

JDS | INC



Regionalization Assessment Phase II Update

Water & Sewer Authority Work Team

March 21, 2024

Smithfield Town Hall

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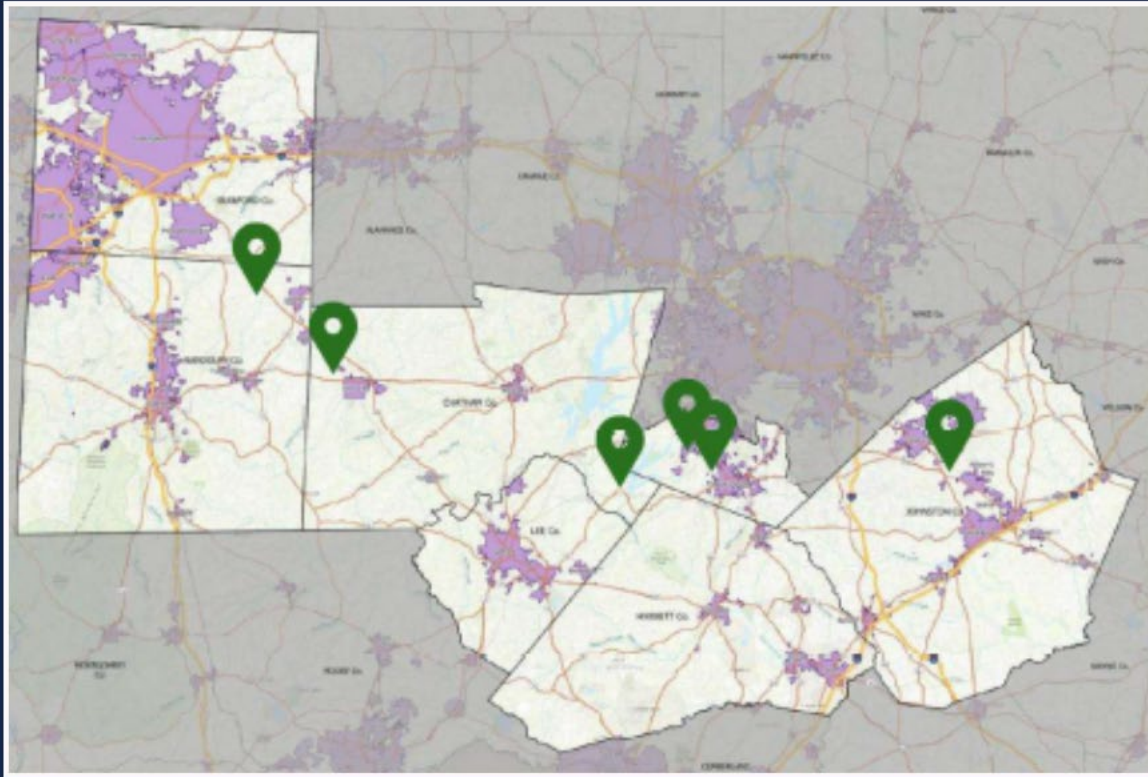
JD Solomon

Chair – NC Environmental
Management Commission

Inaugural Member – NC Water
Infrastructure Authority

Member – Blue Ribbon
Commission on Funding
Buildings & Infrastructure





Seven-County Regionalization Study

1. **Upper Cape Fear River Basin Impairments (phosphorus and nitrogen)**
2. **Several, small and underfunded utilities in the area**
3. **Larger utility systems are challenged to meet rapid demand**
4. **Compliance and other environmental issues**
5. **Emerging contaminants (and managing impact downstream)**
6. **Older treatment processes**

Why Regionalize in NC?

Economic and environmental impact is not confined to municipal or county borders.

Solutions can have a significant impact on multiple stakeholders across the region.

Comprehensive solutions might have a greater impact faster than more individualized approaches.

Potential for efficient and effective allocation of financial and environmental resources.

