6.0 WETLANDS/WATERCOURSES AND BUFFERS COMMENTS AND RESPONSES

Comment 6-1 (Mr. Mike Cindrich, Public Hearing, June 11, 2008): Another issue raised in the report, potential impacts associated with fecal coliform bacteria, storm water runoff are not anticipated due to the result of the development of the project because of the low density. Not anticipated, to me, means that while it's not expected, there is a possibility that it will take place. What I don't see in the report, and it's possible that I missed some of these things, but what clarification as to where they are in case they are in there, that while not anticipated, is there a plan in place to deal with fecal coliform bacteria in storm water runoff, should it be identified? And I just I don't see that in the report.

> ***Response 6-1*:** *The DEIS discussion concerning fecal coliform bacteria (FCB) indicated that impacts on surface water resources from fecal coliform bacteria in stormwater are not anticipated to result from the project due to the low density of development. Other possible FCB sources, including pets and waterfowl, would not be significantly greater than the existing wildlife population on site and therefore are not expected to result in increased FCB loading.*
>
> *As specified in the Salem Hunt Stormwater Pollution Prevention Plan (SWPPP) proposed stormwater practice 1.1P has been designed as a (W-4) pocket wetland, stormwater practice 1.2P is designed as a (F-1) surface sand filter, stormwater practices 2.1P and 2.2P have been designed as (P-1) micropool extended detention ponds. The Applicant notes that the New York State Stormwater Management Design Manual (the Manual) indicates that the proposed stormwater management ponds and filter will achieve "good" fecal coliform removal, the highest removal rating assigned in the document. Accordingly, no significant adverse impacts on surface water resources from FCB loading are anticipated from the proposed action.*

Comment 6-2 (Mr. Suzannah Glidden, Public Hearing, June 11, 2008): I'm glad that you brought up wetlands. I am an environmentalist, and I do work for an organization that tries to protect the environment, Croton Watershed Clean Water Coalition, but as a citizen and as a resident here, I speak individually tonight. The wetlands serves such an important function. I want to speak to wetlands, trees and three other issues. They clean the water, they grab pollutants on their roots and they clean the water as it recharges into the earth again, and especially with a development being proposed of this size, we feel that no intrusion into the wetlands or into their buffers with any storm water devices should be allowed.

> ***Response 6-2*:** *The site development plan has been revised since the DEIS and now the proposed action involves only disturbance of Wetland D to construct a foot bridge. Revisions to the proposed project have also eliminated all proposed disturbance in any wetland buffer except for the disturbance associated with construction of the access road (for which no alternative location is available), and installation of certain utilities, including water lines, stormwater lines and the subsurface sewage disposal system (SSDS). In contrast to the previous proposal that would have resulted in nearly one acre of wetland buffer disturbance, 0.45 acres of buffer disturbance, both on and off-site is proposed in the current plan. In the absence of any significant wetland disturbance, and only 0.45 acres of wetland buffer disturbance, the wetlands are expected to continue to perform the functions noted in the comment. These buffer disturbances occur in several different areas of the site rather than in one location, the largest of which is at the*

proposed site access, which is currently an existing driveway and remains the only feasible access to the property.

In order to mitigate these impacts, the revised landscaping plans submitted with this FEIS include 185 new shrubs that are suitable and common in North Salem as buffer enhancement, and are distributed over an area of approximately 0.58 acres (see Drawings SP.

The Applicant notes that the foot bridge across the watercourse in Wetland L-32 is being provided at the request of the lead agency to provide pedestrian and equestrian access to the adjoining Town recreation and school properties from the proposed development. The pedestrian path, which will not be surfaced, and the bridge are offered as an amenity that will encourage walking, thereby reducing vehicle traffic. Easements or some other agreement will be granted to the North Salem Bridle Association to allow for horseback riding on portions of the site. Trails within the easements will identified with signs. Based on discussions with Town staff and consultants, the equestrian trail has been relocated in some areas to increase the distance between the trail and the wetlands. The trail itself will remain as dirt and/or leaf litter. No grading, scarifying, tree cutting or other methods are considered to be necessary to create these trails. Occasional maintenance (removal of limbs across the trail and cleaning of trash, etc.) will the responsibility of the Trails Association members.

Another specific area of disturbance to the wetland buffer is associated with the installation of the well line. A small area will be disturbed for the construction of a trench to access the well line and install the necessary infrastructure. Native soil from the excavation will be stockpiled at the site and replaced following completion of the installation. The area will then be re-seeded and planted as shown on the landscaping plan. It is expected that all this activity can occur within a time frame of 72 hours, and the work and associated disturbance will be complete. This does not represent a long term impact to the buffer and more importantly will not in any way effect the wetland that the buffer is protecting.

Comment 6-3 (Mr. Irvin Raboy, Public Hearing, June 11, 2008): I'm also really worried about the runoff. There's a huge stream that actually goes through my property that runs and feeds the reservoir. I haven't read your environmental impact statement, but I'm worried that you guys are going to pitch the water in any direction away from the stream, which is kind of important. It's very important for wetlands and I'm sure DEC is going to, you know, have something to do with that since this is DEC wetlands over 12 acres, I guess.

***Response 6-3**: The proposed project does not include the diversion of water away from the NYSDEC regulated stream. The analysis of wetland functions, potential adverse impacts, and proposed mitigation, were developed by Certified Professional Wetland Scientists (PWSs) with over forty collective years of experience in the field of wetland science. The PWSs engaged by the Applicant conducted an analysis of the existing NYSDEC wetland and of the potential impacts the proposed action may have on the wetland. Based, in part, on the large size of the on-site wetland, the carefully designed stormwater management practices, and the lack of any proposed disturbance of the wetland, the PWSs concluded that no significant adverse impacts on the wetland are anticipated. The Applicant notes that a wetland permit will be secured from NYSDEC to authorize the proposed disturbance of the NYSDEC wetland buffer.*

NYSDEC wetland L-32, noted in the comment, has a overall contributing area of approximately 279 acres. Runoff from only some 19 acres of the proposed development, or just seven percent of the wetland's total drainage area, will drain to the wetland and stream following development. NYSDEC wetland L-32 is shown in Figure 6-1. Pre-development drainage areas are shown in Figure 6-2. As the project represents only a small portion of the wetland contributing area, the increase in volume of stormwater runoff from the project is not expected to significantly impact the wetland or the stream.

Comment 6-4 (Letter #3 Ms. Marilyn Shanahan, NYCDEP, July 9, 2008): In Section 6.1 Existing Conditions, an intermittent watercourse associated with Wetland C, which was flagged by NYCDEP staff on September 4, 2007 and confirmed on January 3, 2008, is not shown in the DEIS. The watercourse in question discharges offsite through a residential area, where it becomes perennial, ultimately flowing to Holly Stream and the New York City water supply system. This watercourse must be included in the DEIS, as it will receive discharge from a stormwater management practice (SMP) located in the project area. The DEIS must evaluate the potential impacts associated with discharging stormwater runoff from the project into Wetland C and this watercourse. It appears that this watercourse was partially analyzed in Appendix I of the stormwater pollution prevention plan (Appendix F of the DEIS). However, analysis and summary of the pre vs. proposed mitigation should be provided in the body of the DEIS.

***Response 6-4*:** *The watercourse noted in the comment is now depicted on the revised Existing Conditions Plan that accompany this FEIS. No stormwater will be discharged directly into Wetland C or the watercourse within it. Following treatment, stormwater will be discharged from stormwater basin 1.1 at rates below existing discharge rates, and with lower loads of total phosphorus (TP), biological oxygen demand (BOD), total nitrogen (TN), and total suspended solids (TSS). Based upon the stormwater management facilities and design, no significant adverse impacts on the watercourse noted in the comment are anticipated*.

Comment 6-5 (Letter #3 Ms. Marilyn Shanahan, NYCDEP, July 9, 2008): The design-line approach to analyzing drainage adjacent to Wetlands A and C (Design Line 1), and near the access road entrance (part of Design Line 2), may not be appropriate because a point discharge is quantifiable at each point, and a receiving watercourse exists to directly convey the flow. The use of long design lines may mask the impact at specific areas where increased post-development runoff will be discharged from the site. For example, the nine (9) acre drainage area consisting primarily of the septic system absorption area has very limited stormwater management provided (a single swath of grass filter strip is proposed) in the post-development condition, yet no pre-development values for runoff flow rates and pollutant loads are presented for comparison at that specific location because the design line covers the entire frontage along the wetland. With the inevitable change in overland flow that will occur with a change of nine acres from forest to grass/meadow, one expects a significant increase in runoff and in pollutant loads along that stretch of land.

***Response 6-5*:** *The use of "Design Line" methodology does not preclude the analysis of point source discharges. As identified in the stormwater models included in the SWPPP, each sub-basin within the project site has its own area, runoff curve number, and time of concentration, and accordingly, their own individual peak discharge rates. The*

combination of the sub-basin hydrographs to a design line hydrograph illustrates the overall change in peak discharge to the receiving waters. In the pre-developed condition drainage area 2 does not necessitate a further breakdown into smaller catchments as all the discharge is directed to Wetland C.

