

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

1) LEGAL

Comment 1.1: The UAA process should not result in a reduction in water quality standards.

Response 1.1: The comment is not consistent with EPA Clean Water Act regulations or the 1994 EPA CSO Control Policy or EPA CSO Guidance. A designated use may be removed where appropriate, as demonstrated in a Use Attainability Analysis (UAA), based on one or more of the six factors set forth in 40 CFR 131.10(g). The 1994 CSO Control Policy specifically recognizes that water quality standards may be revised where appropriate.

The Proposed Order does not pre-determine any particular result if a UAA is conducted in the future. In addition, any UAA process would have a robust targeted public process to identify the “highest attainable” use of a waterbody and if a reduction in water quality standards or a current designated use restriction were proposed, such a comment could be offered at that time; however, such considerations are premature at this time.

As stated in the public meeting on November 9, 2011, DEC and DEP envision that many areas of the New York Harbor will support a higher level of designated use than current classifications and standards support. The UAA is a scientific process to be developed with the Long term Control Plans needed for DEC to complete these determinations.

Comment 1.2: The public will not be afforded as great an opportunity to participate in enforcement of the Proposed Order unless the requirements under the Proposed Order are included in the SPDES Permit. Several of these commenters are concerned that the Proposed Order can be renegotiated by DEC and DEP without public participation.

The 2005 Order contains sections called “Public Notice Section” and “Modification” but the Proposed Order does not. Clarify that the Proposed Order only modifies parts of the 2005 Order and the rest of the 2005 Order remains in effect.

Response 1.2: The EPA CSO Control Policy specifically provides for CSO control programs to be set forth in a consent order. The issue of the language in DEP’s SPDES permits has already been litigated, and the Proposed Order is consistent with the outcome of that litigation. The Proposed Order only modifies portions of the 2005 Order, and the portions that were not modified remain in effect. See Paragraph VII.B of the Proposed Order.

Future modifications to the Order would be publicly noticed for comment consistent with the provisions the 2005 Order, which go beyond what is

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

legally required for the issuance of administrative Orders. DEC and DEP will continue to request public comment on modifications to this consent order when appropriate and will seek public input throughout the LTCP process in accordance with USEPA CSO policy.

Comment 1.3: The Proposed Order will be finalized before remaining WWFPs are finalized or released for public review.

Response 1.3: A public consultation process will be conducted for the remaining waterbody/watershed facility plans (WWFPs) prior to their approval. There are five WWFPs that should be approved in the near future: Newtown Creek, Westchester Creek, Flushing Creek, Flushing Bay, and Jamaica Bay/Tributaries and there will be an extensive public outreach program for these WWFPs in which the public will have an opportunity to comment on each WWFP. The first four WWFPs listed herein are currently available at: www.hydroqual.com/projects/ltcp/wbws and the Jamaica Bay/Tributaries WWFP is under review by the DEC and should be available in early 2012.

Comment 1.4: UAAs may be submitted during development of LTCPs; this is contrary to DEC policy that UAAs are only to be performed and submitted after implementation and post construction monitoring of LTCPs. Note: This comment is based on statements made in a DEC letter dated October 9, 2008 on the Flushing Bay WWFP.

Response 1.4: The reference to completion of a Use Attainability Analysis (UAA) after implementation and post-construction monitoring of Long-Term Control Plans (LTCPs) pertained to the Flushing Bay WWFP at a time when construction was nearing completion of a major gray infrastructure project. At that time, DEC and DEP agreed that the inclusion of post construction monitoring data would benefit any determination of future use of that particular waterbody, but this requirement was not intended to serve as a general policy for completion of all UAA for all waterbodies. As the LTCP process and timing has evolved and significant progress on grey projects has been achieved the DEC and DEP have agreed through this modification that the appropriate vehicle for submitting the UAA is the LTCP. This approach is set forth in the Clean Water Act and EPA LTCP guidance. The UAA will determine the highest attainable use of a waterbody. The LTCP and UAA will be supported by a robust public process, as required by EPA. As stated in the public meeting on November 9, 2011, DEC and DEP envision that many areas of the New York Harbor will support a higher level of designated use than current classifications and standards support. The UAA is a scientific process needed for DEC to complete these determinations.

Comment 1.5: Explain flexibility allowed for 'best efforts' requirements.

