Good morning, Chairman Constantinides and Members of the Committee. I am Angela Licata, Deputy Commissioner of Sustainability in the New York City Department of Environmental Protection (DEP). With me are Jim Mueller, P.E., Acting Deputy Commissioner of Engineering, Design and Construction, and Mikelle Adgate, Director of Stormwater Management Outreach, as well as other DEP staff. Thank you for the opportunity to testify on the current condition of and future plans for New York City’s wastewater infrastructure.

Protecting the waterways, the environment and public health of New York City are central to DEP’s mission. Today, water quality in New York Harbor is better than it has been in over 100 years. Crucial to bringing the Harbor to its current state has been over $12 billion in projects that DEP has completed since 2002. These projects include wastewater treatment plant upgrades, sewer separation and sewer system upgrades, combined sewer overflow abatement, green infrastructure, marshland restoration, nutrient removal from wastewater and hundreds of other projects.

In approximately 60 percent of the city, the sewers combine sanitary flow, created each time we turn on a tap, flush a toilet, or use a water-discharging appliance, with stormwater runoff that enters the sewers whenever it rains or snows. This system serves an essential role in protecting public health and the environment. During some rain events, while functioning as designed, the system can become overburdened. When this occurs, a mix of stormwater and untreated wastewater may discharge directly into surrounding waterbodies as combined sewer overflow (CSO) to protect the treatment processes at the wastewater treatment plants.

Between the 1970s and 2011, over $40 billion was invested to build two wastewater treatment plants and upgrade treatment processes in the other 12. These projects were critical for the growth and development of the City and reduced CSO volumes flowing into the Harbor by 82%. We see the benefits of these investments as the City’s residents reconnect with the waters, and marine life and oyster restoration projects once again begin to thrive in our surrounding waterways. Ideally, we would all like to reduce CSOs by 100%. However, we acknowledge that CSOs still present a challenge, especially for the smaller, man-made tributaries that have no natural currents or tidal flows. DEP, working under a 2012 consent order with the New York State Department of Environmental Conservation, is required to develop 11 Long Term Control Plans (LTCPs), which are comprehensive evaluations of long-term solutions to reduce CSO events, and to continue to improve the water quality in New York City’s waterbodies. Each LTCP is unique and built upon earlier investments and projects to develop approaches for each waterbody to achieve applicable New York State water quality standards. LTCPs are or will be
implemented using a hybrid green and grey infrastructure approach to address, measure, and mitigate the effects of combined sewer overflows.

Prior to the LTCP submittals DEP committed over $4.1 billion toward CSO control. This includes $2.6 billion in commitments toward grey infrastructure projects, and $1.5 billion toward green infrastructure (GI). Grey infrastructure projects include tanks, tunnels, sewer separation, weir modifications and floatable-litter control.

In 2017, DEC approved seven of our Long-Term Control Plans, and two plans are currently under review by the State. With these nine plans, DEP is prepared to spend an additional $4.4 billion over the next 25 years to continue to mitigate the impacts of combined sewer overflows. Total investments in CSO abatement are at least $8.5 billion. Two additional plans are under development for submittal in 2018 and the costs associated with those plans to mitigate CSO discharges has yet to be determined.

The nine submitted plans include a wide range of CSO mitigation projects including:

- Two storage tunnels, one for Flushing Bay and the other for Newtown Creek. Ranging in diameter from 18’ to 30’ these tunnels provide for both conveyance and storage of CSO, and the contents of the tunnels will be pumped back to the wastewater treatment plants after storm events. These projects require less permanent aboveground property than storage tanks and we minimize surface construction impacts through that method.

- Two sewer-system improvement projects, one for Bronx River and the other as a component of the Newtown Creek LTCP. In Newtown Creek we have proposed expanding the exiting Borden Avenue Pump Station to increase capture rates and direct more flow to the plant. For the Bronx River, sewer modifications will create additional capacity while reducing overflows into the River. Both of these projects leverage existing infrastructure in order to control costs and enhance capture rates.

- The LTCPs for Alley Creek, Flushing Creek, and Hutchinson River utilize disinfection of combined sewer overflow discharges with chlorine during the recreational season, and DEP will also construct dechlorination facilities to remove any excess chlorine residual. It is important to highlight that in Alley Creek and Flushing Creek, earlier investments in CSO storage tanks resulted in substantial reductions in CSO volumes, and leveraging these existing tanks as chlorine contact tanks enables the disinfection process to have adequate detention times to achieve bacterial kills; it also makes these alternatives extremely cost effective. Disinfecting CSOs will further reduce bacteria into all three waterbodies and will significantly improve water quality during the recreational season. Many municipalities across the country including cities in Vermont, Michigan, California and Washington disinfect combined sewer overflows using a combination of chlorination and dechlorination or in some cases just chlorination.

Based on our data and modeling, the LTCP projects identified thus far will bring key water quality indicators such as dissolved oxygen (which is important for ecological health), and fecal coliform (an indicator of sewage-related pollution) into compliance with existing State water
quality standards nearly 100% of the time during the recreational season. All nine waterbodies will be fishable/swimmable under existing standards for those time periods.

DEP’s $1.5 billion Green Infrastructure Program is one of the most ambitious green infrastructure programs in the country. DEP works with the Departments of Parks and Recreation, Transportation, and Design & Construction and the Economic Development Corporation to saturate priority watersheds with rain gardens in City-owned streets and sidewalks. As part of the program, DEP has also invested in green jobs, creating over 50 new maintenance positions and training staff to care for the rain gardens. DEP also conducts research and development and tracks the performance of GI to better understand how it works to reduce the urban heat island effect and improve air quality.

