

AGENDA
Lower Cape Fear Water & Sewer Authority
1107 New Pointe Boulevard, Suite # 17, Leland, North Carolina
8:00 a.m. – Long Range Planning Committee Meeting
December 13th, 2021

MEETING CALL TO ORDER: Chairman Leonard

PRESENTATION: Master Plan Review (Capital Improvement Plan)

PRESENTATION: 25 Year planning period revised Master Plan for 2022-2046

FUTURE MEETINGS FOR: TBD

ADJOURNMENT



DRAFT MASTER PLANNING DOCUMENT

25 Year Planning Period

FY 2022-2046

November 2021

Prepared for:

Lower Cape Fear Water & Sewer Authority
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Executive Summary

I. Kings Bluff Raw Water Facilities

The Authority's proposed 25-year (2022-2046) Capital Project budget for the Kings Bluff Raw Water Facilities is estimated at approximately \$87M. Beyond 2046, a 48-inch parallel raw water force main from the existing 3 MG ground tank to the US 421 service area may potentially be required to meet the capacity needs of the US 421 area customers and CFPWA. The cost of this parallel main is estimated at \$45M.

The following summarizes the primary drivers for the 25-year Capital Improvement Plan:

- Increase overall system capacity via new infrastructure and/or parts to meet long term raw water demands.
- Rehabilitate and replace infrastructure as needed to maintain system functionality of raw water pipeline.
- Plan and design system capacity in order to balance the supply with the demands and meet the needs of any potential customers.
- Design and construct maintenance system for pipeline in order to periodically clean pipeline and maintain station capacity.

The largest capital initiatives (over \$1 M) anticipated over the next twenty-five fiscal years is summarized as follows:

- New generators at King's Bluff Raw Water Pumping Station
- Walkway and Air Backwash Building Replacement
- Pig 48" existing water main from King's Bluff Pumping Station to 3 MG ground tank
- Pig future 54" water main from King's Bluff Pumping Station to 3 MG ground tank
- 20 MG Ground Tank
- 100 MG Reservoir
- Install 4th pump at King's Bluff Pumping Station
- Replace existing pumps at King's Bluff Pumping Station
- After FY 2046, install 48" parallel raw water main from 3 MG ground tank to US 421
- Intermediate Booster Pump Station Upgrade
- New 5th Pump at King's Bluff Pumping Station

In addition to these large capital initiatives, there are a several projects that are estimated at less than \$1 M, which include:

- Refurbish/rebuild existing pumps
- Installation of a new surge tank at the King's Bluff Pumping Station

- 5 ROW Acquisitions
- Intermediate Booster Pump Station Shelter
- Walkway to access 48" raw water main at Livingston Creek

II. Bladen Bluffs Regional Surface Water Facility

The Authority's proposed 25-year (2022-2046) Capital Project budget for the Bladen Bluffs Regional Surface Water Facility is estimated at approximately \$7.3M. However, it is noted that Smithfield Farmland Company (SFC) provides all operation and maintenance of the Bladen Bluffs Regional Surface Water Treatment Facility. All capital improvements and/or maintenance requirements listed in this document are for recommendation only and are the sole responsibility of SFC. LCFWSA would only be responsible for the recommended projects should LCFWSA assume full operation of the facility from SFC.

The following summarizes the primary drivers for the 25-year Capital Improvement Plan:

- Replace aging infrastructure and parts to meet long term demand.
- Plan and design to maintain system capacity to meet current and potential future customer demands

The largest capital initiatives (over \$1 M) anticipated over the next twenty-five fiscal years is summarized as follows:

- New 1 MG Capacity Clearwell
- New High Service Pumping Station

In addition to these large capital initiatives, there are a few projects that are estimated at less than \$1 M, which include:

- Replace Pumps at Raw Water Pumping Station
- Replace Pumps at Recycle Pumping Station
- Replace Pumps at Transfer Pumping Station
- Replace Blower in Blower Building
- Replace On-Site Generators

The proposed CIP budget over the next 25 years has been compiled based on these initiatives. It is recommended that each project be periodically reevaluated, which provides an opportunity to reassess the budget and need for each. This will allow the Authority to adjust priorities and budgets based on meeting customer needs.

III. Capital Projects Evaluations

Each project identified in the CIP was evaluated for the following factors:

1) Category of Need

- Capacity – *the project is needed to either maintain current capacity or increase capacity to meet future need.*
- Renewal/Rehabilitation - *the project is needed to replace or rehabilitate existing infrastructure to maintain capacity and operational readiness.*
- Efficiency- *the project is needed to increase or maintain the efficiency of the facilities and/or to maintain operations.*
- Maintenance – *the project is required for a general maintenance need to maintain equipment and/or facilities in operational condition.*

2) Criticality Score: 1 (Lowest) to 5 (Highest)

The criticality score was developed to for each project to provide a summary assessment of impact to operations as a driver for project implementation. Note that criticality levels provided in this document are specific to the fiscal year for which they have been identified.

Criticality Scoring Scale

1	2	3
The need for the project is low and does not fundamentally impact operational readiness	The project has a moderate impact on operations and may provide limited improvement to the facilities	The project is of critical need and will greatly impact operations if not completed.

3) Consequence of No-Action

In addition to the identification of the category and criticality assessment, a “Consequence of No-Action” statement has been included for each project. The intent of this statement is to clarify the impacts to operations, capacity, facility maintenance, etc. that would result if the project were not implemented.

4) Project Raw Water Demands

For capacity related improvements, updated customer projections were taken from the May 2018 Preliminary Design Memorandum for the Lower Cape Fear Water & Sewer Authority Parallel Raw Water Main report. A summary of the projected demands is provided as follows:

LCFWSA Projected Raw Water Demands

Customer	2015 Demands (MGD)	2025 Demands (MGD)	2035 Demands (MGD)	2045 Demands (MGD)	2055 Demands (MGD)	2062 Demands (MGD)
CFPUA	10.4	13.5	20.5	28.6	34.3	38.2
Brunswick County	19.7	25.1	30.6	36.67	43.89	49.8
US 421 Industries	2.0	2.0	2.0	2.0	2.0	2.0
Pender County	1.1	2.4	4.8	6.0	6.0	6.0
Totals	33.2	43.01	57.9	73.27	87.55	96.0

**Kings Bluff Raw Water Facilities
Capital Improvements
LCFWSA Projects
FY 2022-2046**

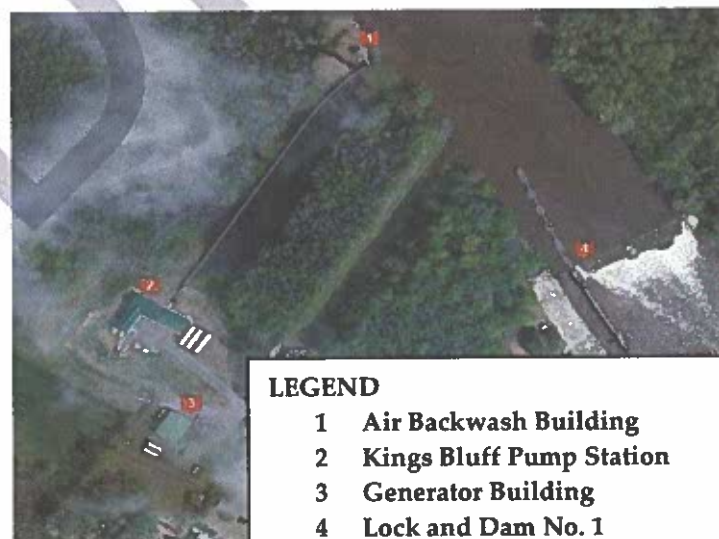
KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	New 4 th Pump at King's Bluff Raw Water Pump Station	KB 1
CATEGORY:	Capacity/Efficiency	
Summary: <ul style="list-style-type: none">Provide a fourth raw water pump at King's Bluff Pumping Station to meet projected demands. (See #2 on legend in graphic below) Projected demands will exceed station firm capacity by 2037.		
Justification: <ul style="list-style-type: none">Increase station capacity to meet long term raw water demand.Firm capacity of station will require 3 pumps by 2037. Fourth pump will be standby/backup and added to pump rotation to reduce hours per pump.		
Consequence of No Action: <ul style="list-style-type: none">The projected demands at the station will exceed the firm capacity and the station will not be able to serve the project customer demand.		
Criticality:		
<div><div>1</div><div>2</div><div>3</div></div>		
DURATION (MONTHS)	24	
REQUIRED COMPLETION	2026	
TOTAL ESTIMATED COST	\$3,600,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2024	\$800,000	
2025	\$2,000,000	
2026	\$800,000	



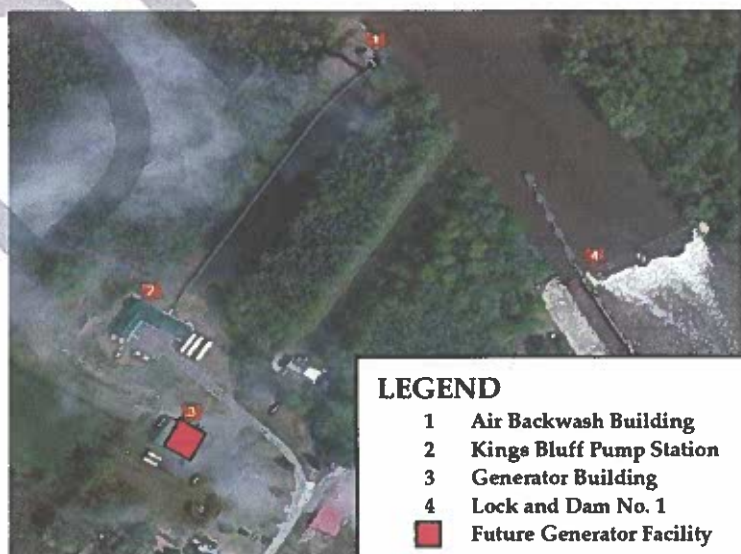
KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	Rebuild/Refurbish Existing 1600 HP Vertical Turbine Raw Water Pumps	KB 2
CATEGORY:	Renewal/Rehabilitation	
Summary:		
<ul style="list-style-type: none">Rebuild and/or refurbishment of an existing 1600 HP vertical turbine raw water pumps originally installed in 2009 and a proposed 1600 HP vertical turbine raw water pump that will be installed in 2020.		
Justification:		
<ul style="list-style-type: none">Due to age and mechanical wear, it is anticipated that a rebuild of one of the raw water pumps will be required.Rebuilding of pumps will extend the service life of the pumps		
Consequence of No Action:		
<ul style="list-style-type: none">The likelihood of failure of the pumps increases due to age and wear of the existing pump.		
Criticality:		
<div><div>1</div><div>2</div><div>3</div></div>		
DURATION (MONTHS)	48	
REQUIRED COMPLETION	2023, 2025, 2027, 2044	
TOTAL ESTIMATED COST	\$1,000,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2023	\$250,000	
2025	\$250,000	
2027	\$250,000	
2044	\$250,000	



