

Special Meeting
Monday, April 21, 2021
4:00 pm
Town Council Chambers

The Edenton Town Council met in special session on Monday, April 21, 2021 at 4:00 p.m. in the Council Chambers. The following members were present: This meeting was held virtually via WebEx. The Chowan County Board of Commissioners were present via WebEx along with representatives from Rivers and Associates. Chowan County hosted the virtual meeting and the Perquimans County Commissioners were provided the link to participate remotely via WebEx.

Edenton Town Council Present

Mayor Pro Tem Elton Bond called the Edenton Town Council to order. He noted that Mayor Jimmy Stallings was absent.

Councilman Roger Coleman, Craig Miller, Hackney High and Rascoe Poole

Town of Edenton Staff Present

Town Manager Anne-Marie Knighton

Chowan County Commissioners Present

Present Chair Bob Kirby, Commissioners, Ron Cummings, Larry McLaughlin, Tray Taylor and Ellis Lawrence.

Chowan County Commissioners Absent

Commissioner Evans and Kehayes.

Chowan County Staff Present

County Manager Kevin Howard, Water Department Director David Tawes and Board Clerk Susanne Stallings.

Rivers and Associates Representatives Present

Greg Churchill and Scott Godefroy.

Perquimans County Commissioners Present

Perquimans County Chairman Wallace Nelson

Perquimans County Commissioners Present

None

Perquimans County Staff Present

Frank Heath County Manager and Nick Lolies Water Department Director

Special Meeting

Chowan County Chair Kirby called the special meeting to order.

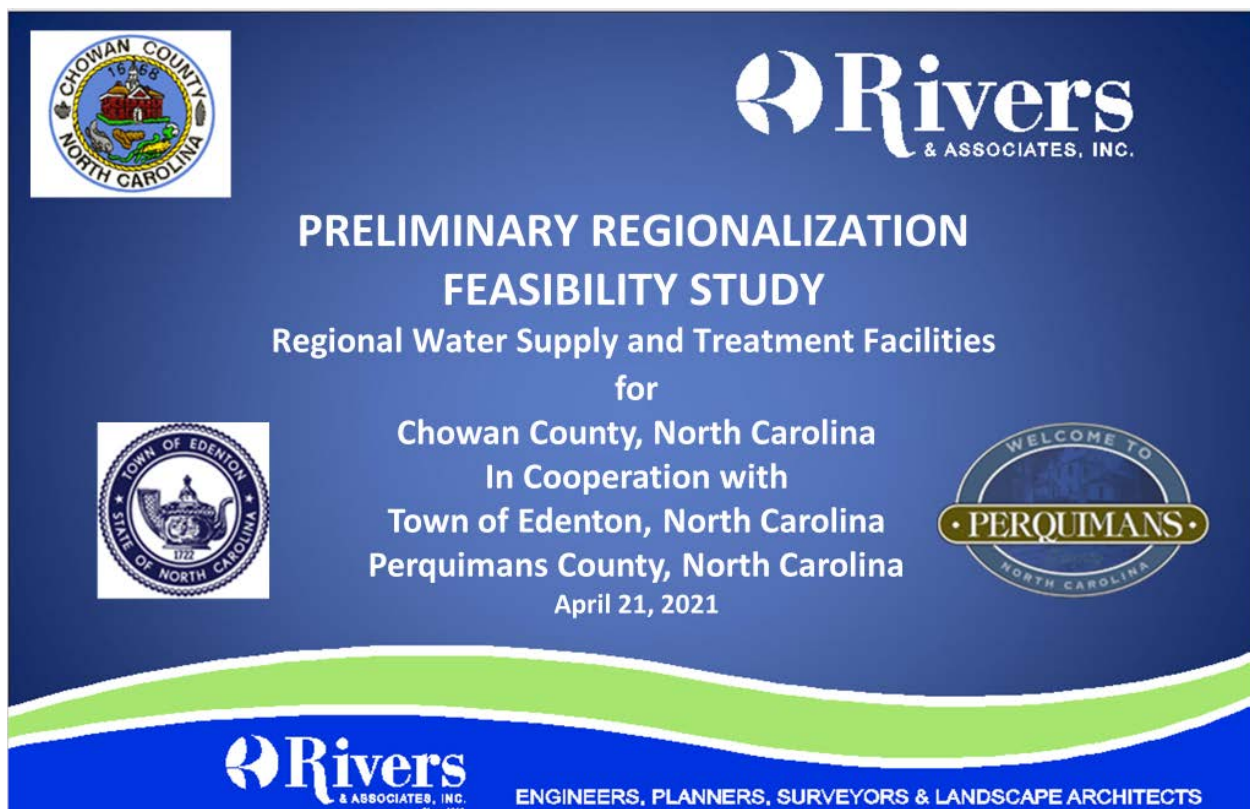
Chowan County Board Clerk Susanne Stallings provided housekeeping items and explained the process for utilizing the microphone and muting.

Roll Call & Introduction of Elected Officials, Staff and Consultants Participating in Electronic Meeting:

- a. Chowan County: Board of Commissioners & Staff
- b. Perquimans County: Board of Commissioners & Staff
- c. Town of Edenton: Mayor Pro Tem & Council members & Staff
- d. Rivers & Associates – Consulting Engineers

Presentation of Regional Preliminary Regionalization Feasibility Study that looked at long-term Regional Water Supply and Treatment Options: Rivers & Associates

Engineer Greg Churchill provided the Board with a PowerPoint presentation on the study. A copy of the PowerPoint is in the meeting file labeled April 21, 2021 and incorporated into these minutes.



He noted that this study is funded by a \$50,000 merger/regionalization grant from the NC Division of Water Infrastructure. He stated the purpose of the study was to provide a preliminary evaluation and direction relative to the feasibility of developing a long rang regional water supply plan that is capable of addressing the future potable water needs of Chowan County, the Town of Edenton and the westernmost portion of Perquimans County to the year 2040 and beyond.



CHOWAN COUNTY, NC PRELIMINARY REGIONALIZATION FEASIBILITY STUDY

Prepared by:
Rivers & Associates, Inc.
In Conjunction with
Groundwater Management Associates, Inc.

