Lower Cape Fear Water & Sewer Authority
Long Range Planning Committee Meeting
April 14, 2025

Chairman DeVane called to order the Long-Range Planning Committee Meeting on April 14, 2025, at 10:00 a.m. The meeting was held at the Authority's office located at 1107 New Pointe Boulevard, Suite 17, Leland, North Carolina.

Roll Call by Chairman Blanchard:

Present: Patrick DeVane, Jerry Groves, Al Leonard, Charlie Rivenbark, Phil Tripp, and Frank Williams

Present by Virtual Attendance: None

Absent: Harry Knight, Scott Phillips, and Rob Zapple

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

Guests Present: Devon Moore, Computer Warriors; Anthony Colon, Pender County Utilities Director; James Proctor, Pender County, Deputy Director of Utilities; John Nichols, Brunswick County Public Utilities Director; Glenn Walker, Brunswick County Water Resources Manager; David Carson, Brunswick County Kings Bluff Water Resource Supervisor; Sean Kenyon, McKim & Creed Senior Project Engineer; and Adam Paykovich, McKim & Creed P.E., McKim & Creed

Guests Virtual Attendance: Craig Wilson, Cape Fear Public Utility Authority Engineering Manager; Kevin Morris, Cape Fear Public Utility Authority Deputy Director; and Ken Waldroup, Cape Fear Public Utility Authority Executive Director

Presentation: Master Plan Review (Capital Improvement Plan) review by Sean Kenyon

Sean Kenyon presented the current draft Capital Improvement Plan (CIP) from 2025 through 2050, including Kings Bluff, Raw Water, and Bladen Bluff water treatment facilities. The CIP had several factors, including category of need, capacity issue, whether it needs to be replaced or rehabilitated, and whether there is a maintenance efficiency or redundancy issue. They assigned each project a criticality score as to whether it was a high or low priority and looked at no consequence if no action was taken. There are three primary drivers: demand and capacity, life cycle, redundancy, and resiliency. The criticality is scored one, two, or three. One being the lowest and three being the highest need. The preliminary design memorandum is based on a demand table for projected usage from the different entities, with a future demand of 96 million gallons per day in 2062.

Sean Kenyon listed fourteen projects for Kings Bluff and three cost-sharing projects. KB1 New 4th Pump at Kings Bluff has a criticality of three because current pumps will meet projected demands by 2037. The fourth pump will be standby/backup and add to pump rotation to reduce hours per pump. KB2 Rebuild/Refurbish the existing 1600 HP vertical turbine raw water pump. Rebuilding the pumps will extend their service life. KB3 Generators at King's Bluff Raw Water Pump Station have a criticality of two due to the need to upgrade due to the future increased load associated with auxiliary pump motor HP and larger quantities pump. The KB4 Pig 48" pipe from the Kings Bluff pump station to the 3 MG ground tank is critical because pigging will maintain a clean pipeline free of sediment, silt, and debris. It will also improve the efficiency of pumps by reducing the frictional characteristics of the pipeline. KB5 Pig 54" pipe from 3MG ground tank to US 421 has a criticality of one sighting, the same reason as pigging the 48" pipeline. KB6 Walkway and air backwash building replacement have a criticality of two because the walkway is in serviceable condition and will need to be replaced by 2025 due to rotting wood and the overall weathering of the walkway. KB7 Replacing raw water pumps 1,4, and 5 has a criticality of three due to age and mechanical wear. KB8 New surge tank at Kings Bluff has a criticality of two because as the demand increases, surges in the system will likely increase, and this needs to be installed before the fifth pump comes online. KB9 5 ROW acquisitions

rated a criticality of two. The KB10 48-inch PCCP inspection and pig from the ground tank to US 421, with a criticality of one, is a matter of utmost importance due to the current loss of capacity and/or clogging caused by sediment buildup. Similarly, the KB11 48-inch PCCP repairs, also with a criticality of one, pose a significant risk of a pipeline break. The KB12 48" PCCP Leak Detection Project has a criticality of one because of potential leaks and weak points in the existing line before a break or failure. KB13 Surge Tank Control Panel Upgrades are critical because replacing the existing panels with a single panel and connecting to SCADA improves efficiency, minimizes required maintenance, and increases operational flexibility. KB14 Solar Power Study and Installation has a criticality of one. This will enhance the reliability and efficiency of the station by providing a redundant power source.