JD's Regionalization Experience

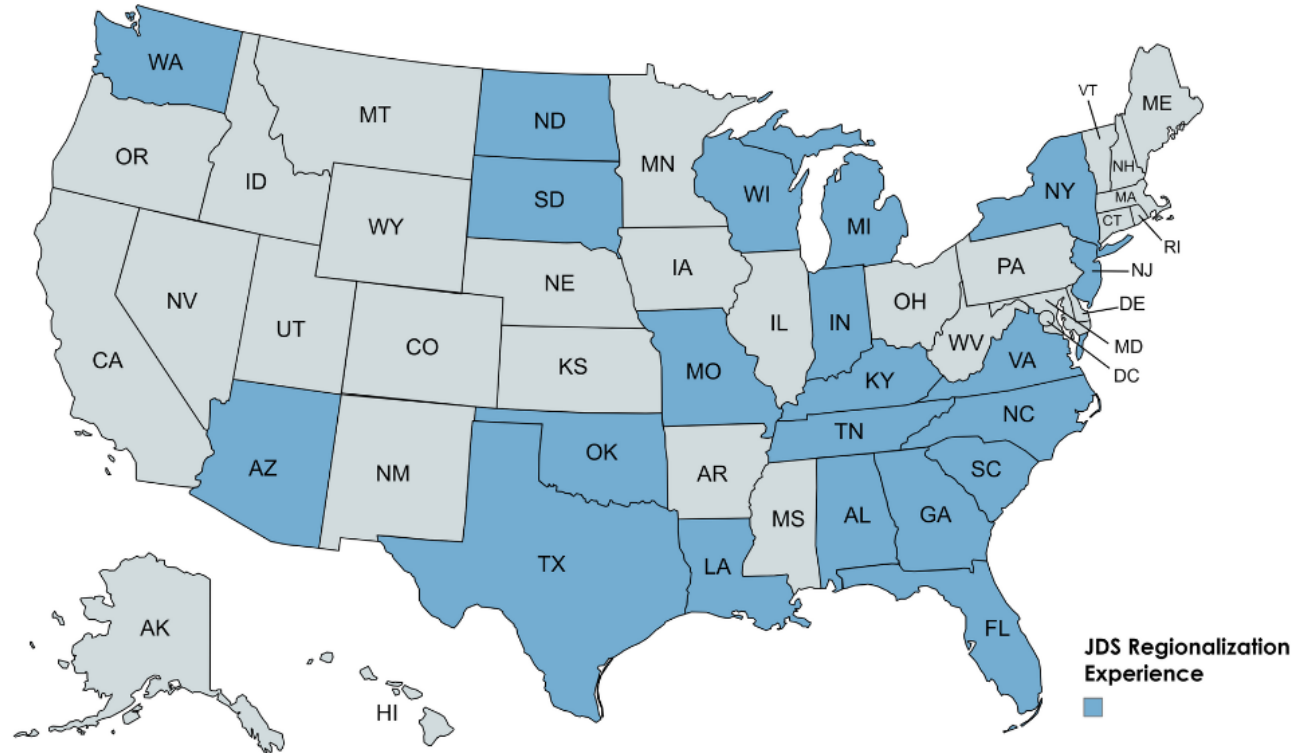
No one model works best

The financial aspects need to make sense

Public officials need to have good rapport

It takes time

There are still problems decades after you do it





“A range of consolidation models can work; communities must have balanced, factual information to make informed choices.” - Guiding Principle #4

US Water Alliance

- #1 Community-driven, locally-determined approaches
- #2 Build backstops for health & environment risks
- #3 Be guided by the community-value proposition
- #4 Factual information to make informed choices
- #5 Cohesive authorizing environment at the state level