Funded by a \$50,000 Merger/Regionalization grant
from the NC Division of Water Infrastructure



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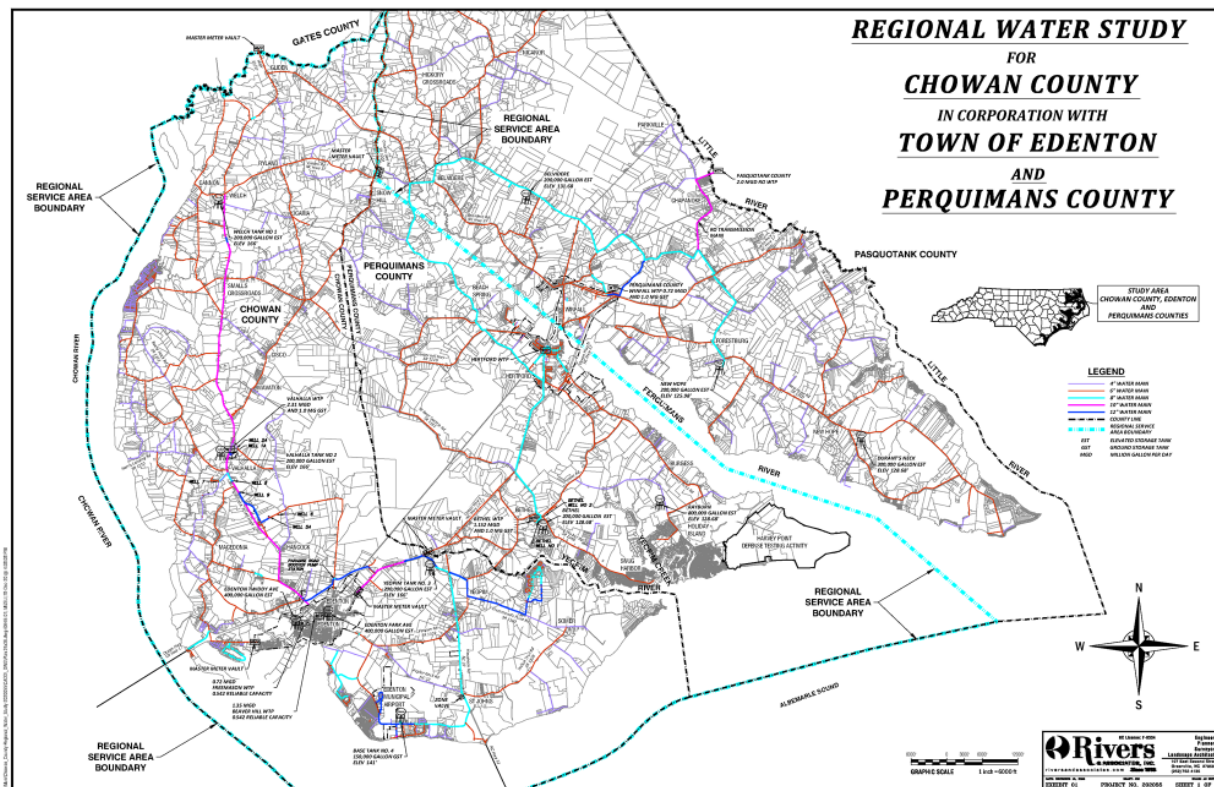


Purpose

To provide preliminary evaluation and direction relative to the feasibility of developing a long-range regional water-supply plan that is capable of addressing the future potable water needs of Chowan County, the Town of Edenton, and the westernmost portion of Perquimans County to the year 2040 and beyond.



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Mr. Churchill reviewed the list of regional challenges.




Regional Challenges

1. Future Availability of Sufficient Raw Water of the Quality And Capacity Required to Support Demand
2. Treatment Requirements to meet Primary and Secondary Water-Quality Standards throughout the Water Systems
3. Treatment and Disposal of Residual Waste Streams
4. Environmental Concerns relative to Implementation
5. Permitting Issues relative to Implementation
6. Affordability to Implement and Operate a Sustainable Supply and Treatment Process



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Future Water Demands

Entity	2040 Projected Avg Daily Demand (MGD)	2040 Projected Max Daily Demand (MGD)
Chowan Co.	0.989	1.731
Edenton	0.483	0.845
Perquimans (Bethel Service Area)	0.650	1.138
Total	2.122	3.714



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Approach

1. Potential Raw Water Supplies
 - Freshwater Yorktown and Castle Hayne Aquifers located at Valhalla
 - Brackish Castle Hayne and Upper Cape Fear Aquifers located northeast of the Edenton Airport
2. Potential Water Treatment Processes
 - Conventional Pressure Filtration and Softening
 - Nanofiltration
 - Reverse Osmosis
3. Raw Water Wells and Transmission Requirements
4. Backwash Waste/Concentrate Treatment, Transmission and Disposal Requirements
5. Finished Water Transmission Requirements