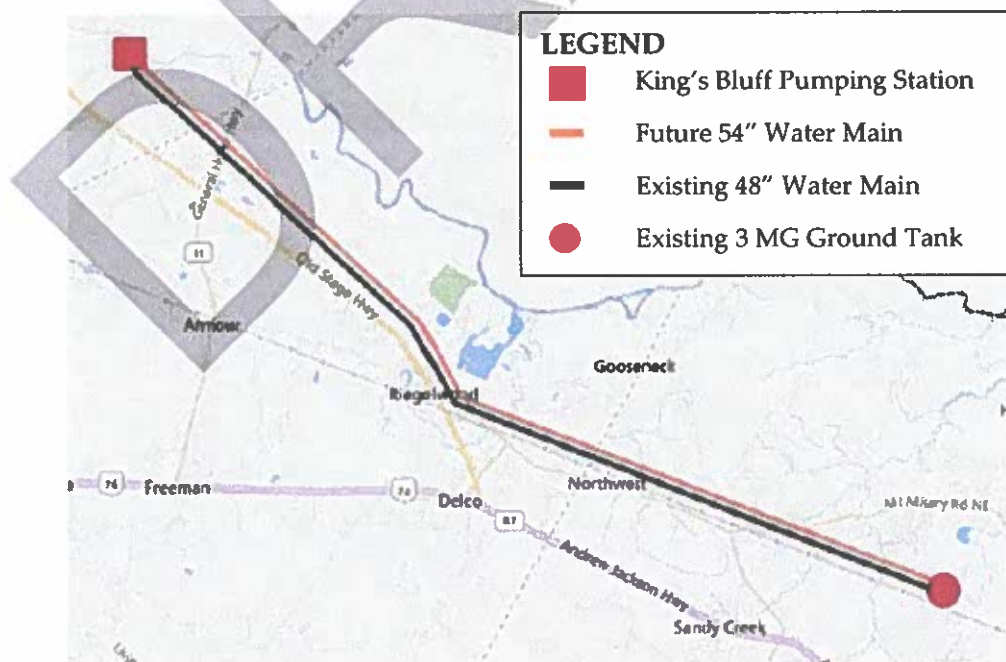
KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	Generators at King's Bluff Raw Water Pump Station	KB 3
CATEGORY:	Capacity, Efficiency, Maintenance	
Summary: <ul style="list-style-type: none">Provide new standby generator(s) and a new generator building at the pump station.		
Justification: <ul style="list-style-type: none">Requires upgrade due to future increased load associated with additional pump motor HP as well as larger quantity of pumps.A new building will be needed to house the new generators.		
Consequence of No Action: <ul style="list-style-type: none">The current generators are undersized to accommodate long term demandsThe existing generators are anticipated to become cost prohibitive to maintain		
Criticality: <div><div>▼</div><div><div>1</div><div>2</div><div>3</div></div></div>		
DURATION (MONTHS)	24	
REQUIRED COMPLETION	2031	
TOTAL ESTIMATED COST	\$9,200,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2023	\$1,000,000	
2024	\$8,200,000	



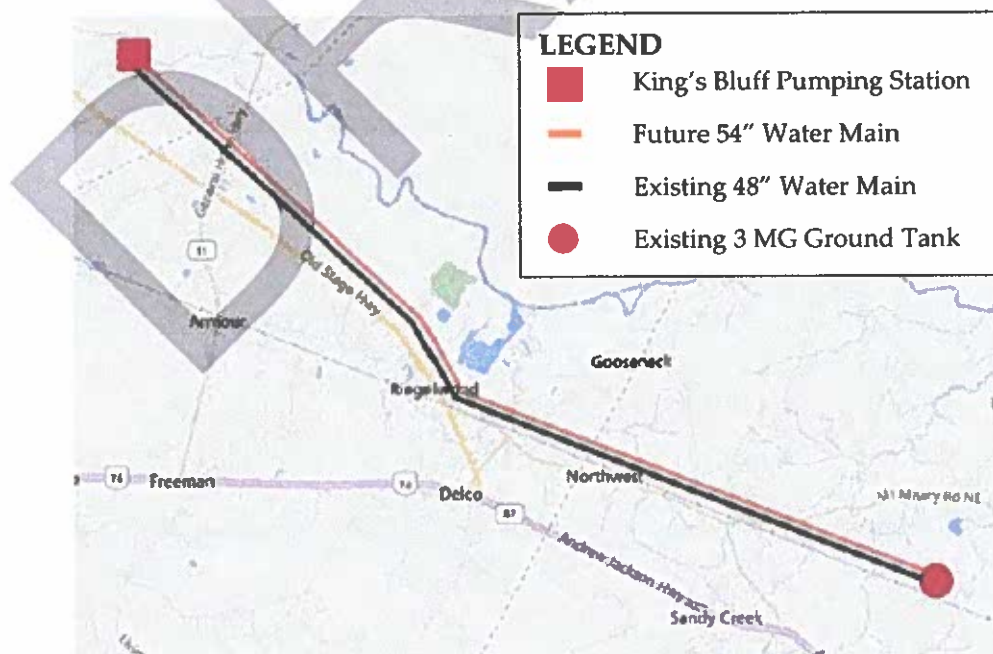
KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	Pig 48" Pipe from King's Bluff Pump Station to 3 MG Ground Tank	KB 4
CATEGORY:	Renewal/Rehabilitation, Efficiency	
Summary: <ul style="list-style-type: none">Pig 48" pipeline from King's Bluff to 3 MG ground tank. Repair and/or replace air release valves and blow-offs.		
Justification: <ul style="list-style-type: none">Pigging will maintain a clean pipeline free of sediment, silt, and debris cleaned or emptied in the case of an emergency.Improves efficiency of pumps by reducing frictional characteristics of the pipeline		
Consequence of No Action: <ul style="list-style-type: none">Potential for loss of capacity and/or clogging due to sediment buildup.Loss of efficiency and higher electrical costs		
Criticality: <div>▼</div> <div><div>1</div><div>2</div><div>3</div></div>		
DURATION (MONTHS)	12	
REQUIRED COMPLETION	2040	
TOTAL ESTIMATED COST	\$1,000,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2040	\$1,000,000	



KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	Pig Future 54" Pipe from 3 MG Ground Tank to US 421	KB 5
CATEGORY:	Renewal/Rehabilitation, Efficiency	
Summary: <ul style="list-style-type: none">Pig Future 54" pipeline from King's Bluff to 3 MG ground tank. Repair and/or replace air release valves and blow-offs.		
Justification: <ul style="list-style-type: none">Pigging will maintain a clean pipeline free of sediment, silt, and debris cleaned or emptied in the case of an emergency.Improves efficiency of pumps by reducing frictional characteristics of the pipeline		
Consequence of No Action: <ul style="list-style-type: none">Potential for loss of capacity and/or clogging due to sediment buildup.Loss of efficiency and higher electrical costs		
Criticality: <div><div></div></div>		
<div><div>1</div><div>2</div><div>3</div></div>		
DURATION (MONTHS)	12	
REQUIRED COMPLETION	2040	
TOTAL ESTIMATED COST	\$1,000,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2034	\$1,000,000	



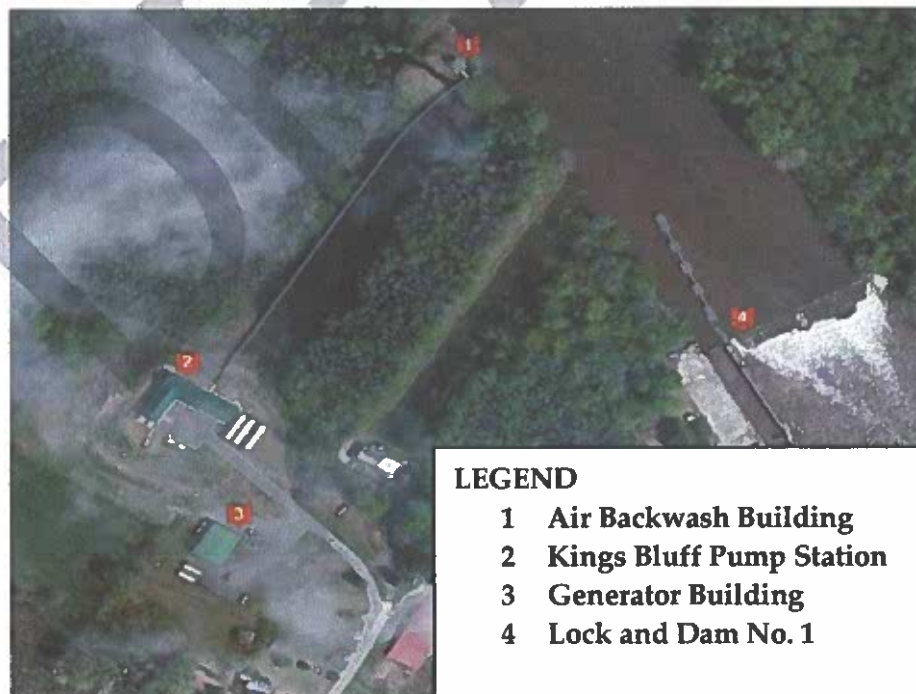
KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	Walkway and Air Backwash Building Replacement	KB 6
CATEGORY:	Renewal/Rehabilitation/Maintenance	
Summary:		
<ul style="list-style-type: none">Funding for replacement of existing walkway from the King’s Bluff Pumping Station to the Air Backwash buildings with a new concrete walkway.Upgrade/replace existing air backwash building. (See number 1 on legend below).		
Justification:		
<ul style="list-style-type: none">Walkway going from pumping station to air backwash buildings is currently in serviceable condition and will need to be replaced by 2024 due to rotting wood and overall weathering of walkway.During Hurricane Florence the walkway was nearing submergenceExisting, original air backwash building needs significant improvements due to a loss of structural integrity caused by the general degradation of original building materials.		
Consequence of No Action:		
<ul style="list-style-type: none">Deterioration of the walkway could limit access to the air backwash buildings and raw water intakes.The air backwash facility will continue to deteriorate and create potential issues with protection of equipment and access for operations and maintenance.		
Criticality:		
<div><div>▼</div><div><div>1</div><div>2</div><div>3</div></div></div>		
DURATION (MONTHS)	12	
REQUIRED COMPLETION	2024	
TOTAL ESTIMATED COST	\$1,500,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2023	\$150,000	
2024	\$1,350,000	



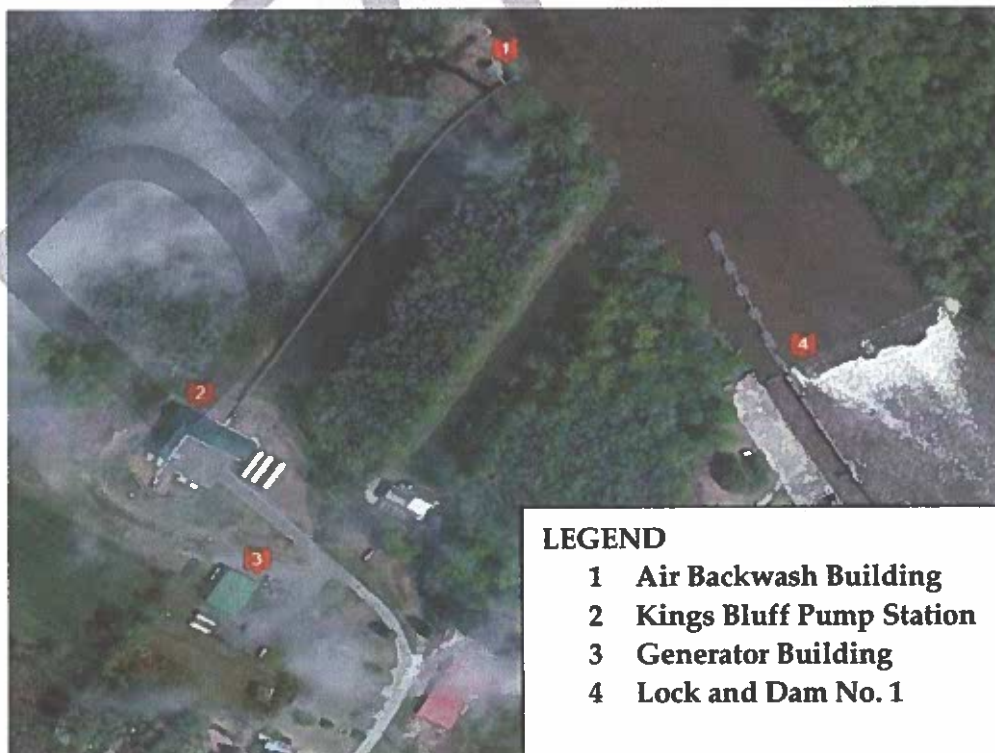
KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	Replace Raw Water Pumps 1, 4, 5	KB 7
CATEGORY:	Renewal/Rehabilitation	
Summary: <ul style="list-style-type: none">Replace 1600 HP vertical turbine raw water pumps 1, 4, 5 originally installed in 2009.		
Justification: <ul style="list-style-type: none">Due to age and mechanical wear, it is anticipated that replacement of raw water pumps 1, 4, and 5 will be required.		
Consequence of No Action: <ul style="list-style-type: none">The likelihood of failure of the pumps increases due to age and wear of the existing pump. The service life of the existing pumps will be expended.		
Criticality: <div><div></div></div>		
1	2	3
DURATION (MONTHS)	36	
REQUIRED COMPLETION	2041, 2042, 2043	
TOTAL ESTIMATED COST	\$10,800,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2041	\$3,600,000	
2042	\$3,600,000	
2043	\$3,600,000	