Scope of the Assessment & Updates

Three Focus Areas

Infrastructure

Organization

Finances



TABLE 2: SUMMARY OF THE FY 2021 WATER CONNECTIONS

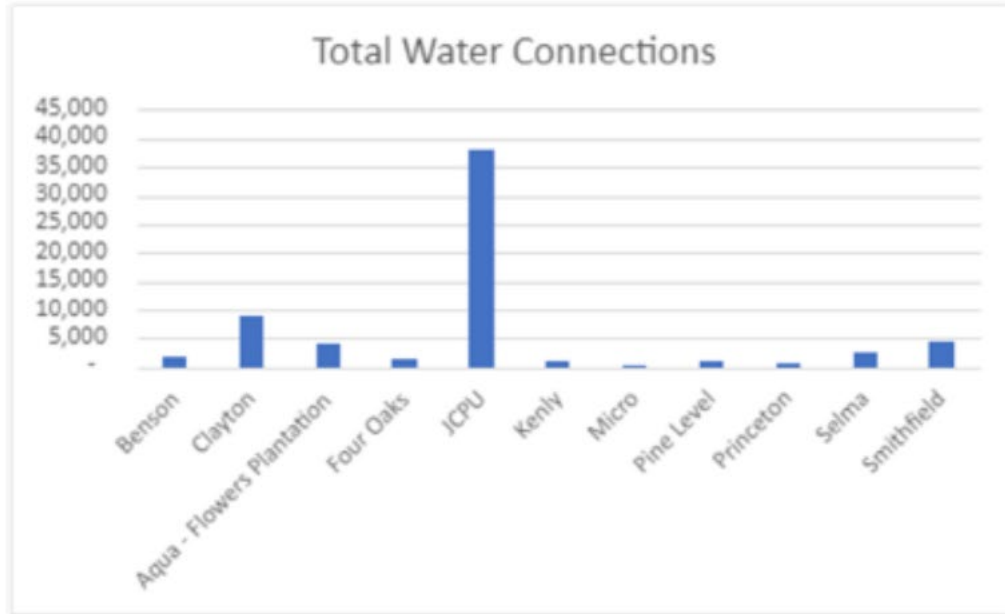
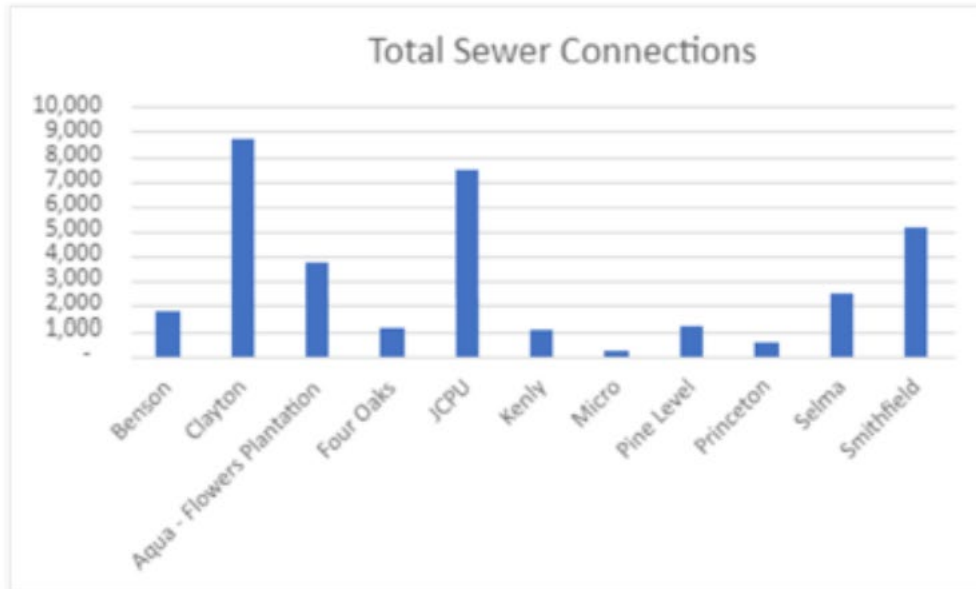


TABLE 3: SUMMARY OF THE FY 2021 SEWER CONNECTIONS



Infrastructure

(1 of 3)

JCPU dominates water connections with 40K

Clayton, JCPU, and Smithfield dominate sewer connections

The range is dramatic

Infrastructure

(2 of 3)

Interconnections are tricky and are tough to map.

Overlapping service area is more common in water.

Moving small volumes is more common in wastewater.

Interbasin Transfer, Nutrients, and NPDES are big factors.

