54 – SPECIAL DISTRICTS

PLANNING PARTICIPATION

Organization	Name	Title	Participation
Bayshore Regional Sewer Authority	Pete Canal	Executive Director	Attended Bayshore Risk Assessment Workshop and Regional Utility Authority Meeting
Western Monmouth Utilities Authority	Jim Carr	Chief Operating Officer	Regional Utility Authority Meeting
Western Monmouth Utilities Authority	Stephen Bagadinski	Engineering Services Director	Regional Utility Authority Meeting
Township of Middletown Sewerage Authority	Jonathan Mannarino	Collection System Superintendent	Regional Utility Authority Meeting
Two Rivers Water Reclamation Authority	Brian Rischman	Deputy Executive Director	Regional Utility Authority Meeting
Two Rivers Water Reclamation Authority	Dennis Galvin	Executive Director	Regional Utility Authority Meeting
Two Rivers Water Reclamation Authority	Lauren Lechner	Engineering Manager	Regional Utility Authority Meeting
Long Branch Sewerage Authority	Tom Roguski	Executive Director	Regional Utility Authority Meeting
South Monmouth Regional Sewerage Authority	Ryan Krause	Chief Executive Office	Regional Utility Authority Meeting
Manasquan River Regional Sewerage Authority	Matthew Voelkel	Engineering Consultant for Manasquan River Regional Sewerage Authority	Coordination Call

SPECIAL DISTRICTS PROFILE

Bayshore Regional Sewer Authority

For the protection of the environment and public health and safety, Hazlet Township, Holmdel Township, and the Borough of Union Beach created the Bayshore Regional Sewerage Authority (BRSA) under the Sewerage Authorities Law of the State of New Jersey. Officially established in 1968 by several town ordinances, in the final Parallel Ordinance, the BRSA was asked for its creation by the Monmouth County Sewerage Advisory Committee to serve the northern Bayshore area. The BRSA began operations at its treatment plant on February 6, 1974, after the completion of construction for the facility.

Bayshore Regional Sewerage Authority accomplishes its missions and values by maintaining a well operated, clean, and safe facility at 100 Oak Street in Union Beach, NJ. The facility operates well within the limits set by State and Federal permits. Improvements are aimed at lowering the cost of chemicals and energy while minimizing debt. There will not be a need to expand the facility capacity for the next 20 years. Consequently, the users of the system can look forward to an era of lower costs, cleaner environment and a focus on sustainability.

Western Monmouth Utilities Authority

Western Monmouth Utilities Authority (WMUA) provides wastewater treatment service to a significant portion of the towns of Manalapan, Marlboro, and a portion of Englishtown and Freehold Township. Formed in 1972 and jointly created by Manalapan and Marlboro, the WMUA provides service to over 25,000 customers. The WMUA and its employees strive to provide the most efficient and environmentally safe wastewater treatment available at the lowest possible cost to its ratepayers.

The WMUA has 250 miles of sewer lines and 31 pump stations. The WMUA's Pine Brook Sewage Treatment Plant is located in Manalapan Township in Monmouth County. It is a tertiary treatment facility and discharges into the Matchaponix Brook under a permit issued by the New Jersey Department of Environmental Protection.

Township of Middletown Sewerage Authority

The Township of Middletown Sewerage Authority, also known as TOMSA, held its original organization meeting on Thursday, March 31, 1966. TOMSA was formed by the Township of Middletown for the purpose of meeting the wastewater collection and treatment needs of the rapidly developing Township of Middletown. As wastewater related problems in the Township increased, and the number of small wastewater treatment plants serving individual housing subdivisions grew, the need for centralized wastewater collection and treatment became evident. The formation of TOMSA formalized the task of developing this centralized wastewater collection and treatment system. Upon its formation, TOMSA also took over operation and maintenance responsibilities for a number of the small treatment plants serving subdivisions.

During 1968, work began on the construction of a centralized Wastewater Treatment Plant, which is located in the Belford section of the Township of Middletown. The treatment plant was designed to treat 6.5 million Gallons Per Day (MGD) of Wastewater and to discharge the treated and clarified wastewater into Comptons Creek, a tributary of Raritan Bay. Treated wastewater sludge was barged to the ocean for disposal. The Wastewater Collection Systems needed to convey wastewater from the individual houses to the new treatment plant were installed at the same time. During 1970, the discharge of wastewater to the Raritan Bay ceased due to the formation of the Monmouth County Bayshore Outfall Authority, also known as MCBOA. MCBOA collects the wastewater from the TOMSA wastewater treatment plant and also from the Bayshore Regional Sewerage Authority and pumps that wastewater into the Atlantic Ocean through a 4,000-foot-long outfall pipe and diffuser.