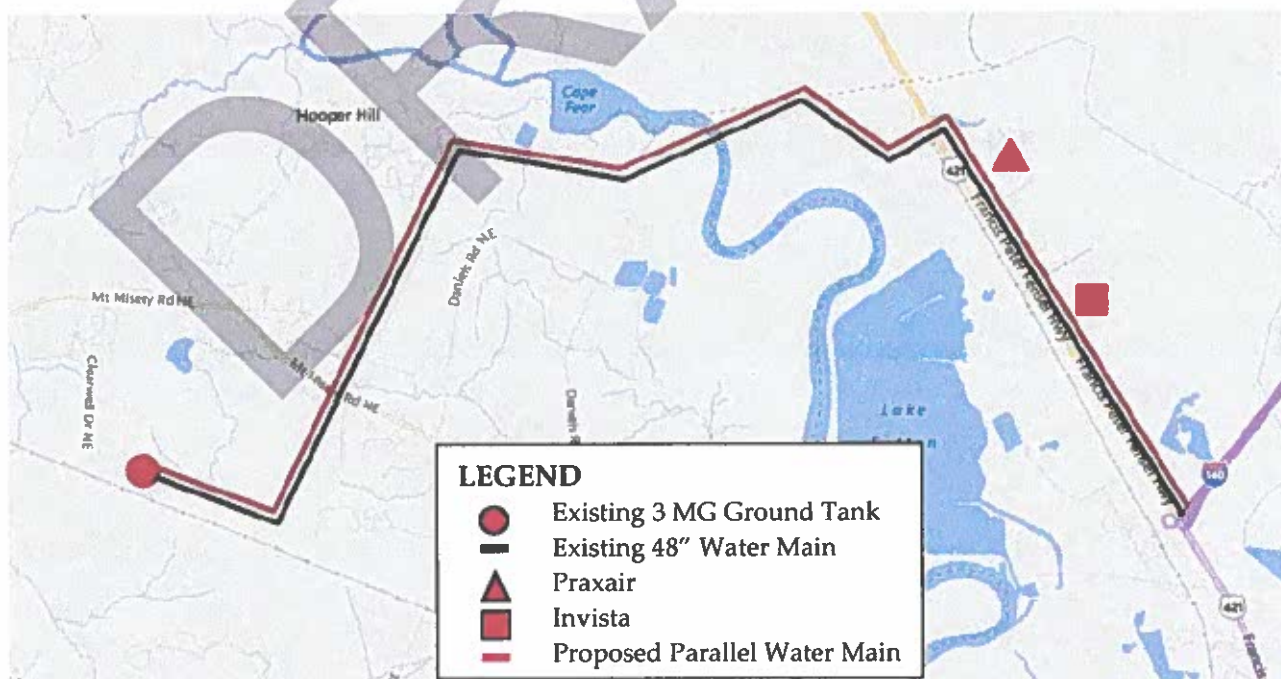
KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	New Surge Tank at King's Bluff	KB 8
CATEGORY:	Capacity	
Summary: <ul style="list-style-type: none">Addition of a 4th surge tank at King's Bluff Pumping Station		
Justification: <ul style="list-style-type: none">As demand increases, surges in the system will likely increase. The 4th surge tank will serve to mitigate system surges and protect the pumps, piping and miscellaneous equipment from surges and water hammer.		
Consequence of No Action: <ul style="list-style-type: none">Existing pump station and piping infrastructure would be put at risk for damage due to system surges and could potentially create failures in the pipeline.		
Criticality: <div><div>▼</div><div><div>1</div><div>2</div><div>3</div></div></div>		
DURATION (MONTHS)	12	
REQUIRED COMPLETION	2043	
TOTAL ESTIMATED COST	\$500,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2043	\$500,000	



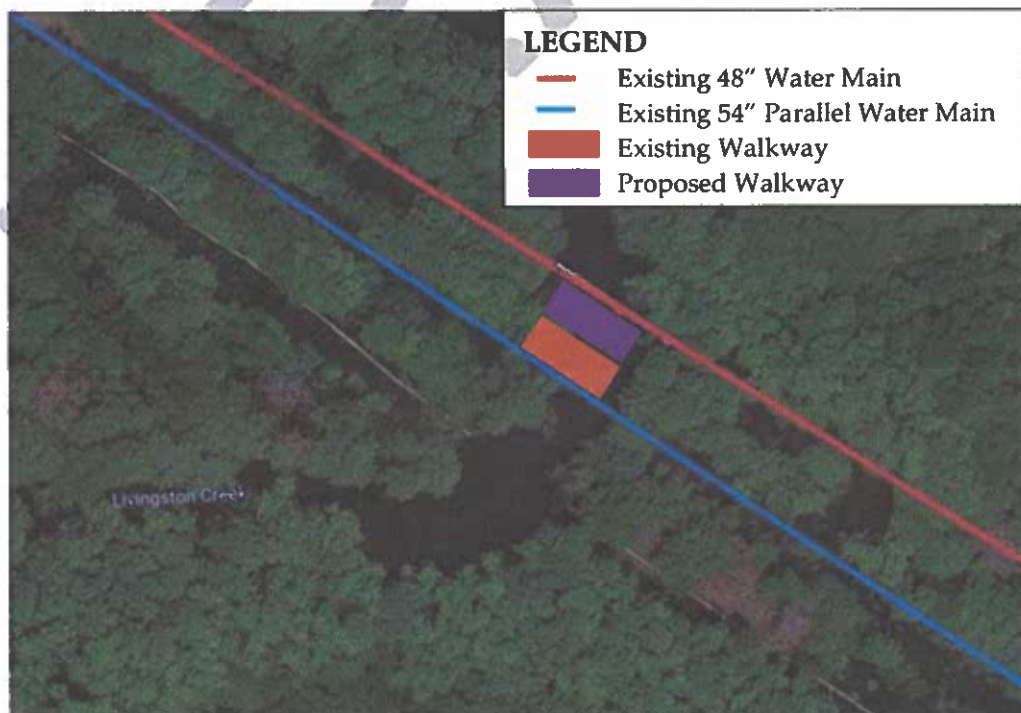
KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	5 ROW Acquisitions	KB 9
CATEGORY:	Capacity	
Summary: <ul style="list-style-type: none">Right-of-Way acquisitions along the existing 48" Raw Water Main from the 3 MGD ground tank to the US421 service area.		
Justification: <ul style="list-style-type: none">Required to install the proposed 48" parallel raw water main		
Consequence of No Action: <ul style="list-style-type: none">Future supply to the US421 service area will be limited to the capacity of the existing 48" main.		
Criticality: <div><div>▼</div><div><div>1</div><div>2</div><div>3</div></div></div>		
DURATION (MONTHS)	36	
REQUIRED COMPLETION	2029	
TOTAL ESTIMATED COST	\$300,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2027	\$100,000	
2028	\$100,000	
2029	\$100,000	



KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	Walkway to Access 48" Raw Water Main at Livingston Creek	KB 10
CATEGORY:	Maintenance	
Summary: <ul style="list-style-type: none">Walkway installation running parallel to the aerial crossing of the 48" raw water main at Livingston Creek and connecting to the existing walkway recently installed for the 54" parallel raw water main.		
Justification: <ul style="list-style-type: none">Pipe and appurtenances at aerial crossing are currently inaccessible to operations staff for routine inspection, maintenance, and repairs.		
Consequence of No Action: <ul style="list-style-type: none">Limited access to aerial crossing of 48" main for repairs and routine maintenance.		
Criticality: <div>▼</div> <div><div>1</div><div>2</div><div>3</div></div>		
DURATION (MONTHS)	12	
REQUIRED COMPLETION	2024	
TOTAL ESTIMATED COST	\$250,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2024	\$250,000	



KING'S BLUFF RAW WATER FACILITIES

**Kings Bluff Raw Water Facilities
Capital Improvements
Cost Sharing Projects
FY 2022-2046**

KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	Intermediate Booster Pump Station Shelter	KB 11
CATEGORY:	Maintenance/Efficiency	
Summary: <ul style="list-style-type: none">Addition of protective shelter at the Intermediate Booster PS		
Justification: <ul style="list-style-type: none">Required to protect existing pumps, equipment, gear from elementsProvides improved maintenance access during inclement weather		
Consequence of No Action: <ul style="list-style-type: none">Equipment potentially suffers degradation due to exposure to the elements to include freezing conditions, and sun damage.		
Criticality:		
<div><div>1</div><div>2</div><div>3</div></div>		
DURATION (MONTHS)	12	
REQUIRED COMPLETION	2025	
TOTAL ESTIMATED COST	\$500,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2025	\$500,000	



KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	Intermediate Booster Pump Station Upgrade	KB 12
CATEGORY:	Capacity	
Summary: <ul style="list-style-type: none">Infrastructure upgrades to the existing booster pump station. Diesel pumps to be replaced with new, larger capacity pumps.		
Justification: <ul style="list-style-type: none">US 421 area demands will exceed current 29 MGD capacity in approximately 2037.Recommend upgrade to 37 MGD capacity.		
Consequence of No Action: <ul style="list-style-type: none">Booster Pump Station will not be able to fully serve the projected demands and system pressure for the US 421 area.		
Criticality:		
<div><div>1</div><div>2</div><div>3</div></div>		
DURATION (MONTHS)	24	
REQUIRED COMPLETION	2034	
TOTAL ESTIMATED COST	\$7,000,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2033	\$1,000,000	
2034	\$6,000,000	



KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	New 5 th Pump at King's Bluff Raw Water Pump Station	KB 13
CATEGORY:	Capacity	
Summary:		
<ul style="list-style-type: none">Provide a fifth raw water pump at King's Bluff Pumping Station to meet projected demands. (See #2 on legend in graphic below) Projected demands will exceed station firm capacity by 2062		
Justification:		
<ul style="list-style-type: none">Decrease load and run times on existing pumps to extend life and improve reliability.		
Consequence of No Action:		
<ul style="list-style-type: none">The projected demands at the station will exceed the firm capacity and the station will not be able to serve the project customer demand.		
Criticality:		
<div><div>1</div><div>2</div><div>3</div></div>		
DURATION (MONTHS)	24	
REQUIRED COMPLETION	2046	
TOTAL ESTIMATED COST	\$3,600,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2044	\$800,000	
2045	\$2,000,000	
2046	\$800,000	