FIGURE 4: WATER SERVICE INTERCONNECTIONS WITHIN THE COUNTY

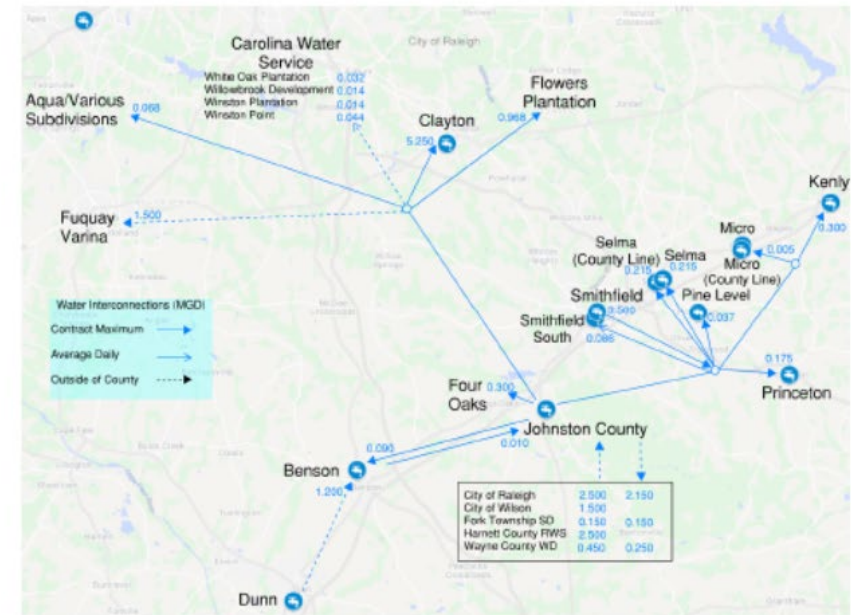
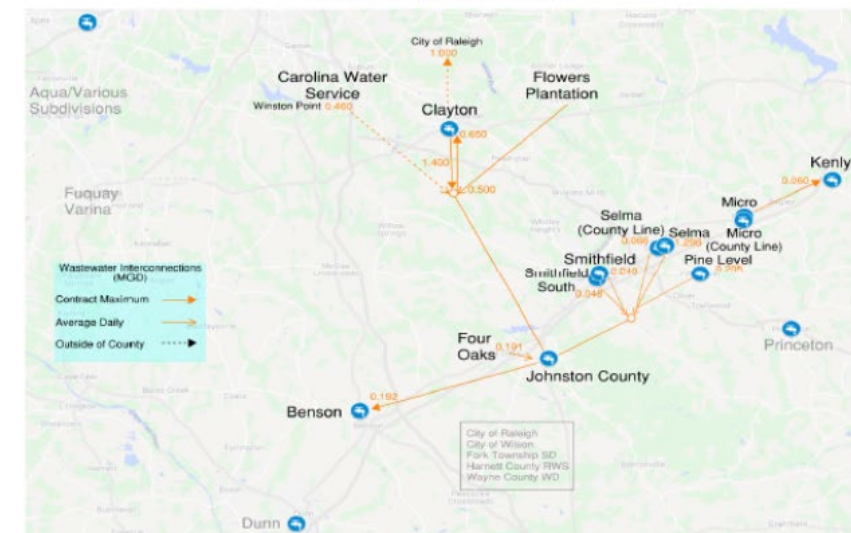


