

HUTCHINSON RIVER PUBLIC COMMENT RESPONSE SUMMARY

Public Letters Received:

1. Murray Lantner, 10/30/2015. Hutchinson River LTCP Comments to NYCDEP

1. **Page 8-26 of the LTCP, for the chosen alternatives – Seasonal Disinfection at New Outfall 024 – indicates that the Alley Creek disinfection study would be used to supplement operations at the HP-024 disinfection facility. Given that Alley Creek has a retention tank which provides some solids removal, how will this data be applied to HP-024, a CSO outfall that will be chlorinated without any solids removal? Why doesn't DEP also perform a disinfection study on untreated CSO discharges at this outfall or one that is similar to it in order to accurately evaluate the proper chlorine dose? And also evaluate the total residual chlorine concentrations, whole effluent toxicity and disinfection byproducts following disinfection.**

Response:

- *DEP conducted extensive disinfection testing in the mid-1990s including a Spring Creek Pilot Study along with numerous bench scale testing to determine chlorine uptake rates and bacterial kills associated with raw CSO. Additional chlorine dose response tests have been conducted and additional testing is also planned in the future. In addition, DEP has recently completed a demonstration scale chlorination study at the Spring Creek CSO Facility in which hypochlorite was added into the raw influent CSO upstream of the tanks. DEP also conducted a national survey of CSO disinfection and chlorination is the most commonly used technology throughout the United States. This data will also be used in designing the approved Hutchinson River LTCP CSO disinfection facilities which includes dechlorination. An Environmental Assessment Statement (EAS) will be prepared during the design process and the analyses will be performed in accordance with the CEQR Technical Manual. This process will review many things including natural resources and the effect of chlorine on ecology. In the event a significant adverse impact is identified and can't be mitigated, and Environmental Impact Statement (EIS) would be prepared, which involves scoping and a public hearing.*
2. **A study (Rukovets and Mitchell, 2010) where a statistical evaluation of macerated particulate matter following chlorine disinfection indicated that the maceration of effluent samples resulted in an increase in both fecal coliform and enterococcus concentrations when compared to unmacerated samples. This study indicates that there are difficulties in disinfecting the inside of occluded/clumped bacteria/solids. Will DEP also conduct maceration studies on its chlorinated effluent as part of its disinfection study to determine if the desired kill of pathogens/fecal coliform is achieved following maceration?**

Response:

- *As mentioned above, DEP has conducted extensive testing of the effectiveness and required chlorine doses to disinfect raw CSO and this data will be used in designing the future chlorination/dechlorination systems.*

3. Evaluate high rate treatment/ballasted flocculation and retain as an LTCP treatment alternatives.

Response:

- *High Rate Treatment/Ballasted Flocculation, now termed High Rate Clarification (HRC), is a treatment process that includes two or sometimes three chemicals (an additional one or two chemicals if disinfection or disinfection and dechlorination is included), plus a ballast, typically fine sand but sometimes thickened, recycled solids, depending on the manufacturer. HRC processes are extremely complex and have very high operation costs, so this alternative was not retained for further consideration.*
- *For the Hutchinson River LTCP, the approved LTCP project will achieve a 2-log reduction of the bacteria load passing through the outfall disinfection system. This level of control was determined to be sufficient to meet the bacteria load reduction requirements of the Waste Load Allocation (WLA) for the Hutchinson River. TSS loadings from CSO were not determined to be a cause of non-attainment of WQS. With respect to the attainment levels of the DO criteria, the LTCP demonstrated that 100% control of the CSO discharges did not result in full attainment for the Hutchinson River (refer to Section 6 of the September 2014 CSO LTCP for Hutchinson River). It was determined that non-CSO sources contribute to the non-attainment. As a result, outfall disinfection was determined to be the most cost-effective means of achieving the 2-log reduction in bacteria.*
- *Based on surveys of other CSO disinfection facilities, there was no basis to include a more complex and costly upstream TSS removal process ahead of the point of disinfection injection. This finding further supported DEP's decision to screen-out HRC from further consideration.*

4. Evaluate the need for dechlorination following disinfection to meet water quality standards for total residual chlorine.