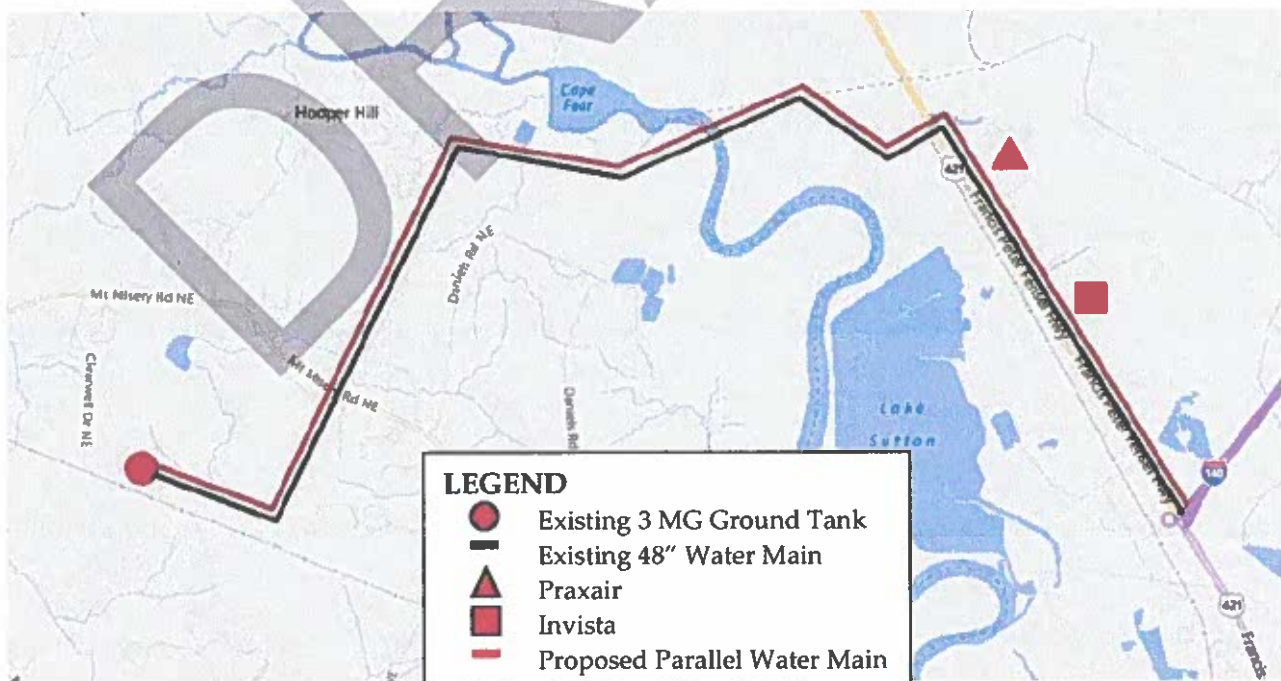
KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	20 MG Ground Tank	KB 14
CATEGORY:	Capacity/Efficiency	
Summary:		
<ul style="list-style-type: none">Design & construction of a new 20 MG ground tank in close proximity to the existing 3 MG ground tank with sufficient acreage to construct a future 20 MG ground tank.		
Justification:		
<ul style="list-style-type: none">Increase in available system storage.Provide a more consistent supply for safe and efficient operation of the adjacent interim booster pump station.		
Consequence of No Action:		
<ul style="list-style-type: none">Minimal system storage as system demands continue to increaseIncreased cycling of pumps at the intermediate booster pump station.		
Criticality:		
<div><div>▼</div><div><div>1</div><div>2</div><div>3</div></div></div>		
DURATION (MONTHS)	24	
REQUIRED COMPLETION	2037	
TOTAL ESTIMATED COST	\$ 12,000,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2036	\$3,000,000	
2037	\$9,000,000	



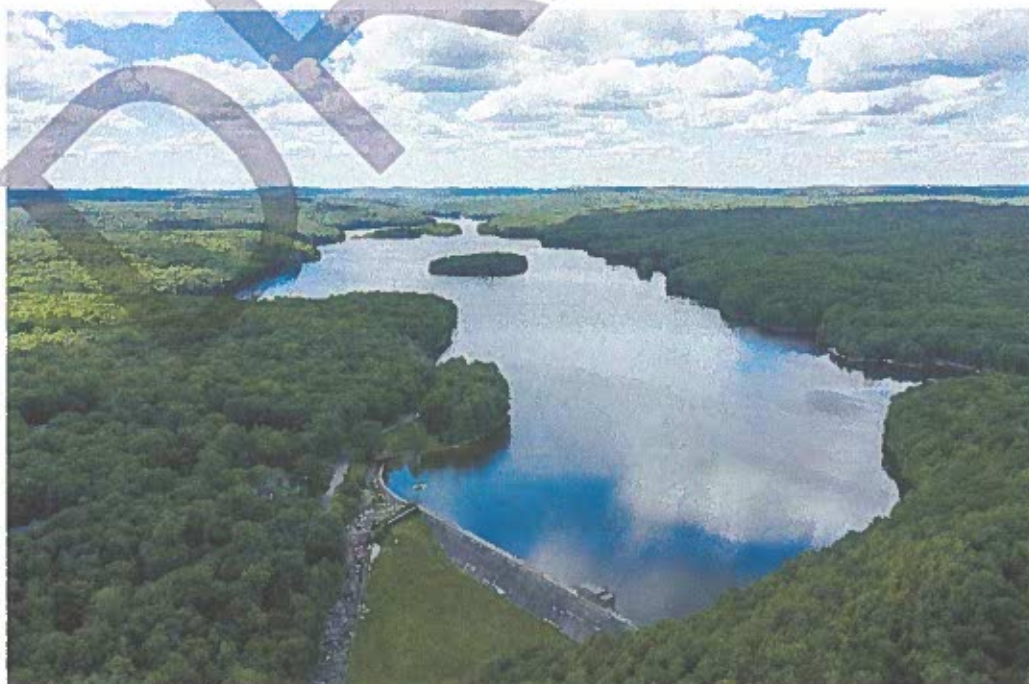
KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	Parallel Raw Water Main from 3 MG Ground Tank to US 421 Service Area		KB 15
CATEGORY:	Capacity		
Summary:			
<ul style="list-style-type: none">Design and construction of approximate 10-mile 48-inch raw water main from 3 MG ground tank to US 421 service area. Pipe would parallel the existing 48-inch raw water main in this area.			
Justification:			
<ul style="list-style-type: none">Provides additional system capacityReduces reliance on intermediate booster pump station.Improves reliability with a parallel main to serve major customers.			
Consequence of No Action:			
<ul style="list-style-type: none">The system may not have capability to meet long-term customer demands.The existing 48-inch main is a single point of failure from the 3 MGD ground tank to the US 421 service area.			
Criticality:			
<div><div>▼</div><div><div>1</div><div>2</div><div>3</div></div></div>			
DURATION (MONTHS)		42	
REQUIRED COMPLETION		Beyond 2045 Planning Period	
TOTAL ESTIMATED COST		\$45,000,000	
FISCAL YEAR		ANTICIPATED FISCAL YEAR EXPENDITURE	
>2045		N/A	



KING'S BLUFF RAW WATER FACILITIES

PROJECT TITLE	100 MGD Reservoir	KB 16
CATEGORY:	Efficiency	
Summary:		
<ul style="list-style-type: none">Design & construction of a new 100 MG reservoir. Optimal location and operation of the reservoir to be determined by future engineering study.		
Justification:		
<ul style="list-style-type: none">Increase in available system storage.Allows for temporary redundancy of supply in the case of an emergency (line break, power outage, etc.).		
Consequence of No Action:		
<ul style="list-style-type: none">Minimal system storage as system demands continue to increase.Loss of regular supply under emergency conditions.		
Criticality:		
▼		
<div><div>1</div><div>2</div><div>3</div></div>		
DURATION (MONTHS)	24	
REQUIRED COMPLETION	2032	
TOTAL ESTIMATED COST	\$35,000,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2031	\$5,000,000	
2032	\$30,000,000	



KING'S BLUFF RAW WATER FACILITIES

Annual Fiscal Year Budget Breakdown – Capital Projects (In Millions of Dollars)

Project No.	Description	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046	Totals	
Lower Cape Fear Water and Sewer Authority Projects																												
KB 1	New 4th Pump at King's Bluff			\$0.80	\$2.00	\$0.80																					\$3.60	
KB 2	Rebuild High Service Pump Motors		\$0.25		\$0.25		\$0.25																	\$0.25				\$1.00
KB 3	New Generators								\$1.00	\$6.20																	\$9.20	
KB 4	Pig 48" Water Main																		\$1.00								\$1.00	
KB 5	Pig Future 54" Water Main																		\$1.00								\$1.00	
KB 6	Walkway and Air Backwash Building Replacement			\$0.15	\$1.35																						\$1.50	
KB 7	Replace Raw Water Pumps 1, 4, 5																				\$3.60	\$3.60	\$3.60				\$10.80	
KB 8	New Surge Tank at King's Bluff																						\$0.50				\$0.50	
KB 9	5 ROW Acquisitions						\$0.10	\$0.10	\$0.10																		\$0.30	
KB 10	Walkway to Access 48" RWM at Livingston Creek			\$0.25																							\$0.25	
Cost-Sharing Projects																												
KB 11	Intermediate Booster Pump Station Shelter				\$0.50																						\$0.50	
KB 12	Intermediate Booster Pump Station Upgrade											\$1.00	\$6.00														\$7.00	
KB 13	New 5th Pump at King's Bluff																							\$0.80	\$2.00	\$0.80	\$3.60	
KB 14	20 MG Ground Tank															\$3.00	\$9.00										\$12.00	
KB 15	48" Parallel Raw Water Main US 421																									>2046	>2046	
KB 16	100 MGD Reservoir										\$5.00	\$30.00															\$35.00	
Total Fiscal Year Expenditure		\$0.00	\$0.25	\$1.20	\$4.10	\$0.80	\$0.35	\$0.10	\$0.10	\$1.00	\$13.20	\$30.00	\$1.00	\$6.00	\$0.00	\$3.00	\$9.00	\$0.00	\$0.00	\$2.00	\$3.60	\$3.60	\$4.10	\$1.05	\$2.00	\$0.80	\$87.25	

BLADEN BLUFFS REGIONAL SURFACE WATER FACILITY

**Bladen Bluffs Regional
Surface Water Treatment Facility
Capital Improvements Projects
FY 2022-2046**

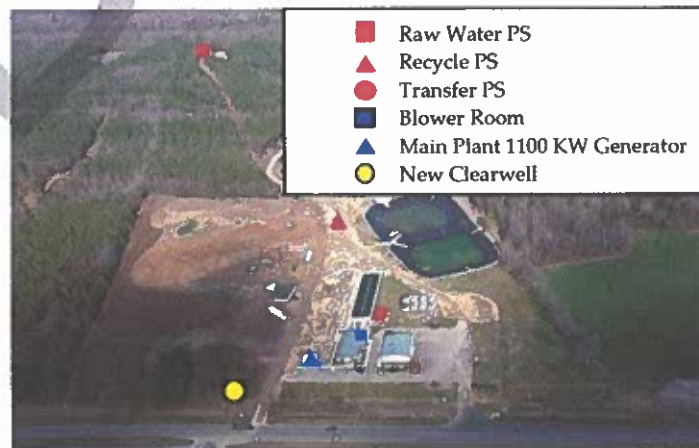
BLADEN BLUFFS REGIONAL SURFACE WATER FACILITY

PROJECT TITLE	New High Service Pump Station	BB 1
CATEGORY:	Capacity	
Summary:		
<ul style="list-style-type: none">Construct a new high service pumping station to increase capacity.		
<i>Note: Currently Smithfield Farmland Company (SFC) provides all operation and maintenance of the Bladen Bluffs Regional Surface Water Treatment Facility. The CIP project described on this sheet would only be required if the LCFWSA assumed full operation of the facility from SFC. Until such time all capital improvements and/or maintenance requirements are solely the responsibility of SFC.</i>		
Justification:		
<ul style="list-style-type: none">Required to serve new customers.Construction of new high service pump station would only be required when additional customers are identified to be served by the Bladen Bluffs Regional Surface Water Treatment Facility.		
Consequence of No Action:		
<ul style="list-style-type: none">The system will not have the required capacity to meet new customer demands.		
Criticality:		
<div><div>1</div><div>2</div><div>3</div></div>		
DURATION (MONTHS)	24	
REQUIRED COMPLETION	2029	
TOTAL ESTIMATED COST	\$3,500,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2028	\$500,000	
2029	\$3,000,000	