FIGURE 5: WASTEWATER SYSTEM INTERCONNECTIONS



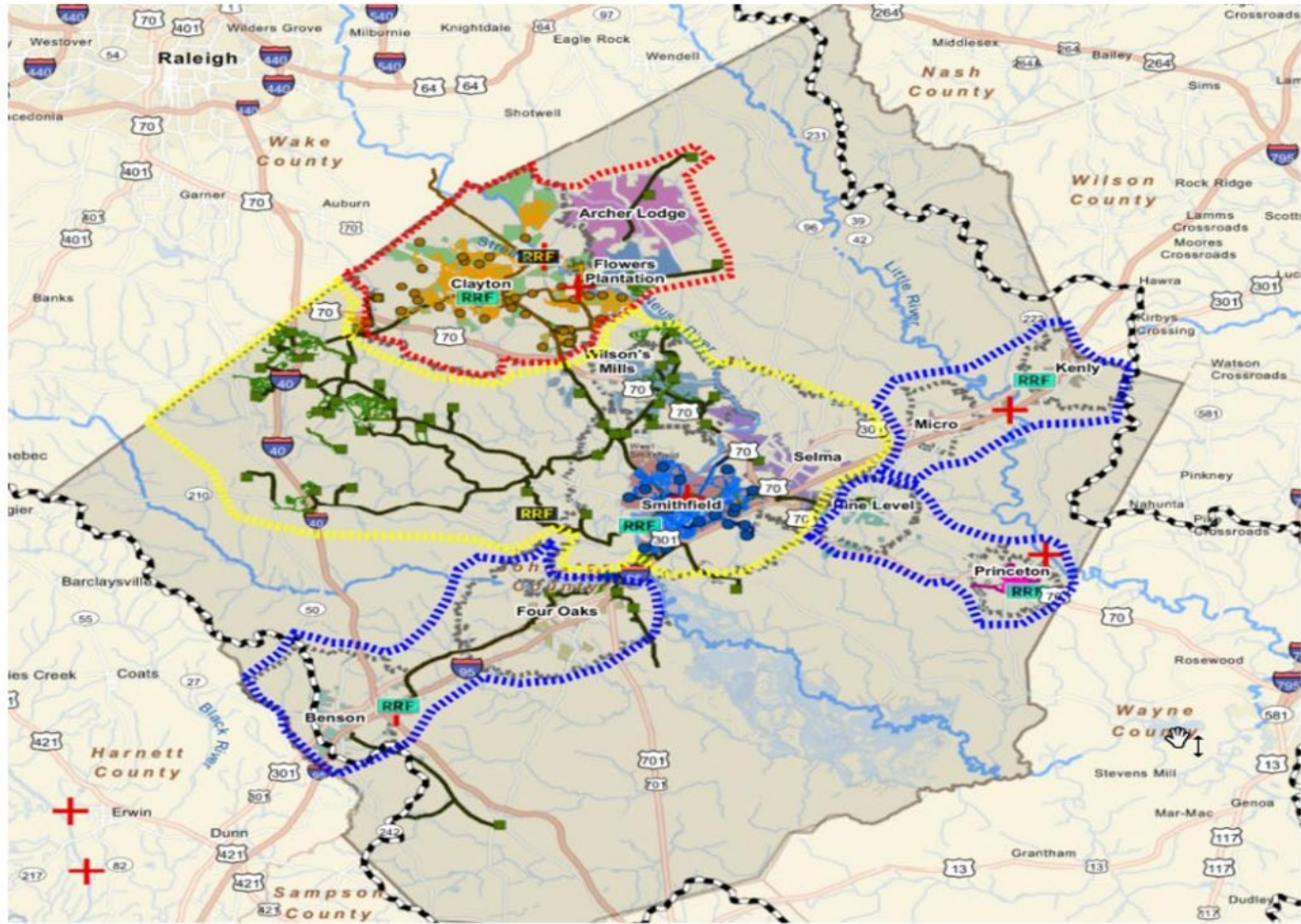
Infrastructure (3 of 3)

How many utilities do you see in this picture?

Where and when will new growth occur?

We don't have the right size pipes and pumps in all the right places.

Phase 1 was the first time these issues have been delineated



Utility Service Cluster Areas - Phase 1

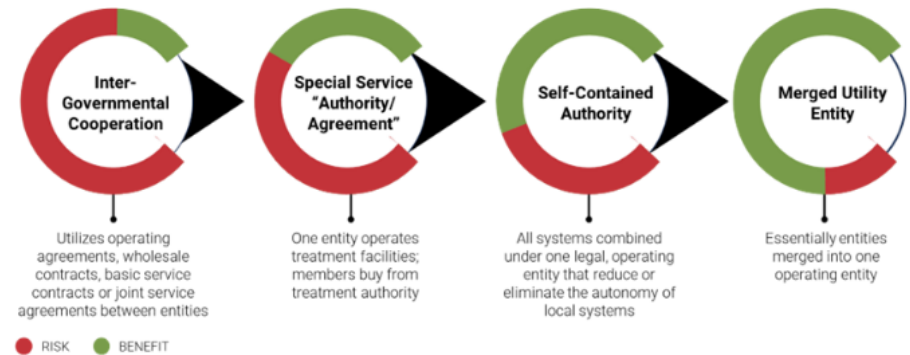
Organization Governance

Continuum of local
government structures.

Continuum of utility
structures.

The question for utility
structure is not about what
we create but what will last.