During the early 1980's, the Township had developed to the point where an expansion of the wastewater treatment plant was necessary. In 1985, an expansion plan was implemented for this Wastewater Treatment Plant, which increased the capacity of the treatment plant from 6.5 MGD to 10.8 MGD. During 1986, TOMSA began treating the collected wastewater of Atlantic Highlands and Highlands. The wastewater of these two communities is pumped into TOMSA's collection system in the Leonardo section of the Township. The collection system of these two communities is maintained by the individual communities.

Two Rivers Water Reclamation Authority

From its inception in 1965, the northeast Monmouth County Regional Sewerage Authority became a well-known, respected name. Because its service area borders the Navesink and Shrewsbury Rivers, the Authority, in November 2001, adopted the new name Two Rivers Water Reclamation Authority (TRWRA). Though our name has changed, our commitment to serve remains the same. As a leader, TRWRA continues to refine the water reclamation process by recently upgrading and constructing a newly expanded physical plant. this expansion gives capacity to handle all future wastewater that could originate from the six member towns: Fair Haven, Little Silver, Monmouth Beach, Oceanport, Shrewsbury, West Long Branch, and six Customer Towns: Red Bank, Eatontown, Rumson, Sea Bright, Shrewsbury Township and Tinton Falls, and two military bases that depend upon the Two Rivers Water Reclamation Authority.

The treatment plant and collection system started operations in 1971. the facilities include 200 miles of sanitary sewer mains, 18 pump stations, and 9-meter chambers. There are 33 employees made up of plant, collections, maintenance, dewatering, laboratory, management and clerical staff.

Long Branch Sewerage Authority

The Long Branch Sewerage Authority is an activated sludge wastewater treatment facility with a permitted design flow of 5.4 million gallons per day of discharged treated wastewater effluent. The effluent is discharged into the Atlantic Ocean, which is designated as SC (Saline Coastal) Waters in New Jersey. Our New Jersey Permit Discharge Elimination System permit is consistently in compliance with all Federal, State, and Local regulations and guidelines.

South Monmouth Regional Sewerage Authority

In 1972 the federal Government passed the Federal Water Pollution Control Amendments; commonly known as the Clean Water Act. The CWA regulates the discharge of sanitary sewerage into rivers, lakes and the ocean. The bill was in response

to the pollution and health risks associated with the discharge of sewage into bodies of water. The Clean Water Act affected many coastal communities who owned and operated sewage treatment facilities along the Jersey shore. Several of these communities joined together to meet the newly initiated standards and created the South Monmouth Regional Sewerage Authority (SMRSA) in 1970. The SMRSA franchise area includes eight municipalities: the Boroughs of Belmar, Brielle, Lake Como, Manasquan, Sea Girt, Spring Lake, Spring Lake Heights, and the Township of Wall. SMRSA owns, operates and maintains eleven sewage pump stations and a sewage treatment plant. Ten of the pump stations pump into a common force main (trunk sewer) for conveyance to the treatment plant. The individual municipalities are responsible for their own collection systems and conveyance to the Authority's sewage pump stations.

Manasquan River Regional Sewerage Authority

The Manasquan River Regional Sewerage Authority (MRRSA) was created in May 1972 by parallel ordinances of its five member municipalities of Farmingdale Borough, Freehold Borough, Freehold Township, Howell Township and Wall Township. It serves a population of over 100,000 residences, including numerous commercial and industrial establishments in Monmouth County.

PLANNING PROCESS

The Project Team met virtually with representatives from municipal utility authorities in Monmouth County in January 2025. These representatives discussed recent hazards, such as heavy rainfall, flooding, earthquakes, droughts, COVID-19, and hurricanes. Key takeaways from the meeting include the following:

- The biggest threat to South Monmouth Regional Sewerage Authority is 2100 sea level rise projections. At this time, there are no mitigation projects the Authority wants to add to the plan but there is interest including projects that incorporate future conditions in the next plan update.
- The area around Two Rivers Water Reclamation Authority pump stations flood during heavy rain events and the treatment plant is at risk to coastal storms. The Authority installed flood barriers at the pump stations and treatment plant buildings to prevent damage and are evaluating other flood prone areas of the collection system. Sea level rise is also a concern given the location of the treatment plant on the Shrewsbury River. Power grid reliability at the treatment plant is also a concern.
- Drought conditions in 2024 lowered flows through the Western Monmouth Utilities Authority (WMUA) plant and raised infiltration and inflow (I&I) concerns. The pandemic had the biggest impact to the Authority; keeping staff healthy and the plant operational during the pandemic was a big challenge. Today, WMUA is more prepared to handle another pandemic event. Coastal storms are not a threat to the Authority.