CS1 A New fifth pump at Kings Bluff raw water pump station has a criticality of three because decreasing the load and run times of existing pumps will extend the life and improve all pumps' reliability. CS2 3-Mile parallel raw water main from 3MG Pender Vault to Cape Fear Public Utilities vault has one criticality. CS3 100MGD Reservoir has a criticality of one due to the increasing availability of a system for water storage, allowing for temporary redundancy of supply in the case of an emergency (line break, power outage, hurricane)

Director Williams requested for KB12 be completed initially and then check the data within five years and then determine the need and frequency of the project.

DIRECTOR'S COMMENTS AND/OR FUTURE AGENDA ITEMS

No comments.

FUTURE MEETINGS

June 16th, 2025 at 10:00 am

ADJOURNMENT

There being no further business, Chairman DeVane adjourned the meeting at 10:39 a.m.

Respectfully Submitted:

Al Leonard, Secretary

Lower Cape Fear Water & Sewer Authority
Master Planning Document
2025 Update

Long Range Planning Committee

April 14, 2025

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Master Planning Document Components

- Updated Master Planning Schedule 2025-2050
- Kings Bluff Raw Water Facilities Projects

Evaluation Factors

- Category of Need *(Capacity/Renewal-Rehabilitation/Efficiency/Maintenance)*
- Criticality Score *(1 – 3)*
- Consequence of No-Action

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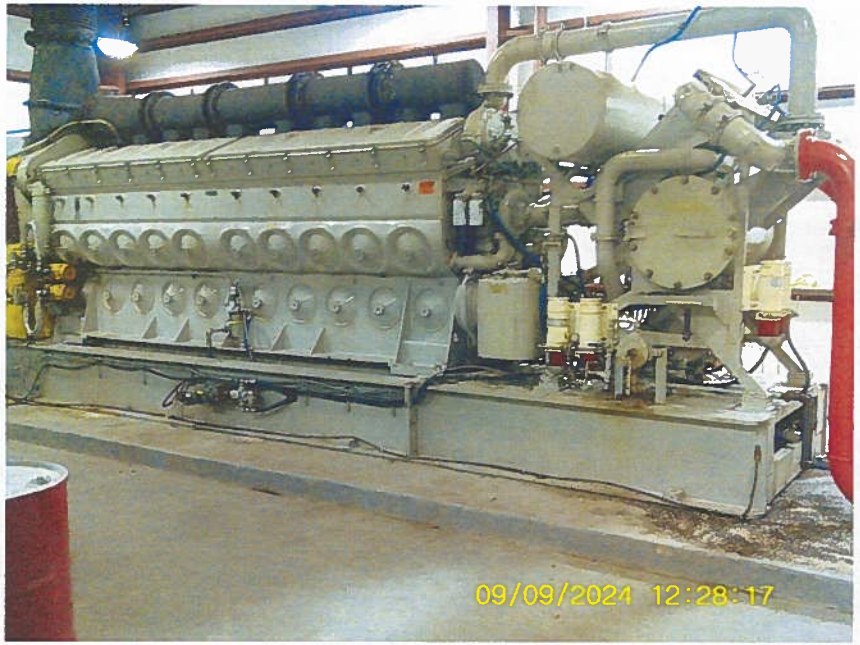
Drivers