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

- Response 1.5: DEC will track compliance thru monitoring of water quality, and compliance with the requirements of the Proposed Order. The 2005 Order requires the City to fund up to four environmental monitors who will be used to inspect the City's progress under the Proposed Order and ensure best efforts are being applied. In addition, the Order requires quarterly progress meetings and reports, pursuant to which DEC can review the City's performance. "Best Efforts" is a common requirement in Orders where temporary relief from requirements is granted, and DEC staff are very familiar with this process and the systems operated by the City. The Proposed Order contains an adaptive management approach that recognizes market variables and changes in technology. The list of examples included in the definition of "best efforts" in footnote three of the Proposed Order is not meant to be all inclusive, in order to allow DEC to consider other options, technological improvements, or potentially relevant considerations which may arise in the future. In addition, as noted below, the Order requires a contingency plan in the event the Proposed Order requirements are not met. The references to expected rates of development and redevelopment, available land, and expected costs in the footnote are based on the conceptual analysis included in the NYC Green Infrastructure Plan, released in September 2010.
- Comment 1.6: DEC should grant a request for an adjudicatory hearing on the Proposed Order.
- Response 1.6: 6 NYCRR Part 624 applies to permit hearings, not orders on consent. Even if an adjudicatory hearing were available for consent orders, the commenters have not met the standard for obtaining an adjudicatory hearing. None of the comments submitted raise substantive and significant issues. Many of the comments only raise questions about how the Proposed Order will be implemented or interpreted in the future. DEC has determined that none of the comments warrant modification of the terms of the Proposed Order, assuming that Part 624 were even applicable here which it is not. Therefore, no changes to the terms of the proposed Order are necessary in accordance with paragraph XVI.C.
- Comment 1.7 LTCPs should be reviewed every permit cycle.
- Response 1.7: There is no legal requirement under the CSO Control Policy to review LTCPs every permit cycle. However, DEC does intend to periodically reassess the LTCP progress toward achieving water quality goals. Given that the proposed green infrastructure elements of a LTCP require an adaptive management approach of build and measure, the periodic reassessment will allow for adjustments to the program and for consideration of new information, or technologies where needed and appropriate.

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

Comment 1.8 Confirm that the Proposed Order modifies, rather than supersedes, the 2005 Order.

Response 1.8: The Proposed Order modifies specified provisions of the 2005 Order, and does not supersede the 2005 Order. See Paragraph VII.B of the Proposed Order.

Comment 1.9: Provide copies of force majeure letters and mod requests.

Response 1.9: This material was previously provided to the requestor on November 18, 2011.

2) GI INSTITUTIONAL MEASURES

Comment 2.1: A number of commenters pointed out that over half of NYC's impervious areas are privately owned, and suggested that the City needs to strengthen regulatory requirements and incentive programs in order to achieve meaningful runoff reduction.

One commenter stated that "The GI grant program and the new performance standards are not enough to reach the proposed 10% goal" and suggested that the City develop more effective incentive programs such as higher tax credits for green roofs.

Another commenter stated that the Proposed Order should include the establishment of incentives as a goal, and ways to pass the cost of stormwater treatment on to property owners.

Response 2.1: Participation of the private sector will be critical for the successful implementation of green infrastructure within New York City. To foster private sector involvement, the DEP established the Green Infrastructure Grant Program in 2011, and awarded \$3.8 million dollars to 15 grantees for green infrastructure projects on private property or within the sidewalk abutting private property. In 2012, DEP will continue the grant program and award up to \$4 million dollars for similar projects.

As outlined in the Proposed Order, DEP plans to continue the grant program and supplement the funding with an additional \$1 million in EBP funds each year for the next three years to support the grant. Eligible projects on private property include green roofs, blue roofs, porous paving, rain gardens, and rainwater collection systems for example. The current city tax abatement program, which was established to provide a financial incentive to homeowners and business owners to install green roofs, is set to expire in 2013 and will be reevaluated at that time.

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

Comment 2.2: A number of commenters called for the securing of long-term funding for GI, to ensure its continued development through future administrations. It was also noted by at least one commenter that such funding would be needed for post-construction monitoring of GI projects, which is essential.

Response 2.2: Public sector involvement is also critical to the successful implementation of green infrastructure within the New York City. DEP has allocated \$187 million dollars in capital funding through Fiscal Year 2015 and has a budget projection of \$735 million over the next ten years for green infrastructure projects. As the 10-Year Capital Plan is revised and approved every two years, DEP will continue to ensure that the green infrastructure and larger CSO program is adequately funded to meet the milestones set out in the Proposed Order.

The long-term monitoring of green infrastructure is a priority for DEP to continue to refine and improve the designs and performance of individual green infrastructure installations and area-wide applications. The monitoring will inform the capital program as well as the LTCP process. See Response 3.1 below for further information on monitoring.

Comment 2.3: GI must be sustained through current and future mayoral administrations by creating an office that includes increased in-house expertise, continual funding, change codes and ordinances. Some commenters called for the Proposed Order to set forth specific requirements related to the expansion of the DEP Office of GI (OGI). A few commenters also called for the Proposed Order to specify the assignment of responsibilities among the various City agencies that will be involved in carrying out GI, citing a recent Philadelphia order.

Response 2.3: The Proposed Order contains enforceable milestones for application of Green Infrastructure citywide through 2030. OGI will work to ensure that adequate resources are devoted to meet these milestones. To that end, DEP has convened a GI Task Force with approximately fifteen city agencies, specifically those with property holdings and capital budgets to ensure a continuous coordination process. DEP also has established standing weekly meetings with Department of Transportation (DOT), Department of Design and Construction (DDC), and Department of Parks and Recreation (DPR) to review designs and discuss upcoming projects within the right of way such as bioswales and stormwater greenstreets. See Responses 3.2 and 3.5 below under GI Planning and Implementation for detailed information about the development of the proposed stormwater performance standard.