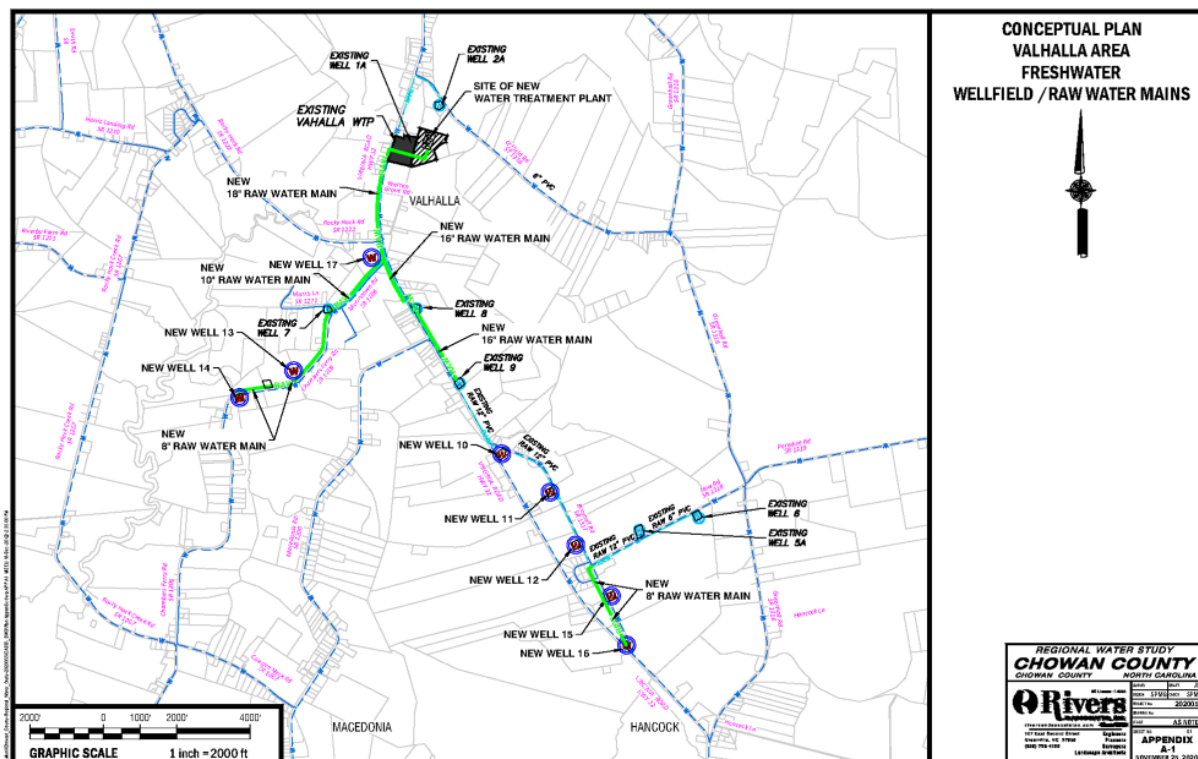
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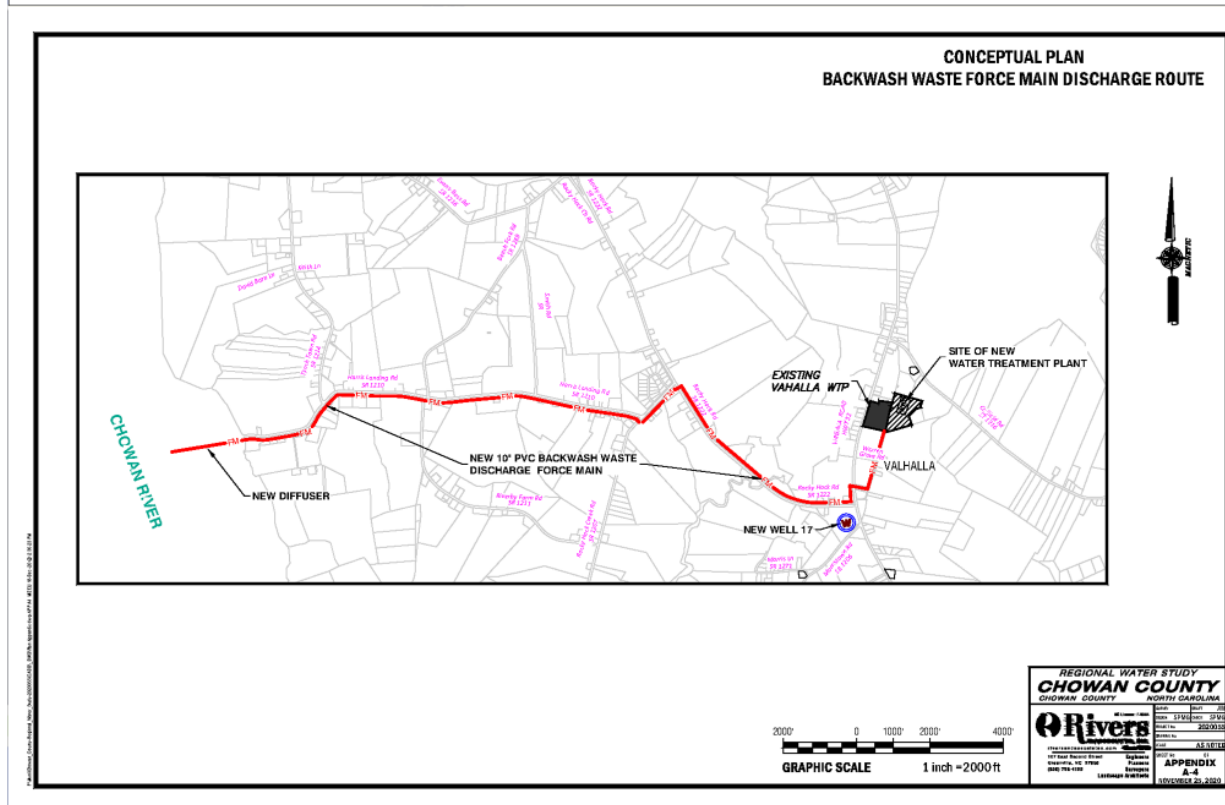
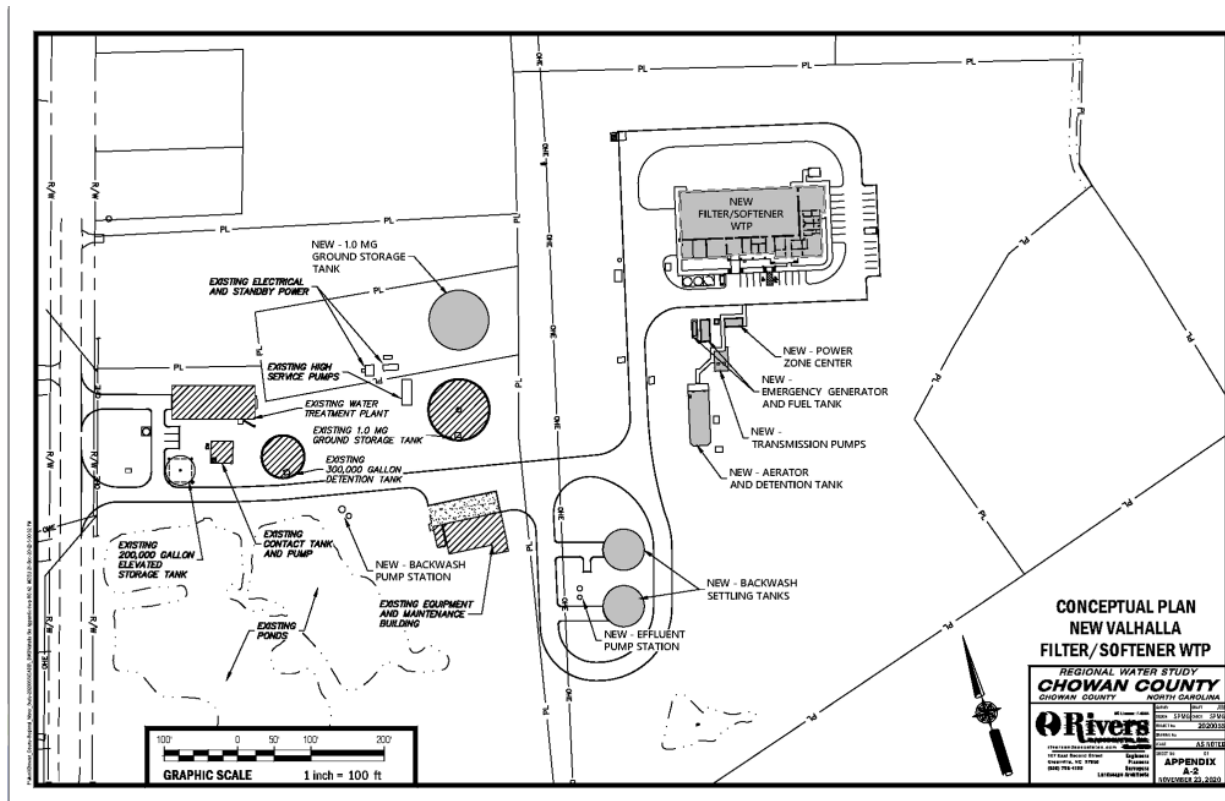