Design Line 1 was chosen to assess the stormwater related impacts from the proposed development on the western portion of the site. Stormwater runoff, which passes through Design Line 1, merges at a point to the north of the property. A separate assessment of this point has been prepared and is included in Appendix I of the SWPPP. The Design Line 1 assesses the localized impacts while the downstream assessment included in Appendix I assesses the impacts at a defined point. With regards to Design Line 2 and the approximately 9 acre drainage area consisting primarily of the septic system, the revised SWPPP is based on additional site assessment of the existing conditions, as well as, modification to the proposed ground cover. Based on these additional evaluations and proposed ground cover, the post-development Curve Number (CN) is expected to be similar to the pre-development CN such that the volume of runoff discharged from this area will be essentially unchanged. Considering that the septic disposal area will be maintained as a wild flower meadow, which will only be mowed once a year, the post construction pollutant loading from the area will not change significantly. Accordingly, no significant adverse impacts on receiving waters associated with post construction changes in stormwater are anticipated.

Comment 6-6 (Letter #3 Ms. Marilyn Shanahan, NYCDEP, July 9, 2008): As this Department stated in the comments regarding the scope outline, the DEIS appears to rely on regulatory statutes for mitigation of potential impacts related to stormwater management. This approach does not constitute the "hard look" at stormwater management issues on this site as required under SEQRA. For example, as discussed above, an approximately nine acres of forested, sloping land will be converted to a subsurface treatment system (SSTS) absorption area with grass cover. The DEIS states that the converted area will be captured and treated using a turf filter strip that will comply with regulatory requirements. It is questionable whether or not the proposed filter strip would actually comply with applicable NYCDEP and NYSDEC stormwater regulations. For the purposes of SEQRA, there is no indication of how this turf filter strip of limited length will mitigate the potential impacts to the receiving waters generated by the change in surface cover from forest to grass.

***Response 6-6*:** *Refer to Response 6-5 concerning runoff from the SSTS area. The comment concerning compliance with regulatory statues not constituting mitigation is inconsistent with the position the New York City Department of Environmental Protection (NYCDEP) has taken in other matters where the City has declared, in part, that "the potential adverse impacts on surface water resources due to the Project are associated with erosion and sedimentation during construction, post construction changes in stormwater, and wetland and adjacent area disturbances" and that by complying with "regulatory controls these potential adverse impacts would be mitigated." The primary tool mandated by regulatory control to protect surface water resources is the development and implementation of a site-specific stormwater pollution prevention plan (SWPPP)" The Salem Hunt SWPPP includes an Erosion and Sediment Control Plan to be implemented during construction to prevent erosion and sedimentation of on, and off, site wetlands and surface waters. The SWPPP also specifies stormwater management practices that will reduce post-construction increases in peak rates of stormwater*

discharge, and increases in post-construction stormwater pollutant loading, after the site has been stabilized.

Comment 6-7A (Letter #3 Ms. Marilyn Shanahan, NYCDEP, July 9, 2008): Part of detention pond 2.2 is located on a utility easement. The DEIS should indicate if there are any restrictions associated with this easement..

Comment 6-7B (Letter #17 Hilary Smith & Joe Bridges, MDRA, July 30, 2008): Formal documentation should be provided from NYSEG pertaining to the use and limitations/restrictions of its easement area, particularly with regard to the construction and maintenance of stormwater basins within said easement area.

***Response 6-7A-B*:** *Correspondence was received from New York State Electric and Gas (NYSEG) setting forth the restrictions associated with the proposed improvements within its easement. A copy is included in Appendix C, Correspondence.*

Comment 6-8 (Letter #3 Ms. Marilyn Shanahan, NYCDEP, July 9, 2008): Page 6-22 states: "based upon the numerous and redundant stormwater management practices proposed as part of the SWPPP, it is expected that pollutant removal efficiencies would be on the higher end of the scale for each constituent, and that the actual post construction loads would be less than those estimated". As discussed previously, not all areas of the project will convey runoff to redundant SMPS. As such, the assumption that high removal rates are anticipated over the entire project area, based on stormwater being conveyed through multiple SMPs, is not accurate. The DEIS should identify and evaluate stormwater impacts over all sections of the project area, and provide mitigation or avoid those impacts.

***Response 6-8*:** *The statement noted in the comment was based upon the calculations of pre and post construction pollutant loading. These calculations indicate that, following treatment by the redundant stormwater management practices proposed in the Salem Hunt SWPPP, post construction increases in pollutant loads in stormwater discharged from the entire site will be significantly reduced. The revised SWPPP included in this FEIS indicates that post construction loads of phosphorous will be less than pre construction loads (see Appendix F).*

This Salem Hunt project has been redesigned employing better site design techniques described in the New York State Department of Environmental Conservation (NYSDEC) April 2008 Better Site Design publication. These techniques will further reduce potential impacts associated with post construction changes in stormwater. The revised project now specifies that approximately half of the runoff from the proposed roofs will discharge to rain gardens and, or, swales for treatment prior to entering the stormwater basins. In addition, each of the two stormwater systems has been re-designed so that run-off from the majority of the developed portion of site will be now be treated by two to three stormwater practices in series. In addition, potential impacts associated with runoff from the proposed subsurface sewage disposal area will be mitigated by establishing a conservation and seed mix turf through which runoff will pass as sheet flow. The turf will be mowed only once annually so that post construction runoff characteristics will match the existing forest with its limited under story.

Comment 6-9 (Letter #3 Ms. Marilyn Shanahan, NYCDEP, July 9, 2008): The DEIS frequently refers to the development as "cluster" and "clustered". According to the Town of North Salem Comprehensive Plan Update, "cluster design will concentrate the developed area on a property, thus leaving a significant proportion of the land area as open space" (page 28). Cluster development generally refers to open-space design, allowing for common areas to be utilized by residents. However, the Salem Hunt proposal appears to maximize development with the residences massed on nearly all developable portions of the property. The only common area on this project is a swimming pool and a small community building. The majority of undeveloped areas are the wetlands and their associated buffers and an approximately 25'-wide swath of trees on the south edge of the property. These areas are typically not considered developable. The term "cluster" is misleading and should be removed from the DEIS.

***Response 6-9*:** *Please see response 2-20.*

Comment 6-10 (Letter #3 Ms. Marilyn Shanahan, NYCDEP, July 9, 2008): Relative to the phosphorus Total Maximum Daily Load (TMDL), page 1-19 of the Executive Summary states that annual phosphorus loads to Muscoot Reservoir from the proposed action would be very small compared to the current phosphorus loading rates for the entire watershed, and therefore "does not represent the potential for a significant impact on any on- or off-site water resources, including the Muscoot Reservoir". The DEIS primarily relies on assumed regulatory compliance as a means of mitigation. This Department is concerned that such incremental increases in phosphorus loading, however small they may seem, may have the potential to accelerate the degradation of water quality in the Muscoot Reservoir. Furthermore, these incremental increases could impact the Town's ability to meet its State-mandated phosphorus reductions. A means other than regulatory compliance to mitigate or avoid impacts associated with increases in phosphorus and the TMDL in the watershed should be considered.

***Response 6-10*:** *As detailed in the revised SWPPP, the proposed project has been redesigned and following construction, 0.28 fewer pounds of phosphorous would be discharged annually from the site than is currently discharged*.

Comment 6-11 (Letter #8 Mr. Frank Annunziata, Hahn Engineering, July 25, 2008): The applicant is advised that pursuant to the NYSDEC SPDES General Permit (GP-0-08-02), as of September 30, 2008 this project will have to demonstrate compliance with the “Enhanced Phosphorous Removal Standards.” This may involve changes to the site plan that could include an increase in the area of disturbance for construction of the stormwater basins.

***Response 6-11*:** *The revised SWPPP, and the stormwater basins specified in it, have been amended to comply with GP-0-08-001 and the Enhanced Phosphorous Removal Standards set forth in Chapter 10 of the Manual.*

Comment 6-12 (Letter #8 Mr. Frank Annunziata, Hahn Engineering, July 25, 2008): There are numerous places in the document that state that there is no wetland encroachments for this project. This appears to be incorrect based on the information provided. Figure 6-5 “Existing Conditions Map” shows the location of the NYSDEC wetland on the northeast side of June road. The project plans show the location of the drainage discharge line from CB#42 proposed to be constructed in this area and within the NYSDEC wetland. In addition, the plans show an unrealistically narrow width of disturbance for this construction (five (5) feet). A more realistic width, that considers access, placement of spoils, construction materials and erosion control of

a minimum of ten (10) feet should be provided. Also the document should be revised to reflect this encroachment and the need to obtain local, NYSDEC and Army Corps of Engineers (ACOE) approvals.

> ***Response 6-12*****:** *The NYSDEC wetland noted in the comment is located on private property and in the right-of-way of June Road. A Certified Professional Wetland Scientists (PWSs) has recently delineated the boundary of the wetland within the June Road right of way and conducted visual inspections from June Road of the wetland on private property with the project engineer The delineation and inspections have revealed that, at its closest, the wetland is approximately six feet from the edge of the June Road pavement and that the majority of the wetland is considerably further away from the proposed stormwater line. Figures 6-3 and 6-4 depict existing conditions in the location of the proposed stormwater line adjacent to June Road. A plan showing the stormwater line and the location of the wetland boundary within the right-of-way is shown in Figure 6-5. In the opinion of the PWSs, the wetland is a sufficient distance from the proposed drainage line that there will be no disturbance of the wetland.*
>
> *However, to avoid potential direct impacts on the wetland, a siltation fence barrier which will represent the construction limit line, will be installed between the wetland and the proposed excavation. In addition, in those areas proximate to the wetland (within 15 feet) all excavated soil will be placed directly into a truck bed rather than stockpiled. An environmental monitor engaged by the Applicant will oversee the pipe installation to ensure no direct or indirect encroachments into the wetland occur. These techniques will also be employed during construction of the site entrance/utility line in proximity to the on-site portion of Wetland D. A detail showing the pipe installation is provided as Figure 6-6 Proposed Pipe Installation Detail.*

Comment 6-13 (Letter #8 Mr. Frank Annunziata, Hahn Engineering, July 25, 2008): The applicant should explain how the sole use of "traction sand" would be ensured as well as procedures for recovering the used material. The explanation on Page 6-22 regarding which products will be avoided does not explain how the sole use of traction sand will be ensured as well as how the use of other chemicals, dyes, fertilizers, herbicides or similar materials will be avoided.

