


MIAMI BEACH

OFFICE OF THE CITY MANAGER

LTC # 171-2026

LETTER TO COMMISSION

TO: Honorable Mayor Steven Meiner and Members of the City Commission

FROM: Eric Carpenter, City Manager 

DATE: April 27, 2026

SUBJECT: **UPDATE ON THE IMPLEMENTATION OF "OPERATION CLEAN WATER" PROGRAM - #18**

The purpose of this Letter to Commission (LTC) is to provide the Mayor and City Commission with a summary of staff's efforts to date, as it relates to "Operation Clean Water," adopted on March 19, 2025, by Resolution No. 2025-33559.

At the July 10, 2025 meeting of the Land Use and Sustainability Committee (LUSC), City staff provided an update on the North Beach Water Quality and Park View Canal Report. The discussion concluded with a motion, directing the Administration to provide weekly updates on the "Operation Clean Water" efforts at the Park View Canal, with a focus on Biscayne Beach Elementary hotspots, associated lateral pipe-lining, above-ground cleanliness (alleyways, street sweeping, pressure washing), and homeless outreach. At the September 11, 2025 LUSC meeting, Committee members made a motion to move the item to the City Commission for discussion, with a favorable recommendation to: 1) Authorize an independent, third-party review of the Sanitary Sewer Pump Station 23; 2) Expand the monthly water quality study to authorize and fund weekly water testing in Park View Canal; 3) Expedite the comprehensive infrastructure study for North Beach; and to maintain Park View Canal as a standing item on the Committee's agenda for regular updates.

At the direction of the City Commission as part of Operation Clean Water, the City of Miami Beach entered into a formal agreement with the University of Miami (UM) in August of 2025 for the creation of an Ultraviolet Sanitization Pilot Project with the objective of evaluating whether street cleaning can reduce levels of enterococci entering the stormwater system. The pilot project aimed to clean the test area, 73rd Street (a documented street level enterococci "hot spot,") by increasing the frequency of mechanical street sweeping activities, remove visible debris and fecal deposits manually, and the use of ultra-violet (UV) light, an environmentally friendly technology that cleans without leaving a chemical residue, to disinfect street surfaces. The pilot project's cleaning and testing phases were completed on October 17, 2025. The final report was shared with the City on January 30, 2026, and reviewed for statistically significant results, recommendations, and next steps. Key findings in the report indicate enterococci levels are very high on untreated surfaces (streets and sidewalks); cleaning of these surfaces reduces fecal bacteria concentrations, particularly with repeated treatments. Street sweeping achieves a material, basin-scale reduction, and adding sidewalk sweeping extends the benefit, especially under tree canopy hotspots. The key purpose of the study, however, was to evaluate the effectiveness of UV technologies, and while the pilot project reveals the practice could be effective in theory or principle, there is significant engineering needed before the technology can be deployed in a meaningful way. There are critical real-world limitations like street/sidewalk roughness, UV lamp angle, and obstructions like signposts and benches which all lead to non-uniform exposure, and hence, variability and limited statistical significance in this short trial. Key study recommendations include the

continuation of aggressive industrial street sweeping, the enforcement of the street parking schedule in North Beach, instituting sidewalk cleanings (i.e. hotspot targeting to prioritize segments with heavy bird activity and low sunlight),) and exploring further development of UV technology for its potential widespread implementation at the city scale. The Report was transmitted to the City Commission through the Letter to Commission LTC# 081-2026, UPDATE ON THE IMPLEMENTATION OF "OPERATION CLEAN WATER" PROGRAM - #16, dated February 27, 2026. Dr. Solo-Gabriele is prepared to present on this item at an upcoming City Commission Committee meeting.

On August 8, 2025, the pipe-lining contractor, Vortex Infrastructure Services, LLC (Vortex), mobilized at Biscayne Beach Elementary and began cleaning lateral lines and performing closed-circuit television (CCTV) inspections through existing sewer system access points. The scope of work that was successfully performed by Vortex included the cleaning of 1,320 LF of pipe, the lining of approximately 1,100 LF of pipe, the installation and/or replacement of 12 cleanouts, the performance of 5 point-repairs due to collapsed pipes, rebar obstructions, or cleanout complications, and the plugging off of cleanout 1B (CO1B) in the School's courtyard. All work was coordinated with the Miami-Dade County School Board and Biscayne Beach Elementary representatives to occur at night and weekends to avoid disruption to school and kids. Work was completed by end of September of 2025.