BLADEN BLUFFS REGIONAL SURFACE WATER FACILITY

PROJECT TITLE	Construct New 1 MG Capacity Clearwell	BB 2
CATEGORY:	Capacity	
Summary:		
<ul style="list-style-type: none">Construct clearwell to meet future customer finished water storage capacity.		
Note: Currently Smithfield Farmland Company (SFC) provides all operation and maintenance of the Bladen Bluffs Regional Surface Water Treatment Facility. The CIP project described on this sheet would only be required if the LCFWSA assumed full operation of the facility from SFC. Until such time all capital improvements and/or maintenance requirements are solely the responsibility of SFC.		
Justification:		
<ul style="list-style-type: none">Required to serve new customers.Clearwell would only be required when additional customers are identified to be served by the Bladen Bluffs Regional Surface Water Treatment Facility.		
Consequence of No Action:		
<ul style="list-style-type: none">The system will not have the required capacity to meet new customer demands.		
Criticality:		
<div><div>▼</div><div><div>1</div><div>2</div><div>3</div></div></div>		
DURATION (MONTHS)	24	
REQUIRED COMPLETION	2029	
TOTAL ESTIMATED COST	\$2,500,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2028	\$500,000	
2029	\$2,000,000	



BLADEN BLUFFS REGIONAL SURFACE WATER FACILITY

PROJECT TITLE	Replace Three (3) Pumps at the Raw Water Pump Station	BB 3
CATEGORY:	Renewal/Rehabilitation	
Summary:		
<ul style="list-style-type: none">Routine replacement of three (3) aging pumps at Raw Water Pumping Station.		
<i>Note: Currently Smithfield Farmland Company (SFC) provides all operation and maintenance of the Bladen Bluffs Regional Surface Water Treatment Facility. The CIP project described on this sheet would only be required if the LCFWSA assumed full operation of the facility from SFC. Until such time all capital improvements and/or maintenance requirements are solely the responsibility of SFC.</i>		
Justification:		
<ul style="list-style-type: none">Pumps will be approximately 20 years old by 2032 and approaching end of useful service life.		
Consequence of No Action:		
<ul style="list-style-type: none">The likelihood of failure of the pumps increases due to age and wear of the existing pump.		
Criticality:		
<div><div>▼</div><div><div>1</div><div>2</div><div>3</div></div></div>		
DURATION (MONTHS)	12	
REQUIRED COMPLETION	2032	
TOTAL ESTIMATED COST	\$250,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2032	\$250,000	



BLADEN BLUFFS REGIONAL SURFACE WATER FACILITY

PROJECT TITLE	Replace Blower in the Blower Building	BB 4
CATEGORY:	Renewal/Rehabilitation	
Summary: <ul style="list-style-type: none">Routine replacement of aging blower in blower building.		
Note: Currently Smithfield Farmland Company (SFC) provides all operation and maintenance of the Bladen Bluffs Regional Surface Water Treatment Facility. The CIP project described on this sheet would only be required if the LCFWSA assumed full operation of the facility from SFC. Until such time all capital improvements and/or maintenance requirements are solely the responsibility of SFC.		
Justification: <ul style="list-style-type: none">Blower will be approximately 25 years old by 2032 and approaching end of useful service life.		
Consequence of No Action: <ul style="list-style-type: none">The likelihood of failure of the blower increases due to age and wear of the existing blower.		
Criticality: <div>▼</div> <div><div>1</div><div>2</div><div>3</div></div>		
DURATION (MONTHS)	12	
REQUIRED COMPLETION	2032	
TOTAL ESTIMATED COST	\$100,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2032	\$100,000	



BLADEN BLUFFS REGIONAL SURFACE WATER FACILITY

PROJECT TITLE	Replace Three (3) Pumps at the Recycle Pump Station	BB 5			
CATEGORY:	Renewal/Rehabilitation				
Summary: <ul style="list-style-type: none">Routine replacement of three (3) aging pumps at the Recycle Pumping Station. <p><i>Note: Currently Smithfield Farmland Company (SFC) provides all operation and maintenance of the Bladen Bluffs Regional Surface Water Treatment Facility. The CIP project described on this sheet would only be required if the LCFWSA assumed full operation of the facility from SFC. Until such time all capital improvements and/or maintenance requirements are solely the responsibility of SFC.</i></p>					
Justification: <ul style="list-style-type: none">Pumps will be approximately 20 years old by 2032 and approaching end of useful service life.					
Consequence of No Action: <ul style="list-style-type: none">The likelihood of failure of the pumps increases due to age and wear of the existing pump.					
Criticality: <div>▼</div> <table><tr><td>1</td><td>2</td><td>3</td></tr></table>			1	2	3
1	2	3			
DURATION (MONTHS)	12				
REQUIRED COMPLETION	2032				
TOTAL ESTIMATED COST	\$150,000				
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE				
2032	\$150,000				



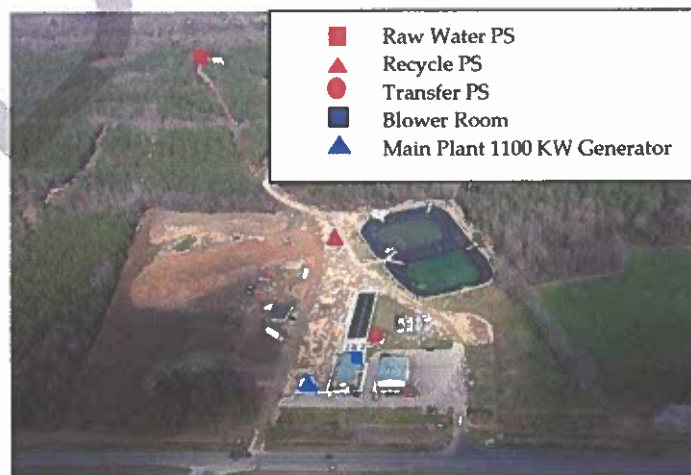
BLADEN BLUFFS REGIONAL SURFACE WATER FACILITY

PROJECT TITLE	Replace Three (3) Pumps at the Transfer Pump Station	BB 6			
CATEGORY:	Renewal/Rehabilitation				
Summary: <ul style="list-style-type: none">Routine replacement of three (3) aging pumps at the Transfer Pumping Station.					
Note: Currently Smithfield Farmland Company (SFC) provides all operation and maintenance of the Bladen Bluffs Regional Surface Water Treatment Facility. The CIP project described on this sheet would only be required if the LCFWSA assumed full operation of the facility from SFC. Until such time all capital improvements and/or maintenance requirements are solely the responsibility of SFC.					
Justification: <ul style="list-style-type: none">Pumps will be approximately 20 years old by 2032 and approaching end of useful service life.					
Consequence of No Action: <ul style="list-style-type: none">The likelihood of failure of the pumps increases due to age and wear of the existing pump.					
Criticality: <div>▼</div> <table><tr><td>1</td><td>2</td><td>3</td></tr></table>			1	2	3
1	2	3			
DURATION (MONTHS)	12				
REQUIRED COMPLETION	2032				
TOTAL ESTIMATED COST	\$250,000				
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE				
2032	\$250,000				



BLADEN BLUFFS REGIONAL SURFACE WATER FACILITY

PROJECT TITLE	Replace Two (2) Generators at the Site	BB 7
CATEGORY:	Renewal/Rehabilitation	
Summary: <ul style="list-style-type: none">Routine replacement of two (2) aging on-site generators.		
Note: Currently Smithfield Farmland Company (SFC) provides all operation and maintenance of the Bladen Bluffs Regional Surface Water Treatment Facility. The CIP project described on this sheet would only be required if the LCFWSA assumed full operation of the facility from SFC. Until such time all capital improvements and/or maintenance requirements are solely the responsibility of SFC.		
Justification: <ul style="list-style-type: none">Facility currently has two (2) generators on-site. Generators will be approximately 25 years old by 2037 and approaching end of service life.		
Consequence of No Action: <ul style="list-style-type: none">The current generators are undersized to accommodate long term demands.The existing generators are anticipated to become cost prohibitive to maintain.		
Criticality: <div><div>▼</div><div><div>1</div><div>2</div><div>3</div></div></div>		
DURATION (MONTHS)	24	
REQUIRED COMPLETION	2037	
TOTAL ESTIMATED COST	\$700,000	
FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE	
2036	\$200,000	
2037	\$500,000	



BLADEN COUNTY REGIONAL SURFACE WATER FACILITY

Annual Fiscal Year Budget Breakdown (In Millions of Dollars)

Project No.	Description	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046	Totals
BB 1	New High Service Pump Station							\$0.50	\$3.00																		\$3.50
BB 2	Construct New 1 MG Capacity Clearwell							\$0.50	\$2.00																		\$2.50
BB 3	Replace (3) Pumps at Raw Water Pump Station											\$0.25															\$0.20
BB 4	Replace Blower in Blower Building											\$0.10															\$0.10
BB 5	Replace (3) Pumps at the Recycle Pump Station														\$0.15												\$0.10
BB 6	Replace (3) Pumps at the Transfer Pump Station														\$0.25												\$0.25
BB 7	Replace (2) Generators at the Site															\$0.20	\$0.50										\$0.70
Total Fiscal Year Expenditure								\$1.00	\$5.00			\$0.35			\$0.40	\$0.20	\$0.50										\$7.35

APPENDIX A – OPERATIONS BUDGET

Annual Fiscal Year Budget Breakdown – Operations											
Item	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	Totals
Surveying		\$ 80,000									\$ 80,000
ROW Maintenance		\$ 55,000	\$ 55,000	\$ 55,000	\$ 55,000	\$ 55,000	\$ 55,000	\$ 55,000	\$ 55,000	\$ 55,000	\$ 495,000
ROW Clearing		\$ 225,000	\$ 225,000								\$ 450,000
SCADA Improvements				\$ 125,000							\$ 125,000
Anti-Vortexing Improvements		\$ 50,000	\$ 50,000	\$ 50,000							\$ 150,000
Meter and Valve Upgrades/Replacements								\$ 125,000			\$ 125,000
VFD Replacements	\$ 250,000	\$ 250,000	\$ 250,000								\$ 750,000
Argo ATV	\$ 60,000										\$ 60,000
RR Trans	\$ 75,000	\$ 48,000	\$ 350,000	\$ 350,000							\$ 823,000
Miscellaneous	\$ 15,000										\$ 15,000
Total Fiscal Year Expenditure	\$ 400,000	\$ 708,000	\$ 930,000	\$ 580,000	\$ 5,000	\$ 55,000	\$ 55,000	\$ 180,000	\$ 55,000	\$ 55,000	\$ 3,073,000



AGENDA

**Lower Cape Fear Water & Sewer Authority
1107 New Pointe Boulevard, Suite # 17, Leland, North Carolina
9:00 a.m. – Regular Monthly Board Meeting
December 13, 2021**

MEETING CALL TO ORDER: Chairman Leonard

INVOCATION

PLEDGE OF ALLEGIANCE

APPROVAL OF CONSENT AGENDA

- C1** - Minutes of November 8, 2021, Regular Board Meeting
- C2** - Kings Bluff Monthly Operations and Maintenance Report
- C3** - Bladen Bluffs Monthly Operations and Maintenance Reports
- C4** - Line-Item Adjustment for November 30, 2021
- C5**- Approval of the Authority's 2022 Regular Scheduled Meetings Calendar

NEW BUSINESS

NB1- Election of Authority's Board of Directors Officers for the term of January 1, 2022, until December 31, 2022

ENGINEER'S COMMENTS

ATTORNEY COMMENTS

EXECUTIVE DIRECTOR REPORT

- EDR1**–Comments on Customers' Water Usage and Raw Water Revenue for Fiscal Year to Date Ending November 30th, 2021
- EDR2**–Operating Budget Status, Ending October 31, 2021.
- EDR3**–Summary of Activities
- EDR4**–Proposed Budget Calendar

DIRECTOR'S COMMENTS AND/OR FUTURE AGENDA ITEMS

PUBLIC COMMENT

ADJOURNMENT

The next board meeting of the Lower Cape Fear Water & Sewer Authority is scheduled for Monday, January 10th at 9:00 a.m. in the Authority's office located at 1107 New Pointe Boulevard, Suite 17, Leland, North Carolina.