Response:

- *As noted above, the Hutchinson River disinfection facility will include a dechlorination system.*

5. Due to various constraints such as elevation of HP-023 and associated weirs, there were no treatment alternatives provided for CSO Outfall HP-023 despite NYC's sampling at HR-03 (near HP-023 outlet) shown in Table 2-10 of the LTCP showing increases in fecal coliform and Water Quality Standard exceedances for fecal coliform at this location. The April 2015 Supplemental LTCP did include an alternative for floatables control at HP-023. In lieu of additional treatment (beyond floatable control) at HP-023 can NYC consider additional controls or management practices for stormwater outfalls both in NYC and/or in Westchester that could potentially provide a cost effective and feasible mechanism to further reduce water quality impairments?

Response:

- *The increase in measured fecal coliform concentrations at Station HR-03 is driven by dry weather phenomena, as shown in Table 2-10 of the September 2014 CSO LTCP for Hutchinson River, in which the dry weather levels of bacteria are higher at Station HR-03 than other stations in the vicinity. As stated in the April 2015 response to DEC's comments on the Hutchinson River LTCP, DEP's Sentinel Monitoring Program will continue to monitor the dry weather bacteria levels in the Hutchinson River and take corrective actions should a dry*

weather source be identified but it is noted that the slightly elevated bacteria levels are likely linked to the adjacent wetlands and wildlife.

- *Regarding the exceedances of the Water Quality criterion for fecal coliform, the assessment of compliance with Water Quality Standards is performed on the basis of percent attainment of the designated water quality criterion for a given parameter. For the Hutchinson River, the monthly GM criterion of 200 cfu/100 mL applies for fecal coliform. The GMs shown in Table 2-10 are computed for the overall LTCP monitoring period, spanning several months and should not be used to assess compliance with WQS. NYC is currently developing a stormwater management program plan due by August 1, 2018, the goal of which will be to reduce pollution that reaches waterbodies through the municipal separate storm sewer system (MS4).*

6. The UAA attached in the 4/4/15 LTCP supplemental do not appear to account for the potential of the low DO concentrations impacting invertebrates which are much less mobile than fish.

Response:

- *The Hutchinson River approved LTCP project is projected to attain the acute DO standard (never less than 3.0 mg/L) 95 percent of the time the chronic DO standard for the LTCP recommended plan is 73 percent at Station HR-06 on an annual basis. The gap analysis in Section 6 of the September 2014 CSO LTCP for Hutchinson River demonstrates that 100 percent CSO control would not result in compliance of the chronic DO standard at Station HR-06 with a projected annual attainment of about 92 percent. The UAA included as Appendix D of the September 2014 CSO LTCP for Hutchinson River identifies the non-CSO related factors affecting the non-attainment of the chronic standard. These factors included:*
 - *Human caused conditions (direct drainage and urban runoff) create high bacteria levels that prevent the attainment of the use and that cannot be fully remedied for large storms (UAA factor #3).*
 - *Naturally-occurring (tidal) low water levels in the receiving water at the majority of the marshland along the eastern shoreline (UAA factor #2).*
 - *Changes to the shoreline to channelize it and protect it created bulkheads and steep rip-rap lined banks limiting access to the Hutchinson River along the majority of the western shoreline (UAA factor #4).*

7. Page ES-7 states that, “In the case of Hutchinson River, GI was assumed to have 14 percent coverage....” How do NYC’s Green Infrastructure coverage and the LTCPs address the fact that property owners pave over currently pervious surfaces like front lawns and shrub areas to create paved parking areas, home expansions, or other impervious surfaces? This seems to occur in many areas of the city and could impact progress made through GI and Long Term Control Plans. NYC Community Boards may not be taking into account the cumulative impact of increased impervious surfaces on CSOs when granting variances to property owners to expand buildings or to create paved parking areas.

Response:

- *The amount of yard area allowed/required is set by zoning written by Department of City Planning (DCP) and enforced by Department of Buildings (DOB). Current zoning prohibits full*

paving of front yards in R1-R5 districts. See the Yards Text Amendment here: <http://www1.nyc.gov/assets/planning/download/pdf/plans/yards/yards.pdf> to obtain a variance from this zoning requirements, an applicant must obtain approval the Board of Standards and Appeals (BSA). In determining whether to grant a variance, BSA consults with the local Community Board, however BSA's determination is based on a number of factors in addition to community input.

