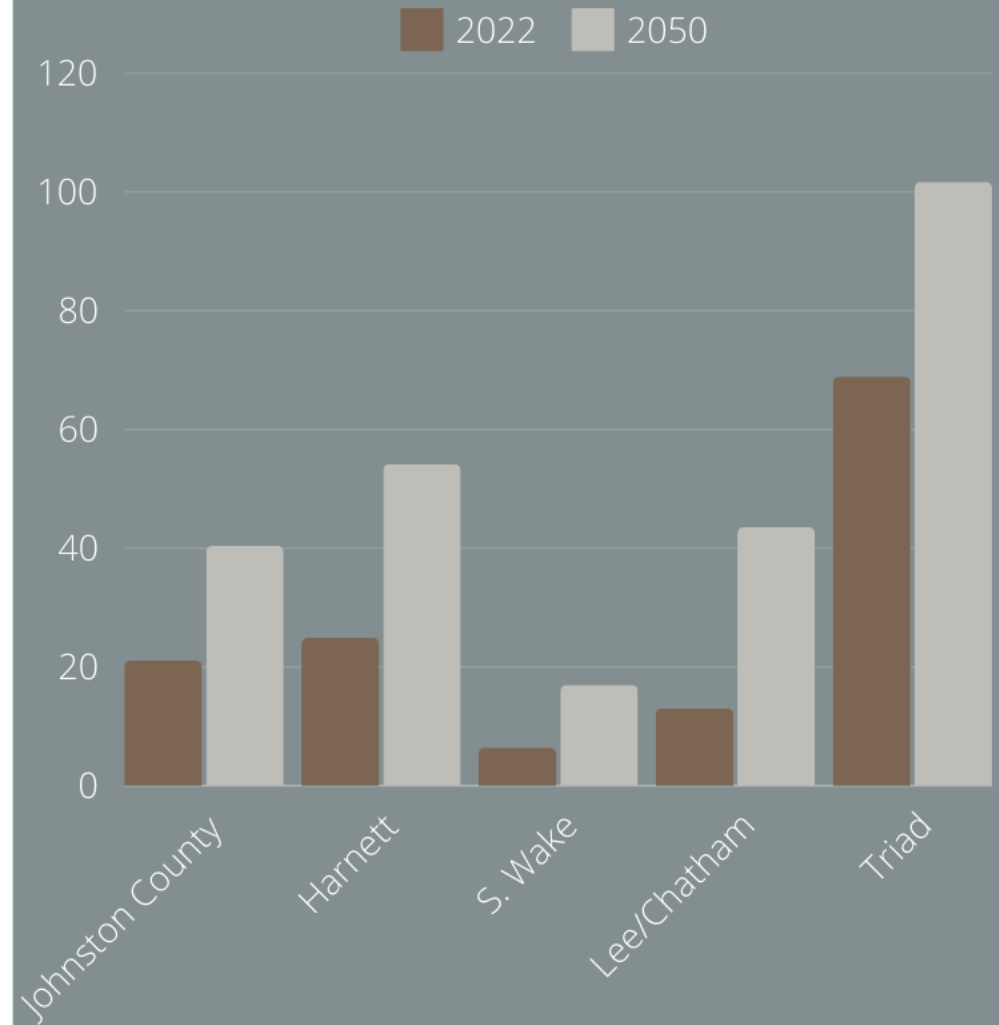
21,594

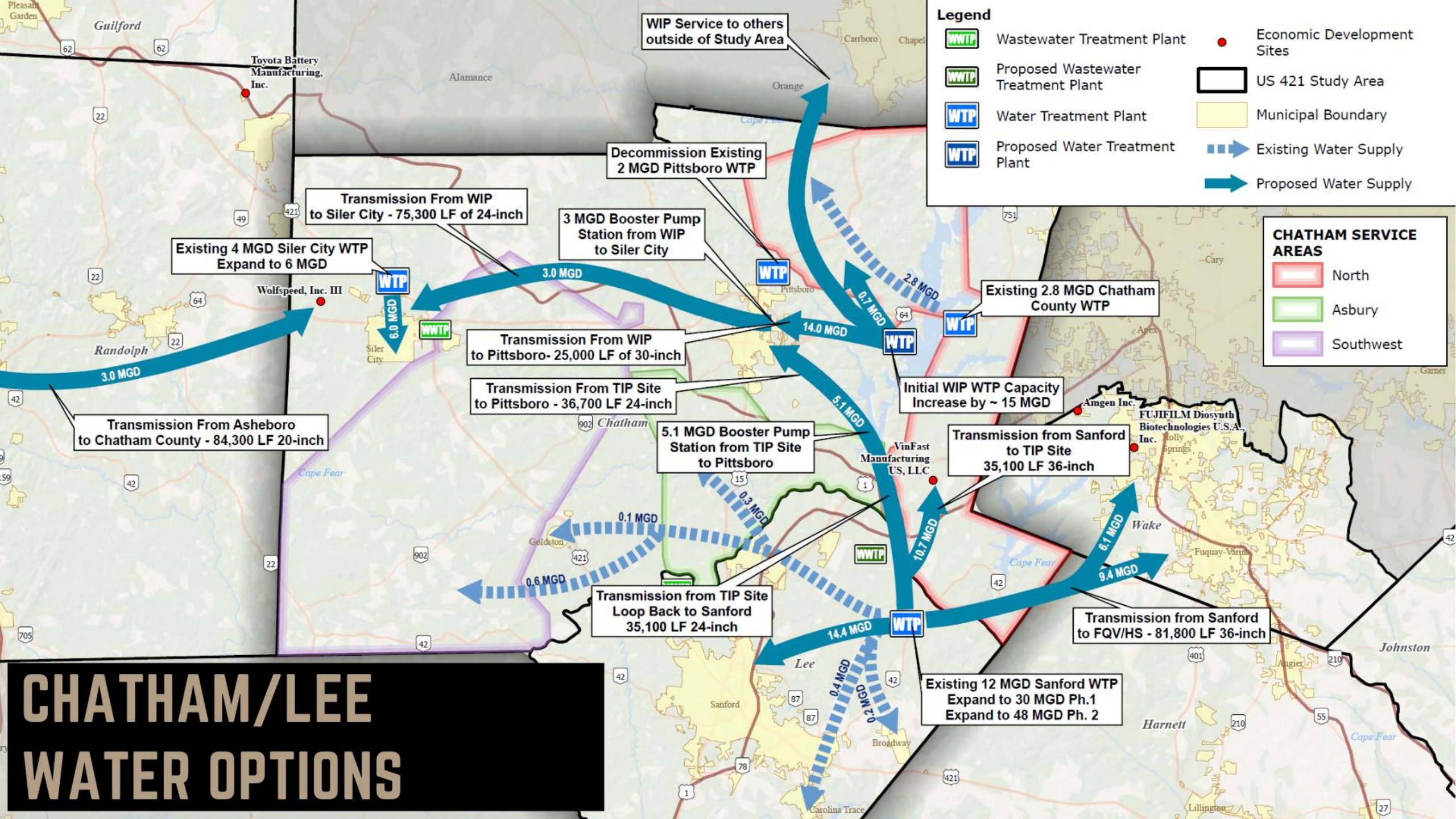
of people moving to the
Study Area to fill direct, indirect, and
induced jobs.