JCPU (County) – Commission-Manager
Town of Benson – Council-Manager
Town of Clayton – Council-Manager
Town of Four Oaks – Mayor-Council [Administrator]
Town of Kenly – Council-Manager
Town of Micro – Council-Manager
Town of Pine Level – Mayor-Council [Administrator]
Aqua, NC – Private Entity
Carolina Water Services, NC – Private Entity
Town of Princeton – Mayor-Council [Administrator]
Town of Selma – Council-Manager
Town of Smithfield – Council-Manager
Wilson’s Mills – Mayor-Council [Administrator]
Archer’s Lodge – Mayor-Council [Administrator]



What Are Our Structures for Decisions?

Organization Governance

What answers should we
have?

What answers do we have to
have?

What questions, if
unanswered, will bite us in
the future?

Line	Topics and Items for Consideration
A	Ambiguities Related to Current and Future Service Areas
B	Annexation and Growth
C	Precisely Defined Key Usage Thresholds and Limits
D	Meter Maintenance and Ownership Responsibilities
E	Water Quality Concerns
F	Transferability of Wastewater Pretreatment Requirements and Industrial Discharge Permits
G	Compliance of Wastewater Agreements with State and Local Ordinances and Regulations
H	Water Pressure
I	Adequate Payment for Use of Capital
J	Changes to Capital Costs Associated with Expanding Capacity Needs
K	Calculation and Modification of Commodity Charges
L	Consideration of Impact of Retail Increases on Wholesale Rates
M	Reselling Water and Capacity
N	Communicating and Handling Supply Interruptions or Shortages
O	Transferability of Conservation Status, Measures, and Emergency Reduction
P	Non-Revenue Water
Q	Excessive Inflow and Infiltration
R	Variations Due to Emergencies
S	Ground Rules for Negotiating: Financial Mediation
T	Addressing Failure to Pay

What Decisions Do We Need to Make?

Organization Operations

Current Staff Levels

What Should Staffing Be?

Why Are We Not Fully Staffed?

Why Do People Leave?

How many people will a regionalized system need in the future?

Not Intended to be Readable!

Line	Staffing	Archer Lodge		Benson		Clayton		Four Oaks		Johnston County*		Kenley		Pine Level		Princeton		Selma		Smithfield		Wilson Mills		Total
		FTE	W/WW	FTE	W/WW	FTE	W/WW	FTE	W/WW	FTE	W/WW	FTE	W/WW	FTE	W/WW	FTE	W/WW	FTE	W/WW	FTE	W/WW	FTE	W/WW	
1	Town Manager / Administrator	1	40%	1	40%	1	40%					1	40%	1	40%	1	40%	1	40%	1	40%	1	40%	9
2	Water/Wastewater Plant Staff			5	100%															10	100%			15
3	Lab Chief Operator (Backup ORC)			1	100%																			1
4	W/WW Plant Operator			3	100%	4	100%					1	100%						1	100%				9
5	Compliance Staff / Operator			1	60%	3																		4
6	Assistant / Assistant Superintendent			1	33%									1	100%									2
7	Public Works Superintendent			1	33%																			1
8	Public Service Worker			3	33%																			3
9	Pump Station Operator/Administrator			1	60%																			1
10	Project Manager			1	45%																			1
11	Customer Service Representative/Billing Technician			1	50%																			1
12	Water Reclamation					5	100%																	5
13	Operations Mechanic					6		1	100%															7
14	Operations Superintendent					1	100%																	1
15	Operations Crew Leader					1	100%												2	100%				3
16	Maintenance Superintendent					1																		1
17	Maintenance Crew Leader					1																		1
18	Maintenance Staff					4													2	100%				6
19	Water Treatment Plant Senior Operator					1	100%																	1
20	IT					4																		4
21	GIS Staff					2																		2
22	Data Analyst					1																		1
23	Mayor							1	100%															1
24	W/WW Staff	6.5	100%	2	100%			7.5	100%	95	100%	5	100%			6	100%			1	100%	100%		122
25	Director of Public Works / Utilities					1	100%					1	100%											3
26	W/WW Superintendent			1	100%	1	100%							1	100%	0.5	100%							4.5
27	Equipment Operator							1	100%															1
28	General Laborer							1	100%															1
29	Public Works Technician											3	100%											4
30	Administrator																							1
31	Clerk													1	30%									1
32	Deputy Clerk													1	15%									1
33	Administrative Assistant													1	50%									1
34	Supervisor													1	30%									1
35	Collection System Staff																			1	100%			1
36	Engineering Technician																				10	100%	100%	10
37	Total Employees	7.5		22		36		14		95		11		10		7.5		8		21		1		233
38	Total Adjusted FTE	6.9		16		13		14		95		10		6.7		6.9		7.4		20		0.4		197
39	Unfilled Positions			2		10		1				1		4										18

Current Staff for Each Utility

Not Intended to be Readable!