> ***Response 6-13*****:** *The use of traction sand will be ensured through a contract executed between the Homeowner's Association and the property management company engaged to perform maintenance of the property. The contract will specifically exclude the use of other chemicals, dyes, fertilizers, herbicides and similar materials. Traction sand will be swept from roadways and removed from catch basins on a periodic basis (annually, at a minimum) as part of the Homeowners Association routine maintenance.*

Comment 6-14 (Letter #8 Mr. Frank Annunziata, Hahn Engineering, July 25, 2008): The proposed design of the stormwater ponds 1.1 and 2.1 do not comply the New York State Stormwater Management Design Manual in that the proposed aquatic benches are approximately 3.5 feet deep where a maximum of 1.5 feet is allowed and safety benches of over 23% where 6% maximum is allowed.

> ***Response 6-14*****:** *The proposed stormwater management basins have been redesigned and now comply with Chapter 10 of the Manual. The redesigned basins now include the*

appropriate aquatic benches, as well as, safety benches (where required) or appropriate side slopes.

Comment 6-15 (Letter #8 Mr. Frank Annunziata, Hahn Engineering, July 25, 2008): The grading and utility plan should include the proposed drainage structures, rim, invert and pipe sizes. In a letter dated October 29, 2007, the design consultant stated that it is his position that it is too early to design the drainage system and once the layout has been finalized, drainage pipe sizes will be provided. For design of the site plan utilities prior to site plan approval, this information must be provided on the plans and a report will need to be submitted that demonstrates that the onsite stormwater conveyance system is designed to convey at least the 10 year storm along the collection route and the 100 year storm at all critical points where flooding may impact adjacent properties.

***Response 6-15*:** *The stormwater collection and conveyance systems will be designed to convey the minimum 10-year design storm along the collection route. In addition, where necessary, the systems will be designed to convey the 100-year storm safely to the stormwater management basins. The additional information requested in the comment including drainage structures, rim and invert elevations, and pipe sizes is not necessary to complete the assessment of potential environmental impacts and will be provided as the site plan approval progresses.*

Comment 6-16 (Letter #8 Mr. Frank Annunziata, Hahn Engineering, July 25, 2008): The velocity dissipater detail now provided should include dimensions for the length and width or a sizing table if these vary across the site.

***Response 6-16*:** *Velocity dissipater dimensions will be provided in a sizing table, next to the detail, when the collection system calculations are completed. The dissipater will be sized in accordance with the August 2005 New York State Standards and Specifications for Erosion and Sediment Control.*

Comment 6-17 (Letter #8 Mr. Frank Annunziata, Hahn Engineering, July 25, 2008): The Outlet Structure Detail for Pond 1.2P indicates that the invert elevation of the 24 inch outflow pipe is 553.0 while the report indicates that it should be 552.5. This should be corrected.

***Response 6-17*:** *The proposed stormwater basin 1.2P has been redesigned. The invert elevations on the detail and in the report are now consistent.*

Comment 6-18 (Letter #8 Mr. Frank Annunziata, Hahn Engineering, July 25, 2008): Construction details showing basin dimensions and sizing calculations for the proposed temporary sediment basin(s) should be provided. Inflow and outflow locations should be shown on the plans. Also an emergency overflow should be provided for basin 1.1P. Sediment markers should be provided in each basin that will indicate the elevation at which sediment removal is required.

***Response 6-18*:** *Details of the temporary sediment basins are shown on the plans and sizing calculations are included in the report. Emergency overflows are provided for all the stormwater basins and sediment markers have been added to the stormwater basin details to indicate when sediment removal is required.*

Comment 6-19 (Letter #8 Mr. Frank Annunziata, Hahn Engineering, July 25, 2008): The location of proposed utilities to be brought into the site (i.e. gas, electric, telephone, cable TV) should be shown on the plans. Site utilities are to be installed underground. This should be noted on the plan.

> ***Response 6-19*****:** *The locations of the proposed utilities to be brought into the site will be determined by the utility suppliers. The utility suppliers will provide these locations upon completion of a final layout. A note has been added to the plan indicating that all site utilities are to be installed underground.*

Comment 6-20 (Letter #8 Mr. Frank Annunziata, Hahn Engineering, July 25, 2008): The layout plan should include all proposed at grade structures, i.e. catch basins, sewer manholes, outlet control structures, headwalls, rip-rap aprons etc.

> ***Response 6-20*****:** *As agreed between the project engineer and the Planning Board's consulting engineer, adding the information noted in the comment to the one layout plan would make the plan difficult to read. As such, the information has been presented in a series of sheets that generally conform to Section A267-9 of the Town Code (the Code). In accordance with Section A267(B)(1) of the Code, the layout plan is intended to show certain existing features and the basic layout of the proposed features including the roads, buildings, lighting and plantings, and to provide critical dimensions, setbacks, radii, and road geometry. All of the at-grade utilities such as catch basins, sewer manholes, and outlet control structures, are clearly identified on the Grading and Utilities Plan as required by Section A267-9(B)(2) of the Code.*

Comment 6-21 (Letter #11 Mr. Edward Burroughs, Westchester County Planning Department, July 28, 2008): Consider impact of proposed grading on wetlands. Two areas of proposed grading raise concerns about potential long-term impacts on the on-site wetlands.

In order to create building platforms for proposed buildings #7 and #8, the plans show construction of a retaining wall over 260 feet in length on, or within, the 100 foot regulated area boundary from a New York State designated wetland. Construction within a buffer area should be avoided whenever possible. Further, we note that the buffer area would be on the high/top side of the wall with the units constructed on the low side, approximately 7 to 8 feet lower than the buffer area. This would result in the building elevation being the same elevation as the wetland itself. The Town should consider if this type of re-grading could alter subsurface water flows, create undesirable conditions for the new units and establish the potential for long-term maintenance problems.

Just to the north of this area, the plans show the construction of portions of two stormwater basins extending within the 100 foot regulated area around two different Town-designated wetlands. As noted above, construction within wetland buffer areas should be avoided whenever possible.

Consideration of an alternative layout as suggested under #3 above should have as one objective the removal or mitigation of these potential impacts.

> ***Response 6-21*****:** *Refer to Response 6-2. As noted, the plans have been revised to eliminate all disturbance of the Wetland A and C buffers. Two hundred square feet, or 0.005 acres, of Wetland B's buffer would be temporarily disturbed with the installation of*

a well line. This disturbed area will be immediately replanted following completion of the pipeline as shown on the landscaping plan. In addition, the proposed buildings adjacent to Wetland A have been adjusted so that the lowest finished floor elevation is approximately four feet higher than the wetland. The adjustments eliminate the risk of altering subsurface water flows, creating undesirable conditions for the new units, and establishing the potential for long-term maintenance problems.

Regarding the proposed bridle trails, which are also discussed in Response 6-2, it is noted that less formal trails through the existing buffers currently exist on the site. It is reported by the Bridle Trails Association that as many as 10 horses per day use these trails, and that the proposed connections to the vast trail network in other areas of North Salem and adjacent towns is a significant benefit to Town equestrians. A total of approximately 2,000 linear feet, or 12,000 square feet of trail, will remain on the site. Since the site is currently being used for equestrian trails, the proposal does not represent a significant change in the function of the site buffers. The proposed planting plan for enhancement of the buffers, does consider the more formal nature of the future trail use, and in several locations dense plantings are proposed between the trails and the wetland boundary. The preservation of this equestrian use is a substantial mitigation measure for the overall project.

Comment 6-22 (Letter #11 Mr. Edward Burroughs, Westchester County Planning Department, July 28, 2008): Reduce impervious surfaces. One of the alternatives in the draft EIS features the use of permeable paving surfaces and narrower pavement width to further reduce stormwater runoff associated with the project site. The site plans submitted with the draft EIS do not include these features, instead showing internal roadway widths of 24 feet and no permeable paving surfaces.

Given the site's location within the Croton Watershed, it is critical to take whatever steps possible to reduce stormwater runoff and improve stormwater quality as documented in the Croton Plan. A relatively simple way to do this would be to implement permeable paving surfaces in the lower-traffic areas of the development, such as parking spaces, driveways and the lowest traffic roads. Where roads must be paved, roadway width should be reduced. The current configuration of 24-foot wide roadways assumes two 12-foot wide travel lanes – a configuration that is more appropriate for higher-speed public roadways. In the case of lower-speed access roads to a condominium development, consideration should be given to lane widths of nine feet, for a total road width of 18 feet. This narrower roadway width will also have the added benefit of reducing vehicle speeds within the development.

***Response 6-22*:** *Refer to Responses 6-10 and 6-11.*

Proposed impervious surfaces have been reduced from 5.9 acres to 4.3 acres since the DEIS and now porous pavement is proposed for all visitor parking, recreation area parking, roadside sidewalks, and residential driveways. In addition, proposed roadway widths have been reduced from 24 feet to 20 feet, and the total length of the road has been reduced by approximately 375 feet. These reductions in impervious surface will not only reduce stormwater runoff and improve stormwater quality, but in the case of the reduced road width, will also reduce vehicle speeds in the development.

