DIVISION OF WATER

New York State Department of Environmental Conservation
625 Broadway, 4th Floor, Albany, New York 12233-3506
Phone: (518) 402-8177 • Fax: (518) 402-8082
www.dec.ny.gov

March 23, 2015

SENT VIA EMAIL
Mr. Keith Beckmann, P.E.
Program Manager - LTCP
Bureau of Wastewater Treatment
New York City Department of Environmental Protection
96-05 Horace Holding Expressway
Corona, NY 11368

Re: Order on Consent ("CSO Order"), DEC Case #CO2-20110512-25 modification to DEC Case #CO2-20000107-8, Appendix A
V. Flushing Bay CSO, M. Drainage Basin Specific LTCPs, 1. Submit Approvable Drainage Basin Specific LTCP for Flushing Creek

Dear Mr. Beckmann:

The New York State Department of Environmental Conservation (Department) has completed a review of the Flushing Creek Long-Term Control Plan (LTCP) received from the New York City Department of Environmental Protection (City) on December 31, 2014. The Department's comments on the Flushing Creek LTCP are provided in Attachment A. Please respond to these comments within 60 days of the date of this letter. If the City would like to discuss the comments contained herein prior to submitting its formal response, the City must contact the Department to do so in a timely manner to ensure the 60 day deadline will be met.

If you have any questions regarding this letter, please contact Mr. Gary E. Kline, P.E., Section Chief at 518-402-9655 or gekline@gw.dec.state.ny.us.

Sincerely,

for Joseph DiMura, P.E.
Director, Bureau of Water Compliance
Division of Water

cc: All sent via email
G. Kline, P.E.
M. vonWergers, Esq.
L. Allen, P.E.
P. Kenline
R. Elburn, P.E.
S. Southwell, P.E.
K. Penner, P.E.
K. Anderson
S. Stephansen
W. Plache, Esq.
H. Donnelly, Esq.
J. Petito, P.E.
J. Mueller, P.E.
K. Mahoney, P.E.
L. Lee, P.E.
V. Sapienza, P.E.
A. Licata
P. Balci

ATTACHMENT A

1. **General Comments:**

   a. The City should incorporate revisions consistent with previous guidance provided by the Department for the Alley Creek, Westchester Creek, and Hutchinson River LTCPs, such as an analysis of Time to Recover for the baseline, 100 percent CSO removal, and selected alternative scenarios using the August 2008 design storm; elimination of site specific targets, etc. that are relevant for the Flushing Creek LTCP.

   b. The Flushing Creek LTCP indicates that the projected attainment levels with bacterial water quality standards in Flushing Creek will not be known until the Flushing Bay LTCP is complete, because CSOs in Flushing Bay are impacting water quality in Flushing Creek. Previous studies have not highlighted the impacts of Flushing Bay CSO discharges on Flushing Creek and it would seem more likely that Flushing Creek CSO discharges are impacting Flushing Bay water quality. Regardless of the alternative selected for Flushing Bay, please confirm that the City will implement disinfection of the CSOs at TI-010 and TI-011 for Flushing Creek as proposed in the LTCP.

   c. In reference to comment 2 above, the LTCP presents data and conclusions in various sections of the report on attainment levels for two scenarios involving 100 percent reduction of CSOs: 1) 100 percent reduction of CSOs in Flushing Creek, and 2) 100 percent reduction of CSOs in both Flushing Creek and Flushing Bay. At times, it is not always clear which scenario is associated with the data and conclusions, such as in Tables 6-7 and 6-10. As such, it is recommended that the Tables and LTCP discussion clearly indicate which scenario is associated with the data and conclusions.

   d. The 2015 NYC Panel on Climate Change estimates potential sea level rise elevations for future time periods including 2020, 2050, 2080, and 2100. The plan includes a 30" sea level rise prediction by 2050, which should have a fairly considerable impact in the Flushing Creek drainage area. Please advise the Department on how the City plans to incorporate these predictions into the CSO planning efforts in the future.

2. **Executive Summary**: Include information on the attainment levels with the dissolved oxygen standard in the Executive Summary.

3. **Executive Summary, and Sections 2.1.c.2 and 8.5.d:** Table ES-2 shows high concentrations of bacteria in the waterbody and the LTCP also mentions in several sections the on-going investigations by the City for possible illicit discharges. Provide an update on the City's track down efforts.

4. **Section 2, p. 2-26:** Provide a more detailed explanation of the difference in CSO concentrations for discharges from CSO outfalls TI-011 and TI-010, as the LTCP states that TI-011 overflows have higher bacteria concentrations than TI-010 overflows.

5. **Section 2, p. 2-48**: The LTCP states that the Harbor Survey Monitoring program data for 2006

to 2013 for Flushing Creek did not capture fecal concentrations above 4000 cfu/100 ml. Provide an explanation for this limitation in the dataset.

6. **Section 2, Figure 2-7 and p. 2-53**: According to the Department's Region 2 office, there are several MS4 outfalls that discharge into Willow Lake and Meadow Lake, which might be contributing to the higher bacterial load identified by the Citizen Testing in Willow Lake as well as at sample location OW3 in Flushing Creek. The City should confirm the presence of these outfalls and incorporate potential loads into the LTCP analyses.