Comment 2.4: Other specific institutional measures were suggested by several commenters including requirements for an adaptive management plan, operation and maintenance plan and related maintenance manual, and GI data tracking

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

system.

Response 2.4: The OGI develops operations and maintenance protocols through the inter-agency Green Infrastructure Task Force. For example, DEP recently signed a Maintenance MOU with the DPR and DOT to outline maintenance requirements for green infrastructure in the right of way. We will work with the School Construction Authority (SCA) and the New York City Housing Authority (NYCHA) to ensure necessary operations and maintenance for green infrastructure onsite. Institutionalizing adaptive management is a key tenet of the NYC Green Infrastructure Plan and DEP will continue to analyze monitoring data to determine the performance of green infrastructure technologies in different storms and land uses. That data will inform future design standards and specifications and their application.

Green infrastructure that is planned and built will be tracked through the Green Infrastructure Webmap, a collaborative effort between DEP and the Division of Information Technology and Telecommunications (DOITT). Data will be inputted into fields that track multiple facets of each technology including: location, type, storage volume, monitoring data assessments, costs, soil classifications and stormwater release rates. Data for the Phase I Webmap is currently online and Phase II will allow for real-time online data entry in 2012.

Comment 2.5 How does the Order ensure GI is maintained?

Response 2.5 The Proposed Order requires that the City submit approvable Long-Term Control Plans. Per Paragraph II.C.6 of the EPA Combined Sewer Overflow (CSO) Control Policy (1994), an LTCP must include an Operational Plan which consists of a revised operations and maintenance program developed as part of the nine minimum controls to include agreed-upon long-term CSO controls. The revised operation and maintenance program should maximize removal of pollutants during and after each precipitation event. Green infrastructure that is considered to be CSO Controls will need to be included in the revised operations and maintenance program.

3) GI PLANNING AND IMPLEMENTATION

Comment 3.1: GI must be monitored extensively and accurately in order to carry out the GIP successfully. Such monitoring should be standardized to enable comparison of projects. One commenter asked if flow monitors will be installed, to measure CSO reductions.

Response 3.1: DEP and DEC developed standardized methodologies for monitoring green infrastructure as part of environmental benefit project (EBP) pilot installations. These methodologies have been duplicated across all DEP

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

pilots and have also been shared with other agencies and groups interested in monitoring green infrastructure. This past spring, DEP installed a variety of monitoring devices--pressure transducers to monitor flow into the system, devices to measure flow rates inside the inflow/outflow pipes, and piezometers to monitor water level--at a number of already constructed pilot sites including 10 tree pits and bioswales in the Jamaica Bay watershed, mini-wetland and bioretention at a Metropolitan Transportation Agency (MTA) parking lot, various installations at NYCHA's Bronx River Houses, and blue/green roof comparison at PS118. In order to measure local precipitation, DEP mounted a rain gauge at each site. Data loggers continuously record information from the various monitoring devices and store data for up to 30 days. After a full spring and summer of monitoring, DEP and its consultant team are beginning to review results and preliminary findings will be presented in the NYC Green Infrastructure Plan 2011 Update to be released shortly.

For the three green infrastructure demonstration areas identified in the Proposed Order, pre- and post-construction monitoring activities will consist of recording flow and depth within the main outlet sewer from each of the three full scale pilot areas through the use of remote equipment. Data acquisition will be continuous with measurements recorded at 15 minute intervals. Equipment was installed in October 2011 for continuous monitoring and calibration of the equipment will be ongoing, as needed, to improve measurements based on the review of ongoing data collected.

Flow/depth remote monitoring equipment will be in place for a period of approximately nine months until construction of green infrastructure in the right-of-way starts. Equipment will be re-installed at the same locations after construction of the right-of-way green infrastructure is completed. Monitoring data acquisition will last for a period of up to nine months after the completion of construction of the onsite green infrastructure projects.

In total, DEP anticipates collection of at least 18 months of flow and depth monitoring data at each location. All flow and depth monitoring data will be compared to rainfall data as measured with rain gauges located within the demonstration areas for the same period. DEP may also install a limited number of onsite monitoring devices such as flow monitors, piezometers, and/or other devices to provide additional information relative to right-of-way and onsite practices. Site scale monitoring needs will continue to be identified during the design phase of the work.

Comment 3.2: A number of commenters stated that retention should be prioritized over detention because water quality benefits increase according to the amount of stormwater kept out of the system. Furthermore, if vegetated retention

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

structures are used, there are greater ecological benefits.

Response 3.2: For purposes of reducing CSOs, both retention and detention are viable alternatives and a combination of both techniques is appropriate for the city, as has been demonstrated by the City's ongoing efforts to install right-of-way bioswales, rain gardens, and green roofs to infiltrate and evapotranspire water in combined sewer system areas throughout the city. The Proposed Order does not dictate a preference for any particular CSO control technique, only that the CSO controls selected result in water quality improvements.

DEP also believes that detention source controls function similar to green infrastructure practices, as defined in the NYC Green Infrastructure Plan. Detention slows runoff from impervious surfaces and, as a result, "moderates or reverses the effects of development."