On Saturday, October 4, 2025, a sewer force main break which resulted in sewage being released onto the school grounds and into the Tatum Waterway near Park View Canal, was reported by a stakeholder on the grounds of Biscayne Beach Elementary. Public Works Operations staff promptly responded to the site and successfully bypassed the flows, stopping the overflow. Repairs were performed, the pipe was placed back into service, and normal pumping operations resumed. Miami-Dade County Environmental Resources Management (DERM) and the Florida Department of Environmental Protection (FDEP) were notified the same day, in accordance with County and State Code and City reporting protocols. Once the work was completed, Public Works' Operations staff returned to the site to thoroughly clean and disinfect the area, including all affected stormwater systems, and restored the damaged sod and court. An Emergency Purchase Authorization has been signed for the performance of subaqueous horizontal directional drilling services from Hawthorne Avenue, under the Tatum Waterway, to the west end of 75th Street, to connect Pump Station #24 to Pump Station #23. A competitive bid process was conducted, and Amici Engineering Contractors was determined to be the lowest responsive, responsible bidder. A purchase order has been issued, and sixty percent design drawings are currently under internal review. The contractor has initiated the pre-application permit process with the respective local and State agencies, and the Public Works Department is scheduling a meeting with School Board representatives, including the School Board's Building Department in order to brief them on the emergency force main replacement project's scope, schedule, permit requirements, and Maintenance of Traffic (MOT) work. Contractor has ordered construction material and is currently finalizing City permitting to commence directional drilling work within the next 30 days. Work will take place in Hawthorne Avenue between 77 Street and 84 Street in phases to keep disruptions to the neighborhood to a minimum. Duration of work is anticipated to be three months.

Nanobubble technology was identified and reviewed by the Environment and Sustainability Department, Public Works Departments, and the City Manager's Office as a viable technology for use in the Park View Canal. The use of nanobubbles can greatly improve water quality in the canal by using special generators to create tiny bubbles (less than 200 nanometers in size) that stay suspended in water for a long period of time to help dissolve gases like oxygen, more effectively in water. This helps to accelerate various physical, chemical, and biological processes, and it can prevent the buildup of biofilm and scale in the water. These processes also help clean the water by promoting the breakdown of microbial contaminants, reducing harmful pathogens, algal growth, and bad odors, ultimately improving overall water quality. At the request of the City Commission and the subsequent Budget Hearing, staff were directed to explore an initial short-term project to test how the technology works within the Park View Canal setting and to evaluate the impact of

the technology, which requires design and permitting from environmental regulatory agencies. The Consultant Service Order for dredging was updated and expanded to include nanobubbles design and permitting. TYLin, the consultant, held the interdepartmental kickoff meeting on January 7, 2026, following receipt of the change order. Since the kick-off meeting, the consultant has conducted site visits to determine the best possible placement of the technology to avoid impacts to resources such as the mangroves surrounding the canal, prepared permit application materials including a water quality monitoring plan and technical specifications, developed engineer drawings, and held pre-application meetings with the regulatory agencies (including the Florida Department of Environmental Protection and the United States Army Corps of Engineers). The permit applications were submitted to the regulatory agencies on April 1, 2026. A six-month timeframe is anticipated for design and permitting, and TYLin additionally advised that the minimum short-term pilot project envisioned at this time is one-year. The upcoming construction phase, which includes customized equipment and activation, will require procurement and funding. Additionally, the design process is underway for dredging as a potential option to aid in the natural flushing of the waterway.