Lower Cape Fear Water & Sewer Authority
Regular Board Meeting Minutes

November 8th, 2021

Chairman Leonard called to order the Authority meeting scheduled on November 8, 2021, at 9:00 a.m. and welcomed everyone present. The meeting was held at the Authority's office located at 1107 New Pointe Boulevard, Suite 17, Leland, North Carolina. Director Milliken gave the invocation.

Roll Call by Chairman Leonard:

Present: Norwood Blanchard, Patrick DeVane, Wayne Edge, Harry Knight, Al Leonard, Al Milliken, Phil Norris, Charlie Rivenbark, Chris Smith, Bill Sue, and Rob Zapple

Present by Virtual Attendance: Jackie Newton and Bill Saffo

Absent: Frank Williams

Staff: Tim H. Holloman, Executive Director; Matthew Nichols, General Counsel; Tony Boahn P.E., McKim & Creed, Patrick Flanagan, COG, and Danielle Hertzog, Financial Administration Assistant

Guests Present: Anthony Colon, Kenneth Waldrop, Robert "Buddy" Harris, Kyle Newton

Guests Virtual Attendance: Heidi Cox, Matt Hourihan, John Nichols, Tom Hendrick, Frank Styers, and Carel Vandermeiden

PLEDGE OF ALLEGIANCE: Vice-Chairman Rivenbark led the Pledge of Allegiance.

APPROVAL OF CONSENT AGENDA

C1 - Minutes of Regular Board Meeting October 11, 2021

C3 - Bladen Bluffs Monthly Operations and Maintenance Reports

C4 - Line-Item Adjustment

C5 - Resolution Approving Destruction of Specified Public Records for Fiscal Years of 2017-2018 Accordance with the Water & Sewer Authorities and Sanitary Districts Records Retention and Disposition Schedule

Motion: Director Zapple **MOVED**; seconded by Director Blanchard, approval of the Consent Agenda Items as presented. Upon vote, the **MOTION CARRIED UNANIMOUSLY**.

	<u>For</u>	<u>Against</u>	<u>Abstained</u>	<u>Absent</u>
Norwood Blanchard	X			
Wayne Edge	X			
Patrick DeVane	X			
Harry Knight	X			
Al Leonard	X			
Jackie Newton	X			
Phil Norris	X			
Al Milliken	X			
Charlie Rivenbark	X			
Bill Saffo				X
Chris Smith	X			
Bill Sue	X			
Frank Williams				X
Rob Zapple	X			
	12	0	0	2

C2 - Kings Bluff Monthly Operations and Maintenance Reports

Director Zapple requested additional information for Item C2 concerning a few critical items on the Kings Bluff monthly operations and maintenance reports. The first concern was when Garney severed the fiber optic communication cable and wanted to know who would cover that cost. Executive Director Holloman and Tony Brohan advised Garney will cover the cost. The 54-inch pipeline was put into service at the request of Garney to drain the 48-inch pipeline. He announced this is a milestone for the LCFWASA. Secondly, a small item was the blown fuse that happened. Was this related to the severing of the fiber optic line, or is there any cause for concern? Executive Director Holloman and Tony Brohan advised they are not related at all, and there is no specific reason the fuse expired, but we do have five on hand now. The Third item involve, KB personnel and the Brunswick Co. Sewer department trying to stop water flow into the Authority/CFPUA vault. Executive Director Holloman advised they think that Invista's irrigation system is pumping water into the vault. It is not coming from our pipeline but from groundwater or another source.

Motion: Director Zapple **MOVED**; seconded by Director Blanchard, approval of the Consent Agenda Items as presented. Upon vote, the **MOTION CARRIED UNANIMOUSLY**.

	<u>For</u>	<u>Against</u>	<u>Abstained</u>	<u>Absent</u>
Norwood Blanchard	X			
Wayne Edge	X			
Patrick DeVane	X			
Harry Knight	X			
Al Leonard	X			
Jackie Newton	X			
Phil Norris	X			
Al Milliken	X			
Charlie Rivenbark	X			
Bill Saffo				X
Chris Smith	X			
Bill Sue	X			
Frank Williams				X
Rob Zapple	X			
	12	0	0	2

A presentation was given by Robert “Buddy” Harris regarding the overview of Bladen Bluff Pant.

ENGINEER’S COMMENTS

Tony Boahn advised no change in the contracted amount for the 54-inch pipeline project. The 54-inch pipeline was online and operational on Friday, October 29, 2021, and that is three months ahead of schedule with the original completion date of January 2022. The interconnections will hopefully start in January 2022 instead of May 2022. However, we are in pause mode to resolve the issue with the line break on the 48-inch pipeline. All the 54-inch pipeline was pressure tested and then flushed. They did have some challenges with the quality of the water. The new pipeline has a cement lining that caused there to be a higher pH and alkalinity. On Friday, November 5, 2021, we discovered the break in the 48-inch line. Brunswick County has an emergency contractor working on the leak. That contractor is the same contractor that worked the leak in 2016. The schedule for the repair timeline is hopefully only three weeks. A bypass will need to be installed to make the required repair. We have material on hand to make the bypass and to make the repair. We only need line stock and tapping assemblies. Those taps should be onsite by week ending November 12, 2021. The bypass will be in place the week of November 15-19, and then the following week, the repair can be completed. Mr. Boahn is waiting to receive the SCADA data before he can confirm what may have caused the break. Where the break occurred, the pipe is ductile iron. Director Zapple wanted to confirm that the pipeline broke at a joint, and the pipe is now offset. Mr. Boahn advised that he had not been on site but was told that the pipe moved horizontally and separated. Director Zapple wanted to know if there is enough flow going through the pipeline to keep us at a minimal level. Mr. Boahn advised water is flowing however it is at a reduced rate. Executive Director Holloman informed if we keep water flowing at the current rate, we do not need to go on mandatory restrictions. Director Zapple wanted to know if we know the amount of water we are losing daily. Mr. Boahn advised 30 to 35 million gallons a day.

ATTORNEY COMMENTS

No comments. Director Milliken wanted to know if there was an update on the manufactured home. Mr. Nichols advised the 120 days would be up in the first part of January 2022.

EXECUTIVE DIRECTOR REPORT**EDR1 – Comments on Customers' Water Usage and Raw Water Revenue for Fiscal Year to Date Ending October 31, 2021**

Executive Director Holloman reported that during the month of October 2021, Brunswick County was above projections. CFPWA and Pender County were just below projections. Monthly revenue was up as well but lower than in previous months.

EDR3 – Summary of Activities

Executive Director Holloman informed the board that LCFWASA and Computer Warriors have been working together to install a firewall and switched to .gov emails after a four-month process. He also got the hours on the generators at Kings Bluff number one has 925 hours, and number two has 733 hours. A daily meeting is scheduled to update the leak and bypass, and he will keep the board informed on updates.

DIRECTOR'S COMMENTS AND/OR FUTURE AGENDA ITEMS

Director Zapple wanted it recorded to congratulate Danielle Hertzog for the work she put in to complete the .gov process. Director DeVane wanted to know if the Long-Range Planning Committee will meet in December. Executive Director Holloman advised yes there would be a Long-Range Meeting at 8am.

PUBLIC COMMENT

Kenneth Waldrop advised he appreciates the work that our partners have done with the Lower Cape Fear. Brunswick County has done a fine job in terms of responding. We are working under a unified approach to addressing this and appreciate that collaboration. He also advised the infrastructure bill was passed through Congress, providing quite a bit of funding potentially available to the authority for current and future projects.

ADJOURNMENT

There being no further business, Chairman Leonard adjourned the meeting at 10:05 a.m.

Respectfully Submitted:

Norwood Blanchard, Secretary

COUNTY OF BRUNSWICK
PUBLIC UTILITIES DEPARTMENT
Kings Bluff Pump Station



246 Private Road
Riegelwood, NC 28456
(910) 655-4799 Office
(910) 655-4798 FAX

TO: Tim Holloman

FROM: Jack Hogan

DATE: 11/30/2021

SUBJECT: Monthly maintenance report for November 2021

Mr. Holloman,

The Maintenance and Operations of the king's bluff facility for the month of November were performed as prescribed in the station SOP'S and other items are as follows.

The diesel drive booster pumps along with the standby SCADA generator located at the raw tank and the SCADA generator located at INVISTA / CFPUA vaults off HWY 421 were ran and tested weekly and verified standby ready.

KB personnel completed all locates issued by the 811 system.

KB personnel are working with all personnel involved on the line break repair and bypass line in service.

KB personnel have checked areas of the right of way for leaks on the Authority 48" line.

KB personnel and NWTP personnel have been checking the line break area at DAK in the morning and evenings for any issues.

KB personnel have closed and isolated all valves on the 48" discharge line to drain and prepare for installation of crossover valve with the 54" line.

Contractors:

McDuffie pest control did quarterly pest control of the station and generator building.

Underwood Pump Co. completed quarterly PM of the GE vertical turbine motors and pumps.

LJ'S lawn and right of way has begun the mowing and clearing of the Authority right of way from the raw tank to HWY 421 in Pender County.

Thank You,

Jack Hogan
Kings Bluff Pump Station



To: Tim Holloman - LCFWASA

From: James Kern – Bladen Bluffs SWTP ORC

Date: 12/2/21

Subject: November 2021 Operations

During the month of November, Bladen Bluffs SWTP operated a total of 18 days, treating 44.45 million gallons of water.

We used:

26,034 lbs. of aluminum sulfate (Alum)

5,992 lbs. of sodium hydroxide (Caustic)

967 lbs. of sodium hypochlorite (1,942 gallons of 6% Chlorine Bleach)

James Kern
Water Treatment Plant
Supervisor

Smithfield
Good food. Responsibly.®

(910) 862-3114
(910) 862-3146
(910) 733-0016 mobile
jkern@smithfield.com

Bladen Bluffs Surface Water Treatment
Plant
17014 Highway 87 West
Tar Heel, NC 28392
www.smithfieldfoods.com

Bladen Bluffs SWTP Maintenance Report

Date: 12/2/2021

ISSUE:

PLAN OF ACTION:

Air on finished water line (from GAC)	Ordering trail valves
Running spare cl2 lines to settled/finished	Getting quotes
Sump pump check valve needs replacement	Scheduled repair
Carbon in GAC #3 and #4 due for exchange	COMPLETE
GAC supports need painting	In Progress
Eyewash station in lab have restricted flow	FIXED
Filter #2 FVC failing	Troubleshooting Issues

Monthly Operating Reports (MORs) Summary

(No user data entry – all values are auto-populated.)