The intent of the Proposed Stormwater Rule (Proposed Rule) which has been subject to a separate public and comment period, is to more stringently control the flow of stormwater runoff - compared to current conditions - on development lots before it enters the combined sewer system while at the same time protecting the sewer system from uncontrolled or pressurized flow. Reducing peak runoff rates, rather than volumes, is an excellent strategy for decreasing flow in the combined sewer system during storm events. The lag time that is created by detaining water at the source, allows more combined sewer system flow to be conveyed to wastewater treatment plants for treatment before discharging to receiving waterbodies.

Comment 3.3: The Proposed Order does not include specific predictions of reductions from GI. Another commenter asked if GI can be explained in terms of gallons per year.

Response 3.3: Conceptual projected CSO volume reductions presented in NYC's Green Infrastructure Plan served as the basis for the hybrid green and gray infrastructure approach in the Proposed Order. The Proposed Order requires the development of specific reductions and performance metrics in order to refine the projected CSO volume reductions to be achieved with green infrastructure. The Proposed Order establishes a city-wide volumetric reduction goal of managing stormwater from 10 percent of impervious surfaces in combined sewer areas but provides the flexibility to establish watershed-specific targets. Thus, the CSO volume reductions are likely to vary across watersheds. For purposes of tracking the CSO volume reductions, the Proposed Order establishes 2010 as the baseline year.

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

Refined projections will be developed based on modeling and monitoring data compiled from green infrastructure pilots and demonstration projects. In addition, refined projections will identify right-of-way and city-owned properties targeted for infiltration practices compared to public and private development lots projected to comply with the Proposed Rule and implement detention practices. The proposed split between infiltration and detention practices will be developed to refine GI modeling and account for GI applications resulting from the proposed rule as well as city-funded applications in the right-of-way and on development lots. As additional details about green infrastructure projections are developed, metrics will be presented as acres managed, total annual CSO volume reductions and gallon per square foot of managed impervious surface per year, and as part of the LTCP Public Participation Plan.

Comment 3.4: The goal of diverting 10% of stormwater is too low and the GI Plan should be more ambitious. Explain how the 10% diversion will be achieved, and whether appropriate cost-benefits analyses are being developed.

Response 3.4: The 10% goal was developed as part of the *NYC2010 Green Infrastructure Plan*, which also noted that refined projections and related targets would be developed following the Plan and for the development of LTCPs based on water quality modeling. Future cost-benefit and opportunity analyses and, ultimately, projected or actual water quality improvements may identify specific waterbodies where differing GI application rates would be needed. The city's goal related to managing 10% of impervious surfaces in combined sewer areas citywide was developed to balance investments in green and grey infrastructure including \$1.7 billion of additional grey infrastructure that is currently proposed and serves as the starting point for evaluating projected water quality conditions. Thus, NYC's approach is based on a hybrid green-gray infrastructure approach. Other cities proposing GI only, started with higher percentages of GI and then back-track application rates based on "affordability." Continual tracking of GI applications and post-construction monitoring are key components of many cities' CSO planning and improvement programs, similar to the proposed program for NYC.

Comment 3.5: Although the GI Plan recognizes that retention is a more effective CSO control strategy than detention, several commenters are concerned that the language of the Proposed Rule, will prompt developers to use detention or gray techniques. These commenters perceive that the Proposed Rule (i) emphasizes detention and (ii) is unclear about the credit that may be given for various GI structures toward compliance with the Performance Standard under the Proposed Rule.

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

At least one commenter further added that the Proposed Rule should encourage the harvesting of rainwater, which should be used wherever possible, where potable water is not needed.

It was also suggested that more credit be given for the implementation of green roofs, rain gardens, vegetated swales, permeable pavers, and other green surface features

Response 3.5: As noted above, the Proposed Rule is subject to a separate public notice and comment process independent of the Proposed Order.

DEP will track and report on the acreage managed under the Proposed Rule in the annual report required to be submitted under Paragraph IV.C.2 of the Proposed Order. The annual report will also report on challenges implementing the Rule and potential amendments to the rule moving forward.

As part of the evaluation of alternatives in LTCPs, DEP will also evaluate how well the stormwater controls are working in combined sewer areas as part of an overall review of the Proposed Rule.

Comment 3.6: Reconcile the milestones for development of GI performance metrics and completion of LTCPs which require metrics.

Response 3.6: The development of GI performance metrics is likely to be an evolving process based on the most up-to-date information available. The Proposed Order requires that a report on final metrics in the GI Performance metrics will be submitted by June 2016. In order to maintain the previously committed to Citywide LTCP Milestone of December 2017, certain LTCPs needed to be submitted prior to the June 2016 GI metric report milestone.

When preparing the Citywide LTCP due in 2017, DEP will consider an assessment of performance metrics in its evaluation of alternatives. Adjustments to waterbody-specific LTCPs submitted prior to the 2016 milestone will be considered in the Citywide LTCP based on the performance of GI demos and the performance metrics submitted in 2016. When DEC reviews the 2017 Citywide LTCP, DEC will consider whether DEP's assessment of performance metrics and DEP's consideration of adjustments to waterbody-specific LTCPs was appropriate. This schedule allows DEP and DEC to begin developing LTCP strategies as opposed to waiting for monitoring data and analyses as multiple years and rain events are needed to calibrate and refine monitoring equipment once installed, conduct both pre- and post-construction monitoring, and compile data for a significant number of rain events in order to explain patterns, trends, outliers and anomalies.