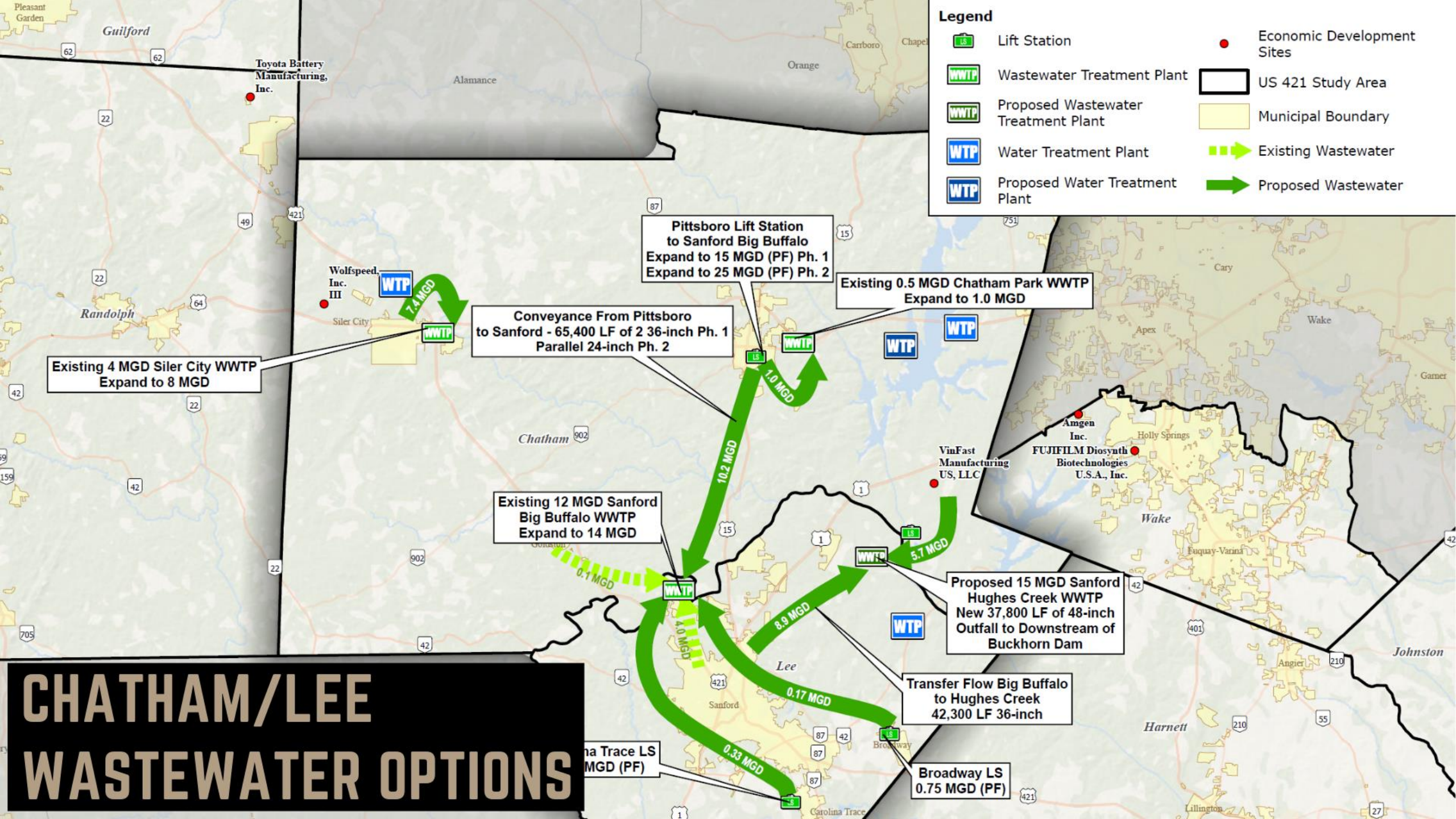
3.23 MGD

Additional residential water demand
necessary within the Study Area.

Avg. Day Demand (Water)







Legend

-  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:

SCAN ME

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