Year: 2021 PWS Name: Bladen Bluffs Water System PWSID#: NC5009012
 Month: November Facility Name: Bladen Bluff

Combined Filter Effluent (CFE) Turbidity

Samples exceeding 1 NTU (count):	<u>0</u>	Number of samples required:	<u>97</u>
Samples exceeding .3 NTU (count):	<u>0</u>	Number of samples taken:	<u>99</u>
Samples exceeding .3 NTU (pct):	<u>0.0%</u>	Highest single turbidity reading NTU:	<u>0.132</u>
		Monthly average turbidity NTU:	<u>0.048</u>

Individual Filter Effluent (IFE) Turbidity

1) Was each filter <u>continuously</u> monitored for turbidity?	Yes	<u>X</u>	No	<u></u>
2) Was each filter's monitoring results <u>recorded every 15 minutes</u> ?	Yes	<u>X</u>	No	<u></u>
3) Was there a failure of the continuous turbidity monitoring equipment?	Yes	<u></u>	No	<u>X</u>
4) Was any individual filter turbidity level > 1.0 NTU in two consecutive measurements ?	Yes	<u></u>	No	<u>X</u>
5) Was any individual filter turbidity level > 0.5 NTU in two consecutive measurements at the end of 4 hours of operation after the filter has been backwashed or otherwise taken offline ?	Yes	<u></u>	No	<u>X</u>
6) Was any individual filter turbidity level > 1.0 NTU in two consecutive measurements in each 3 consecutive months ?	Yes	<u></u>	No	<u>X</u>
7) Was any individual filter turbidity level > 2.0 NTU in two consecutive measurements in 2 consecutive months ?	Yes	<u></u>	No	<u>X</u>

Entry Point Residual Disinfectant Concentration (EPRD)

Disinfectant Used	<u>Chlorine</u>	Number of samples required	<u>97</u>
Minimum EPRD concentration	<u>0.8500</u>	Number of samples taken	<u>99</u>

Distribution Residual Disinfectant Concentration

Number of samples under 0.010 mg/L (without any detectable) excluding where HPC is ≤ 500/mL	<u>0</u>
---	----------

Contact Time (CT) Ratio

Lowest CT ratio reading	<u>13.10</u>	Number of CT ratios required	<u>18</u>
Number of CT ratios below 1.0	<u>0</u>	Number of CT ratios calculated	<u>18</u>

Remarks From General Info Worksheet

☒ By checking this box, the ORC certifies that the requirements of 15A NCAC 18C .1301 "General Requirements", .1302 "Tests, Forms, and Reporting", and .1303 "Facility Oversight" have been met for the month of November, 2021 and that records documenting compliance with this rule are maintained on the premises and available for inspection upon request.

CONSENT AGENDA (CA-4)**Lower Cape Fear Water & Sewer Authority**

CONSENT ITEM- Background: Line-Item adjustments are made to more closely align revenues and expenditures to actuals without exceeding or decreasing the approved or amended budget

LINE-ITEM ADJUSTMENTS FOR 11/30/21

Operating Fund:	Line-Item Budget Amount prior to Adjustment	Decrease	Increase	Budget Amount as of 11/30/2021
REVENUE				
EXPENSES				
4046-00 Professional Services General	\$ 0		\$ 15,000	\$ 15,000
4064-01 Information Technology	\$ 10,000		\$ 1,800	\$ 11,800
4062-01 Office Equipment	\$ 9,000		\$ 1,000	\$ 10,000
4064-01 Printing and Advertising	\$ 1,500		\$ 500	\$ 2,000
4070-01 Travel and Training	\$ 17,500		\$ 1,800	\$ 19,300
4080-01 Miscellaneous Expenses	\$ 15,000		\$ 2,000	\$ 17,000
4046-03 Engineer	\$ 70,000	\$(20,000)		\$ 50,000
4046-01 Attorney	\$ 30,000	\$ (2,100)		\$ 27,900
Total	6,372,523	\$(22,100)	\$22,100	\$ 6,372,523



LOWER CAPE FEAR WATER AND SEWER AUTHORITY

2022 REGULAR MEETING SCHEDULE

Regular Board Meeting Dates and Times

9:00 a.m. – Monday, January 10

9:00 a.m. – Monday, February 14

9:00 a.m. – Monday, March 14

9:00 a.m. – Monday, April 11

9:00 a.m. – Monday, May 9

9:00 a.m. – Monday, June 6

9:00 a.m. – Monday, July 11

9:00 a.m. – Monday, August 8

9:00 a.m. – Monday, September 12

9:00 a.m. – Monday, October 10

9:00 a.m. – Monday, November 14

9:00 a.m. – Monday, December 12

Meetings are held at the Lower Cape Fear Water and Sewer Authority's office located at 1107 New Pointe Blvd., Suite 17, Leland, NC.

LOWER CAPE FEAR WATER & SEWER AUTHORITY

1107 New Pointe Blvd., Suite 17
Leland, NC 28451
Phone: 910-383-1919
Fax: 910-383-1949
www.lcfwasa.org

2022

HOLIDAYS OBSERVED (DATES OFFICE CLOSED)

January 1: New Years Day

January 17: Martin Luther King Jr.
Birthday

April 15: Good Friday

May 30: Memorial Day

June 20: Juneteenth

July 4: Independence Day

September 5: Labor Day

November 11: Veterans Day

November 24 & 25: Thanksgiving

December 23 & 26: Christmas

BOARD MEETING DATES

Regular monthly Board Meetings
are held the second Monday of
each month at 9:00 a.m. Dates
are shown in RED.



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WATER IS OUR BUSINESS.

AGENDA ITEM

To: CHAIRMAN LEONARD AND BOARD MEMBERS

From: TIM H. HOLLOMAN, EXECUTIVE DIRECTOR

Date: December 13th, 2021

Re: Election of Authority's Board of Directors Officers for the Term of January 1, 2022, until December 31, 2022

Reviewed and Approved as to form: MATTHEW A. NICHOLS, AUTHORITY ATTORNEY

In accordance with Article III, Section 1. of the Lower Cape Fear Water and Sewer Authority's Bylaws, new officers are to be elected for the term of January 1, 2022, to December 31, 2022. Provided is a list of current Board Officers who complies with the requirements outlined in the referenced Article and Section.

Action Requested: Election of proposed Board Officers for the term on January 1, 2022, to December 31, 2022

Chairmanship Rotation Schedule

Brunswick County
Columbus County
City of Wilmington
Pender County
New Hanover County
Bladen County

Lower Cape Fear Water & Sewer Authority

CURRENT

Board Officers, January 1 - December 31, 2021

Chairman	Al Leonard Columbus County
Vice-Chairman	Charlie Rivenbark City of Wilmington
Secretary	Norwood Blanchard Pender County
Treasurer	Harry Knight New Hanover County
Assistant Treasurer	Patrick DeVane Bladen County

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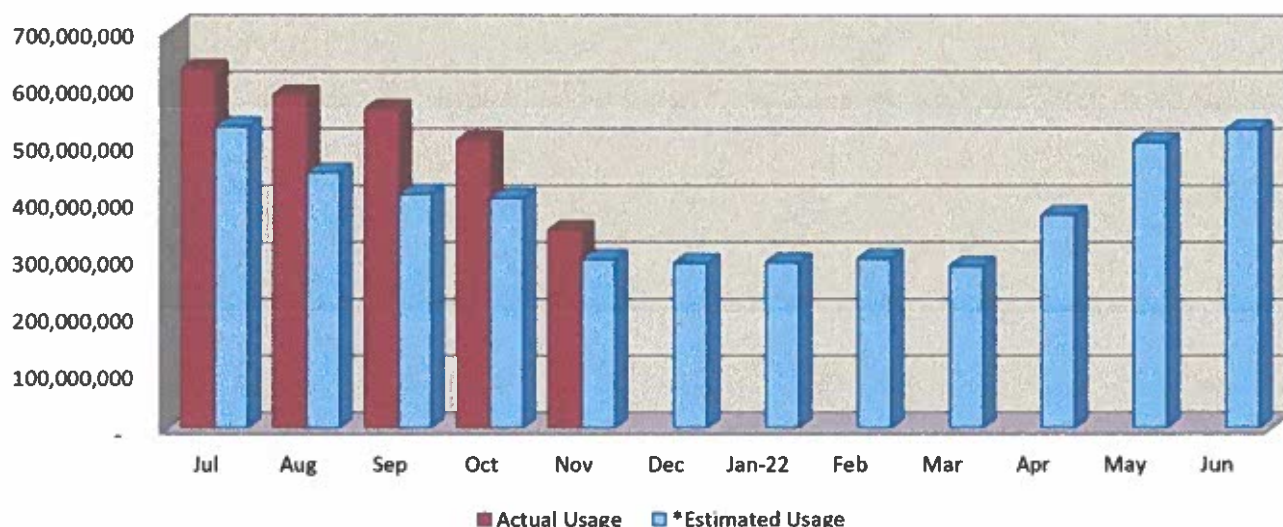
**Lower Cape Fear Water & Sewer Authority**

**PROPOSED**

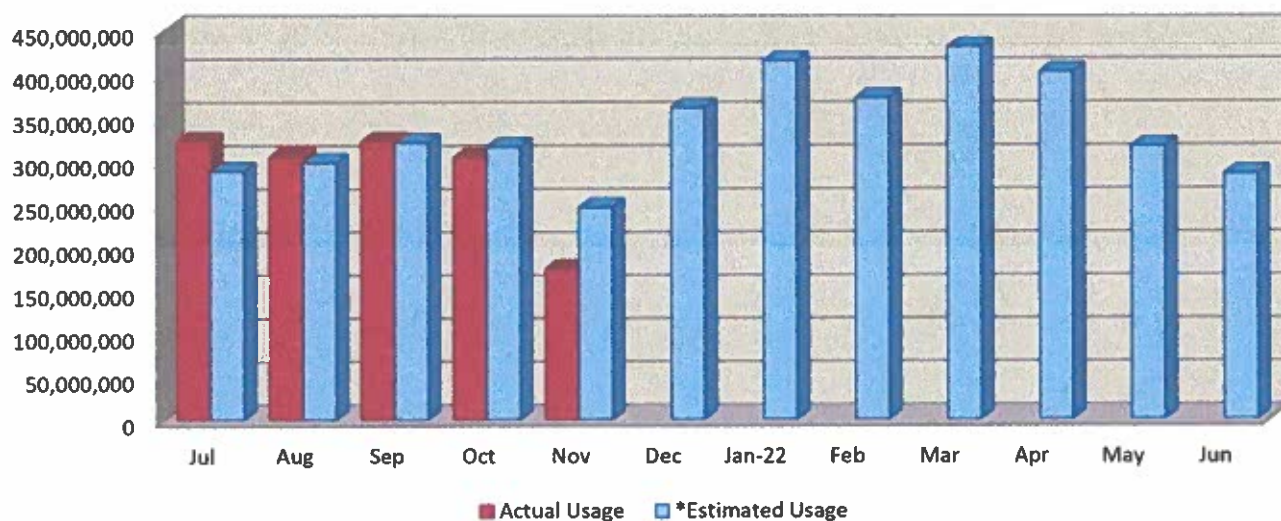
**Board Officers, January 1 - December 31, 2022**

|                            |                                         |
|----------------------------|-----------------------------------------|
| <b>Chairman</b>            | Charlie Rivenbark<br>City of Wilmington |
| <b>Vice-Chairman</b>       | Norwood Blanchard<br>Pender County      |
| <b>Secretary</b>           | Harry Knight<br>New Hanover County      |
| <b>Treasurer</b>           | Patrick DeVane<br>Bladen County         |
| <b>Assistant Treasurer</b> | Phil Norris<br>Brunswick County         |