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

Comment 3.7: Include environmental education as component of GI implementation. Public outreach or education should be enhanced, to educate the public as to its contribution/role in CSO events and as a component of the GI program. Related comments include the following:

- The Proposed Order should be revised to direct funding accordingly.
- As part of the GI strategies included in the Plan, provide support for K-12 environmental education and programs for youth participation in such projects as maintaining tree pits, constructing of rainwater harvesting systems in schools and parks, and planting and enhancing gardens.

Response 3.7: Public education and outreach are key components of DEP's CSO and GI programs. OGI staff regularly present to local community boards, council members, and community organizations to educate stakeholders about the environmental benefits of stormwater management and green infrastructure implementation in New York City. OGI is currently developing an online education module with the Education and Outreach staff at DEP to equip educators to teach students about green infrastructure. OGI recently partnered with MillionTreesNYC to launch an "Adopt a Bioswale" program to educate communities about environmental stewardship. OGI is also working with New York ReLeaf to host a green infrastructure educational workshop in the Spring 2012. OGI also offers resources to other green infrastructure education programs such as the Pratt Institute's "Green Systems Clean Water" Continuing and Professional Studies Certificate. See also responses under "Public Participation" for additional information about related strategies for enhancing public information and participation.

Comment 3.8: The City should implement GI in separate storm sewer areas as well as CSO areas throughout the City because of GI's many benefits.

Response 3.8: The Proposed Order is to address CSO sewersheds. Separately, DEC is drafting a citywide permit for the municipal separate storm sewer system (MS4). That permit will be subject to a separate public comment process.

4) PUBLIC PARTICIPATION

Comment 4.1: Public participation procedures for the modification of the consent order and consent order related deliverables should be improved to ensure sufficient time, information and process is provided for reviews and comments. Comments from one party include the following:

- The timeframe for public comments should be increased.

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

Commenter had sent requests for information to DEP and DEC, and insufficient time was allotted before the final comments were due. This commenter requested a number of specific actions pertaining to meetings and discussions.

- The ENB Notice did not include certain information required under 6 NYCRR Part 621 relating to (i) the public’s right to request a hearing and (ii) a description of the status of environmental reviews conducted under SEQR.
- The public should be afforded more opportunity to comment on CSO Quarterly Reports and annual reports.

Response 4.1: The public comment process for the Proposed Order is set forth in the 2005 Order and in DEP’s SPDES permits, which both provide that modifications to the 2005 Order will be published for notice and comment in accordance with 6 NYCRR Part 621. DEC provided the public with notice of the Proposed Order and an opportunity to comment as required by these provisions. There is no affirmative obligation under Part 621 to describe in the ENB notice the public’s right to request a hearing. In addition, because the Proposed Order is not a permit application, DEC was not required to include the information cited in the comment relating to a description of the status of the environmental review.

As part of the LTCP Public Participation Process, DEP will be developing a website for posting the LTCPs, presentation materials from public meetings, CSO Quarterly Reports, and the Annual GI Reports on its website [provide URL].

Comment 4.2: Public notification of CSO discharges that “create a public health hazard for waterfront users citywide” should be improved. Commenter offered the following suggestions:

- Advisories must apply to all waterfronts citywide, not just bathing beaches.
- Advisories should directly indicate the “location and occurrence” of CSO events.
- Advisories should reach the public through multiple channels (radio, TV (broadcast meteorologists), and internet).
- DEP and DOHMH must work with the boating, fishing, and open water swimming communities to ensure effective notification for these users.

Response 4.2: DEP is committed to enhancing its current program for public notification of CSO discharges. To that end, DEP has initiated the following ongoing efforts. First, DEP is working with NotifyNYC to integrate waterbody advisories into NotifyNYC’s system to allow users to request notifications

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

about specific waterbodies. Second, DEP has made changes to its Waterbody Advisory webpage to make the information clearer to the public. In the long-term, DEP will continue to refine the model, integrate interagency resources such as waterfront access points, and shift our model to the official CityMap. Third, DEP has begun to post Water Quality Sampling Data onto our Waterbody Advisory webpage, making data accessible to the public. Fourth, DEP will be releasing a Request for Proposals (RFP) for real-time monitoring of CSOs and sewer operations to help optimize our capacity and strategically deploy field crews. Finally, DEP continues to meet with stakeholders and has created the Green Infrastructure Steering Committee, which is an opportunity for DEP to meet regularly with stakeholders.

Comment 4.3: One commenter requested that the Proposed Order include a requirement to create a technical advisory group, citing a letter from then-DEP Commissioner Cas Holloway to the SWIM Coalition, dated November 2010.

Commenter further requested that the Proposed Order require attachment of the TAG's recommendations and DEP's responses as part of its reporting under the Proposed Order.