At the September 17, 2025 City Commission meeting, a motion was passed to move forward with and authorize funding for weekly water testing at up to five locations within Park View Canal. At the September 30, 2025 City Commission Budget Meeting, \$21,000 was approved and added to the Public Works' Stormwater budget for FY26 to fund the sampling effort. The Environment and Sustainability and Public Works Departments obtained a proposal and executed a purchase order for the Miami-Dade County sampling contractor, Eurofins Environment Testing, on November 14, 2025, and the weekly sampling began on Thursday, November 20, 2025. Eurofins Environment Testing is a certified laboratory utilized by the Miami-Dade County Surface Water Quality Monitoring Program for water quality sampling. The sampling map was developed by the Environment and Sustainability Department, drawing on known hotspot locations, publicly accessible shorelines, and input from Dr. Helena Solo-Gabriele, Associate Dean, University of Miami College of Engineering. There may be an opportunity to adjust sampling points at a later date to include sampling for additional areas and to collect unique data points. Sampling results (CMB Results) for enterococci since the previous LTC are attached as 'EXHIBIT – A', and the table also includes a column for Surfrider Foundation's Miami Chapter Blue Water Task Force (BWTF) results for water samples they collect at the Park View Canal kayak launch as requested by the City Commission.

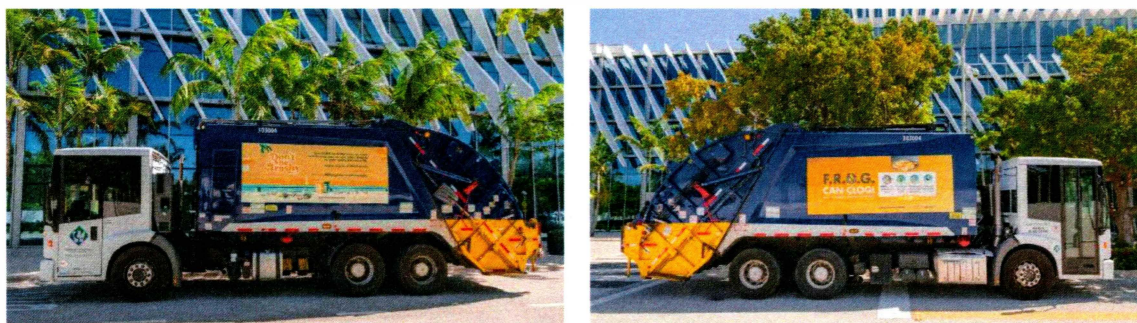
There are varying standards for enterococci in marine waters and they are dependent on factors such as the classification of a water body, flushing rates, and proposed use of the waterways (i.e. recreation type). The Florida Department of Health (FDOH) Healthy Beaches standard for enterococci is 70 MPN/100mL, the Florida Department of Environmental Protection (FDEP) standard for enterococci in Class III Waters is 130 MPN/100mL, and the United States Environmental Protection Agency (EPA) standard for enterococci for kayaking in calm waters is 371 MPN/100mL.

Initial results have demonstrated significant spikes in fecal bacteria levels within the canal after rain events, particularly during January, further reinforcing the results of the two UM reports on water quality within the canal being driven by stormwater carrying street-level pollutants into the gravity stormwater system. Dr. Solo-Gabriele is overseeing a project with her Spring 2026 semester undergraduate students, at no-cost to the City, to evaluate the most recent results from the weekly testing and identify trends in the data such as rain and tide. The final class presentation for this class project is expected in May 2026. The sampling map is as follows:



While monthly and weekly sampling results vary widely, an analysis of monthly sampling results between 2020 and 2025 highlights a 76% reduction in average enterococci concentration and a 59% reduction in the median enterococci concentration. The intensive Phase II University of Miami Park View Canal Water Quality demonstrated statistically significant improvements and has been previously presented in depth. Efforts remain strong to support the ability of the canal to reach FDOH Healthy Beaches standards.

DERM issued a Class II permit for seven Downstream Defender hydrodynamic separator/water quality structures on Friday August 1, 2025, allowing the City to move forward with the final design and the procurement process. Construction is scheduled to commence in the third quarter of 2026. On December 9, 2025, Governor DeSantis issued a press release to announce grant awards for Biscayne Bay Water Quality Improvement Grants. The City of Miami Beach was selected as a recipient of one of eight grants, in the amount of \$426,750 to account for the construction of the Downstream Defenders along Park View Canal. In the meanwhile, routine maintenance efforts for the existing stormwater structures from 72nd to 77th Streets, between Dickens Avenue and Collins Avenue remain ongoing. The Public Works and Communications Departments worked together on the design and copy of the “FROG can Clog” and “Don’t Grease the Streets” public outreach to decrease contamination to the Bay. Outreach campaign is an ongoing effort which consists of social media, email blasts, handing out flyers at restaurants, advertising on CMB Magazine and water and sewer bill. Additionally, as part of the outreach campaign, both designs were displayed on the side of three waste collection trucks. Below are photographs of two of them:



Stormwater drain markers were ordered and placed throughout Parkview Island and Parkview extended area (72nd Street – 76th Street) at stormwater inlets. Installation of the drain markers at approximately 100 locations was completed during the week of December 15, 2025. Below is a sample of the markers installed:



The Sanitation Division continues to provide mechanical and hand-sweeping crews in the Park View area three (3) times per week (Monday, Wednesday, and Friday). The Multihog machine operates on alternating days (Tuesday, Thursday, and Saturday), focusing on alleyways between 73rd and 76th Streets. Eleven (11) doggie-bag dispensers (which are refilled twice a week) were installed in the area. The litter collection service frequency in Crab Alley has increased from twice to three times per week.

The Homeless Outreach Services Team continues to visit the area. If individuals are found, support services are offered to assist them.

Code Compliance continues to conduct weekly walk-throughs and inspections to check for sanitation issues such as illegal dumping, overflowing dumpsters, and trash in the alleys in the North Beach watershed area. All observed violations result in the issuance of a citation for the creation of a health hazard/nuisance.

The Sanitary Pump Station #23 Assessment is being conducted by CHA, which is one of the City's prime consultants for Water and Sewer related work. The scope includes Data Collection, Field Investigations, Site Analysis, and Adjacent Infrastructure Analysis. On December 8, 2025, CHA and the Public Works Department inspected the mechanical room, wet well and control/electrical room of the Sewer Pump Station, the existing force main aerial crossings along 71st Street and Bay Drive Bridges, and discussed past rehabilitation efforts performed at the Sewer Pump Station and the surrounding areas.

CHA delivered the first draft of the Pump Station #23 Study and Adjacent Infrastructure Analysis on January 20, 2026, and the final draft on March 24, 2026. Public Works staff reviewed both reports and provided comments. CHA is currently addressing those comments and finalizing the report.

A separate North Beach Infrastructure Analysis will review the City's gravity sewer system, water system, and sewer force main system to see how Floor Area Ratio (FAR) increases, population growth, and new developments would impact the City's water and sewer system. This analysis was requested by Commission in February 2025 and a Notice-to-Proceed for the analysis was given to Hazen in February 2026. The North Beach Infrastructure Analysis had its kickoff meeting on February 24, 2026 with Hazen and Sawyer. Hazen has already submitted a data request to the Public Works Department for all of the data they need to complete the analysis, and the Public Works Department has been gathering and sending the requested data as it is being compiled.

For more information, contact Rodney Knowles, Assistant Public Works Director at RodneyKnowles@miamibeachfl.gov.

DM/JN/RK

EXHIBIT – A

Site Name	CMB Collection Date/Time	CMB Results MPN/100mL	BWTF Collection Date/Time	BWTF Results MPN/100mL
BBE Outfall	3/12/26 11:30 AM	1071		
75th Street End	3/12/26 11:25 AM	650		
Kayak Launch	3/12/26 11:16 AM	132	3/12/25 1:15 PM	<10
73rd Street	3/12/26 11:12 AM	63		
Bonita Drive	3/12/26 11:05 AM	98		
BBE Outfall	3/19/26 12:52 PM	512		
75th Street End	3/19/26 12:55 PM	693		
Kayak Launch	3/19/26 12:47 PM	886	3/19/26 12:30 PM	759
73rd Street	3/19/26 12:40 PM	1414		
Bonita Drive	3/19/26 12:30 PM	309		
BBE Outfall	3/26/2026 11:20 AM	1178		
75th Street End	3/26/2026 11:23 AM	1918		
Kayak Launch	3/26/2026 11:27 AM	288	3/26/2026 7:30 AM	86
73rd Street	3/26/2026 11:30 AM	173		
Bonita Drive	3/26/2026 11:37 AM	20		