- NYS DEC's Stormwater Management Design Manual, a key component of the Phase II State Pollution Discharge Elimination System (SPDES) general permit for stormwater runoff from construction activities from all sizes of disturbance, also has requirements related to impervious cover for projects subject to that permit. The manual can be found at: <http://www.dec.ny.gov/chemical/29072.html>

- 8. Page ES-14, "The public indicated there were some uses of the river for canoeing and kayaking. Those uses of the river are at sites that are not designated as launching locations." Given that canoes and kayaks can access the Hutchinson River from designated or undesignated launching locations this comment seems to be immaterial. The LTCP should assume that there is or will be canoeing and kayaking in parts of the Hutchinson River?**

Response:

- The saline Hutchinson River is a designated Class SB waterbody. Accordingly, the September 2014 CSO LTCP for Hutchinson River evaluated attainment of the WQS associated with primary contact recreation. As noted in NYCRR Part 701, the best usages of Class SB waters are primary and secondary contact recreation and fishing, which includes such secondary contact recreational activities as kayaking and canoeing.

- 9. a. Post Construction Monitoring. Section 4.3.a – the proposed post construction monitoring does not include monitoring for total residual chlorine, heavy metals, oil and grease, whole effluent toxicity or chlorine disinfection byproducts (chloramines, trihalomethanes etc.) Because NYC plans to conduct chlorine disinfection for its Hutchinson River CSO outfall HP-024 it should monitor for additional parameters associated with chlorine disinfection. Monitoring for oil and grease which is listed an impairment in the Class B section of the Hutchinson River should be conducted to be protective of aquatic life and water quality standards. Other parameters such as heavy metals and other toxics should be evaluated to determine if there are water quality impacts associated with the CSOs.**

Response:

- The Class B section of Hutchinson River listed on the 303(d) list is located in Westchester County; the listing for that section of the waterbody is based on stormwater runoff and municipal discharges. This freshwater portion for Hutchinson River is not impacted by NYC CSO or stormwater discharges. However, in addition to chlorine disinfection, the approved LTCP project will include dechlorination to address chlorine toxicity concerns and floatables control to address aesthetics. With regard to toxics, sampling data from other tributaries in NYC have shown that CSO and stormwater discharges are not a significant source of hazardous substances.

b. Post Construction Monitoring. Figure 4-1 in section 4.3.a (included below) identifies points HR-01 and HR-02 to be added to the Harbor Survey Monitoring program which are different points than the HR-01 and HR-02 in the LTCP sampling map Fig. 2-12 and could be confusing.

Response:

- The LTCP sampling program depicted in Figure 2-12 was a one-time intensive sampling program that was accompanied by a Field Sampling and Analysis Program in which the location of each sampling station was thoroughly described. At the time that program was developed, the designation “HR” for each of the nine sampling locations was determined to be appropriate to distinguish these locations from sampling locations conducted in other waterbodies as part of the LTCP program. The overlap of the designations with the two future Harbor Survey Monitoring (HSM) program locations HR-01 and HR-02 is acknowledged. However, the designations HR-01 and HR-02 assigned to the sampling locations shown in Figure 4-1 will remain in the Harbor Survey Monitoring program (HSM).

c. Post Construction Monitoring. NYC should consider additional post construction monitoring points in addition to HR-01 and HR-02 to monitor the discharges from HP-023 as well as from HP-024 when the tide is coming in. How does PCM (harbor survey) match up with wet weather and tides to ensure that monitoring is in the right time and place to reflect times when CSOs are discharging and on the “downstream” side of the CSO points based on the direction of the tidal flow?

Response:

- NYC will consider an additional sampling point during the development of its PCM sampling plan. Typically, DEP conducts harbor survey sampling on a recurring day and time that is intended to capture wet and dry events along with varying tidal conditions.

d. Post Construction Monitoring. Based on NYC’s Harbor Survey web site, http://www.nyc.gov/html/dep/html/harborwater/harbor_water_sampling_results.shtml “DEP collects harbor samples at stations throughout NYC waterways weekly from June through September, while October through May sampling occurs monthly. Interruptions in data availability may occur due to weather conditions.” Given that the CSOs activate during wet weather and the Harbor Survey does not necessarily coincide with the wet weather, and weather events may preclude NYC from conducting its Harbor Survey, how will the Harbor Survey be adjusted to monitor water quality during wet weather events?

Response:

- The HSM sampling schedule has been modified to follow the DEC definition of the recreational season that now extends from April 1 through October 31. During this sampling period, HSM will collect samples on a regularly scheduled weekly timeframe that will include representative samples of both wet and dry conditions. In addition to this sampling, the PCM program relies on water quality and landside models to ensure that all wet weather events are incorporated into the analysis.



Figure 2-12. LTCP Sampling Program and Sentinel Monitoring Program Sampling Station