Response 4.3: The DEP and DEC are currently developing a public participation (P2) plan for the Long-Term Control Plans (LTCPs) in accordance with the public participation requirements set forth in the CSO Control Policy. The P2 Plan has not been submitted to or approved yet by the DEC, but tentatively, it is envisioned that a citizens' advisory committee (CAC) will be formed and requests for participation will be forwarded to interested and active members of the public.

It is likely that members of previous CACs that participated in the development of WWFPs and the current GI Steering Committee will be asked to participate as well as leaders of other environmental and community groups focused on water and environmental quality issues in NYC. Presentations and discussions of technical information such as modeling inputs and outputs, engineering designs, performance metrics and related water quality projections will be scheduled as developed. In addition, a technical (expert) advisory group or subcommittees will be needed to further discuss and refine GI designs, site identification and monitoring data collection and analyses as the CAC is formed to advise the development of LTCPs. DEP has also committed to accelerate the formation of a technical peer review group, consisting of experts in green infrastructure, hydrology and drainage, to review green infrastructure designs.

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

5) GENERAL TECHNICAL ISSUES

Comment 5.1: Explain the increases and transfers between waterbodies for CSO discharges in the 2011 Proposed Order as compared to the 2005 Order.

Response 5.1: The 2011 CSO Whitepaper provides the background and technical analysis for the modifications contained in the Proposed Order. It was published along with the Proposed Order on October 19, 2011, and is available at http://www.dec.ny.gov/docs/water_pdf/csowp2011.pdf. The 2011 Whitepaper explains the changes in CSO discharge volumes to all waterbodies under the Proposed Order as compared to the 2005 Order.

There will be slightly lower reductions in the CSO volumes discharged into six waterbodies under the Proposed Order as compared to the 2005 Order (see table below). However, for all waterbodies, there will be no increase in CSO when comparing the 2011 Proposed Order discharges to the original baseline CSO discharge levels established in 1992, and, in all cases, these waterbodies will achieve substantial CSO reductions from baseline conditions. Additional CSO reductions will be achieved through Green Infrastructure and additional appropriate gray infrastructure as determined in the upcoming LTCs.

Comment 5.2: Provide assurances that funding losses in specific waterbodies will be recouped.

Response 5.2: There is no requirement to direct funding to particular waterbodies based on the relative cost of projects included in the 2005 Order. Funding will be directed where there will be beneficial and cost effective water quality improvements, in accordance with EPA's CSO Control Policy.

Comment 5.3: Provide assurances the anti-backsliding requirement of the Clean Water Act won't be violated, and explain whether equivalent water quality benefits will be attained.

Response 5.3: The Proposed Order substitutes certain projects and green infrastructure requirements for projects included in the 2005 Consent Order, resulting in an overall decrease in CSO volumes citywide. The anti-backsliding provisions of the Clean Water Act and DEC regulations generally prohibit, with some exceptions, the issuance of a permit containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (33 U.S.C. § 1342(o) and 6 NYCRR 750-1.10(c)). Neither the 2005 Consent Order nor the Proposed Order are SPDES permits subject to the requirements of sections 1342(o) or 750-1.10(c). Rather, these Orders put in place a "bridge to compliance" with the terms

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

of the SPDES permits. In addition, the EPA's CSO Control Policy recognizes that municipalities must have flexibility to develop and implement cost-effective CSO controls. DEC and DEP will ensure that LTCPs are developed in accordance with EPA's CSO Control Policy and the Clean Water Act to ensure that appropriate water quality goals are achieved.

As noted in the CSO Control Policy, among other applicable criteria, where DEP relies on the demonstration approach, DEP should demonstrate that for each LTCP:

- i. The planned control program is adequate to meet WQS and protect designated uses, unless WQS or uses cannot be met as a result of natural background conditions or pollution sources other than CSOs;
- ii. The CSO discharges remaining after implementation of the planned control program will not preclude the attainment of WQS or the receiving waters' designated uses or contribute to their impairment. Where WQS and designated uses are not met in part because of natural background conditions or pollution sources other than CSOs, a total maximum daily load, including a wasteload allocation and a load allocation, or other means should be used to apportion pollutant loads;
- iii. The planned control program will provide the maximum pollution reduction benefits reasonably attainable; and
- iv. The planned control program is designed to allow cost effective expansion or cost effective retrofitting if additional controls are subsequently determined to be necessary to meet WQS or designated uses.

Comment 5.4: Put more emphasis on sewer separation.

Response 5.4: Sewer separation was already included as a recommended alternative in 2 drainage areas (Fresh Creek & Thurston Basin) and it will be further evaluated as an element of the future LTCPs for specific waterbodies including Gowanus Canal and Newtown Creek.

Comment 5.5: The information in the Proposed Order regarding plans for dredging and the dewatering upland placement of dredged material are incomplete.

Response 5.5: The Proposed Order includes milestones for completion of environmental dredging projects in certain waterbodies. However, for all these dredging projects, it is contingent on approval of DEP's submittal of a joint dredging permit application to DEC and the United States Army Corps of Engineers. These permits applications will include additional details on the dredging

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

plans, including an analysis of what constituents are found in sediment and the associated classification of the material, in order to determine the ultimate final disposal location. These permit applications also require a City & State Environmental Quality Review and the dredging permits themselves will be subject to a separate public review process.