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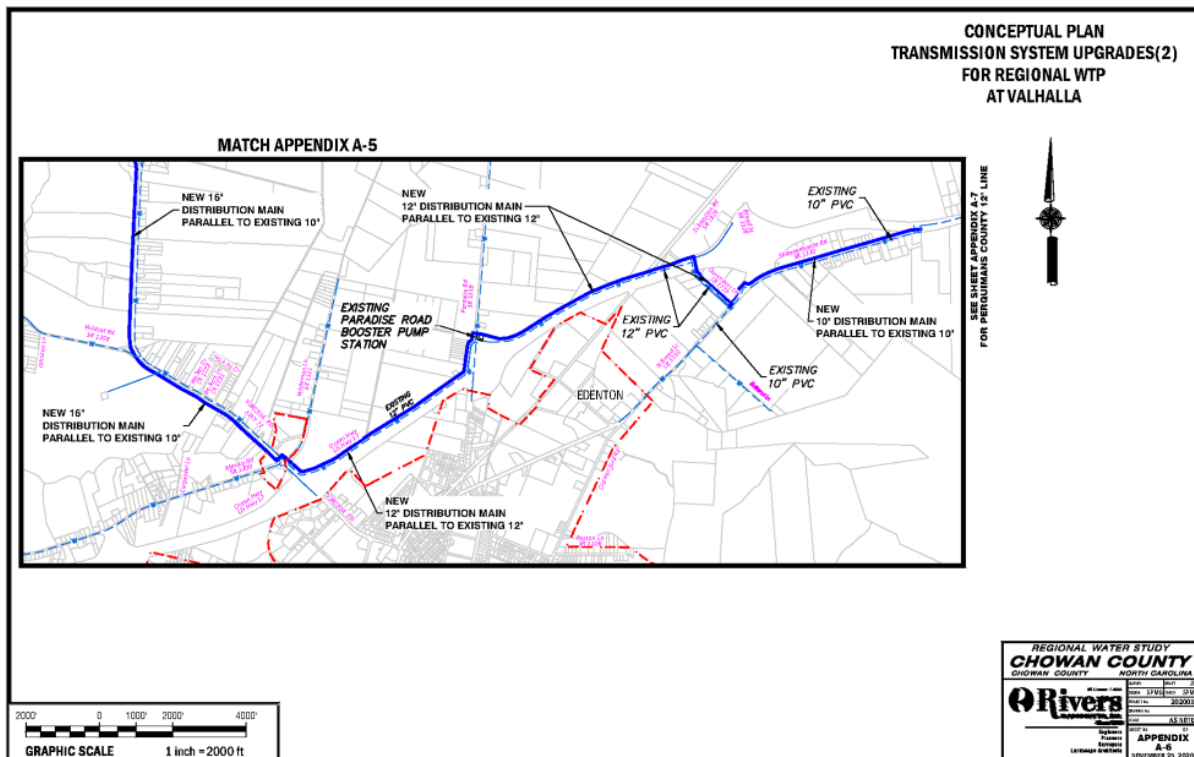
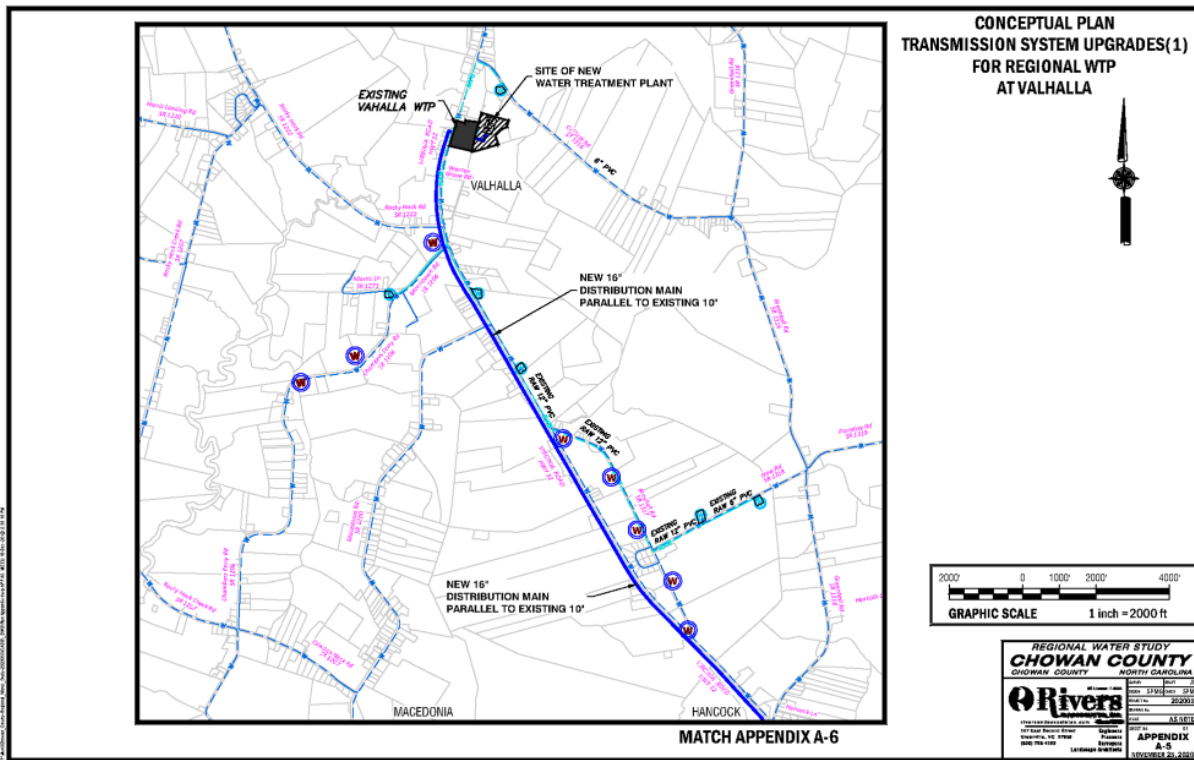


