NBC-BUCKLIN POINT - CLIMATE VULNERABILITY SUMMARY

Bucklin Point is located at 102 Campbell Avenue in East Providence. It treats approximately 23 million gallons of wastewater per day in dry weather, serving approximately 130,000 customers in Pawtucket, Central Falls, Lincoln, and portions of Providence and East Providence. Bucklin Point is a combined system that treats stormwater flows during rain events up to about 46 million gallons per day. Additional information is on the back of this summary.

Coastal Flood Hazard

Significant Wave Height for 100-year Event

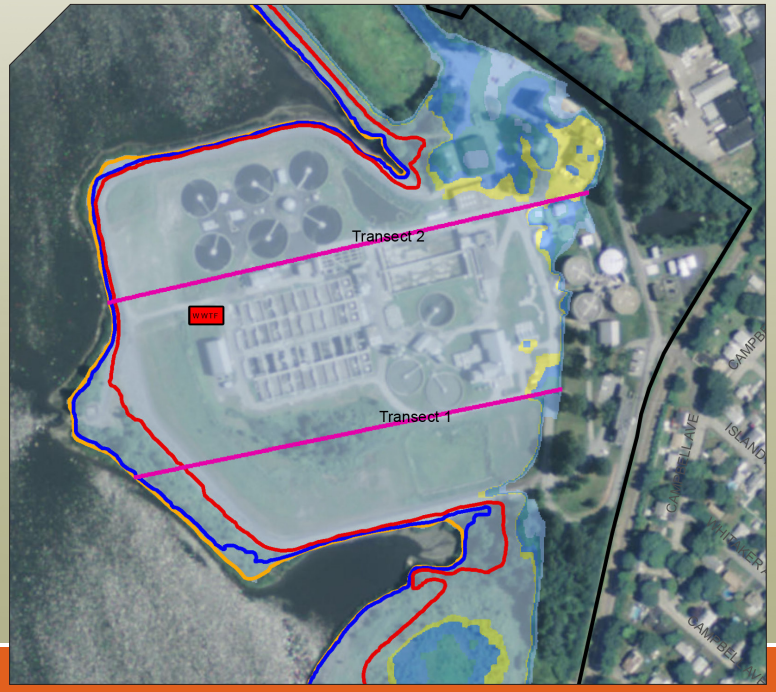
Inland Flood Hazard

TOP 3 HAZARD MODELING RESULTS

The 100-year storm would overtop the newly raised protective berm surrounding the WWTF. Water depth would be 10+ feet at center driveway.

5 feet approaching berm will overtop berm with storms less severe than 100-year event.

Saylesville PS inundation at 100-year level plus 2 feet.



Legend

- WWTF — Treatment Plant
- Pump Station
- Approx. Parcel Boundary

COASTAL HAZARDS

- Wave Transect
- 2115 Shoreline
- 2065 Shoreline
- 2040 Shoreline
- 100-Year Flood Level
- 100-Year Flood Level Plus 1' SLR
- 100-Year Flood Level Plus 2' SLR
- 100-Year Flood Level Plus 3' SLR
- 100-Year Flood Level Plus 5' SLR

COMPLETED CLIMATE CHANGE ADAPTATION MEASURES

The berm surrounding the WWTF was raised an additional 12 to 18 inches in 2014 to above the 500-year flood elevation mapped on the FIRM. This berm protection incorporates tide gates for the plant effluent and storm water from the north and south retention ponds.

NBC-BUCKLIN POINT - CLIMATE VULNERABILITY SUMMARY

FACILITY SUMMARY

Owner	Narragansett Bay Commission
Operator	Narragansett Bay Commission
Facility Address	102 Campbell Avenue East Providence, RI 02914
Contact Name	Carmine Goneconte, Superintendent
Phone	401.434.6350
Design Flow Capacity	46.0 MGD
Average Daily Flow	23.1 MGD
Receiving Water	Seekonk River
Extreme Weather Related SSO Events 2010 - 2014	2 in Sewershed (Town of Lincoln Responsibility)

The WWTF is surrounded by the tidally-influenced Seekonk River on 3 sides. An earthen berm, raised in 2014 offers some protection from storm surge and wave action.	During wet weather conditions, the facility may direct up to 70 MGD of flow in excess of design capacity to 2.4 MG wet weather holding tanks. Wastewater directed to the holding tanks receive disinfection only, and subsequently begin discharging to the river when the tanks are full. Wastewater remaining in the tanks following the event are pumped back into the system. Total flows exceeding 2.4 MG trigger a sewer overflow event.
The facility's Emergency Action Plan does not address procedures for rising floodwaters, however, when the river level exceeds EL8 NAVD88, the operators direct the outfall tide gates to be closed and pump the effluent out to the river.	
During storm events, operators close the tidegates on the discharge lines from the onsite stormwater collection ponds.	NBC stores an abundance of back-up pumping systems including multiple dry-prime pumps and hydraulic submersibles.

ADAPTIVE STRATEGIES (SEE REPORT FOR COMPLETE LIST)

SYSTEM	Hardening	Relocating	Readily Repairable/ Replaceable	Redundancy	Mitigation Strategy
Influent Pump Station (Screw Pumps)	D		B		Raise and extend perimeter berm.[1] Store replacement pump components on-site.
Primary Clarifiers	D		B		Raise and extend perimeter berm.[1] Pumps may be easily augmented. Replace sludge pumps with submersibles. Store replacement drive components on-site.
Disinfection System	D	B		B	Raise and extend perimeter berm.[1] Relocate critical components to high ground. Maintain back-up temporary chemical storage and pumping.
Effluent Pump Station	D	B			Raise and extend perimeter berm.[1] Relocate drive systems to high ground.
Saylesville PS	A				Protect building with flood barriers, and seal penetrations.

1. Raising and extending the perimeter berm will address multiple systems under one project.

A = < $50,000 B = $50,000 to $250,000 C = $250,000 - $1,000,000 D = > $1,000,000