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NYC Department of Environmental Protection

FY 2019 Preliminary Budget Hearing before the New York City Council
Committee on Environmental Protection and Subcommittee on Capital Budget
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Good morning Chair Constantinides and Chair Gibson. I am Vincent Sapienza, Commissioner of the New York City Department of Environmental Protection (DEP). With me today are Chief Financial Officer Joseph Murin and Deputy Commissioner of Public Affairs Michael DeLoach, as well as our senior leadership team.

Chair Constantinides, we look forward to continuing to work with you on our shared priorities for sustainability, resiliency, environmental justice, and protecting the environment for all New Yorkers. Chair Gibson, Congratulations on your new role! I know we will continue to work closely as we manage our financial resources and invest in critical infrastructure.

A special welcome to all of the new Council Members this year. We look forward to highlighting the good work of our agency and being responsive to your questions or concerns, as I believe we have with existing members. Thank you for the opportunity to testify today and I look forward to answering your questions.

DEP has overall responsibility for the City's water supply and sewer system, including providing drinking water to all New Yorkers, maintaining pressure to fire hydrants, managing storm water, and collecting and treating wastewater. In addition, DEP regulates air quality, hazardous waste, and critical quality of life issues, including noise. All of our water-related expenses—both operational and capital— are paid for with the money collected from the water and sewer rate charge billed to our 834,000 ratepayers. This water rate is authorized annually by the New York City Water Board.

As you know, Mayor de Blasio completely eliminated the rental payment five years sooner than originally projected. The full elimination of the rental payment will result in a total savings of 7% - or $1.1 billion - for our customers through FY 2020. In 2016, the City proposed, and the Water Board approved, a $183 credit to more than 664,000 homeowners that was subsequently challenged in court. We are happy to report that the Court has ultimately upheld the Board's authority to issue the credit. DEP posted the $183 credit to eligible accounts earlier this year. We are pleased to put this issue behind us and look forward to the standard process for rate setting, with the Board presenting its Fiscal 2019 water rate proposal in April followed by five borough public hearings starting in May.

I would also like to take a minute to highlight that our harbor is cleaner and healthier today than it has been in more than a century. Key indicators of water quality, including concentrations of bacteria and nitrogen continue to drop, while dissolved oxygen is on the rise. We are hearing more and more reports of whales, dolphins, and seals returning to our waterways and we are proud to see our hard work has been paying off!

And finally, I wanted to highlight an accomplishment from last session that will have a real impact for New Yorkers – reducing construction noise. Local Law 53, sponsored by CM Kallos, passed by the EP committee and signed by Mayor de Blasio, will reduce construction-related noise across the City – the #1 complaint for 311. As you know, the law authorizes DEP to take street-level sound measurements in the public right of way, 50 feet away from construction-related noise sources. Previously, DEP inspectors were limited to measuring noise levels from within the dwellings of residents who filed noise complaints. This new law establishes different enforceable sound levels for residential and commercial areas, as well as for street work. In the event that a construction-related noise complaint cannot be resolved, DEP can now issue limited stop-work orders for equipment that exceeds noise levels, while allowing the rest of construction to continue. It's a great piece of legislation and we appreciate the collaboration between the council and DEP.

FY19 Preliminary Four-Year Capital Plan

DEP's FY19 Preliminary Four-Year Capital Plan is approximately $11.2 billion for FY 19 - 22, as presented by Mayor de Blasio on February 1, 2018. This is an increase of $748 million, or 7.2 percent, over the FY 18 September Capital Improvement Plan of $10.4 billion. This funding will allow our nearly 6,000 employees to continue to expand upon our history of reliability and innovation.

I will now provide highlights of the fiscal 2019 – 2022 plan focusing on the drinking water supply, the sewer network, harbor water quality, and initiatives to promote the overall health of the New York City environment. I will also provide updates on performance metrics pertaining to the mission of our complex agency.

Drinking Water

The New York City water supply system provides approximately one billion gallons of safe drinking water daily to more than 8.5 million people. This includes residents of New York City, millions of tourists and commuters who visit the City throughout the year, and approximately one million people living in the counties of Westchester, Putnam, Orange, and Ulster. In all, the New York City water supply system provides nearly half the population of New York State with drinking water.