Comment 6-23 (Letter #12 Ms. Jessica Bacal, Westchester County Planning Department, July 23, 2008): Clear-cutting of trees on the mostly wooded 40 acres should be avoided not

only for the indisputable benefits of retaining open space and preservation of the rural character of the surroundings but also to avoid the consequential negative impacts that may occur with additional Impervious surface coupled with the loss of trees on the site. Great attention must be paid to proper stormwater management and runoff controls in order to protect the surrounding water resources that lie within the New York City Watershed.

> ***Response 6-23*****:** *Approximately 20.3 acres of trees and existing vegetation will be removed, which is the area required to execute the proposed site development plan. The 40 acre Salem Hunt project site occupies only 0.076 percent of New York City's 76 square mile Muscoot Reservoir Watershed, a part of the City's Croton Drinking Water Supply Watershed. As discussed in the DEIS, the Salem Hunt SWPPP (see Appendix F) has been developed to mitigate potential adverse impacts on surface water resources, including wetlands, from post development changes in stormwater discharges. The SWPPP includes an Erosion and Sediment Control Plan designed to prevent sedimentation during construction, and a Stormwater Management Plan that specifies measures to mitigate potential impacts from post construction changes in the stormwater volume and peak discharge rates, and pollutant loading. As such, no significant adverse impacts on water resources from post construction changes in stormwater characteristics are anticipated*.

Comment 6-24 (Letter #14 Ms. Fay Muir, CWCWC, July 28, 2008): The entrance road will traverse part of the NYSDEC wetland buffer. In addition, Stormwater Detention Basin 1.1 will impact the buffer of Town Wetland B, and Stormwater Detention Basin 1.2 will impact the buffer of Town Wetland C.

Unfortunately, the incursion into the NYSDEC buffer appears to be unavoidable. There is no other way to access the property without doing even more damage. However, the incursions into the Wetlands B and C buffers are unacceptable. Wetland buffers are critical to the protection of the wetland. Stormwater ponds and basins are particularly harmful since they alter, through detention, the hydro period of the water that nourishes the wetland. The applicant should alter the configuration of the proposed condo units so as to keep the detention basins out of those buffer areas.

> **R*esponse 6-24*****:** *As noted, the disturbance to the DEC Wetland buffer for the site access is unavoidable, but has been minimized to the extent practicable. Please refer to Responses 6-2 and 6-21 regarding other plan changes intended to eliminate or minimize buffer impacts. Also as noted above, a buffer enhancement planting plan is now part of the site landscaping plan.*

Comment 6-25 (Letter #14 Ms. Fay Muir, CWCWC, July 28, 2008): Finally, the applicant has not made explicit the ultimate use of the buffer areas between some of the condo units and the adjoining wetlands. Specifically, will units 7, 8, 9, 11, 12, 13, 14 and 15 that abut the buffers to the town wetlands use the buffer areas for lawns? If so, they should not be maintained as lawns that are conducive to polluted runoff into the wetlands. They should be thickly vegetated so as to protect the wetlands.

> ***Response 6-25*****:** *Refer to Responses 6-2, 6-21 and 6-24. Revisions to the proposed site design have eliminated all wetland buffer disturbance with the exception of those that would result from construction of the access road from June Road and from construction of on and offsite stormwater infrastructure. The existing wetland buffers will be*

maintained in their natural state and proposed disturbance directly outside of the wetland buffers will be stabilized with native plantings, and native seed mixes, to further ensure that the wetlands are fully protected from the effects of development.

Comment 6-26 (Letter #14 Ms. Fay Muir, CWCWC, July 28, 2008): East-West Forestry Assoc. conducted a tree survey of Salem Hunt for Insite Engineering in July, 2006. A total of 1827 trees were surveyed, all of which will be destroyed (Volume II, Appendix D). Many of these trees are located in the wetlands buffers (Map TP-1, No. 14/16). Of these trees, at least 78 percent were in good health, 18 percent were in poor health, 5 percent were dead. Of those rated in good health, only 13 percent were below 10" dbh (diameter at breast height or 4.5 feet). Of these, most were 8" dbh. All of the following had many specimens 10" dbh and over:

black birch
northern red oak
American beech
bitternut hickory
white ash
Norway maple
white oak
black oak
American elm
sugar maple
black cherry
yellow poplar
sassafras
shagbark hickory
American basswood
pin oak, ailanthus
swamp white oak
black cherry
Apple.

This wide diversity of trees also attested to the health of the forest.

According to the applicant, 20.2 acres, i.e. 50.5 percent of the project area would be deforested. In actual fact, the remainder is wetland and cannot be developed. A total of 5.9 acres would become impervious surface, and 14.3 acres would ultimately be revegetated, according to the applicant (Vol, I, page 1-10). However, no revegetation can duplicate the benefits of the destroyed hardwood forest. The "native ornamental plants, lawns, and landscaped plots within the developed areas..." that the applicant proposes to install are a far cry from the original forest and cannot even begin to duplicate its attributes and advantages.

A 1/8/2003 article in the NY Times by Mike Dombeck, chief of the US Forest Service from 1997 to 2001, entitled The Forgotten Forest Product: Water, clearly states the argument for forest protection. ". „ water is perhaps the most important forest product. Forests generate most of the water in the country, providing two thirds of all the precipitation runoff the water that comes from the sky — in the 48 contiguous states....How do forests produce water? The complex array of trees, shrubs, groundcover and roots slows runoff from rain and snow, and water is purified as it percolates through the soil and into aquifers. By slowing runoff, forests also reduce floods and erosion, minimizing the sediment entering streams and rivers. *Mature forests do their work best*

(emphasis added). They have the best soil and their mixed canopy — a mosaic of open and closed spots among the treetops - allows for snowfall accumulation and eventual runoff. Old trees use less water for growth than young trees do. And as *intact forests (emphasis added)* better regulate water chemistry and temperatures, they enhance habitat for aquatic species (In many streams this means better recreational opportunities such as trout fishing)....New York City has some of the best water in the world because it maintains healthy forests in its Catskill, Delaware and Croton watershed system...."

In the more urbanized areas of a watershed, trees are vital in treating stormwater and reducing runoff volume. "Depending on the species and the soil conditions (both the type of soil and its saturation level), trees can absorb a considerable amount of water. Also, water-polluting nitrates, phosphorus, and potassium, which in many areas are spurring the development of total maximum daily loads (TMDLs) for receiving waters, are readily absorbed by trees, which consider these substances food. Just how much can trees do to help? According to the American Forests organization, (www.americanforests.org), a healthy tree canopy can tremendously reduce stormwater runoff...In general, the thicker the vegetation on a site, the more the water is inhibited (emphasis added). "[1]

A well-developed forest has another very important attribute - as protector of wetlands and their buffers. Map #14/16 shows that many trees within the Town wetlands buffers are to be destroyed. Yet to cite only one research project among many, "...a typical medium-sized tree can intercept as much as 2,380 gallons of rainfall per year."[2] Thus, a forest has a mitigating action that can convert intense rainfall that pours through wetland buffers via gullies, into sheet flow whose intensity is dissipated over a large area and flows gently through the buffer and into the wetland. In the first instance, the buffer is denied any mitigating capability, With the disappearance of the forest, the buffers will be unable to prevent flows from intense storms from carrying pollutants into the wetlands. In addition, the water that would normally be absorbed by the tree roots will now go directly into the wetlands. How will this considerable additional water affect the health of the wetlands? What effect will it have on their long-term sustainability?

During the construction phase, there is considerable danger of soil erosion from land denuded of its previous forest. "Sediment runoff rates from construction sites are typically 10 to 20 times greater than those from agricultural lands, and 1,000 to 2,000 times greater than those from forest lands. During a short period of time, construction activity can contribute more sediment to streams than those deposited over several decades, causing physical and biological harm to our Nation's waters."[3] It is hoped that the Town will make sure that the applicant will use extraordinary precautionary measures during this extra-sensitive phase.

As global warming increases, the need also increases for standing forests to mitigate the effects of rising temperatures and more intense storm runoff.

The effects of this massive deforestation will have to be carefully evaluated in order to determine whether the impact on wetlands' functions, groundwater and stormwater runoff are indeed viable. Will it be possible to properly mitigate such impacts?

> ***Response 6-26*****:** *Refer to Responses 6-22 and 6-23. According to the NYCDEP, forests cover 75 percent of the New York City's 2000 square-mile watershed. The potential impacts on surface water resources that may result from removal of the tree cover include erosion and sedimentation, increased temperatures, and increased pollutant*

loads. These potential impacts would be mitigated by implementing the SWPPP, including the Erosion and Sediment Control and post construction stormwater management practices it specifies. The Applicant notes that no disturbance of any wetland is proposed, and as such, adverse impacts on wetlands are not anticipated.

Comment 6-27 (Letter #14 Ms. Fay Muir, CWCWC, July 28, 2008): Vol. I, page 6-22, the applicant states: "As provided in Table 6-9, the calculated ranges of estimated post-development pollutant loads are generally in the range of the pre-development pollutants as required by the NYCDEP regulations, and do not present the potential for adverse impacts on the receiving waters." This annual increase in loafing does not represent the potential to significantly impact any wetlands, watercourses, or the 4.9 billion capacity Muscoot Reservoir. Under the most conservative estimates, the total annual increase from both design lines would be only 1.121bs of TP." Then, on page 6-25, the applicant states again, but with slightly different numbers: "The most conservative estimate indicates that the annual phosphorus loads from the proposed Salem Hunt Project as shown in Table 6-9 would be increased by only 1.05 lbs/year (2.31kg). The 2.31kg/yr represent only 0.019% of the total phosphorous load of 11,560 kg/yr from the watershed to the reservoir..."Apparently, the "conversion" of lbs to kgs (1.051bs equals 2.31kgs according to the applicant) was not a mere typo where lbs and kgs should have switched places. It appears to be imbedded in the remaining calculations and puts every result on pollutant loading in doubt.

