

NORTH SHORE WATER COMMISSION
SUMMARY OF CAPITAL IMPROVEMENT PLAN - APPROVED - 03/13/2024

<u>Year</u>	<u>Description</u>	<u>Rank</u> <u>(2025 - 2027)</u>	<u>Estimate</u>
2025	Basin 5 Rehabilitation (Construction Phase)	1	\$ 2,837,500
2025	Unattended Operations Upgrade Project	2	\$ 24,500
2026	Bender Flat Roof Replacement & Skylight Removal	3	\$ 602,000
2026	Chemical Feed Pump Upgrades	4	\$ 55,000
2027	Klode Valve Replacements	5	\$ 62,000
2027	Klode Electrical Upgrade	6	\$ 285,000
2027	Bender Parking Lots and Garage Improvements	7	\$ 109,200

SUBTOTAL - 2025 to 2027 **\$ 3,975,200**

Capital Projects 2025	\$ 2,862,000
Capital Projects 2026	\$ 657,000
Capital Projects 2027	\$ 456,200

2028	Filter Media Replacement & Backwash Equipment Improvements	\$ 2,100,000
2029	Repair of Intake Sluice Gate	\$ 75,000
2029	Traveling Screen - Restoration	\$ 112,000
2029	Traveling Screen - Water Flushing Modifications	\$ 81,000
2029	Sludge Pump 2 Replacement	\$ 50,000
2029	Server Replacements and IT Improvements	\$ 52,000
2030	Engineering of Basin 4 Improvements	\$ 100,000
2030	Main 1962 HVAC System Replacement	\$ 320,000
2030	Raw Water Transmission Main - Air Release and Vacuum Breakers	\$ 80,000

SUBTOTAL - 2028 to 2030 **\$ 2,970,000**

Capital Projects 2028	\$ 2,100,000
Capital Projects 2029	\$ 370,000
Capital Projects 2030	\$ 500,000

TOTAL - 2025 to 2030 **\$ 6,945,200**

NORTH SHORE WATER COMMISSION
2024 CAPITAL IMPROVEMENT PLAN DETAIL - APPROVED - 03/13/2024

Number	Description	<u>Total</u>
2025-1	Basin 5 Rehabilitation (Construction Phase)	\$ 2,837,500

Alignment with Strategic Goals: Restore Equipment that Does Not Work, Reliability of Operations, Regulatory Compliance, and Structural Integrity.

Importance Rank - 2025 CIP Year:	1
Importance Rank - Over 2025 to 2027 CIP Period:	1

Basin #5 has been out of service since 2018 due to internal mechanical damage. Since 40% of the Commission's basins are not operational, it is necessary to restore functionality to Basin #5 before another basin breaks down.

To bring Basin #5 back into service, virtually all of the equipment throughout the basin will be removed. All new flocculation equipment will be installed. On the sedimentation side, the existing sludge collection system will be removed; no new equipment will be installed except for a cross-collection system. Plant staff plan on manually removing sludge using fire hoses.

In 2024, an engineering firm will be retained to design the renovations and provide related construction services. While construction is not anticipated in 2024, it is likely that the project will be bid and awarded before the end of the year so that items requiring long lead times can be ordered.

The following year, construction will take place. Plant staff envisions the bid to be awarded in March 2025 and substantial completion to happen by December 2025.

<u>Item Description</u>	<u>Estimated Cost</u>
Construction Costs	\$ 2,270,000
Engineering (10% of Construction Costs)	\$ 227,000
Contingency (15% of Construction Costs)	\$ 340,500

2025-2	Unattended Operations Upgrade Project	\$ 24,500
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Alignment with Strategic Goals: Reliability of Operations and Unattended Operations.

Importance Rank - 2025 CIP Year:	2
Importance Rank - Over 2025 to 2027 CIP Period:	2

In 2023, the Commission purchased filter and basin valve actuators to satisfy requirements needed for unattended operations. Plant staff plan on installing these valve actuators over a period of 2 years. In 2025, plant staff will likely install the remaining 15 actuators (or whatever needs to be installed).

<u>Item Description</u>	<u>Estimated Cost</u>
Self-Performed Labor	\$ 20,500

Equipment and Materials	\$	2,000
Contracted Services	\$	-
Contingency	\$	2,000

GRAND TOTAL - 2025	\$	2,862,000
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NORTH SHORE WATER COMMISSION
2025 CAPITAL IMPROVEMENT PLAN DETAIL - APPROVED - 03/13/2024

Number	Description	<u>Total</u>
2026-1	Bender Flat Roof Replacement & Skylight Removal	\$ 602,000

Alignment with Strategic Goals: Maintain Building & Grounds and Protection Against Damage.