In addition, working with partner agencies, DEP has 54 sites where often-large green infrastructure projects are in construction or completed at parks, playgrounds, schools, and New York City Housing Authority complexes. DEP has hundreds of other sites that are in design or under consideration for construction with partner agencies. These partnerships with our sister agencies are critical: not only are we reducing impervious area and managing stormwater, we are contributing to important community amenities and programs such as the Parks Department’s Community Parks Initiative. DEP has also distributed over $15 million through its grant program to private property owners and is developing a new private incentive program to encourage green infrastructure on non-City owned property. Many remarkable projects have been completed thus far as part of the green infrastructure grant program, including the Brooklyn Navy Yard green roof and farm, Queens College common spaces, Bishop Loughlin High School green roof, and the New School green roof.

In addition to the work to reduce CSOs, DEP is also leading a multi-agency effort to develop a New York City Stormwater Management Program to control stormwater runoff in the 40% of the City that is served by separated sewers. In these areas, one pipe sends sanitary waste to the treatment plant for treatment while the other sends stormwater to a nearby waterway. As you can imagine, this stormwater can pick up many pollutants as it washes over industrial properties, streets and sidewalks, or construction sites. This program, known as MS4, combined with our LTCP efforts, reflects integrated watershed management that relies on highly scientific data collection and analysis, creative urban planning assessments, foundational engineering practices and principles from around the country, and innovative financing as we seek to leverage existing capital projects and programs while maintaining a state of good repair.

In summary, we have committed $4.1 billion, including green infrastructure, to reduce CSOs and are preparing to spend an additional $4.4 billion on the approved LTCPs on cost-effective projects that achieve significant water quality benefits. In an ideal world, with unlimited resources, and with consideration of the impact on the water rate and our ratepayers, we could consider investing even more ratepayer dollars to further reduce CSO discharges. However, it is important to note that our best estimates show that achieving 100% CSO control would cost nearly $30 billion yet still not achieve all of the applicable water quality standards due to a number of factors, including the nature of our urban tributaries. This would impose a substantial burden on our ratepayers with limited benefits and, as I will describe, would crowd out investing
in other projects to ensure that our current assets are properly maintained and to protect our critical water supply needs.

As we celebrate the 175th anniversary of the opening of the Croton Aqueduct, and supply over a billion gallons of water to nine million New Yorkers every day, it is not surprising that DEP oversees a capital-intensive process in one of the largest capital programs in the region. In April 2017, Mayor de Blasio announced DEP’s $18 billion capital plan for FY18-FY27, which represents a $3 billion increase over the 2015 Ten-Year Plan. The additional funding is primarily for service improvements, regulatory mandates, and sustainability.

For example, the costliest dependability projects in FY18-FY27 Ten-Year Plan are: the Kensico-Eastview Connection Tunnel at $1.2 billion; completion of City Tunnel Number 3’s Stage 2 in Brooklyn and Queens at $600 million; and the Catskill Aqueduct Repair and Rehabilitation at $155 million.

While DEP is making and planning considerable investments in important capital projects, including reducing CSOs, we also look to keep our rates as affordable as possible. Nevertheless, rates have risen, and, at the same time, household income has been stagnant for nearly 30 years! We need to keep in mind our ratepayers’ ability to fund our operations and investments without putting undue burden on them. This is especially challenging as regulations and mandated projects have increased, and federal assistance has declined to nearly zero.

Rates were relatively flat until 2000 when DEP was required to embark on a number of mandated projects, and the system needed critical state of good repair projects. Adjusted for inflation, rates have risen 160% since 1990; and rates nearly doubled between 2006 and 2016. Beyond stagnant incomes, other costs for DEP customers have risen, too. Housing, food, and healthcare have all risen faster than inflation. This is all a significant challenge to our customers. Currently, approximately 20% of households pay more than 4.5% of their income for water and sewer, and by 2030 this number could rise to more than 30% of households paying over 4.5% of household income on water and wastewater services.

The system maintains a four-year forecast of anticipated increases in water and sewer rates. The current forecast, which spans Fiscal Years 2019 through 2022, indicates an annual water and sewer rate increase of nearly 3.3%, totaling a 13.8% rate increase during this four-year period. This means that over the next four fiscal years, our rates are expected to grow faster than the Federal Reserve’s 2.0% annual inflation target, which would mean a cumulative increase of 8.2% over four years. The current rate forecast is based on the City’s four-year capital plan for DEP, released in April 2017. Additions to this capital plan, such as funds for an expanded set of CSO projects, would result in a higher forecast for future rate increases. In addition, since approximately 60% of system revenues are applied toward debt-related service, the level of future rate increases also depends on the cost to the system of issuing debt. Higher market rates of interest, or unfavorable changes to the federal income tax code, would also result in higher-than-forecast increases to water and sewer rates.

DEP looks to control costs and structure debt in a conservative manner that reduces the financial impact of significant investments, such as the $5 billion Newtown Creek Wastewater Treatment
Plant upgrades, on our ratepayers. As a result, DEP has been able to keep water and wastewater charges to a little over one cent per gallon, about average for U.S. cities. That said, legal mandates have real and significant impacts on ratepayers’ pocketbooks. Mandated projects can also compromise consistent investment in state of good repair and other important investments as we look to control costs. In fact, in FY 2017, mandates cost average homeowners $229 per year of their total water and wastewater bill.

As the nation’s largest water utility we work to be good stewards of the environment around us by maintaining and expanding the network of mains, sewer pipes and wastewater treatment plants that comprise the City’s sewer system, while remaining conscious of the rates our customers pay. Balancing the costs and benefits of each planned project is critical to our work and we are confident that we will continue to see significant improvements in all of the waters where New Yorkers live, work, learn, and play.

Again, thank you for this opportunity to testify. I will be glad to answer any questions.