***Response 6-27*:** *Refer to Responses 6-10, 6-11 and 6-14, and 6-29*.

Comment 6-28 (Letter #14 Ms. Fay Muir, CWCWC, July 28, 2008): In Table 6-9, the results of the exports of the various pollutants are given within wide ranges. For example, for phosphorus - the pollutant of most concern - although the pre-development phosphorus loads are precise numbers, the post-development loads are within upper and lower limits that vary from 50% to 100%. The applicant is then able to claim that the "calculated ranges of estimated post-development pollutant loads are generally in the range of the pre-development pollutants as required by NYCDEP regulations..." (page 6-22, Vol. I). These wide ranges makes the results meaningless and unacceptable particularly in regard to phosphorus, the pollutant of most concern to the regulatory authorities. Even a small amount of phosphorus can generate large amounts of nuisance algae that interfere with the disinfection processes of the reservoir water prior to its distribution to the water-users. For example "It is estimated that one pound of phosphorus can generate up to 1,100 lbs of wet algae biomass (slimes, filamentous mats, and/or surface scums).[4]

Response 6-28: *Refer to Responses 6-11 and 6-14. The range of post-development pollutant loads is due to the variability in the performance of the treatment practices. The publication Fundamentals of Urban Runoff Management: Technical and Institutional Issues (Terrene Institute) was referenced to determine the appropriate loading rates for TP, TN, and TSS. Reducing the Impacts of Stormwater Runoff from New Development (NYSDEC) was referenced to determine appropriate loading rates for BOD. The loading rates, which are acceptable to the NYCDEP and NYSDEC, were then utilized to calculate the annual pollutant export values. Variables involved with this calculation include soil type and land use/ground cover characteristics.*

Numerous studies have confirmed that the pollutant removal performance of stormwater management practices varies depending upon temperature and other factors. For this reason, the efficiency of the practices are expressed as a range. The range of

post-development pollutant loads included in the SWPPP, and the DEIS, were calculated based upon pollutant removal efficiencies of the extended detention basins, grass swales, and grass filter strips, cited in NYSDEC's Reducing the Impacts of Stormwater Runoff from New Development. The removal efficiencies for the StormFilter were based on discussions with the manufacturer and review of the organic filter practice in the Manual. The Stormfilter unit meets NYSDEC criteria for an organic filter stormwater treatment practice.

Comment 6-29 (Letter #14 Ms. Fay Muir, CWCWC, July 28, 2008): The applicant's statement that 2.31 kg/yr of phosphorus that the project would create is only a small percentage of the 11,560 kg/yr of phosphorus entering the Muscoot, while true, is misleading. More to the point is that the phosphorus load to the Muscoot has to be reduced by 3,103 kg/yr under the Total Maximum Daily Load (TMDL) program that was approved for Croton reservoirs by NYSDEC and USEPA in 2001. North Salem ranks 4th among the 8 municipalities that pollute the Muscoot. North Salem's reduction load is 166 kg/yr.[5] Municipalities that do not comply with their reduction loads are subject to heavy fines by NYSDEC. Yet the applicant denies any responsibility for increasing pollution and states that "the burden for reducing phosphorous loading to achieve the TMDL, presently lies within the Town of North Salem and its regional partners." In other words, the town residents would have to pay for reducing the extra pollution created by this development and, if unsuccessful, would have to pay the fine for the Town not complying with its TMDL allocation.

***Response 6-29*:** *Refer to Responses 6-10, 6-11, and 6-14. The potential small increase in phosphorus associated with the development plan analyzed in the DEIS has been eliminated through the redesign of the project. The current design, which incorporates principles set forth in NYSDEC's Better Site Design publication, as well as, modifications to the previously proposed stormwater treatment practice, will achieve a 0.28 lb/yr decrease in existing phosphorus loads being discharged from the site. As such, the project will advance the federal, State, and municipal goal of reducing phosphorous in the Muscoot Reservoir and meeting the TMDL*.

Comment 6-30 (Letter #14 Ms. Fay Muir, CWCWC, July 28, 2008): CWCWC also has issues with the applicant's calculations of the phosphorus load to the reservoir. The applicant uses the Pollutant Loading Coefficient Method together with export coefficients supplied by the now defunct Terrene Institute.[6] For forests, the export coefficient for phosphorus, in kilograms per hectare per year (kgs/ha/yr) from forested areas is given as 0.1 kg/ha/yr. This applies to forests in the Pacific Northwest but not necessarily to forests in the Croton area. Indeed, the results of a series of measurements in this area and nearby gives a figure of 0.05 kg/ha/yr (this translates into 0.0446 lbs/acre/yr),[7] or half the export coefficient characteristic of the Pacific Northwest.

Since the Salem Hunt property is heavily forested, it is critical to use the correct export coefficient. Using the correct value which is 1/2 of that used by the applicant means that the phosphorus pollution exported from the site will need a larger reduction in order to regain its original value.

CWCWC realizes that this is a controversial topic. Yet the TMDLs for the Croton reservoirs were calculated on the basis of the 0.05 kg/ha/yr resulting from measurements on sites in the general area, and these TMDLs, as already mentioned, were approved by the federal and state authorities.

Response 6-30**:** *Refer to Response 6-28. The pre-development phosphorous loading rates utilized in the SWPPP are standard loading rates utilized to assess pollutant loading in stormwater runoff at a project specific scale, rather than the much larger reservoir watershed scale applied in the TMDL program. According to the Applicant, utilizing project specific loading rates produces more realistic estimates of pre construction loading than does the use of watershed scale loading rates. The loading rates applied in the Salem Hunt stormwater analysis have been used (since 1997) and continue to be accepted by the NYCDEP in its SWPPP permitting program. The Applicant has concluded that the loading rates utilized are acceptable*.

The phosphorus TMDLs for the Croton reservoirs were determined based on reservoir monitoring data and the Vollenweider model to estimate the total watershed loading. Modeling of the watershed sources, utilizing export coefficients, was not used in the TMDL calculation but was provided to guide implementation of phosphorus reductions. Additionally, no site-specific data was used for the nonpoint source load estimates. The phosphorus export coefficients were based on an average of literature values from the New York and Connecticut area.

Site-specific loading rate data is difficult to obtain and requires years of intensive monitoring. That level of monitoring is rarely available for individual development projects. Routine monitoring data from the reservoirs and streams are not at the proper scale or frequency to calculate export coefficients for a single land use.

Comment 6-31 (Letter #17 Hilary Smith & Joe Bridges, MDRA, July 30, 2008): The reference in the DEIS (pages 6-6, 6-7) to a "surface water quality sampling and analysis protocol to be developed for the proposed action in order to establish a baseline of project site water quality" states that same will be implemented in coordination with the Town of North Salem Consulting Engineer and the Town's Wetland Inspector. However, our office is not aware of any such protocol being submitted. Furthermore, the water quality data presented in DEIS Table 6-2, Salem Hunt Existing Surface Water Quality, represent but only a single date of surface water sampling conducted on August 29, 2007. There is no mention of that fact in the text, nor is there any indication of the conditions under which samples were collected (i.e., was it raining or dry; when did it rain last; what was the stream depth; and was it higher or lower than its mean high water elevation?). There is also no indication of the number of samples/per parameter that need to be collected in order to provide a mean and standard deviation as an acceptable measure of central tendency of extant water quality conditions. This level of data is important if it is to be compared with the results of any necessary post-construction sampling to detect any statistically significant departure from baseline results that may or may not be attributable to project site related activities.

Although the surface water quality data are limited, there is no evident attempt in the DEIS to set the results in perspective (are the values high, low or typical of streams in this part of the Town or region?); nor any discussion of the limitations of the data or what amount of data would be needed to adequately assess baseline water quality conditions. The DEIS related analysis should be revised and expanded accordingly to more completely and appropriately evaluate water quality conditions and impacts.

Response 6-31**:** *While the sampling data are limited, the data generally indicates adequate surface water quality on the date of sampling consistent with the water quality standards of the NYSDEC. The water quality data recorded are not sufficient to*

determine any measure of central tendency or water quality trend in the Wetland D stream. The sampling parameters were discussed with Mr. Frank Annunziata, the Town Consulting Engineer and Mr. Joe Bridges, the Town's Wetland Inspector, and these testing and analytical parameters were agreed upon.

In summary, laboratory analysis was conducted for total phosphorus, total nitrogen, biological oxygen demand (BOD) and total suspended solids. Field measurements were collected for pH, temperature, specific conductance and turbidity. Samples were collected on August 29, 2007. The weather during sampling was clear and approximately 85 degrees. Samples were collected in the summer but during a period of slightly higher than average precipitation. A total of 4.33 inches was recorded during August 2007, and 0.02 inches was recorded on August 26 and 0.85 inches on August 21, preceding the sampling. The stream was lower than average depth, based upon observations from previous visits at the site. Flowing water was observed at each of the three sampling locations.

