Melissa Siegel
Department of Environmental Protection (DEP)
Bureau of legal Affairs, 19th Floor
59-17 Junction Boulevard
Flushing, NY 11373

RE: Proposed Amendments to Chapter 18 of Title 15 of the Rules of the City of New York: Rules for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and its Sources

Dear Ms. Siegel,

The Croton Watershed Clean Water Coalition, Inc. (CWCWC), thanks DEP for this opportunity to comment on the above-referenced proposed amendments to the 1997 "Watershed Regulations".

CWCWC is a not-for-profit coalition of over 50 groups – community, environmental, housing and religious – whose common purpose is to insure safe, clean and affordable drinking water for NYC residents and the greater metropolitan area. In our opinion, the most effective way to reach this goal is by protecting and enhancing the quality of the source water.

As our name implies, our main focus is the Croton Watershed, presently under a barrage of developments that are contaminating streams, lakes and source water reservoirs. As a result, NYC residents (and to some extent, Westchester residents) now have to subsidize a $2.8 billion chemical treatment/filtration plant – originally estimated at $800,000 - in addition to losing valuable parkland where the plant is being built, parkland essential to the health of the neighboring community.

The complexity and cost of maintaining the plant both increase directly with the amount of contamination in the source water to be treated. Therefore, CWCWC continues to advocate for source water protection. This will benefit NYC ratepayers. In a different way, it will also benefit Westchester and Putnam residents of the Watershed whose streams and lakes are being polluted and whose wells are being drawn down and contaminated by inappropriate, often unneeded and poorly engineered development.

OUTLINE OF CWCWC COMMENTS

CWCWC will offer comments on the following three topics:

(1) The proposed revisions to the Watershed Regulations needed to incorporate NYS Department of Environmental Conservation's (DEC) SPDES General Permit

No. GP-0-08-001 for stormwater discharges from construction activities.

(2) The inclusion of additional "source water reservoirs" with a required phosphorus concentration of 15 micrograms per liter (μg/l).

(3) The proposed revisions authorizing DEP "to grant a variance for a new or expanded surface-discharging wastewater treatment plant within the 60-day travel time in the Croton system…"

INCORPORATION OF GP-0-08-001[i] FOR STORMWATER DISCHARGES

Part III.B.2 – Post-construction stormwater management practice component states as follows: "All construction projects identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPP that also includes practices designed in conformance with the most current version of the technical standard, New York State Stormwater Design Manual, April 2008 ("Design Manual")…" Since Table 2 includes a wide variety of construction projects that are common in the Croton Watershed, it is logical to conclude that the Proposed Amendments intend to follow and include the most recent DEC General Permits for stormwater discharges.

Chapter 10[ii] – "Enhanced Phosphorus Removal Standards" of the Design Manual is specifically for use in phosphorus-limited watersheds such as the Croton – "It has been determined that enhanced phosphorus removal is required to meet water quality objectives established for these watersheds. *In addition, this chapter encourages the use of upstream controls as a primary means for reducing runoff volumes and their associated pollutant loads (emphasis added)"*.

The Design Manual gives several treatment performance goals among which the most important are:

- A net removal of particulate phosphorus of 80% given a median influent concentration of 0.5 mg/l.
- A net removal of dissolved phosphorus of 60% given a median influent concentration of 0.15 mg/l.

The Design Manual concludes (page 10-10) that previous stormwater management practices that deal only with the stormwater from impervious surfaces in the catchment basin provide water quality volumes (WQv given in acre-feet) that are "insufficient to meet the enhanced phosphorus treatment goals." In order to fulfill those goals, the Design Manual includes all land uses within the catchment, not only the impervious portions, in estimating the WQv that needs to be treated. The Design Manual defines the water quality volume, WQv, as "The estimated runoff volume (acre-feet) resulting from the 1-year, 24-hour design storm over the post-development watershed."

The "Proposed Amendments" define WQv somewhat differently. The definition on page 19 reads as follows: "Water Quality Volume (WQv) means the storage needed

to capture and treat 90% of the average annual stormwater runoff volume." This could be confusing to the reader trying to reconcile the definitions. However, §18-39(c)(3) - Stormwater Treatment Volume – applies even stricter criteria than Chapter 10: "All stormwater pollution prevention plans prepared pursuant to this section will include measures to capture and treat the greater of the volume runoff generated by the 1-year, 24-hour storm or the Water Quality Volume (WQv)."

Inadequacy of Design Manual standards for reducing phosphorus runoff from development on previously forested lands in the Croton Watershed

The program in the Design Manual to design stormwater management practices to treat 80% of particulate and 60% of dissolved phosphorus will be helpful in reducing phosphorus runoff from redevelopment projects or stormwater retrofits.

However, this program cannot guarantee the reduction of phosphorus from new developments.

This is particularly true in the Croton Watershed where most new, major developments require the destruction of forested land and its replacement by impervious surfaces. When DEP was preparing the TMDLs for its watershed reservoirs, it researched studies that had been conducted on phosphorus export coefficients for various land-uses in the general area of the Croton Watershed. The average export coefficient for forests was extremely low – 0.0446 lbs/acre/year.[iii] *CWCWC* is not aware of that number being superceded by more recent studies. On the contrary, it has been strengthened by a value of 0.0460 lbs/acre/year found for the phosphorus export coefficient for Giggle Hollow[iv], a forest in the vicinity of the projected Belleayre Crossroads development West of Hudson (WOH). This slightly higher value is to be expected, given the different nature of the soils East of Hudson (EOH) and WOH.