MITIGATION STRATEGY

Special District's New Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 54-1	Collection System Manhole Flood Proofing	Installation of manhole dishes under covers to eliminate infiltration into the sanitary sewer in flood prone areas.	Flood, Hurricanes, Tropical Storms	High	Two Rivers Water Reclamation Authority	FEMA, NJSP	$120,000	Within 1 year.	New 2026	
Action 54-2	Collection System Siphon Chamber Flood Proofing	Replacement of existing siphon chamber covers with watertight versions at two locations (4 chambers total).	Flood, Storms, Hurricanes, Tropical Storms	High	Two Rivers Water Reclamation Authority	FEMA, NJSP	$400,000	Within 1 year	New 2026	
Action 54-3	Treatment Plant Physical Security Improvements	Implementation of certain recommendations from the NJOHSP Vulnerability Assessment Report	Cyber Security and Terrorism	High	Two Rivers Water Reclamation Authority	NJSP, DHS	$500,000	Within 1 year	New 2026	
Action 54-4	Treatment Plant Sea Level Rise Countermeasures	The treatment plant is bordered by tidal portions of the Shrewsbury River on three sides. While measures to flood proof the facility is implemented, sea level rise will require additional protection. This includes feasibility and engineering studies.	Sea Level Rise – Flood, Hurricanes, Tropical Storms	High	Two Rivers Water Reclamation Authority	FEMA, NJSP, NJIB	$250,000,000	5-10 years	New 2026	
Action 54-5	Matawan Force Main Rehabilitation	Project to rehabilitate approx. 800 LF of the Authority's existing 20 & 24-inch prestressed concrete cylinder pipe (PCCP) force main in two (2) critical areas (Gerard Avenue in Aberdeen & Clark Street in Hazlet). Options for rehabilitation and/or replacement would likely be Cured-in-Place lining (CIPP) or utilizing a horizontal directional drill (HDD). Both areas are adjacent to or pass underneath the Garden State Parkway R.O.W., local streams and	Earthquake, Flood	High (Priority #1 for BRSA)	Bayshore Regional Sewerage Authority	HMGP	Engineering: $225k, Construction: $2.5-3M	Design & Construction 2-2.5 years.	New 2026	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		stormwater catch basins. Failure to either section of the main would have major impacts to residents, the local waterways and traffic on the parkway and local roadways.								
Action 54-6	West Keansburg Force Main Replacement	Project to replace the Authority's existing 20-inch ductile iron (DIP) force main in its entirety (approx. 5,300 LF). This force main has had two small replacement projects (between 100 – 250 LF each) and we are currently working with a consultant to prepare a long-term rehab/replacement evaluation study. The force main passes underneath a large Lake, levee regulated by the USACE and NJDEP and is adjacent to JCP&L high voltage transmission lines. We are currently evaluating CIPP or HDD for the replacement and/or rehab. A failure could cause major impacts to the lake, intercoastal waterway and levee. The force main carries up to 2.5 MGD of wastewater and hauling of sewage would be required.	Earthquake, Flood	High (Priority #2 for BRSA)	Bayshore Regional Sewerage Authority	HMGP	Engineering: $350-400k, Construction: $4-5M.	Design & Construction 2.5-3.5 years.	New 2026	
Action 54-7	WWTP Energy Efficiency Study & Improvements	Project to evaluate and recommend energy efficiency improvements throughout the Authority's WWTP (wastewater treatment plant). Evaluation will include a detailed review of each aspect of the treatment process, review latest technologies for efficiency improvements to blowers, pumps, motors, incinerator heat exchangers, etc., and recommend capital project improvements to implement the recommendations. This project aligns and supports the New Jersey Energy Master Plan directive to	Power Failure	High (Priority #3 for BRSA)	Bayshore Regional Sewerage Authority	Funding Source has not been identified. TBD.	Engineering: $150k	Evaluation 1 year	New 2026	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		reduce/eliminate the carbon footprint,								
Action 54-8	Raritan Valley Pumping Station Emergency Generator & Floodproofing Project	Project is at BRSA's smallest pumping station and includes the addition of a Natural Gas Generator for emergency operations. The station currently has an aging diesel generator, is located at the bottom of a ravine in a residential area and is suspectable to flooding. The force main was recently replaced, and a bypass chamber was added for emergency pumping operations. This project would also include the dry flood proofing of the station with concrete flood walls, removable flood barriers, logs, gates, etc. Failure of the existing generator would cause back-up of the local sanitary sewer system and potential impacts to the local neighborhood, Garden State Parkway and elementary school in the surrounding area. The force main carries up to 1 MGD of wastewater and hauling of sewage would be required.	Power Failure, Flood	High (Priority #4 for BRSA)	Bayshore Regional Sewerage Authority	HMGP	Engineering: $100k, Construction: $500-750k.	Design & Construction 1-1.5 years	New 2026	
Action 54-9	WWTP SCADA Upgrade & Improvements	Project to upgrade/replace the existing SCADA (Supervisory Control & Data Acquisition) system for the treatment plant and remote sites. The existing software and equipment are more than 30 years old and are in need of replacement. The system allows the Authority to monitor/control remote processes associated with the treatment plant, metering and pumping stations to make Operational Changes are necessary. The SCADA system is essential in managing and	Infrastructure failure, cyber attack	High (Priority #5 for BRSA)	Bayshore Regional Sewerage Authority	Funding source has not been identified. TBD.	Engineering: $150k, Construction: $800k.	Design & Construction: 2 years	New 2026	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		maintain all of the Authority's critical infrastructure.								
Action 54-10	Matawan Force Main Replacement	As an alternate to Priority #1 - Project to replace the Authority's existing 20 & 24-inch prestressed concrete cylinder pipe (PCCP) force main in it's entirety (approx. 10,000 LF). The goal would be to replace the force main utilizing HDD. The old main would remain in service and be used as a back-up once the new main was installed. The new main would be drilled underneath the Garden State Parkway and multiple local waterways and lakes. Any failure to the force main would cause major impacts to residents, the local waterways and traffic on the parkway and local roadways. The force main carries up to 4 MGD of wastewater and hauling of sewage would be required.	Seismic, infrastructure failure	High (Priority #6 for BRSA)	Bayshore Regional Sewerage Authority	HMGP	Engineering: $500-600k, Construction: $7-10M	Design & Construction 3-4 years	New 2026	
Action 54-11	Manasquan River Regional Sewerage Authority (MRRSA) Lower Manasquan Floodwall and Flood Hardening	Perimeter Concrete Floodwall and Flood Hardening at the Lower Manasquan Pump Station. This facility is located just upstream of the Water Supply Authority's Water Treatment Plant along Manasquan River. The project will also include an internal stormwater pump station within the floodwall limits with improvements to internal drainage to prevent flooding from existing catch basins.	Flooding	High	Manasquan River Regional Sewerage Authority		$2,000,000	2 years	New 2026	Design: May 2025 - July 2025 Bid: August 2025 - October 2025 Construction: November 2025 - June 2026