While the sampling data is limited, it does provide an assessment of water quality during the summer season. The existing data does not contain sufficient data points to provide mean and standard deviation values. The DEIS Scope does not discuss post-construction sampling or long term water quality monitoring. The sampling results reflect relatively good water quality, typical of flowing streams in rural settings. Total Phosphorus was below the laboratory detection limit (0.05 mg/L) in two samples, and 0.08 mg/L in sample S-1. The sampling results can be compared to the New York State Ambient Water Quality Standards and Guidance Values (Title 6, 6 NYCRR and guidance documents found in the Division of Water Technical and Operational Guidance Series (TOGS 1.1.1). The State Standard for total phosphorus in designated water bodies is 0.02 mg/L. Therefore, a single sample exceeded the State standard. The State Standard for Nitrate (expressed as N) is 10 mg/L, while the sampling results were all below 1.0 mg/L. The State does not provide standards or guidance values for total suspended solids or for biological oxygen demand (BOD).

Comment 6-32 (Letter #17 Hilary Smith & Joe Bridges, MDRA, July 30, 2008): The DEIS (page 6-12) incorrectly states that "The proposed action does not include the disturbance of any wetlands, watercourse or other surface water resources on or off the project site." Plan Sheet SP-3.1, Grading and Utility Plan East, clearly shows a proposed stormwater drain pipe extending for approximately 250 linear feet along the easterly side of June Road, with an outlet discharging to a stream in NYSDEC Wetland L-32. A review of this area indicates that a portion of the Town and DEC regulated wetland will be disturbed by the pipe line and that the entire length of the pipe is within the regulated wetland buffer zone. Also, given the proximity of site wetlands to the proposed project site entrance road, it is likely that some direct impacts to Wetland D will occur, irrespective of what is shown on the project plans, as additional placement of fill for a stable sub-road grade at the entrance road may be required.

All contrary statements in the DEIS regarding the above should be revised; and appropriate impact evaluation and mitigation should be added accordingly.

***Response 6-32*:** *Refer to Response 6-12.*

Comment 6-33 (Letter #17 Hilary Smith & Joe Bridges, MDRA, July 30, 2008): DEIS Table 6-6 (page 6-15) needs to be revised to address the unaccounted wetland disturbances as discussed herein.

***Response 6-33*:** *Refer to Response 6-12*.

Comment 6-34 (Letter #17 Hilary Smith & Joe Bridges, MDRA, July 30, 2008): Potential impacts to wetlands from concentrated pollutants (accumulated in stormwater basins) should be identified and mitigated.

***Response 6-34*:** *Refer to Responses 6-10, 6-11, 6-14, and 6-29. Specifically, impacts from concentrated pollutants are not anticipated. The goal of the State SPDES program is to require stormwater treatment practices that will ensure that there are no impacts to downstream receiving waters. The project stormwater pollution prevention plan (SWPPP) is designed to be a multiple-staged treatment system, with forebays, micro pools, extended detention and vegetated swales all part of the treatment train. Any "pollutants" that accumulate in stormwater basins will be periodically removed as part of the long term monitoring plan established by the SWPPP.*

Comment 6-35 (Letter #17 Hilary Smith & Joe Bridges, MDRA, July 30, 2008): Locations for snow storage should be identified and any potential impacts related thereto evaluated and appropriate mitigation proposed.

***Response 6-35*:** *A proposed snow storage area has been added to the plans in the vicinity of proposed Stormwater Basin 2.2. The basin would capture and treat snow melt from the area and mitigate any potential adverse impacts on surface water resources associated with melted snow. The applicant is committed to not using de-icing materials on the private roads associated with the project, and will use plows and sand only.*

Comment 6-36 (Letter #17 Hilary Smith & Joe Bridges, MDRA, July 30, 2008): The perspective of the DEIS appears to be that stormwater basins, the septic system and the wetlands and their buffers take up most of the unconstrained developable areas for roads and buildings, and therefore encroachment into buffers is unavoidable. The DEIS perspective of mitigation appears to be that the project will disturb only limited areas of regulated wetland/watercourse buffer and that best management practices for development (which are mandatory), such as soil and erosion controls, SWPPP, IPM plan, tree protection and landscaping (largely serving residence aesthetics and buyer appeal) are appropriate mitigation offerings for the extent of forest removal, direct wetland buffer impacts and likely substantial indirect wetland and wetland buffer impacts resulting from construction and land use maintenance of the proposed action. Interestingly, the proposed removal of 0.48 acre of wetland buffer in one part of the project site is expressed as a "minor encroachment." The alternative of a smaller project that would avoid nearly all wetland buffer impacts, site development further away from the edge of wetland buffers and thereby greatly reduce the potential for secondary wetland and wetland buffer impacts, is not evaluated or considered.

Project design changes/mitigation measures should be considered (e.g., minimize development plan disturbance intensity, impervious surface footprint, increase separation/actual avoidance from site wetland/watercourse buffer areas to reduce direct and indirect secondary impacts; in-kind resource replacement and/or enhancements; larger intact forest and buffer areas; no-net-loss of wetland buffer functions; etc).

Response 6-36**:** *Refer to Responses 6-2, 6-21, 6-24 and 6-25 concerning the reduction/elimination of wetland buffer disturbance. As suggested, the site plan has been revised to minimize to the extent practicable the limits of disturbance overall on the site, and significantly reduce the amount of impervious surfaces. Refer to Responses 6-22 and 6-23 concerning reduced impervious surfaces and limited tree removal, respectively. It is noted that many of the best management practices identified in the comment are mandatory because they are considered to be appropriate methods of mitigating development impacts. While using these practices is not always the only way to mitigate impacts, these measures are always a large part if not all of a well thought out mitigation plan.*

As noted above, the only wetland disturbance would result from the construction of a foot bridge in Wetland D and 0.45 acres of wetland buffer, most of that associated with the unavoidable impacts from the site access road, would be disturbed. Therefore, no significant loss of the wetland's infiltration, runoff metering, microclimate amelioration, sediment trapping, soil stabilization, nutrient sequestration, wildlife habitat, or other wetland functions are anticipated. The Applicant notes that the project plans have been revised to incorporate wetland buffer plantings to mitigate the impacts resulting from the encroachments into the Wetland B and Wetland D buffers. Approximately 0.58 acres of buffer will be enhanced with plantings, and an additional half acre of wetland restored with the removal of phragmites and multifloral rose near the proposed site access at June Road.

Comment 6-37 (Letter #17 Hilary Smith & Joe Bridges, MDRA, July 30, 2008): The protection through avoidance and impact minimization of the site's regulated wetland/watercourse buffers is an important design focus missing from the proposed action development plan. The essential purpose of establishing wetland/watercourse buffer zones is to protect core areas of wetland/watercourse habitat and the multiple functions and benefits they provide, and to maintain an undisturbed transitional habitat (the buffer zone) between wetland and upland communities. In fact, in a number of situations wetland/watercourse buffer areas may be as important if not more important than the wetland/watercourses they bound. Wetland/watercourse buffer areas can function as wildlife corridors, provide wetland ingress-egress areas and transitional habitats for semi-aquatic wildlife, serve as a visual and noise barrier, ameliorate harsh climatic conditions (wind, excessive heat and dryness), absorb and renovate runoff water quality, remove and break down toxicants, and intercept sediment, bacteria and viruses that might otherwise enter and degrade wetlands and downstream water quality. In fact, there is abundant scientific study and documentation supporting that in many instances 100 feet is just inadequate to accomplish buffer objectives (Hagerdorn 1984, Hagerdorn et al 1978, Keswick and Gerba 1980, and numerous reports by others). More effective buffer zone widths need to be determined on a site specific basis taking into consideration such factors as vegetative cover, slope, soil type, and physical and chemical attributes of soils.

Response 6-37: *Refer to Responses 6-2, 6-21, 6-24, 6-25 and 6-36. While the Applicant recognizes that the Town of North Salem regulated controlled areas (buffers) provide an important function by protecting wetlands, the comment concerning the importance of the buffers being greater than the wetland, or watercourse, they bound is not supported by science or by the legislative findings set forth in the Town Code. Those*

findings speak to the importance of wetlands and watercourses, but not their buffers, and indicate, in part:

"Wetlands and watercourses in the Town of North Salem are invaluable resources for flood protection, wildlife habitat, open space and water resources.

Wetlands and watercourses in the Town of North Salem have been or are in jeopardy of being lost, despoiled or impaired by unregulated draining, dredging, filling, excavating, building, pollution or other acts inconsistent with the natural uses of such wetlands and watercourses.

Recurrent flooding of areas of the Town of North Salem, aggravated or caused by the loss of wetlands or alteration of watercourses, has serious effects upon natural ecosystems and presents serious hazards to the health, safety, welfare and property of the people of the Town, within and outside such wetlands and watercourses, including loss of life; loss of and damage to private and public property; disruption of lives and livelihoods; interruption of commerce, transportation, communication and governmental services; and unsanitary and unhealthful living environmental conditions.

Wetland and watercourse conservation is a matter of concern to the entire Town, and the establishment of preservation, protection and conservation practices is essential to the public health, safety and welfare since acts on wetlands and watercourses in one location affect persons and property in other locations.

Wetlands and watercourses overlap many properties and neighborhoods, and experience has demonstrated that effective wetland and watercourse protection requires uniformity of preservation, protection and conservation throughout the Town."

Activities within wetland buffers, and in some cases even within wetlands themselves, do not always represent an adverse impact to the wetland resources. There are a number of studies that show that if stormwater filtering and attenuation are the primary function of a wetland/buffer system, that a 25 foot buffer is adequate. However, if a wetland is large in size, has a well developed and diverse vegetation community and supports a threatened or endangered species, 100 feet may not be enough. The activities within the wetland buffers on this site are either unavoidable (site access from June Road), temporary (minor grading for installation of a well line and construction of a stormwater outfall) or desirable from the standpoint of the Town (location of bridle/hiking trails and bridge crossing). While the applicant is not downplaying the importance of the site buffers, and is proposing to mitigate the impacts with additional plantings and wetland restoration, there is no evidence that these activities will have a long term impact on the wetlands on this site.