We work hard to deliver an exceptionally high quality of water - one that regularly wins national taste tests! DEP scientists collect water samples 365 days a year from our expansive reservoir system, the aqueducts that deliver the water to the city, and the roughly 1,000 sampling stations across the five boroughs. These water samples are delivered to one of DEP's four state-of-the-art laboratories where scientists analyze them more than 600,000 times annually. In addition, robotic monitoring buoys on the reservoirs provide an additional 1.2 million measurements that help us send the best water to the city at all times.

For FY19-22, the Administration is proposing to invest significantly in protecting the quality of our reservoirs and the integrity of our dams, providing for treatment where necessary, and maintaining and repairing the water main system conveying potable water to all New Yorkers.

We have budgeted a total of $1.2 billion for water supply contracts, including $30 million for closeout work at the Croton Filtration Plant, $185 million to continue our watershed protection programs, and $376 million to reconstruct dams in the watersheds

There is also $1.2 billion allocated for the replacement of in-City water mains, which includes $765 million for specific water-main work, $77 million to accelerate the replacement of underground water distribution infrastructure, $67 million for emergency contracts for water distribution, and $85 million to keep our water distribution assets in a state of good repair.
As cities around the country and world struggle to deliver safe drinking water due to drought, climate change, budget shortages and aging infrastructure; DEP is prioritizing the following projects and programs to guarantee the dependability and resiliency of the City's water supply system.

FAD

For decades, New York City has recognized that it is environmentally sound and cost effective to protect drinking water at its source. In December, the NYS Department of Health awarded DEP a new 10-year waiver to continue delivering unfiltered drinking water from our Catskill/Delaware water supply, called the Filtration Avoidance Determination or FAD. This agreement commits the City, working with our upstate partners, to investing $1 billion over the next decade towards programs that protect our drinking water. If the FAD had not been renewed, and the City was required to build a new filtration plant, it would have cost upwards of $10 billion to build and over $100 millions of dollars additionally each year to operate. These costs would have to be passed on to our ratepayers.

Maintaining the FAD is one our highest priorities, and the City's science-based approach to watershed protection has made our program a national and international model for water protection. To protect our water supply, DEP has preserved more than 150,000 acres of land, upgraded wastewater infrastructure throughout the watershed, worked with farmers to ensure their operations are both efficient and protective of water quality, and focused considerable attention on the natural infrastructure of our streams, wetlands, and forests. These programs are critical to our success and the capital plan includes $185 million to continue FAD related programs over the next four years.

Delaware Aqueduct Repair
I am pleased to report that work progresses on schedule, and on budget, for the $1 billion Delaware Aqueduct repair, which includes the construction of a 2.5 mile bypass tunnel that will be drilled 600 feet below the Hudson River from Newburgh to Wappinger. DEP began tunneling last September and expects to make the connection to the existing tunnel in 2022.

City Water Tunnel No. 3, Stage 2 - Brooklyn-Queens Leg
The plan includes $600 million to complete the Brooklyn-Queens leg of City Water Tunnel No. 3, which includes funding to construct two new shafts in Queens. In December 2017, DEP brought the Brooklyn-Queens leg of the tunnel to a state of activation readiness, meaning that in the unlikely event of a major failure of City Water Tunnel No. 1 or 2, DEP could deliver water through City Water Tunnel No. 3.

Kensico – Eastview Tunnel
DEP has allocated an additional $35 million for the Kensico-Eastview Connection Tunnel, bringing the total allocation to $808 million for this project. When completed, this project will provide additional redundancy to NYC's water delivery system.

Ashokan Reservoir/Olivebridge Dam/Dividing Weir Bridge
An additional $33 million was added in the Plan, for a total of $117 million, for upgrades to the Ashokan Reservoir, Olivebridge Dam, and Dividing Weir Bridge. Upgrades to these nearly 100-year-old assets will ensure continued compliance with New York State dam safety regulations as well the continued safety of the public traveling over the Dividing Weir Bridge.

Sewers

DEP is responsible for the maintenance of more than 7,000 miles of sewers throughout the City. Over the last several years, DEP has embraced a data-driven, proactive approach to operating and maintaining this sewer system. By using a range of digital tools and innovative practices, DEP developed targeted programs to provide a high level of service to our customers while focusing on investments that prioritize resources.

Over the past decade, these programs have significantly driven down confirmed sewer backups. Since 2013, we have also been more proactively cleaning sewers, rather than the previous practice of reactively cleaning them after a backup occurred. In 2017, more than 400 miles of sewers were proactively cleaned.