Alternatives Considered

1. A 4.0 MGD (net)/4.5 MGD (gross) Regional Filter/Softener Water Treatment Plant (WTP) located at the existing Valhalla WTP Site including:
 - a) Expansion of the existing Fresh Groundwater Wellfield using the Yorktown And Castle Hayne Aquifers (7 New Wells)
 - b) Extension of 16,700 LF of 8" – 18" Raw-Water Transmission Mains
 - c) Extension of 72,700 LF of 10" – 16" Finished-Water Transmission Mains
 - d) Backwash Waste Treatment; Supernatant Pump Station; 23,500 LF of 10" Discharge Force Main & Subaqueous Effluent Diffuser in the Chowan River At Harris Landing
 - e) Additional Options Considered: Chloramines Residual Disinfection & Anionic Resin Vessels For Organics Removal





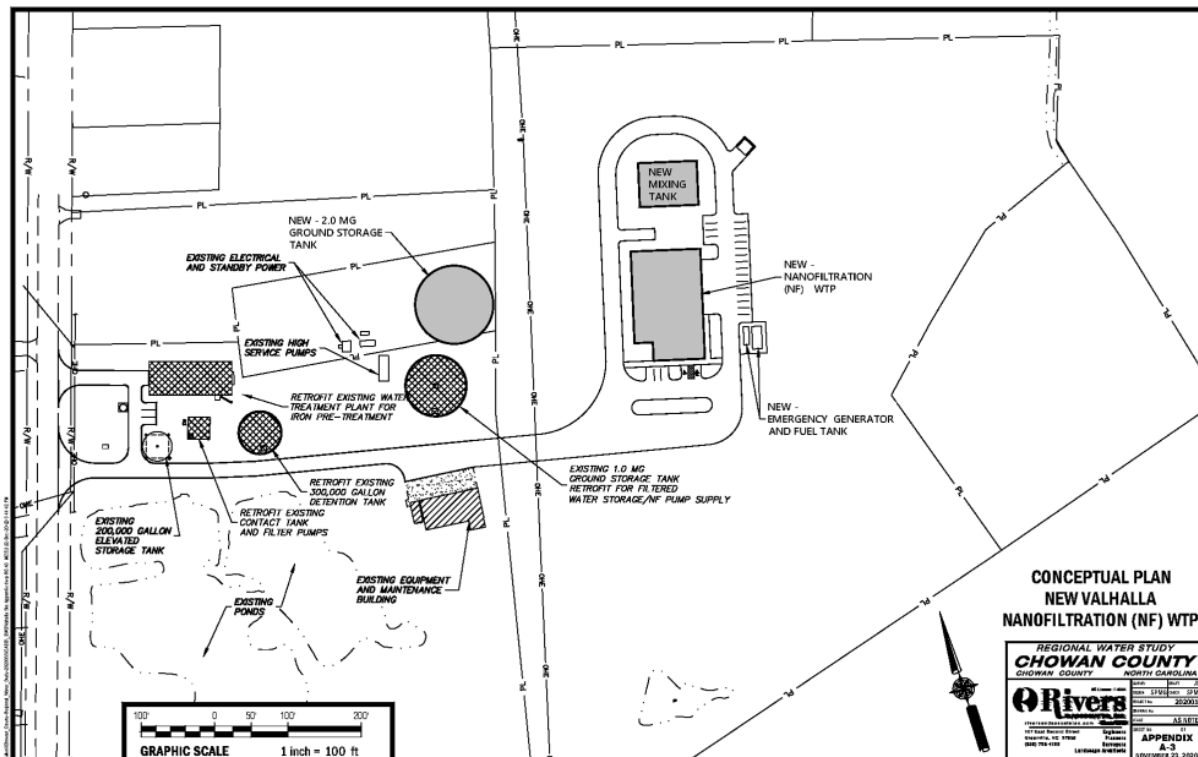




Alternatives Considered

2. A 4.0 MGD (net)/5.0 MGD (gross) Regional Nanofiltration WTP with Iron Pre-treatment located at the existing Valhalla WTP, including:

- a) Expansion of the existing Fresh Groundwater Wellfield (8 New Wells)
- b) Extension of 18,200 LF of 8" – 18" Raw-Water Transmission Mains
- c) Extension of 72,700 LF of 10" – 16" Finished-Water Transmission Mains
- d) Extension of 23,500 LF of 10" Concentrate Discharge Force Main connected to a Subaqueous Multi-port Diffuser In the Chowan River at Harris Landing