Comment 5.6: Provide cost estimates and CSO reductions associated with each separate project presented in the CSO Order/White Paper.

Response 5.6: Please see table below:

Comparison of 2005 and 2011 CSO Order

Waterbody Name	Baseline	2005 CSO Order		2011 Modified CSO Order - Just Gray		Difference	
		CSO (MGY)	Cost (\$M)	CSO (MGY)	Cost (\$M)	CSO (MGY)	Cost (\$M)
Alley Creek	502	258	\$158	258	\$158	0	0
Bronx River	940	548	\$52	607	\$52	-58	0
Coney Island Creek	301	42	\$220	42	\$220	0	0
East River & Open Waters	16,154	13,095	\$157	13,459	\$211	-364	-54
Flushing Bay	2,187	2,186	\$0	1,825	\$66	361	-66
Flushing Creek	2,395	1,394	\$349	1,394	\$349	0	0
Gowanus Canal	404	239	\$0	261	\$186	-22	-186
Hutchinson Creek	436	268	\$303	400	\$3	-132	300
Jamaica Bay & Tribs	2,589	1,423	\$2,190	1,198	\$1,320	224	869
Newtown Creek	1,472	1,124	\$630	1,260	\$323	-135	307
Paerdegat Basin	1,833	555	\$381	555	\$397	0	-17
Westchester Creek	751	402	\$360	254	\$141	148	219
Totals	29,965	21,535	\$4,802	21,515	\$3,427	21	\$1,374

Comment 5.7: Provide information about gray projects mentioned in paragraph 25 of Proposed Order.

Response 5.7: Please see WWFP plans at www.hydroqual.com/projects/ltcp/wbws.

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

Comment 5.8: Will Green Infrastructure be used to make up for the additional flows seen in the 2011 plan?

Response 5.8: GI is a proven, cost-effective strategy to manage stormwater runoff at its source and throughout the drainage areas of specific receiving waterbodies. Future cost-benefit and opportunity analyses and, ultimately, projected water quality improvements may change the current 10% goal for GI application rates or determine specific waterbodies where differing GI application rates would be needed. Other water quality improvements will also be evaluated during the development of waterbody-specific LTCPs, as needed. In the meantime, DEP has begun to target the waterbodies identified in Response 5.1 above for immediate GI implementation and has developed various design and construction contracts through Fiscal Years 2012-2015 for GI demonstration projects within the Gowanus Canal, Bronx River and Newtown Creek watersheds.

Comment 5.9: Where floatables still occur in any waterbody, require direct capture of floatables.

Response 5.9: The SPDES permits require the City implement a comprehensive floatables program that includes floating containment booms and collection of floatables. The program also establishes year round floatables ratings in each waterbody. The DEP prepares and submits annual floatables report that quantifies amount removed from booms as well as ratings for each waterbody from both waterside and land side observations. For the most part, very little of the floatables material is attributed to CSOs and where there are issues, DEP is including additional inline and end of pipe floatables control measures; most floatables are captured in catch basin hoods before they reach the waterways.

Comment 5.10: Sensitive areas should be considered in CSO planning.

Response 5.10: In accordance with the EPA CSO Policy, all LTCPs will identify and address appropriate CSO controls for sensitive areas.

Comment 5.11: Why was 2010 was chosen as the new baseline condition for LTCP development?

Response 5.11: 2010 has not been chosen as the new baseline for CSO loadings. The intent of the white paper was to compare the 2005 Order and the Proposed Order on an equivalent basis that included 1988 rainfall and tidal conditions, plants operating at 2 x DDWF, the high end 2045 projected sanitary flows used in the WWFPs, impervious cover used in the WWFPs, and using the same modeling software. Its DEP's intent to re-evaluate many of these baseline

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

conditions based on best available information and based on technical discussions with the stakeholders that will be incorporated into the LTCP Public Participation Process.

Comment 5.12: The City needs to discontinue use of 1988 rainfall and address extreme weather events in CSO modeling and GI plans.

Response 5.12: DEP continues to collect data on more recent and current rainfall patterns to understand climate change and will include appropriate rainfall records in infrastructure evaluations. DEP will review this data for LTCP evaluations with DEC and will continue to work with DEC to develop alternate rainfall scenarios for evaluation of both GI and cost effective grey CSO controls. It is expected that these alternate scenarios will include different types of storm events, some of which would be more extreme than the storms contained in the 1988 rainfall record. DEP will seek feedback from the public about updated model inputs as part of the LTCP Public Participation Process.

6) SITE SPECIFIC (CITYWIDE, GOWANUS, BRONX, NEWTOWN)

Comment 6.1: Concern over delay to LTCP submittal date for Bronx River to 2015 & Citywide to 2017.

Response 6.1: There is no delay with the Citywide LTCP as the date to submit remains December 31, 2017 but additional time was needed in certain watersheds such as Bronx River to further evaluate and quantify CSO reductions associated with green infrastructure opportunities as well as potential cost effective grey CSO controls. DEP is still moving forward with elements on the Bronx River WWFP such as floatables control and have to date reduced CSO discharges into the Bronx River by over 330 MGY.