Line	Description	Archer Lodge	Benson	Clayton	Four Oaks	Johnston County	Kenley	Pine Level	Princeton	Selma	Smithfield	Wilson Mills
1	Financial System	Edmonds	Tyler Technologies	Tyler Technologies		Munis	Edmonds	Southern Software		Tyler Technologies	Tyler Technologies	
2	Asset Management		Tyler Technologies	CityWorks		Cityworks						GIS
3	Work Orders		Tyler Technologies							Novo Share		
4	SCADA		Tyler Technologies	VT	SCADA	Ignition						
5	Board Information			iCompass								
6	Human Resources			NeoGov								
7	New Development Review and Inspections			Clarity								
8	Meter Reading	Manual	Manual	AMI	AMI	AMR	AMR	Badger Meters	Manual	AMI	Manual	Manual
9	Infrastructure Management				IMGIS							
10	Maintenance Management					Cityworks						GIS
11	Project Management					Clarity						
12	Work Orders (Asset)					Cityworks						
13	Work Orders (Customer Accounts)					Munis						
14	IT							Guru Computer Solutions				
15	Billing/Customer Information Systems	Edmonds	Tyler Technologies	Tyler Technologies	Edmonds	Munis		Southern Software		Tyler Technologies	Tyler Technologies	

Business Tools and Technologies

Organization Operations

Dedicated Business Unit Leader(s)