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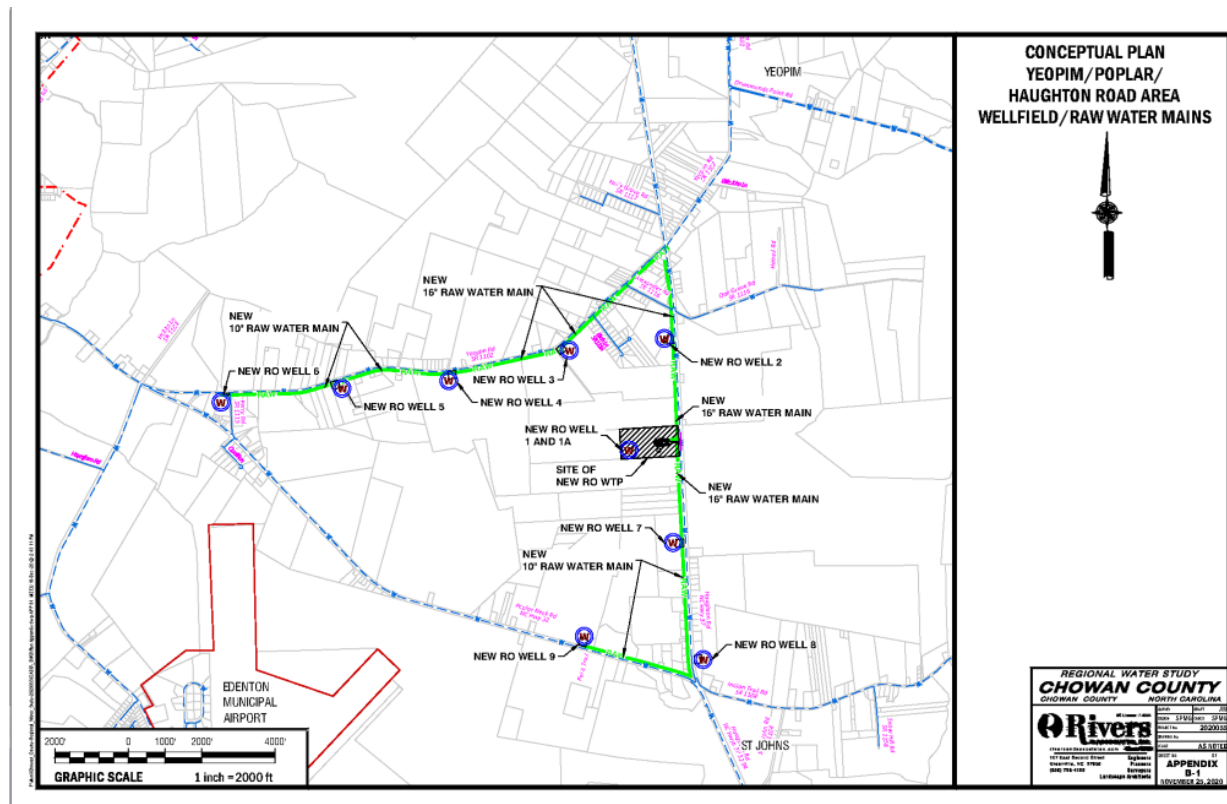
Alternatives Considered

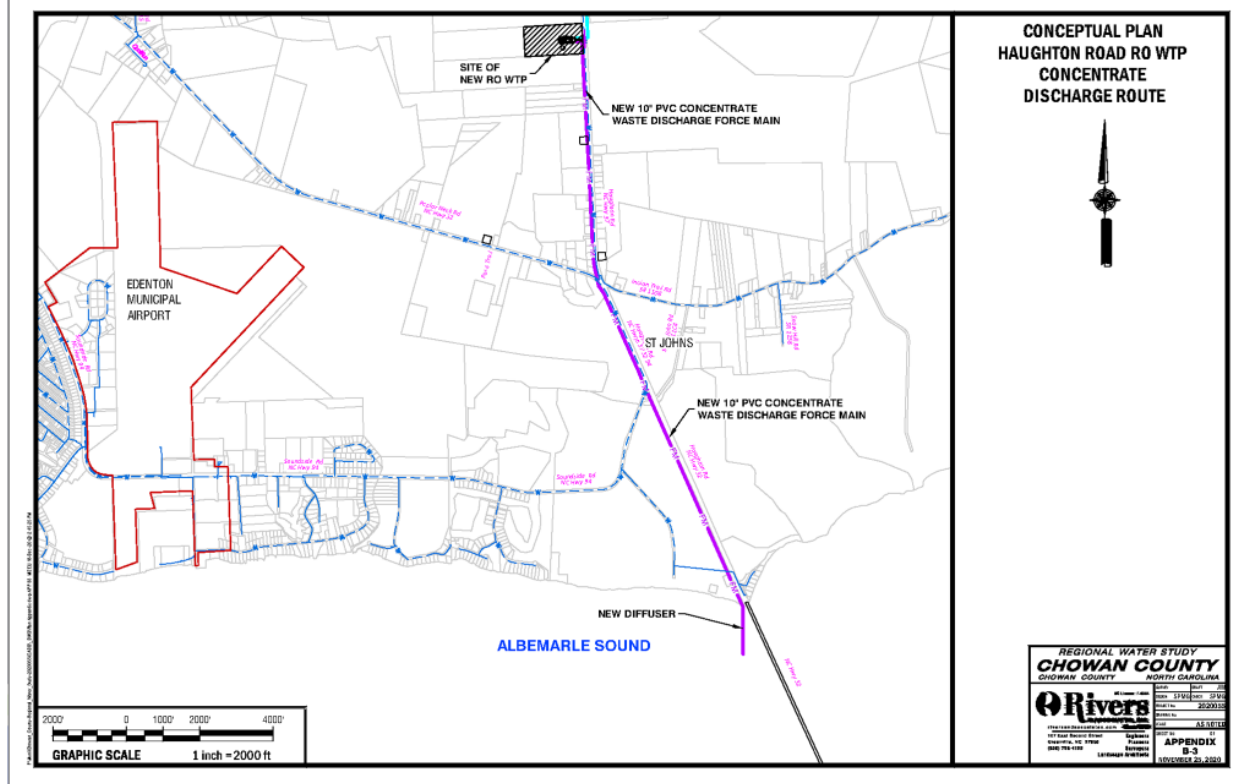
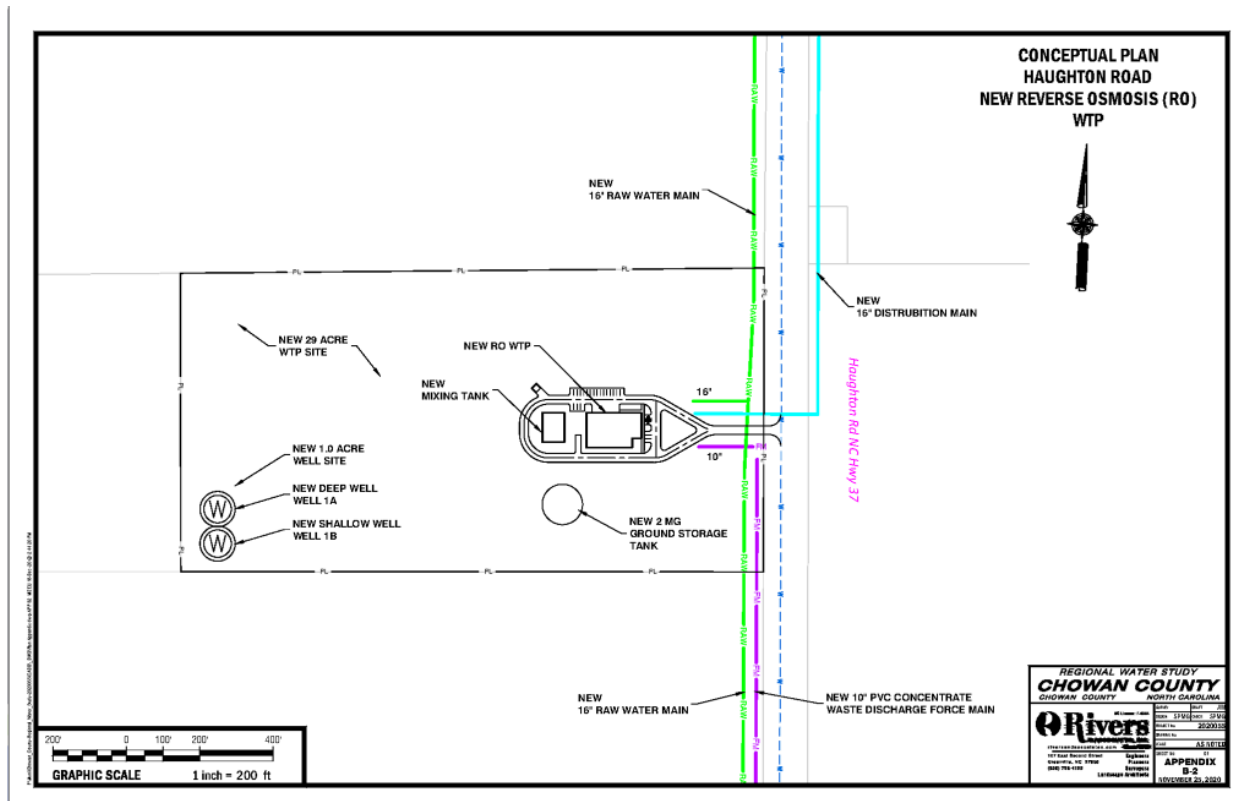
3. A 4.0 MGD (net)/5.0 MGD (gross) Regional Reverse Osmosis WTP located in the Yeopim/Haughton/Poplar Neck Road Area, including:
 - a) A Brackish Water wellfield consisting of 18 Blending Wells tapped into the Lower Castle Hayne and Upper Cape Fear Aquifers
 - b) Extension of 28,000 LF of 10" – 16" Raw-Water Transmission Mains
 - c) Extension of 50,000 LF of 10" – 16" Finished-Water Transmission Mains
 - d) Extension of 19,200 LF of 10" Concentrate Discharge Force Main connected to a Subaqueous Multi-port Diffuser located Upstream of the Albemarle Sound Hwy 37 Bridge