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 54-12	MRRSA Lower Manasquan Pump Station Generator Replacement	Replacement of existing generator set at Lower Manasquan Pump Station, this will also include locating the genset on an elevated platform above flood limit and flood hazard elevation. This facility is located just upstream of the Water Supply Authority's Water Treatment Plant along Manasquan River.	Flooding, Flood Hardening, Natural Disasters, Loss of Utility Power	High	Manasquan River Regional Sewerage Authority		$2M	2 years	New 2026	Design: May 2025 - July 2025 Bid: August 2025 - October 2025 Construction: November 2025 - December 2026
Action 54-13	MRRSA Upper Manasquan Pump Station Generator Replacement & Electrical Improvements	Replacement of existing backup generator in a location outside of the flood limits and flood hazard areas. The project also involves replacing the aged Automatic Transfer Switch and relocating the existing transformer out of the flood limit and flood hazard areas, with additional lightning and surge protection. The work will also relocate overhead electrical service underground.	Flooding, Flood Hardening, Natural Disasters, Loss of Utility Power	High	Manasquan River Regional Sewerage Authority		$3,240,617	2 years	New 2026	Bid April 2025 - May 2025, Construction: June 2025 - July 2026
Action 54-14	LBSA – Willow Avenue Pump Station and Monmouth Place Pump Station Improvements – Elevate Generators and Pump Stations	Elevate pump station controls/generator and install submersible pumps, with all associated improvements, on the Willow Avenue Pump Station and Monmouth Place Pump Station. The subject pump stations are located in low points and have come close to flooding previously. These pump stations are critical infrastructure.	Flooding, Climate Change, Increased Frequency of Heavy Rainfall	High	Long Branch Sewerage Authority	Grant	$1,700,000	2 Years	New 2026	