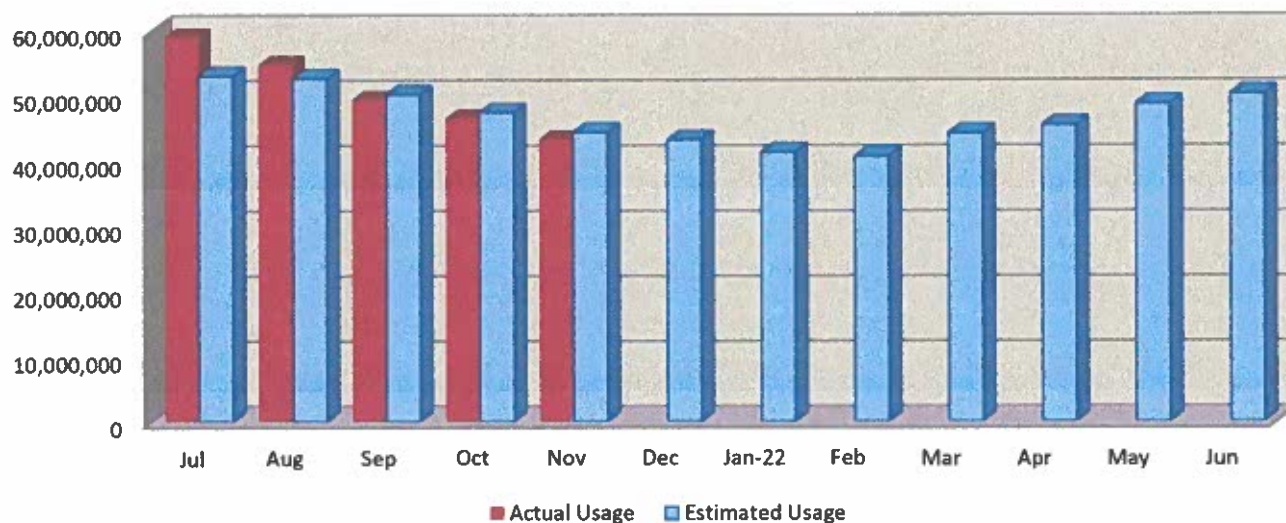
### Brunswick County Water Usage FY 21-22



### CFPUA Water Usage FY 21-22



### Pender County Water Usage FY 21-22



## OPERATING FUND BUDGET PERFORMANCE

Jul-1 through Oct -31

|                                             | Approved<br>Annual Budget | Jul 1- Oct 31<br>Kings Bluff | Jul 1- Oct 31<br>Bladen Bluffs | Jul 1- Oct 31<br>OF BUDGET | Budget<br>As of 10/31/2021 |
|---------------------------------------------|---------------------------|------------------------------|--------------------------------|----------------------------|----------------------------|
| <b>Income</b>                               |                           |                              |                                |                            |                            |
| 3000-01 - OPERATING REVENUE                 |                           |                              |                                |                            |                            |
| 3001-01 - 01 Bruns County Public Utility    | 1,491,553                 | 753,833                      |                                | 753,833                    | 51%                        |
| 3002-01 - 01 CFPUA                          | 1,296,405                 | 413,220                      |                                | 413,220                    | 32%                        |
| 3003-01 - 01 Pender County                  | 179,822                   | 69,050                       |                                | 69,050                     | 38%                        |
| 3004-01 - 01 HWY 421 - Invista              | 40,000                    | 21,859                       |                                | 21,859                     | 55%                        |
| 3005-01 - 01 Praxair, Inc                   | 4,314                     | 669                          |                                | 669                        | 16%                        |
| 3006-01 - 01 Bladen Bluffs Revenue          | 3,194,127                 |                              | 847,019                        | 847,019                    | 27%                        |
| Bladen Admin Reimb                          | 94,302                    |                              | 42,334                         | 42,334                     | 45%                        |
| 3007-01 - Sales Tax Refund Revenue          | 70,000                    |                              | 55,833                         | 55,833                     | 80%                        |
| Total 3000-01 - OPERATING REVENUE           | 6,370,523                 | 1,258,631                    | 945,186                        | 2,203,817                  | 35%                        |
| 3100-00 - OF NONOPERATING REVENUE           |                           |                              |                                |                            |                            |
| 3120-00 - Revenue-Other                     |                           |                              |                                |                            |                            |
| Interest & Investment Revenue               | 2,000                     | 202                          |                                | 202                        | 10%                        |
| FEMA Reimbursement                          | 0                         | 0                            |                                | 0                          | 0%                         |
| Refunds / Insurance Proceeds/ Other         | 0                         | 600                          |                                | 600                        | 0%                         |
| 3156-00 - Rental Income                     | 0                         | 5,437                        |                                | 5,437                      |                            |
| 3900-01 R&R Fund Appropriated               | 0                         | 0                            |                                | 0                          | 0%                         |
| 2900-00 Fund Balance                        | 0                         | 0                            |                                | 0                          | 0%                         |
| Total 3100-00 - OF NONOPERATING REVENUE     | 2,000                     | 6,239                        | 0                              | 6,239                      | 312%                       |
| Total Income                                | 6,372,523                 | 1,264,870                    | 945,186                        | 2,210,056                  | 35%                        |
| <b>Expense</b>                              |                           |                              |                                |                            |                            |
| 4000-01 - ADMINISTRATION EXPENDITURES       |                           |                              |                                |                            |                            |
| 4001-01 - Salary - gross                    | 168,610                   | 40,877                       | 16,861                         | 57,738                     | 34%                        |
| 4010-01 - Per Diem= mileage+per diem pay    | 62,500                    | 11,188                       | 6,262                          | 17,450                     | 28%                        |
| 4012-01 - Vehicle Allowance                 | 5,200                     | 1,280                        | 520                            | 1,800                      | 35%                        |
| 4070-02 - Phone Allowance                   | 520                       | 128                          | 52                             | 180                        | 35%                        |
| 4015-01 - Payroll Taxes                     | 17,967                    | 3,997                        | 1,800                          | 5,797                      | 32%                        |
| 4029-01 - Retirement Employer's Part        | 18,379                    | 4,319                        | 1,838                          | 6,157                      | 34%                        |
| 4035-01 - 401K Employer PD Contribution     | 4,758                     | 1,110                        | 478                            | 1,588                      | 33%                        |
| 4036-01 - Payroll Processing Exp            | 2,900                     | 717                          |                                | 717                        | 25%                        |
| 4038-01 - Insurance Group                   | 40,910                    | 7,761                        | 3,626                          | 11,387                     | 28%                        |
| 4039-01 - Insurance, Property               | 87,000                    | 78,579                       | 8,700                          | 87,279                     | 100%                       |
| 4046-00 Professional Services General       | 15,000                    | 0                            | 0                              | 0                          | 0%                         |
| 4046-01 - Attorney                          | 27,900                    | 9,094                        |                                | 9,094                      | 33%                        |
| 4046-02 - Auditor                           | 9,000                     | 3,200                        | 2,800                          | 6,000                      | 67%                        |
| 4046-03 - Engineer                          | 50,000                    | 10,266                       | 0                              | 10,266                     | 21%                        |
| 4049-01 Information Technology              | 11,800                    | 5,830                        | 0                              | 5,830                      | 49%                        |
| 4055-01 - Office Maint/Repair               | 17,000                    | 4,042                        |                                | 4,042                      | 24%                        |
| 4058-01 Office Utilities                    | 7,000                     | 692                          |                                | 692                        | 10%                        |
| 4059-01 Office Expense                      | 26,300                    | 5,110                        |                                | 5,110                      | 19%                        |
| 4062-01 Office Equipment                    | 5,000                     | 3,312                        |                                | 3,312                      | 66%                        |
| 4064-01 Printing & Advertising              | 2,000                     | 688                          |                                | 688                        | 34%                        |
| 4065-01 Telephone and Internet              | 3,200                     | 769                          |                                | 769                        | 24%                        |
| 4070-01 Travel & Training                   | 19,300                    | 6,484                        |                                | 6,484                      | 34%                        |
| 4080-01 Miscellaneous Expenses              | 17,000                    | 10,808                       |                                | 10,808                     | 64%                        |
| Total 4000-01 - ADMINISTRATION EXPENDITURES | 619,244                   | 210,253                      | 42,934                         | 253,187                    | 41%                        |
| 4500-01 - OPERATING EXPENDITURES            |                           |                              |                                |                            |                            |
| 4501-00 - Sales Tax Expense - Other         | 70,000                    |                              | 39,011                         | 39,011                     | 56%                        |
| 4510-01 - Bladen Bluffs Expenses            | 1,889,330                 |                              | 665,508                        | 665,508                    | 35%                        |
| 4520-01 - Utilities-Energy Pump Station     | 789,667                   | 254,051                      |                                | 254,051                    | 32%                        |
| 4530-01 - Kings Bluff O&M Expenses          | 453,609                   | 97,497                       |                                | 97,497                     | 21%                        |
| 4535-01 Kings Bluff Hurricane Other FEMA    |                           | 0                            |                                | 0                          |                            |
| 4543-01 - Series 2012 Bond Principal (ST)   | 601,443                   | 0                            |                                | 0                          | 0%                         |
| 4544-01 - Series 2012 Bond Interest (ST)    | 11,730                    | 5,864                        |                                | 5,864                      | 50%                        |
| 4545-01 - Series 2010 Bond Principal (BB)   | 850,000                   |                              | 0                              | 0                          | 0%                         |
| 4546-01 - Series 2010 Bond Interest (BB)    | 297,500                   |                              | 4,482                          | 4,482                      | 2%                         |
| Operating Capital Expense                   | 325,000                   | 250,000                      |                                | 250,000                    | 77%                        |
| 4998-05- Transfer to R&R- KB R&R Expense    | 75,000                    |                              | 0                              | 0                          | 0%                         |
| 2041-01- 421 Relocation NHC Loan Principal  | 390,000                   |                              | 390,000                        | 390,000                    | 100%                       |
| Total 4500-01 - OPERATING EXPENDITURES      | 5,753,279                 | 357,412                      | 1,099,000                      | 1,706,413                  | 30%                        |
| Total Expense                               | 6,372,523                 | 567,665                      | 1,141,934                      | 1,959,599                  | 31%                        |



## Executive Director Highlighted Activities:

- Continue working with McKim and Creed to assess the best time and method of seeking Infrastructure and SRF funding for upcoming projects.
- Presented the Kings Bluff 54" Raw Water Main Project with John Nichols and Craig Wilson, CFPUA, on November 16<sup>th</sup>, 2021, at the NC AWWA-WEA conference.
- Worked with Auditor to schedule presentation of the FY 2020-21 Audit.
- Planning efforts continued for the Dedication Ceremony of the 54" line for April 29<sup>th</sup>, 2022.
- Worked with the unified team with member utilities for resolution of the leak on the 48" line on the DAK property.
- Attended Advisory and Technical Committee Meeting of the Lower Cape Fear River program on November 30<sup>th</sup>.

## PROPOSED BUDGET CALENDER 2022

|                   |                                                                                                                                                                                                                                                   |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| January 2022      | Meet with Brunswick County Staff and Bladen Bluff Staff to review the next five years' Capital Improvement Needs.                                                                                                                                 |
| February 1, 2022  | Send correspondence to customers requesting estimate of FY 21 Usage                                                                                                                                                                               |
| February 14 ,2022 | Regular Monthly meeting and Planning and Budget Retreat 8:30 am to 10:00 am                                                                                                                                                                       |
| March 14, 2022    | Meet with Finance Committed to review current revenues and expenditures.<br><br>Present Capital Improvement needs for the next five years to the Finance Committee<br><br>Review Capital Improvement Plan to the Board for the coming five years. |
| April 11, 2022    | Meet with Finance Committee to review proposed FY 2022-23 Budget for recommendation to the Board                                                                                                                                                  |
| May 9, 2022       | Present draft budget to the Board.<br><br>Hold Public Hearing on Proposed Budget                                                                                                                                                                  |
| June 6, 2022      | Adopt proposed FY 2022-23 Annual Budget                                                                                                                                                                                                           |