The applicant proposes to mitigate wetland buffer impacts of the project by buffer enhancement with additional native plants and to remove invasive species from a portion of Wetland D.

Comment 6-38 (Letter #17 Hilary Smith & Joe Bridges, MDRA, July 30, 2008): Given the acreage of the subject property, there does not appear to be any documented justification for the proposed development activities (including grading and stormwater management activities) within the Town's minimum regulated wetland/watercourse buffer areas, except for site access

which has few if any options absent an easement over adjacent property or the addition of more land to the subject property. The proposed site development plan should be revised to avoid all local regulatory wetlands and buffers except for the minimal disturbance necessary to provide a safe and compliant site access driveway.

Response 6-38**:** *Refer to Responses 6-2, 6-21, 6-24 and 6-25.*

Comment 6-39 (Letter #17 Hilary Smith & Joe Bridges, MDRA, July 30, 2008): The extent of development proposed within and to the very edge of the site's wetland buffers may be unprecedented in the Town. The total proposed aerial impact to regulated buffers exceeds one (1) acre (with the proposed encroachments into the regulated buffer varying from 20 to 70 feet over a total linear distance of 430 feet). In addition, proposed development is planned to extend right-up to the very edge of approximately ninety (90%) percent of the entire boundary of the wetland/watercourse resources of the subject property. This close proximity will result in increased potential for primary and secondary adverse environmental impacts, including:

- Damage and loss to buffer trees and other vegetation during tree felling at or near the buffer boundary.
- Uncontrolled long-term soil erosion and sediment dispersal into the buffer.
- Increased potential for the spread of weedy species into the buffer.
- Alteration of microclimatic conditions due to vegetation removal within and at the boundary of buffers. Buffer areas will become warmer, drier and subject to stronger wind and potential tree throw.
- The density of development proposed will make not only the developed areas, but also the limited remaining upland wetland/watercourse buffers and associated wetlands/watercourses less likely to be used by wildlife sensitive to human presence and activities.
- Substantial impacts to hydrologically connected off-site wetlands/watercourse and associated buffers are also possible, including stream warming, streambank and streambed erosion and sedimentation due to sediment-laden stormwater discharges and eutrophication due to increased nutrient discharges.

The DEIS should substantively evaluate these impacts and propose mitigation measures intended to minimize or otherwise address these impacts.

Response 6-39**:** *Refer to Responses 6-2, 6-21, 6-24 and 6-25*.

Comment 6-40 (Letter #18 Scott Ballard, NYSDEC July 30, 2008): Freshwater Wetlands (Article 24) - The project site contains a portion of NYS protected Freshwater Wetland LC-32 (Class II) as shown in circulated documents. Any work or disturbance proposed within this wetland or its 100 foot adjacent area requires a permit from DEC. Please note that plans circulated with the DEIS did not contain the required Wetland Boundary Validation Block (attached), which must be signed by DEC Bureau of Habitat staff.

Response 6-40**:** *The Applicant will secure all required NYSDEC permits prior to commencing. A Wetland Boundary Validation Block, signed by Heather Geirloff, of NYSDEC Bureau of Habitat, on March 17, 2007, is on file with NYSDEC Bureau of*

Habitat, and the Town of North Salem. A copy of the new signed map (November 7, 2008), based on updated wetland delineation performed by Heather Gierloff on March 17, 2008, is attached.

Comment 6-41 (Letter #19 Phil Bein & Charles Silver, Watershed Inspector General, July 30, 2008): The WIG submits these comments because it is concerned about the water pollution impacts the Salem Hunt project, in its current form, would have on the Muscoot Reservoir and its drainage basin. The WIG Office does not oppose Salem Hunt. Rather, by these comments WIG seeks reasonable and feasible modifications to the Project to eliminate its proposed increased discharges of phosphorus pollution in stormwater, and ensure compliance with the federal Clean Water Act, New York's water pollution control law, and the State Environmental Quality Review Act ("SEQRA").

As discussed below and in the attached Technical Appendix A, the Project's current plans for addressing water pollution from the development are inadequate. The Muscoot Reservoir is already heavily polluted by phosphorus and the Project, in its current form, would likely contribute to and exacerbate the problem. See Points V.A, V.B below; Technical Appendix A, pp. 1-10. Phosphorus pollution into a public drinking water supply, such as the Muscoot Reservoir, exposes people who drink the water to increased health risks while also impairing the taste, color, and odor of the water.

In addition to better addressing stormwater pollution, the Project sponsor should: (1) prepare a supplemental DEIS to address wastewater treatment at the site and ensure that the public is afforded an opportunity to comment on that environmental review, (2) modify the project design to eliminate construction in wetland buffer areas, and (3) improve integrated pest management practices at the site.

***Response 6-41*:** *Refer to Responses 6-2, 6-21, 6-24 and 6-25 concerning the redesign of the project and the elimination of previously proposed wetland buffer disturbances. Refer to Responses 6-10, 6-11, 6-14, and 6-29 and specific responses to Mr. Claytor's comments, below, concerning phosphorous pollution.*

As noted above, and discussed in the DEIS, the 40 acre Salem Hunt project site occupies only some 0.076 percent of New York City's 76 square mile Muscoot Reservoir Watershed. Stormwater from the site will discharge into the nearly 8 mile (almost 13 km) long reservoir with a 4.9 billion gallons capacity. As set forth in the SWPPP that accompanies this DEIS, following construction, 0.28 fewer pounds of phosphorous will be discharged from the site annually than is currently being discharged.

SEQRA specifies, in part, that "the lead agency may require a supplemental EIS, limited to the specific significant adverse environmental impacts not addressed or inadequately addressed in the EIS that arise from (a) changes proposed for the project; or (b) newly discovered information; or (c) a change in circumstances related to the project." In the Applicant's view, other than changes to the proposed plan that reduce potential environmental impacts, there have been no changes in the proposal, and further, there has been no newly discovered information, or change in circumstance related to the project, since the SEQRA review of the project was initiated. Therefore, a supplemental environmental impact statement is not warranted or appropriate.

Comment 6-42 (Letter #19 Phil Bein & Charles Silver, Watershed Inspector General, July 30, 2008): The DEIS acknowledges that the development will increase discharges of phosphorus pollution in stormwater runoff from the site, but contains internally inconsistent calculations of its projected increases in phosphorus pollution. In addition, these projected increases significantly underestimate the likely increase in phosphorus pollution – by more than an order of magnitude. See Technical Appendix A, pp. 1-6. As discussed in Part IV above, because such increases in pollution "will cause or contribute" to existing violations of water quality standards in the Muscoot Reservoir, a permit that would authorize the pollution should not as a matter of law be issued to Salem Hunt under the Clean Water Act or Article 17 of the New York Environmental Conservation Law.

Accordingly, Salem Hunt should modify its stormwater pollution prevention plans to prevent increases in pollution to ensure its compliance with federal and state law. In addition, in accordance with those laws and pursuant to its duty to mitigate environmental impacts under SEQRA, it should seek a net reduction of phosphorus loadings from the site of 19 percent, the overall percentage reduction needed throughout the Muscoot drainage basin to achieve the required TMDL reductions.

> ***Response 6-42*****:** *Refer to Responses 6-10, 6-11, 6-14, and 6-29. As indicated in the revised SWPPP that accompanies this FEIS, the proposed stormwater management facilities, have been redesigned in accordance with Chapter 10 of the Manual (Enhanced Phosphorous Treatment Standards) and now, would reduce existing loads of phosphorous from the site by 0.28 pounds per year (lbs/yr) following construction. The Applicant notes that the obligation to reduce existing phosphorous loading in the Muscoot Reservoir Watershed by 19 percent is an obligation imposed on the Town of North Salem, and other Small Municipal Separate Storm Sewer Systems (MS4s) in the watershed, by NYSDEC.*

Comment 6-43 (Letter #19 Phil Bein & Charles Silver, Watershed Inspector General, July 30, 2008): Technical Appendix A (pp. 6-10) discusses various specific problems with the Project's stormwater and erosion and sediment control plans: failure to comply with enhanced phosphorus removal standards; inadequate aquatic benches; inadequate maintenance access to stormwater basins; inadequate forebay; inappropriate plantings near embankments; inadequate outlet configuration for basins; inadequate calculations of impervious areas; need for further investigation of Test Pit SW3; clarification needed concerning adequacy of Test Pit SW5 as a wet pond; adequacy of Test Pit SW6 as a dry pond; lack of test pit logs for stormwater basins; various problems with HydroCad calculations; and need to use a proprietary silt sock instead of a silt fence for erosion control.

These problems impair the effectiveness of the Project's stormwater management and erosion and sediment control plans and will likely contribute to increased discharges of phosphorus and other pollutants in stormwater. Accordingly, these plans should be revised to address our concerns.

> ***Response 6-43*****:** *Refer to Response 6-42**.** Additional test pits were conducted during the redesign, and relocation, of the stormwater management basins to verify that suitable soil conditions exist. The logs of these additional test pits are included in the Supplemental Hydrogeology Investigation (see Appendix K).*

Comment 6-44 (Letter #19 Phil Bein & Charles Silver, Watershed Inspector General, July 30, 2008): As discussed in the Technical Appendix A (p. 11), various federal, state, and local wetlands are found on the site. While the Project would not entail construction within these wetlands, it does propose construction in a few locations within the regulated buffer areas adjacent to them. Buffers provide a vital function in protecting downstream wetland resources and providing natural attenuation of pollutants and it is feasible for the Project to eliminate such activities in buffer areas. Accordingly, the Project design should be revised to eliminate construction within buffer areas.