- Demand/Capacity
- Life-Cycle
- Redundancy/Resiliency



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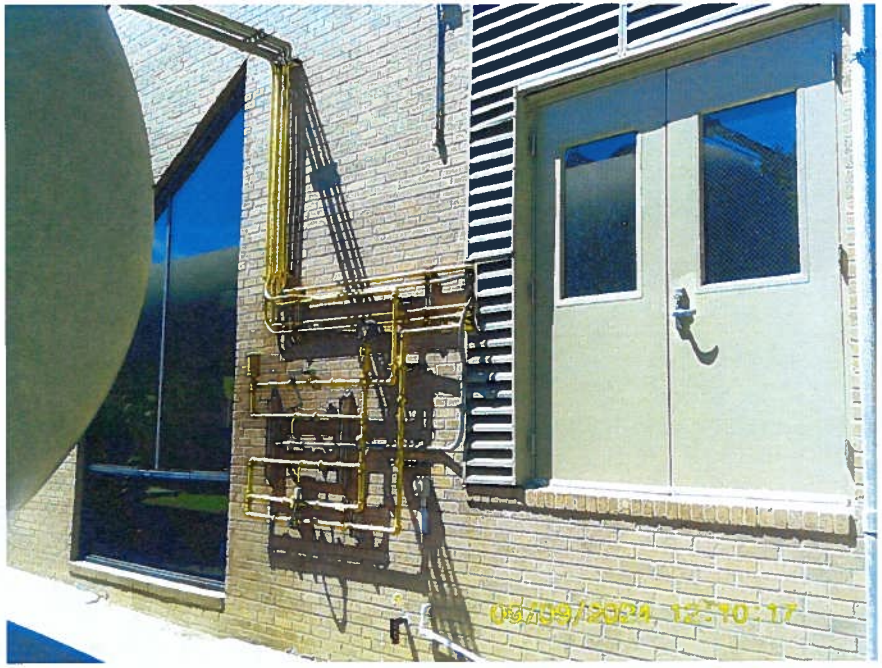
Major Components

- Specific Project Pages
- Tabular Summary
- Operations/Capital Budget



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Removed Projects

- Intermediate Booster Pump Station Shelter
- Intermediate Booster Pump Station Upgrade
- 20 MG Ground Tank
- 7-Mile Raw Water Main from 3 MG Ground Tank to Pender Vault

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New Projects

PROJECT TITLE	48" PCCP Leak Detection Project		KB 12
CATEGORY OF NEED:	Renewal/Rehabilitation, Efficiency, Maintenance	EXPENDITURE CATEGORY:	Maintenance

Summary:

- Begin a Leak Detection Program on the existing 48-inch PCCP pipe that would include an initial assessment and periodic assessments every 10 years or as often as water loss data indicates it is needed.

Justification:

- Identifies potential leaks and weak points in the existing line prior to a break or failure

Consequence of No Action:

- Increased risk for a break to occur along the pipeline at some point in the future

Criticality:

1	2	3

DURATION (MONTHS)	36
REQUIRED COMPLETION	2049
TOTAL ESTIMATED COST	$900,000

FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE
2028-2029	$300,000
2038-2039	$300,000
2048-2049	$300,000

PROJECT TITLE	Surge Tank Control Panel Upgrades		KB 13
CATEGORY OF NEED:	Maintenance, Efficiency	EXPENDITURE CATEGORY:	Maintenance

Summary:

- Connection to SCADA and upgrades to the existing control panel for the surge tanks at the King's Bluff Pump Station

Justification:

- Replacing the existing panels with a singular panel and connecting to SCADA improves efficiency, minimizes required maintenance and increases operational flexibility

Consequence of No Action:

- Lack of operational flexibility and continued maintenance of three panels

Criticality:

1	2	3

DURATION (MONTHS)	12
REQUIRED COMPLETION	2028
TOTAL ESTIMATED COST	$150,000

FISCAL YEAR	ANTICIPATED FISCAL YEAR EXPENDITURE
2027-2028	$150,000

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Kings Bluff Capital Projects Annualized Summary ($MM)