Importance Rank - 2026 CIP Year:	2
Importance Rank - Over 2025 to 2027 CIP Period:	3

The flat roof sections at the Water Treatment Plant are covered by membranes and are ballasted with smooth rock. The membrane is approximately 30 years old. It has been repaired numerous times, especially around the skylights. Considering the skylights are original to the plant, and considering maintenance issues associated with skylights, they should be completed removed before installing a new membrane.

After an evaluation, it appears that a newer roof was installed over the original roof. Contractors will not build a 3rd roof over both, so the rock and old roofing material needs to be removed before a new membrane can be installed. This process is very labor intensive and expensive. Furthermore, there are not enough roof drains--additional drains will likely be added.

<u>Item Description</u>	<u>Estimated Cost</u>
Construction Costs	\$ 520,000
Engineering	\$ 30,000
Contingency (10% of Construction Costs)	\$ 52,000

2026-2	Chemical Feed Pump Upgrades	\$ 55,000
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Alignment with Strategic Goals: Reliability of Operations, Employee Safety, and Regulatory Compliance.

Importance Rank - 2026 CIP Year:	1
Importance Rank - Over 2025 to 2027 CIP Period:	4

The ammonia feed pumps are no longer being manufactured. Plant staff are having difficulty acquiring critical spare parts, so it is necessary to replace them. At the same time, our sodium hypochlorite pumps, valves, and associated plumbing frequently fail. Sodium hypochlorite is a strong oxidant which slowly reacts with piping, valves, and other components causing those elements to weaken overtime. These pumps and associate parts need to be replaced.

<u>Item Description</u>	<u>Estimated Cost</u>
Self-Performed Labor	\$ 12,000
Direct Purchase of Equipment and Materials	\$ 40,000
Contracted Services	\$ -
Contingency	\$ 3,000

GRAND TOTAL - 2026	\$ 657,000.00
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NORTH SHORE WATER COMMISSION
2026 CAPITAL IMPROVEMENT PLAN DETAIL - APPROVED - 03/13/2024

Number	Description	<u>Total</u>
2027-1	Klode Valve Replacements	\$ 62,000

Alignment with Strategic Goals: Restore Equipment that Does Not Work, Reliability of Operations

Importance Rank - 2026 CIP Year:	1
Importance Rank - Over 2025 to 2027 CIP Period:	5

Raw water pumps #2 and #4 do not have have check valves, which are required by code. Furthermore, the existing ball valves do not have working sensors to indicate whether they are open or close. These valves need to be replaced with check valves. The associated gate valves do not close properly. In order to replace the ball valves, the gate valves must also be replaced.

<u>Item Description</u>	<u>Estimated Cost</u>
Self-Performed Labor	\$ 18,000
Direct Purchase of Equipment	\$ -
Contracted Services	\$ 42,000
Contingency	\$ 2,000

Number	Description	<u>Total</u>
2027-2	Klode Electrical Upgrade	\$ 285,000

Alignment with Strategic Goals: Reliability of Operations, Maintain Building & Grounds, Protection Against Damage, and Employee Safety.

Importance Rank - 2026 CIP Year:	2
Importance Rank - Over 2025 to 2027 CIP Period:	6

While preparing for the Klode generator replacement project in 2024, significant electrical issues were identified at the pumping station. Notably, the motor control centers (MCCs) from original construction are severely corroded. Parts are no longer available for this equipment. At the same time, control wires associated with the valves and pumps, are in poor condition. Connections are severely corroded and conduits from the 1960s are concealed within the walls and floors. New conduits with new conductors need to be installed.

Instead of replacing MCCs, cheaper and more flexible i-Line panels should be installed. The new panels should be installed in an unused room and the old MCCs should be demolished.

<u>Item Description</u>	<u>Estimated Cost</u>
Self-Performed Labor	\$ 10,000
Contracted Services	\$ 250,000
Direct Purchase of SCADA Equipment	\$ -
Contingency	\$ 25,000

Number	Description		Total
2027-3	Bender Parking Lots and Garage Improvements	\$	109,200

Alignment with Strategic Goals: Maintain Building & Grounds and Employee Safety

Importance Rank - 2026 CIP Year:	3
Importance Rank - Over 2025 to 2027 CIP Period:	7

The north parking lot has significant issues; specifically there is a issue with asphalt around the ammonia feed vault manhole structure and and the loading dock area. At the same time, the south parking has experienced much more traffic with the I-43 expansion project which has accelarated the degradation of the pavement. All of the asphalt needs to be milled and overlaid. Furthermore, the garage doors, which were installed in 1979, are in significant disrepair and need to be replaced. Garage door openers will also need to be installed.

Item Description	Estimated Cost
Self-Performed Labor	\$ 1,000
Contracted Services	\$ 6,000
Direct Purchase of Check Valve	\$ 97,000
Contingency	\$ 5,200

GRAND TOTAL - 2027	\$	456,200
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