Dedicated Maintenance Group

Services Provided by Geography

Preventive Maintenance

Corrective Maintenance

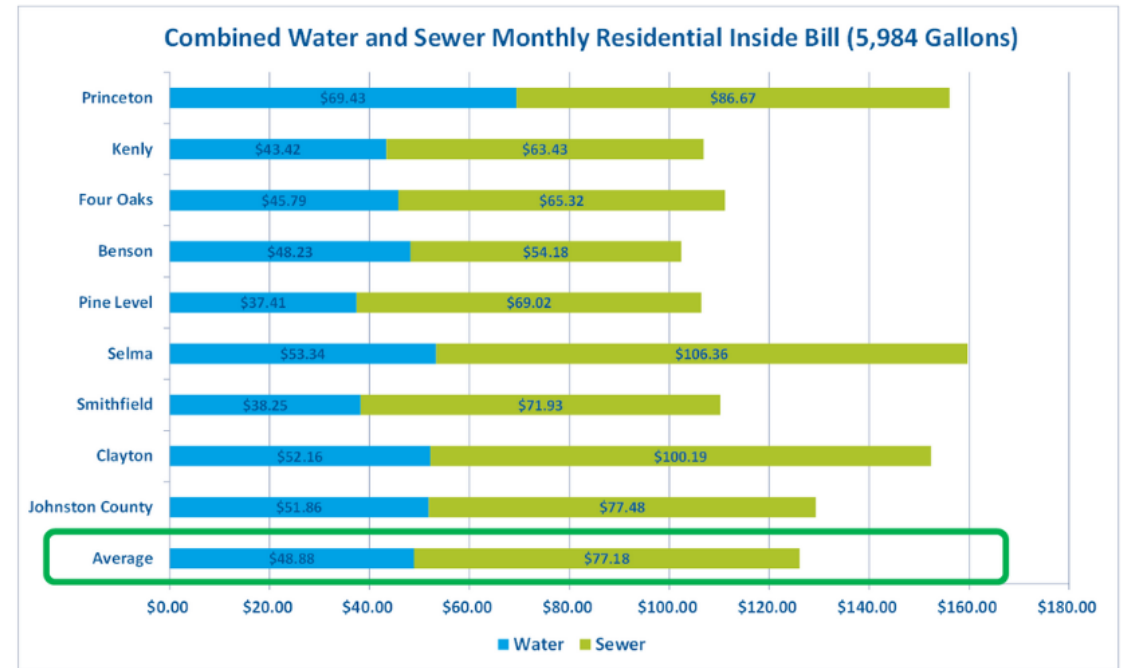
Control System Utilized

Financial

Clayton, JCPU, and Selma are above the average

Clayton and JCPU are the largest utilities

JCPU has wholesale agreements with many (most) of the smaller entities



Volume		Johnston County	Clayton	Smithfield	Selma	Pine Level	Benson	Four Oaks	Kenly	Princeton	Average
Cubic Ft	Gallons	Inside	Inside	Inside	Inside	Inside	Inside	Inside	Inside	Inside	
0	0	\$ 55.00	\$ 55.26	\$ 25.08	\$ 35.35	\$ 39.47	\$ 30.00	\$ 57.08	\$ 13.50	\$ 47.88	\$ 39.85
100	748	\$ 64.16	\$ 67.21	\$ 35.46	\$ 50.89	\$ 47.84	\$ 39.05	\$ 57.08	\$ 25.17	\$ 59.47	\$ 49.59
200	1,496	\$ 73.33	\$ 79.15	\$ 45.84	\$ 66.44	\$ 56.21	\$ 48.10	\$ 57.08	\$ 36.84	\$ 71.05	\$ 59.34
300	2,244	\$ 82.49	\$ 91.16	\$ 56.23	\$ 81.98	\$ 64.58	\$ 57.15	\$ 57.71	\$ 48.51	\$ 83.46	\$ 69.25
400	2,992	\$ 91.65	\$ 103.30	\$ 66.61	\$ 97.52	\$ 72.95	\$ 66.20	\$ 68.39	\$ 60.18	\$ 97.58	\$ 80.49
500	3,740	\$ 119.39	\$ 140.03	\$ 66.61	\$ 144.15	\$ 98.06	\$ 93.36	\$ 100.43	\$ 95.18	\$ 140.42	\$ 110.85
600	4,488	\$ 109.98	\$ 127.70	\$ 66.61	\$ 128.61	\$ 89.69	\$ 84.30	\$ 89.75	\$ 83.51	\$ 125.81	\$ 100.66
700	5,236	\$ 119.39	\$ 140.03	\$ 99.03	\$ 144.15	\$ 98.06	\$ 93.36	\$ 100.43	\$ 95.18	\$ 140.42	\$ 114.45
800	5,984	\$ 129.34	\$ 152.36	\$ 110.18	\$ 159.70	\$ 106.43	\$ 102.41	\$ 111.12	\$ 106.85	\$ 156.10	\$ 126.05
900	6,732	\$ 139.29	\$ 165.05	\$ 121.33	\$ 175.24	\$ 114.80	\$ 111.46	\$ 121.80	\$ 118.52	\$ 171.79	\$ 137.70
1,000	7,480	\$ 149.24	\$ 177.75	\$ 132.49	\$ 190.78	\$ 123.17	\$ 120.51	\$ 132.48	\$ 130.19	\$ 187.48	\$ 149.34
1,100	8,228	\$ 159.18	\$ 190.45	\$ 143.64	\$ 206.33	\$ 131.54	\$ 129.56	\$ 143.16	\$ 141.86	\$ 204.70	\$ 161.16
1,200	8,976	\$ 169.13	\$ 203.15	\$ 154.79	\$ 221.87	\$ 139.91	\$ 138.61	\$ 153.84	\$ 153.53	\$ 221.96	\$ 172.98
1,300	9,724	\$ 179.08	\$ 215.85	\$ 165.94	\$ 237.41	\$ 148.28	\$ 147.66	\$ 164.52	\$ 165.19	\$ 239.22	\$ 184.80
1,400	10,472	\$ 189.55	\$ 228.55	\$ 177.53	\$ 252.96	\$ 156.65	\$ 156.71	\$ 175.20	\$ 176.86	\$ 256.49	\$ 196.72
1,500	11,220	\$ 200.32	\$ 241.26	\$ 189.36	\$ 268.50	\$ 165.02	\$ 165.76	\$ 185.89	\$ 188.53	\$ 273.75	\$ 208.71



Closing Thoughts

Regionalization Summary

The numbers must work first.

It always comes down to the people.

Will your utility look and work the same in 30 years?





Regionalized Utilities Have Problems, Too

Growth

Planning & Capital Funding

Governance

Final Thoughts

Regional utilities have the critical mass to overcome short-term operations issues

Regional utilities can backstop economic development and environmental issues



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