- Capacity
- Redundancy/Resiliency
- Life Cycle/Replacement

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

Project No.	Description	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	FY 2047	FY 2048	FY 2049	FY 2050	Totals
KB 1	New 4th Pump at King Bluff (KBPS)	$3.85	$1.30																									$5.15
KB 2	Rebuild High Service Pump Motor	$0.50																										$0.50
KB 3	New Generators							$2.20	$19.30																			$21.50
KB 4	Pig 48" Water Main (KBPS to 3 MG Tank)																	$2.10										$2.10
KB 5	Pig 54" Water Main											$1.80																$1.80
KB 6	Walkway and Air Backwash Building Replacement	$3.40																										$3.40
KB 7	Replace Raw Water Pumps 1, 4, 5								$4.60					$5.30			$5.80											$15.70
KB 8	New Surge Tank at KBPS																				$1.30							$1.30
KB 9	5 ROW Acquisitions	$0.10	$0.10	$0.11																								$0.31
KB 10	48-Inch PCCP Inspection and Pig – Ground Tank to US 421			$2.60	$0.21																							$2.81
KB 11	48-Inch PCCP Repairs			$1.00																								$1.00
KB 12	48" PCCP Leak Detection Project				$0.30										$0.30										$0.30			$0.90
KB 13	Surge Tank Control Panel Upgrades			$0.15																								$0.15
KB 14	Solar Power Study and Installation						$0.50	$2.50																				$3.00
	Cost Sharing Projects																											
CS 1	New 5th Pump at King's Bluff																					$2.00	$5.10	$2.30				$9.40
CS 2	3-Mile 48" Parallel Raw Water Main	$0.10	$0.90	$19.50																								$20.50
CS 3	100 MGD Reservoir			$0.10	$0.88					$8.70	$71.42																	$81.10
Total Fiscal Year Expenditure		$7.95	$2.30	$23.46	$1.39	$0.00	$0.50	$4.70	$23.90	$8.70	$71.42	$1.80	$0.00	$5.30	$0.30	$0.00	$5.80	$2.10	$0.00	$0.00	$1.30	$2.00	$5.10	$2.30	$0.30	$0.00	$0.00	$170.62

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Kings Bluff Capital Projects Annualized Summary ($MM)

From 2024 Master Plan Update

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

Project No.	Description	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	FY 2047	FY 2048	FY 2049	Totals
KB 1	New 4th Pump at King's Bluff (KBPS)					$3.85	$1.30																					$5.15
KB 2	Rebuild High Service Pump Motor													$0.50														$0.50
KB 3	New Generators												$2.20	$19.30														$21.50
KB 4	Pig 48" Water Main (KBPS to 3 MG Tank)																		$2.10									$2.10
KB 5	Pig 54" Water Main												$1.80															$1.80
KB 6	Walkway and Air Backwash Building Replacement		$2.40																									$2.40
KB 7	Replace Raw Water Pumps 1, 4, 5							$4.60					$5.30			$5.80												$15.70
KB 8	New Surge Tank at KBPS																					$1.30						$1.30
KB 9	5 ROW Acquisitions	$0.10	$0.10	$0.11																								$0.31
KB 10	48-Inch PCCP Inspection and Pig – Ground Tank to US 421				$2.60	$0.21																						$2.81
KB 11	48-Inch PCCP Repairs				$0.30																							$0.30
KB 12	1.3 MW Solar Power Installation								$2.50																			$2.50
	Cost Sharing Projects																											
~~CS 1~~	~~Intermediate Booster Pump Station Shelter*~~																											
~~CS 2~~	~~Intermediate Booster Pump Station Upgrade*~~																											
CS 3	New 5th Pump at King's Bluff																						$2.00	$5.10	$2.30			$9.40
CS 4	20 MG Ground Tank														$5.50	$18.20												$23.70
CS 5	7-Mile 48" Parallel Raw Water Main		$15.00	$20.60																								$35.60
CS 6	3-Mile 48" Parallel Raw Water Main			$6.50	$18.75																							$25.25
CS 7	100 MGD Reservoir	$0.05								$8.10	$47.40																	$55.50
Total Fiscal Year Expenditure		**$0.15**	**$17.50**	**$27.21**	**$21.65**	**$4.06**	**$1.30**	**$4.60**	**$2.50**	**$8.10**	**$47.40**	**$0.00**	**$9.30**	**$19.80**	**$5.50**	**$24.00**	**$0.00**	**$0.00**	**$2.10**	**$0.00**	**$0.00**	**$1.30**	**$2.00**	**$5.10**	**$2.30**	**$0.00**	**$0.00**	**$205.82**