The leading cause of sewer backups continues to be the buildup of fat, oil, and grease. In 2017, this caused 70% of confirmed backups. Since 2015, DEP has engaged thousands of households, multi-family properties, religious organizations, civic associations, and educational institutions in communication on the proper disposal of used cooking oil and its harmful effects on the sewer infrastructure.

Credit for another successful sewer initiative goes to the City Council with passage of Local Law 48 of 2015. The law required DEP to inspect and clean as necessary all 148,000 street catch basins on a yearly basis, rather than on the prior 3-year cycle. The accelerated cycle proved beneficial both for debris removal and to more quickly address defects that required repair.

The plan for FY19 – 22 projects $2.6 billion of spending on sewers, which includes the build-out in Southeast Queens for $796 million. In addition, the Plan allocates:

- $916 million to replace sewers (storm, sanitary or combined), including the Mayor's initiative for accelerated replacement
- $1.6 billion to construct new sewers (of all types), of which $112 million is for high-level storm sewers, and
- $270 million to expand the bluebelt system in Staten Island

Southeast Queens

Southeast Queens experienced rapid residential and commercial growth from the 1920s through the 1960s, and many of the natural watercourses that previously drained the area were paved over by developers, exacerbating flooding. The low-lying topography of the area and the enlargement of Kennedy Airport significantly complicated the installation of large storm sewers, making planned work extremely costly. Major projects had been deferred until Mayor de Blasio authorized $1.5B over ten years for the Southeast Queens Flood Mitigation Plan. This has since increased to $1.9B.

Together with our partners at the Department of Design and Construction and the Department of Transportation, DEP has developed a four-pronged approach to improve conditions in the area:

- Construct quick fixes, such as storm sewer extensions, targeted full size sewers, and green infrastructure to bring near-term flooding relief.
- Build neighborhood sewer projects where there is existing available capacity in the sewer system.
- Create future capacity for further neighborhood sewer projects by investing in large trunk sewers.
- Evaluate opportunities to reduce groundwater flooding.

Together, these four approaches are starting to deliver both immediate and long lasting relief for many residents of Southeast Queens. As requested by the council, an easy-to-use map is now available on our website.

Wastewater Treatment

DEP manages an average of 1.3 billion gallons of wastewater each day through one of our 14 treatment facilities. In alignment with wastewater utilities across the country, DEP is embracing best practices to ensure a sustainable future that minimizes waste, maximizes resources, protects our ratepayers, improves the community, and embraces innovation.

Wastewater resource recovery is an essential element in delivering maximum environmental benefits at the least cost to society. DEP is working to promote our role in energy optimization, greenhouse gas reduction, carbon sequestration, and operational improvements to efficiently manage the expense budget while expanding environmental opportunities.

The Plan projects a $2.6 billion capital investment for the upgrade, reconstruction, or replacement of components of the wastewater treatment plants and pumping stations.
While DEP is a world-leader in water supply delivery and wastewater treatment, we are constantly looking for innovative ways to curb costs and enhance the environment of New York City. These efforts include commitments to Zero Waste and the Mayor's 80x50 initiatives.

Zero Waste

In 2017, our wastewater facilities generated 490,000 tons of biosolids, which are nutrient-rich organic materials that are generated during the wastewater treatment process. Last year,

approximately 74% of biosolids were landfilled, 15% were used as alternative daily landfill cover, and 11% were beneficially reused through mine-land reclamation and composting. Our goal of 'zero by 30' is to have non-landfill beneficial use of 100% of our biosolids by the year 2030, with year over year progress starting in 2019. To this end, we are in the process of awarding a 150-ton-per-day contract for beneficial use only, as well as developing short- and long-term master plans for beneficial end use.

As you may recall, DEP, in conjunction with Waste Management and National Grid is launching a pilot demonstration project at the Newtown Creek Wastewater Treatment Plant to accept food waste from the City's organics program. DEP began accepting food waste in 2016, and has ramped up to 80 tons per day of food waste today. In addition to supporting the city's Zero Waste initiative, this effort also increases digester gas production, a clean fuel. By the end of 2018, we expect that National Grid will complete construction of their biogas scrubbing system, which will allow excess digester gas to be delivered back into the natural gas system.