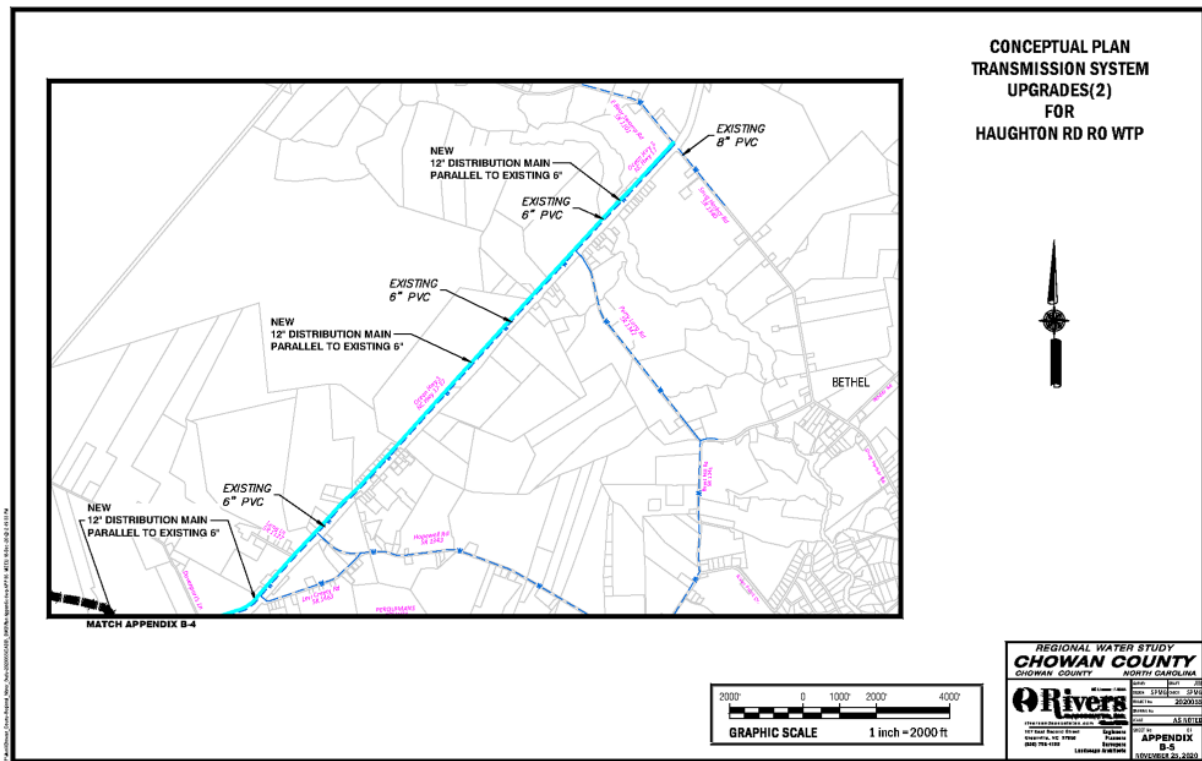
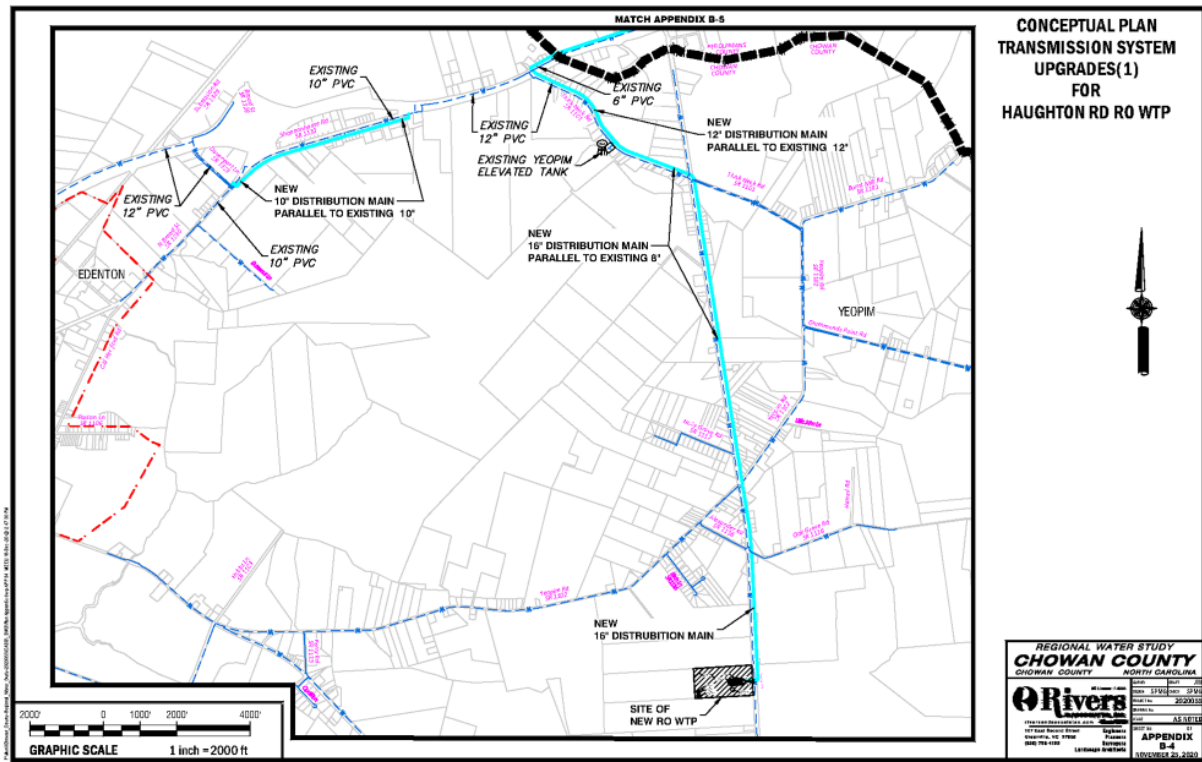