Comment 6.2: Improve DO levels in Newtown Creek, but also perform a study to determine if aeration will result in aspiration of hazards in the Creek. Consider eco-system based alternatives for increasing DO levels

Response 6.2: As part of the Lower English Kills Enhanced Aeration Project, DEP was required to collect water quality samples and conducted a habitat study for 3 years to determine if the aeration system would have any detrimental impacts to the waterbody. Based on findings from the studies, it doesn't appear that aeration will detrimentally impact the waterbody or biota.

An assessment of potential risks from inhalation of contaminants in air at Newtown Creek will be conducted by EPA as part of the RI for the Newtown Creek Superfund site. For both the development of the Superfund remedy and Newtown Creek LTCP, ecological based

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

alternatives such as recontouring will be considered as part of the overall improvement program for the Creek.

Comment 6.3: Remedy for Newtown Creek and Gowanus Canal should be consistent with defined end use for both waterbodies and reclassify Newtown Creek and Gowanus Canal as Class I waterbodies. Will Newtown Creek achieve Clean Water Act standards?

Response 6.3: The impact on water quality in Newtown Creek of projects required by the Proposed Order, together with any additional appropriate CSO control projects identified in the Long Term Control Plan, will be evaluated in the LTCP, which is to be submitted in June 2017.

The LTCP will identify appropriate CSO controls necessary to achieve waterbody-specific water quality standards, including, as appropriate, both grey and green infrastructure, consistent with EPA's 1994 CSO Policy and subsequent guidance. Where existing water quality standards do not meet the Section 101(a)(2) goals of the Clean Water Act, or where the proposed alternative set forth in the LTCP will not achieve existing water quality standards or the Section 101(a)(2) goals, the LTCP will include a Use Attainability Analysis examining whether applicable waterbody classifications, criteria, or standards should be adjusted by the State. The Use Attainability Analysis will assess the waterbody's highest attainable use, which the State will consider in adjusting water quality standards, classifications, or criteria and developing waterbody-specific criteria. Any alternative selected by a LTCP will be developed with public input to meet these goals.

In addition, any UAA process would have a robust targeted public process to identify the "highest attainable" use of a waterbody.

As stated in the public meeting on November 9, 2011, DEC and DEP envision that many areas of the New York Harbor will support a higher level of designated use than current classifications and standards.

DEC and DEP will continue to coordinate CSO Long Term Control Planning with USEPA's Superfund remedial actions on Newtown Creek and Gowanus Canal. USEPA's selection of a Superfund remedy in these waterbodies is subject to a separate public review process.

Comment 6.4: Avoid recontamination of the Gowanus Canal after cleanup is complete and ensure coordination between Superfund cleanup and CSO Order.

**Responsiveness Summary for comments received during the public comment period
associated with the
2012 Modified CSO Consent Order**

Response 6.4: The City and DEC agree that it is important to coordinate CSO projects in the Gowanus Canal watershed with the CERCLA cleanup and this coordination is ongoing.

Comment 6.5: Direct EBP funding for studies at CSO-shed level for Gowanus Canal.

Response 6.5: In 2008, EBP funding was allocated for the construction of several stormwater best management practices (BMPs) in the Gowanus Canal watershed. As a result of this funding and additional funding received by the Gowanus Canal Conservancy from U.S. Environmental Protection Agency's (EPA) STAG Water and Wastewater Infrastructure Project grant and appropriated by Congresswoman Nydia Velazquez, the Gowanus Watershed 6th Street Green Corridor Project is currently in design. The project entails a series of curbside swales ranging from 400 square feet to 1,200 square feet along 6th Street and 2nd Avenue. According to current designs, these swales are expected to capture approximately 40% of the runoff generated within the contributory area which includes over 45,000 square feet of street and sidewalk surfaces. Construction is anticipated to begin in July 2012.

DEP is currently undertaking outfall-specific analyses to identify drainage areas for near-term implementation of green infrastructure, including outfalls in the Gowanus Canal watershed. Expanding upon the watershed-level analyses developed for NYC's Green Infrastructure Plan ("Plan"), the identification of specific outfall-related opportunities relies on several data sources including the Department of Design and Construction (DDC) and Department of City Planning (DCP). Outfalls and related drainage areas were selected based on several factors including the results of cost-effective analyses in the Plan, ongoing assessments of different storms and related frequencies of CSO events, and information developed for waterbody-specific WWFPs. As a result of these analyses, OGI is in the process of implementing various design and construction contracts to implement green infrastructure through Fiscal Years 2012-2015 in specific outfall drainage areas including RH-034 and OH-007 in the Gowanus Canal watershed.

Comment 6.6: DEC received 14 letters of endorsement were received supporting the City's efforts to find innovative, flexible, and cost effective approaches to reduce CSO and the overall incorporation of green infrastructure into the CSO program.

Response 6.6: DEC concurs that the Proposed Order represents an innovative, flexible and cost effective approach to reducing CSOs.