80 x 50

In support of the Mayor's commitment to reduce greenhouse gas emissions by 80% by 2050, DEP has launched a number of initiatives, which I will briefly describe:

- Digester Gas: On average, our wastewater facilities generate 3.6 billion cubic feet of digester gas per year, of which approximately 35% is used at the plants to power our boilers and engines, while the remaining gas is flared. Over the next three decades, DEP will phase out the flaring of gas by developing on-site uses (such as expanding our ability to use it as a substitute for fuel or electricity) and delivering our digester gas into the natural gas grid.
- Solar: By leveraging DCAS funding, DEP is currently conducting a solar photovoltaic and energy-storage feasibility study for the Wards Island plant, at which there are prime opportunities to install solar photovoltaic canopies over wastewater-treatment process tanks. In addition, DEP is also evaluating ground-mount and parking canopy solutions in the watershed.
- Energy Conservation Measures: Over the past 7 years, DEP has identified more than 400 energy conservation measures. As these facilities are upgraded, DEP is seeking opportunities to integrate energy conservation measures into its state-of-good-repair capital planning process.
- Cogeneration: Cogeneration uses methane produced during the wastewater treatment process to generate electricity and heat. In 2017, DEP began construction on a $267 million project at North River to replace the plant's existing diesel-powered systems with five new natural gas-fired and digester gas-fired cogeneration engines. This project will result in improved energy efficiency, power supply reliability, and air quality, while also maximizing the beneficial use of methane produced on-site.

Hunts Point Digesters

Included in the Plan is $220 million to upgrade the digesters at the Hunts Point Wastewater Treatment Plant, which will more effectively break down organic matter, reducing the amount of

residual solids that need to be trucked from the site through the neighborhood. More methane gas will also be produced, which will be used to offset purchased fuel.

Harbor Water Quality

Approximately 60% of the City is served by combined sewers, where stormwater runoff and sanitary waste are conveyed in a single pipe beneath each street to a wastewater treatment plant. The system was originally designed so that during moderate to heavy rain events, excess water gets released untreated into local waterways, which is referred to as combined sewer overflow or CSO.

When the LTCP process kicked off in 2012, DEP began engaging the public in the development of each plan. Over the years, we have listened to feedback on ways to improve our public engagement strategies. In response, we have worked to make our presentations and informational materials more user friendly, coordinated with local organizations on meeting dates and locations, held dozens of public meetings, and responded to public comments. Last November we announced that, going forward, the public will have an opportunity to review and comment on our proposed plans before they are submitted to the DEC.

Under the Long Term CSO Control Plans, DEP will be investing at least another $4.4B to make further CSO reductions over the next 25 years. The Plan includes $$1.5 billion for planned consent-order work related to the Long-Term Control Plans for combined sewer overflow. In 2017, NYS DEC approved seven of the City's plans, with two additional plans under review by the State. Two of these plans call for enormous CSO storage tunnels beneath Brooklyn and Queens to reduce further overflows into Flushing Bay and Newtown Creek. DEP is currently developing two more plans, one for Jamaica Bay, and another for the East River and Open Waters. Once the plans are identified, we will be able to estimate costs associated with such plans.

The approved LTCPs for Alley Creek, Flushing Creek, and the Hutchinson River include projects to disinfect CSOs using bleach, with the intent of significantly reducing pathogens during the recreational season. I recently met with several environmental groups and I acknowledge their concerns about residual chlorine entering water bodies where it could potentially have an effect on marine biota. It should be noted that these three projects will also include dechlorination systems to eliminate any residual chlorine compounds prior to release, and we will conduct extensive environmental reviews during the design phase before proceeding with construction.

The ultimate goal of eliminating CSOs is daunting, given the challenges of siting extremely-large infrastructure in a very dense city and the massive capital cost, which could exceed $30 billion for New York City. The LTCPs represent a significant next step, and one that won't break the backs of middle- and working-class homeowners who pay a water bill. DEP looks forward to continuing dialogue with the stakeholders, the City Council and with NYS DEC on this complex issue.

Green Infrastructure

In 2010, DEP launched a green infrastructure program in the combined sewer areas of the City to reduce CSOs. DEP has worked diligently to advance construction of green infrastructure in priority areas, which reduces the amount of stormwater runoff entering the wastewater system and adds multiple co-benefits for New Yorkers, such as decreased ponding, increased shade, and community greening. To date, DEP has constructed approximately 4,000 green infrastructure assets, the majority of which are located in the right of way.