A simple calculation for the stormwater phosphorus load from a development such as Patterson Crossing, where it is proposed to convert 60 acres of a 90-acre heavily-forested site (0.0446 lbs/acre/year export coefficient for phosphorus) to imperviousness (1.35.lbs/acre/year)[v] shows that there will be a considerable increase in the phosphorus pollutant load from the site, despite the 80% reduction in particulate phosphorus. The increased phosphorus load will end up in streams and NYC reservoirs, thereby contravening the Clean Water Act.

SOURCE WATER RESERVOIRS

Under §18-16 Definitions, Croton Falls and Cross River are listed as Source Water Reservoirs, in addition to Ashokan, Kensico, New Croton, Rondout and West Branch Reservoirs. These reservoirs are constrained to phosphorus concentrations of equal or less than 15 micrograms per liter (μg/l) whereas the remaining reservoirs are constrained to equal or less than 20μg/l. The reason for the special listing for Cross River and Croton Falls is that their waters can be diverted into the Kensico, the terminal reservoir for the Catskill/Delaware system. The Kensico's waters are also restricted, among other restrictions, to 15μg/l for phosphorus. The diversion is sporadic and occurs mainly during seasons of drought when the Catskill/Delaware system needs replenishing by the Croton system.

It is reasonable to maintain the level of phosphorus in the source water reservoirs at the same level of phosphorus as their terminal reservoirs. It is more cost effective to keep the source waters clean than to pay for cleaning up the pollution after it has occurred.

Therefore, *CWCWC* questions why the Muscoot reservoir that pours millions of gallons of water on a daily basis into the New Croton Reservoir, a terminal reservoir, is not listed as a Source Water Reservoir. The level of phosphorus pollution in the Muscoot wreaks far greater havoc on the phosphorus levels in the New Croton Reservoir than either the Cross River or Croton Falls on the Kensico.

For this reason, *CWCWC* urges DEP to be consistent, and to list the Muscoot reservoir as a Source Water Reservoir with the same protection as Cross River and Croton Falls. At present, the Muscoot's assessment for phosphorus stands at 27.9μg/l[vi], considerably higher than even its present phosphorus assignment of 20μg/l.

Even at 15μg/l, reservoirs in the Northeast are at the borderline of becoming eutrophic. The 20μg/l standard for the NYC lakes and reservoirs is merely an aesthetic standard in keeping with the use of these waterbodies for recreational purposes rather than for drinking water purposes.

Most of the eight Croton reservoirs that presently have a limit of 20μg/l are considerably above that limit. This high level of phosphorus in relation to nitrogen encourages the growth of algae that can generate their own growth by fixing nitrogen from the air. It is well known that these so-called blue-green algae or cyanobacteria can produce cyanotoxins and have other undesirable effects such as alagal mats, unpleasant tastes and odors and <u>increase treatment costs for potable water</u>.

Since water rates for NYC and Westchester County ratepayers have been skyrocketing, DEP should make every effort to comply with the 20μg/l limit for phosphorus concentration in the East Branch, Diverting, Middle Branch, Amawalk, Bog Brook and Titicus reservoirs, and stipulate 15μg/l for the Muscoot, as it is presently doing for the Cross River and Croton Falls reservoirs.

VARIANCES

CWCWC is of the opinion that §18-61(e)(2)(i)(c) and (d) (Variances within the 60—Day Travel Time to the Intake in the Croton System) should be eliminated.

Both sub-paragraphs would allow more development to be hooked up to the expanded wastewater treatment plant either by an additional 10% of the average flow within the district or from "reasonably anticipated" flows from outside the sewer district.

These stipulations are sufficiently vague so that their interpretation by self-interested parties could easily lead to litigation. Moreover, the purpose of expanding a wastewater treatment plant should be solely for eliminating pollution that can otherwise not be eliminated. Its purpose must not be for accommodating further development that is likely to lead to a repetition of the problem.

If, however, these sub-paragraphs are not eliminated, CWCWC urges that there should be mitigation within the sub-basin of the treatment plant equal to the 10% that has been added, or to the additional "reasonably anticipated" flow.

Thank you for this opportunity to comment.

Sincerely,
Fay Muir, president
CWCWC

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[i] See SPDES General Permit for Construction Activity, GP-0-08-001, May 1st, 2008 at http://www.dec.ny.gov/docs/water_pdf/conspermit08.pdf

[ii] Chapter 10 available at http://www.dec.ny.gov/docs/water_pdf/dpremoval.pdf

[iii] Ott *et al*, 1990, NY; Haith & Shoemaker, 1987, NY; Farrow *et al*, 1986, NY; Haith *et al*, 1983, NY; Aylor & Frink, 1980, CT; Schaffner & Oglesby, 1987, NY; Norvell *et al*, 1979, CT.

[iv] See Appendix C1, page 14 of the Belleayre Crossroads DEIS, 1/12/2004 by EA Engineering, P.C. http://www.nyc.gov/html/dep/pdf/belleayre/appendix1.pdf

[v] Reducing the Impacts of Stormwater Runoff from New Development, Second Edition, April 1993

[vi] NYCDEP – 2007 Watershed Water Quality Annual Report, July 2008.