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Cost Estimates

1. Conventional Filter/Softener WTP - \$45.3 Million
 - Filter/Softener WTP with Chloramines Disinfection - \$45.8 Million
 - Filter/Softener WTP with Organics Removal - \$48.5 Million
2. Nanofiltration WTP with Iron Pre-treatment - \$60.5 Million
3. Reverse Osmosis WTP - \$51.7 Million



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Organizational Structure Options

- **Interlocal Agreements**
- Joint Management Agency
- County Service District
- Water and Sewer District
- Water and Sewer Authority
- Sanitary District
- Metropolitan Water District



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Capital Funding Options

- NCDEQ – DWI, Drinking Water State Revolving Fund
- USDA – Rural Development, Environmental Water/Waste Program
- Commercial Financing, Revenue Bonds
- Commercial Financing, General Obligation (GO) Bonds



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Selection of an Alternative

A decision matrix was utilized to comparatively score various parameters for each alternative to assist in forming the basis for recommendation.

Parameters included:

- | | |
|------------------------------|--------------------------|
| • Sustainability | • Study vulnerabilities |
| • Treatability | • Environmental concerns |
| • Waste treatment & disposal | • Ease of operation |
| • Disinfection byproducts | • Social impact |
| • Land requirements | • Implementation costs |

The Reverse Osmosis WTP received the highest and most favorable score.



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Conclusions & Recommendations

- Implementation of improvements will require further extensive test well studies, pilot plant treatability studies, and CORMIX dilution modeling studies.
- Each partnering entity, considering their individual system needs, will need to determine whether a Regional solution is perceived as feasible as a short-term or long-term solution.



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Conclusions & Recommendations

- Should Chowan County and the Regional Partners choose to move forward with a Regional water supply, and the associated treatment system, the recommended alternative is Reverse Osmosis at a preliminary estimated project cost of \$51.7 million.



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Questions?



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Discussion / Recommended Next Steps

Chowan County Manager, Kevin Howard discussed the current water rates and the impacts of debt on the water rates. Consideration was given to a loan with a grant or loan only combination. A \$51.7 million loan with no grant money (40 year term with a 2% interest rate) would require additional \$16 per month.

Edenton Town Manager, Anne-Marie Knighton discussed the need for discussions with the State regarding the current SOC that the County is under. She stated the Town knows a regional system is needed for the Town in the long term.

Chowan County Manager Kevin Howard stated that having Perquimans and the Town on board for a regional project is more valuable to Chowan County. He stated it appears that the County will have to do the outfall project because of the time constraint of a regional project. He stated the next steps would be to contact the Washington Regional Office to see how they wish for Chowan to move forward on the current S.O.C.

Chowan County Chair Kirby stated that he did not want to lose any momentum with this discussion.

Mr. Churchill stated he will need to know the level of interest from the three entities and to let them know if they wish to pursue this project any further.

Adjourn

There being no further items of business, The Edenton Town Council adjourned their special meeting.

Chowan County Chair Kirby adjourned the Chowan County Special Meeting.