From its outset, DEP committed $1.5 billion for the Green Infrastructure Program, of which over $468 million has been encumbered to date and another $990 million has been budgeted through fiscal year 2027. This funding will be used to continue to build the right-of-way rain gardens, as well as green infrastructure retrofits on City-owned property through partnerships with the New York City Housing Authority and the Departments of Education and Parks & Recreation. These partnerships allow us leverage funding and support other City-initiatives such as DPR's Community Parks initiative. We have added $50M to that program ensuring that these parks are managing stormwater runoff and contributing to healthier waterways. To date, DEP has completed 48 public retrofit projects with our partners, and 200 are currently in design.

Gowanus Canal

The Gowanus Canal project is a major priority for DEP. The EPA has required the City to limit CSOs into the canal by constructing two underground tanks and associated infrastructure to intercept and store CSOs during wet weather events. We are in the final step of our ULURP application with the Council hearing just this past Monday. We have been pleased that stakeholders seem to approve of our approach with the Community Board, Borough President, and CPC all supporting our application with conditions. We are hopeful to acquire the properties without eminent domain, but will still meet our milestones even if that is not the case. It is important to meet schedule milestones on this project, as if we do not stay on schedule, the EPA could have us move the project to the adjacent park and pool. We share the community's opposition to that alternative.

Preliminary FY 2019 Expense Budget

The projected Expense Budget for the current fiscal year, FY18, is $1.3 billion, including approximately $80.2 million in Community Development Block Grant funds for the "Build it Back" program, for which DEP serves as the contracting entity for the City. Therefore, backing out Build it Back, DEP's FY19 Preliminary Expense Budget is $1.2 billion.

The Preliminary FY 19 Expense Budget breaks down into the following large categories:

- $543.8 million (41.6%), in personal services to pay the salaries for our nearly 6,000 funded positions
- $763.8 million (58.4%), for other than personal service costs (OTPS), which includes:
    - Taxes on upstate watershed lands, which account for $167.2 million or nearly 12.8% of the expense budget. As you know, the ownership of watershed lands represents a critical investment in maintaining the high quality of the City's

drinking water by protecting it at the source and ensuring that it does not require more expensive treatment, such as filtration. I am pleased to report that we have successfully negotiated agreements with upstate jurisdictions to make our tax obligations more stable and predictable.

- DEP's energy costs, including heat, light, and power, account for $92.8 million or 7.1% of the FY19 Expense Budget. DEP is the third-largest municipal consumer of electric power in New York City after the Department of Education and NYC Health + Hospitals, and our consumption will grow as we bring online new treatment processes for wastewater. To control energy costs and meet Mayor de Blasio's major commitment to reduce greenhouse gas emissions, DEP is investing in projects to reduce energy needs, including the cogeneration plant at the North River Wastewater Treatment Plant that I mentioned earlier.
- The chemicals that are necessary for both our drinking water supply and wastewater treatment are estimated to cost $49.0 million in FY19 or about 3.7% of the Expense Budget. For drinking water, DEP continues to add chlorine and fluoride to Cat/Del water in order to meet federal, state and city treatment requirements. Also for drinking water, the treatment processes at the new Croton Water Filtration Plant require chemical additions. Our wastewater plants rely on the addition of polymers, sodium hydroxide, glycerol, and ferric chloride and other chemicals to improve removal rates, and continue to disinfect their effluent with chlorine compounds as we have done since the 1930s.
- Sludge management of 1,200-1,300 tons per day is projected to cost about $56.4 million in FY19, or about 4.3% of the Expense Budget. As mentioned earlier, we will continue to identify ways to reduce these costs by finding a more beneficial use.

Cost Savings Initiatives

DEP has also taken a hard look at our processes to identify where we can reduce costs without sacrificing quality or reliability. One example of this is on the chemical Glycerol, which DEP uses to meet strict regulatory requirements to remove nitrogen from wastewater. In 2017, DEP spent almost $8 million for glycerol. In an effort to reduce costs, DEP rebid the glycerol contracts with improved contract terms and achieved a price reduction of approximately 55% per pound of glycerol (about $4 million in savings overall). We are anticipating several million in savings in 2018.

In addition, through the ingenuity of our workforce, DEP attained $3.4M in savings last year through operational changes to process air systems, overhauling tanks in-house, and other creative initiatives. We look to expand on best practices and increase these savings in the future.

On behalf of the almost 6,000 employees at DEP across the city and upstate, I want to again express our appreciation to Chairman Constantinides for his strong leadership, and express our continued commitment to collaborating with all of our council partners to continue delivering on our agency's mission.

I thank you for the opportunity to present testimony today and look forward to answering any questions you may have.