7. **Section 2**: Figures 2-1 and 2-3 show different drainage areas; reconcile the differences.

8. **Section 2.1.c.4**: This section doesn't mention if there are any known bottlenecks; confirm if there are any bottlenecks in the collection system as well as problem areas identified from the 311 service.

9. **Section 2.2.a.3:** Discuss any existing educational efforts by organizations or schools as part of waterbody uses.

10. **Section 2.2.a.6:** Indicate the number of samples from each sampling effort.

11. **Section 4, p. 4-10:** The LTCP states that the Flushing Bay CSO Retention Facility still relies on a temporary flow monitoring setup to measure tank overflows. As part of the selected alternative for the Flushing Creek LTCP, please confirm that the City will provide a permanent flow monitoring system for the CSO Retention Facility.

12. **Section 4**: Table 4-1 includes the retained volume for the CSO Retention Facility however, this retained volume only includes the volume of CSO and I/I pumped back from the tank, not the in-line storage volume. The table heading should be revised to reflect that volumes are pumped back only.

13. **Section 6, p. 6-14**: The first paragraph states "…… slightly improved compliance with **fecal coliform** Primary Contact …." however it should refer to the **dissolved oxygen** standard.

14. **Section 6:** The sanitary sewage concentration values for Enterococci should be similar in Tables 2-6, 2-7, and 6-1.

15. **Section 8:** The selected alternative includes disinfection of CSOs from TI-011 and Diversion Chamber 5 that will not provide for floatables or settleable solids removal prior to disinfection. Explain the assumptions made regarding the effectiveness of the disinfection of the unscreened and unsettled CSOs, compared to overflow from the storage tank with screening. Given the lack of screening, it is likely that the disinfection will be less effective and far more costly at TI-011 and Diversion Chamber 5. The Department requests that preliminary screens be assessed and included for CSOs at TI-011 and Diversion Chamber 5. The screening can be co-located with the chlorination but design to ensure chlorination occurs downstream of the screens.

16. Section 8: As part of the disinfection alternatives, the City should consider two sewer system modifications:

    a. Diversion of additional flows from the CSO retention tank bypass structures into the retention tank to take advantage of existing screening and settling capacities of the tank.

    b. Diversion of additional flow from Kissena Corridor CSO lines into TI-010 outfall that otherwise would flow into the Flushing interceptor during wet weather, in order to maximize the benefits for disinfection of TI-010 overflows.

17. **Section 8.1.a**: The first sentence states that there are no performance gaps because the baseline conditions meet the Existing WQ Criteria, however, the second paragraph states that the dissolved oxygen criterion is not attained. Revise the first paragraph to reflect the attainment with all of the Existing WQ Criteria, including dissolved oxygen.

18. **Section 8, p. 8-13**: The LTCP states that the proposed chlorination study will be at Alley Creek rather than Spring Creek.

19. **Section 8, p. 8-15**: The LTCP states that the odor control facilities are not currently being used at the Flushing Bay CSO Retention Facility and a portion of the odor control chlorination system could be used for disinfecting the CSOs. The City shall confirm that any use of the chlorination system will not limit the ability to conduct odor control at the Retention Facility.

20. **Section 8.2.a.3**: Provide a more detailed schematic illustrating the locations of the chlorination at the CSO Retention Facility, Diversion Chamber 5, and TI-011, and clearly indicate which portions of the flow at each location will be disinfected.

21. **Section 8**: On p. 8-36, it states that the selected alternative will result in increases in attainment levels for Primary Contact Recreation standards from 83 percent to 100 percent at OW6 for the recreational season, however, the information on Table 8-15 indicates that attainment levels will only be 92 percent for OW6 for the selected alternative. A similar inconsistency exists for statements related to OW3. Reconcile the conflicting statements.

22. **Section 8:** For the estimation of costs, indicate the projected number of years used to determine the NPW for the alternatives and if the NPW includes a STW full time for maintenance and operation. Also, it appears that Alternative 1A includes O&M costs for 20 years whereas the other alternatives only considered 15 years for O&M, please reconcile or explain this difference.

23. **Sections 8.5.c and 8.5.d**: Section 8.5.d states that the selected alternative will result in nearly 100 percent reduction of bacterial loads from outfalls TI-010 and TI-011, however, in Section 8.5.c, it states the selected alternative will reduce bacterial loads by 88 percent. Reconcile the conflicting statements. In addition, based on the description of the selected alternative, it appears that only a portion of the flow from TI-010 will be disinfected, not all of the flow, such as the bypass around the tank.

24. **Section 8**: The City should provide a more detailed description of the siting of the chlorination facilities, including a description of the site acquisition efforts conducted to date, information on site ownership, possible siting issues, and schedule to complete necessary site access.

25. **Section 9**: The implementation schedule on p. 9-3 needs to include site acquisition as a separate activity with linkages to the other schedule elements with enforceable milestones.

26. **Section 9**: The City may want to consider streamlining the affordability and financial capability information provided in Section 9.