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Kings Bluff Total Annualized Fiscal Year Summary ($MM) 2025-2034

Total Annual Fiscal Year Budget Breakdown											
Item	*FY 2025*	*FY 2026*	*FY 2027*	*FY 2028*	*FY 2029*	*FY 2030*	*FY 2031*	*FY 2032*	*FY 2033*	*FY 2034*	*Totals*
OPERATION PROJECTS BUDGET											
ROW Maintenance	$75,000	$75,000	$75,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$1,275,000
SCADA Improvements	$158,000									$175,000	$333,000
Anti-Vortexing Improvements	$50,000	$50,000									$100,000
Meter and Valve Upgrades/Replacements					$150,000						$150,000
VFD Replacements	$290,000										$290,000
RR Trans	$750,000			$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$4,250,000
Miscellaneous	$30,000	$30,000	$30,000	$30,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$420,000
Total Operations Annual Fiscal Year Expenditure	**$1,353,000**	**$155,000**	**$105,000**	**$680,000**	**$850,000**	**$700,000**	**$700,000**	**$700,000**	**$700,000**	**$875,000**	**$6,818,000**
CAPITAL PROJECTS BUDGET											
KB1 - New 4th Pump at King's Bluff (KBPS)	$3,850,000	$1,300,000									$5,150,000
KB2 – Rebuild High Service Motor Pumps	$500,000										$500,000
KB3 – New Generators							$2,200,000	$19,300,000			$21,500,000
KB6 - Walkway and Air Backwash Building Replacement	$3,400,000										$3,400,000
KB7 - Replace Raw Water Pumps 1, 4, 5								$4,600,000			$4,600,000
KB9 - ROW Acquisitions	$100,000	$100,000	$110,000								$310,000
KB10 - 48-Inch PCCP Inspection and Pig - Ground Tank to US421			$2,600,000	$210,000							$2,810,000
KB11 - 48-Inch PCCP Repairs			$1,000,000								$1,000,000
KB12 – 48-Inch Leak Detection Project				$300,000							$300,000
KB13 – Surge Tank Control Panel Upgrades			$150,000								$150,000
KB14 - Solar Power Study and Installation						$500,000	$2,500,000				$3,000,000
CS2 - 3-Mile 48" Parallel Raw Water Main	$100,000	$900,000	$19,500,000								$20,500,000
CS3 - 100 MGD Reservoir			$100,000	$880,000					$8,700,000	$71,420,000	$81,100,000
Total Capital Annual Fiscal Year Expenditure	**$7,950,000**	**$2,300,000**	**$23,360,000**	**$1,390,000**	**$0**	**$500,000**	**$4,700,000**	**$23,900,000**	**$8,700,000**	**$71,420,000**	**$144,220,000**
Total Annual Fiscal Year Expenditure	**$9,303,000**	**$2,455,000**	**$23,465,000**	**$2,070,000**	**$850,000**	**$1,200,000**	**$5,400,000**	**$24,600,000**	**$9,400,000**	**$72,295,000**	**$151,038,000**

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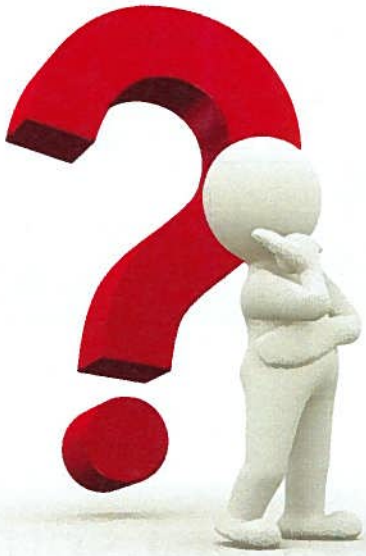
Questions?



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