***Response 6-44*:** *Refer to Responses 6-2, 6-21, 6-24 and 6-25.*

Comment 6-45 (Letter #19 Phil Bein & Charles Silver, Watershed Inspector General, July 30, 2008): Applications of pesticides and fertilizers at the Project site can result in discharges of pollutants in stormwater to the Muscoot Reservoir. The Integrated Pest Management ("IPM") Plan in Appendix O of the DEIS does not take advantage of many pest exclusion and infestation prevention features that should be designed and engineered into this proposed condominium development project to prevent such discharges. Technical Appendix B recommends specific pest control features to be implemented during project planning, design, and construction that were not included in the DEIS's IPM Plan. Technical Appendix B, pp. 1-2.

***Response 6-45*:** *The IPM developed for the project has incorporated and is based upon pest exclusion and prevention features, to avoid the use of any pesticides, to the extent possible. These features and responses to comments found in Technical Appendix B (Horsley Witten Group, Inc. comments) are provided below in Responses 86 through 99.*

Comment 6-46 (Letter #19 Phil Bein & Charles Silver, Watershed Inspector General, July 30, 2008): In addition, while the IPM Plan addresses operation and maintenance for pest management after construction of the Project, it fails to include specific and effective measures to implement non-chemical pest management methods which are essential to any real "IPM" program. These shortcomings in the IPM Plan, see Technical Appendix B, pp. 2-3, should be corrected in a revised IPM Plan to prevent pollutant discharges.

***Response 6-46*:** *In addition to chemical pest controls, cultural programs (educational programs that teach techniques that avoid attracting pests) programs will be implemented, as well as the physical controls noted in responses 6-91 and 6-92.*

Comment 6-47 (Letter #19 Phil Bein & Charles Silver, Watershed Inspector General, July 30, 2008): Finally, unless soil samples disclose deficiencies in phosphorus in soils on which lawns and other landscaped areas are to developed, these areas should only receive "zero" phosphorus fertilizer (i.e., fertilizer that does not contain phosphorus). As discussed above, reducing phosphorus in the Muscoot Reservoir drainage basin is of paramount importance to restoring water quality in that reservoir.

***Response 6-47*:** *Proposed lawn areas that would be subject to fertilizer applications have been reduced from 4.6 acres to 2.5 acres since the DEIS. Only fertilizers containing no phosphorous would be applied on the site following construction. As such, impacts on the reservoir associated with fertilizer runoff are not expected.*

Comment 6-48 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): A couple of discrepancies were identified during our review of the Salem Hunt DEIS Section 6.2, Wetlands/Watercourses and Buffers with regard to phosphorous loading. "These include:

- Pre-existing TP loading in Table 6-5 does not match pre-existing TP loading in Table 6-9. Which values are correct?
- Potential increases in TP in text on pg. 6-25 (1.05 lbs/yr; 2.31 kg/yr) does not match those calculated using values in table 6-9 (1.12 lbs/yr; 0.51 kg/yr). Which values are correct?

***Response 6-48*:** *Refer to Responses 6-10, 6-11, 6-14, 6-29, and 6-42.*

Comment 6-49 (Letter # 19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The applicant provides an analysis of runoff quality where pre-development pollutant loading rates are compared to post-development rates. The methodology uses unit loading rates based on land use type to estimate pollutant loads and cites the "Reducing the Impacts of Stormwater Runoff from New Development" (NYSDEC, 1993). While this publication has been widely applied in New York as a reference, the land-use loading coefficients are from a 1979 publication entitled "Guidebook for Screening Urban Non-point Pollution Management Strategies" (NVPDC, 1979), and should not be used without appropriate caveats and adjustments to account for differing loading rates, rainfall and other climatic considerations of Northern Virginia in the mid-1970's where the loading estimates were first derived. Other methodologies such as the Watershed Treatment Model (Caraco, 2001) or the Source. Loading and Management Model — SLAMM (Pitt & Voorhees) are readily available, easy to apply and adaptable to the land uses, climate and precipitation characteristics of Westchester County, New York.

***Response 6-49*:** *The pollutant removal calculations in the SWPPP were prepared to demonstrate compliance with NYCDEP regulatory requirements. The methodologies utilized in the SWPPP are consistent with the requirements that NYCDEP has imposed for more than ten years. A supplemental phosphorus loading calculation, performed with the Simple Method, and which considers more recent studies and data to assess phosphorus loading from the project, has been included in the revised SWPPP.*

Comment 6-50 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The applicant's pollutant loading analysis uses pollutant loading reductions based on NYSDECs 1993 "Reducing the Impacts" document for the various stormwater management practices (SMPs) proposed for the project. The estimated pollutant removal rates for phosphorous, in particular, of between 40 and 60% for the extended detention ponds cited in this publication should not be used because:

1. The quoted rates are from Figure 15 in "Reducing the Impacts" and these are derived from Schueler's 1987 publication "Controlling Urban Runoff' and are based on data now more than 20 years old, and from a limited number of studies (Schueler, 1987); and
2. The range of phosphorous removal of between 40 and 60% for extended detention dry ponds is not supported by more recent monitoring studies and reports. The Center for Watershed Protection (CWP) Publication "National Pollutant Removal Performance Database" (Winer, 2000, v. 3, updated Sept. 2007), quotes a median

removal rate for total phosphorus of 20% for Dry Ponds (includes 7 ED dry pond studies, and 3 studies of other dry ponds).

Response 6-50**:** *Refer to Response 6-49. No extended detention dry ponds are currently proposed,. Instead, proposed stormwater practice 1.1P has been designed as a (W-4) pocket wetland, stormwater practice 1.2P is designed as a (F-1) surface sand filter, and stormwater practices 2.1P and 2.2P have been designed as (P-1) micropool extended detention ponds in accordance with Chapter 10 of the Manual.*

Comment 6-51 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The removal rates for grassed swales of 20 to 40% for total phosphorous (TP) for a channel length of 150 at a slope of approximately 6% has zero justification. Table 15 in "Reducing the Impacts" states that the design variant for this practice should be "low gradient swales with check dams." CWP's National Pollutant Removal database reports median TP removal of 24% for all swales. Removal efficiencies for swales are a function of contributing drainage area, resident time, and infiltrative capability. Draining 7.5 acres of land through a 150 foot channel at 6% grade and claiming between a 20 and 40% removal is completely unrealistic, and not supported by any science or calculations.

Response 6-51**:** *Refer to Response 6-49.*

Comment 6-52 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The applicant is claiming up to a 20% TP removal credit for the site area of the proposed wastewater effluent disposal field as drainage across a filter strip. This area has been identified by the applicant as a grass area and has been graded to drain downslope to the wetland resource area adjacent to June Road. Based on the proposed grading plan, the slope of this area, the runoff travel distance and the cumulative drainage area, maintenance of sheet flow across the forested area up-gradient from the wetland will not occur. Without sheet flow, the pollutant removal potential of a filter strip is negligible. We recommend that the pollutant reduction credit from this area be removed from the applicant's loading assessment.

Response 6-52**:** *Refer to Responses 6-8 and 6-49*.

Comment 6-53 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The applicant uses the same removal rates for SMPs regardless of where they are in the treatment system. For example, for Design Line 1, the first cell of the stormwater detention system, the so-called pocket pond, is given a rating of between 40 and 60% TP removal, and the dry extended detention pond is also given a rating of between 40 and 60% TP removal. This approach fails to understand the basic pollutant removal mechanisms of these types of stormwater management facilities, where the largest percentage of phosphorus removal occurs via particle settling and the first SMP in a treatment system removes a disproportionate amount of particulate matter, leaving less for subsequent SMPs. Prior research on this topic by HW staff has estimated that TP removal in the second SMP in a treatment system is no more than 50% the rated value of the first SMP. The pollutant loading reductions associated with SMPs installed in series should be adjusted accordingly.

Response 6-53**:** *Refer to Response 6-49. The comment incorrectly interprets the equation in Appendix A 2001 NYS Stormwater Management Design Manual. The equation allows for the calculation of the composite pollutant removal by a treatment*

train. The equation serves to reduce the pollutant load as it proceeds through the train, not the efficiency of the SMP. To clarify:

Assume a pollutant load of 10 lb (L)
Assume the first SMP in train has a removal efficiency of 50% (E_1) Assume the second SMP in train has a removal efficiency of 40% (E_2)
Using the NYSDEC equation: $R = L[(E_1) + (1-E_1) E_2] = 10[(0.5) + (1-0.5) 0.4] = 7$ lb of pollutant removed by train

The same calculation without combining the math produces the following:

For the 1st SMP: $R_1 = (L_1) (E_1)$
$R_1 = (10) (0.5) = 5$ lb of pollutant removed by 1st SMP
The load passed to 2nd SMP, call it L_2, is $L - R_1$ or $10 - 5 = 5$ lbs
For the 2nd SMP: $R_2 = (L_2) (E_2)$
$R_2 = (5) (0.4) = 2$ lb of pollutant removed by 2nd SMP
Total Removal: $R = R_1 + R_2$
$R = 5 + 2 = 7$ lb of pollutant removed by train

Comment 6-54 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The total expected phosphorous loading from the proposed Salem Hunt site to the Muscoot Reservoir Watershed was calculated using the Simple Method (Schueler, 1987), which was one of the approaches recommended by the NYSDEC in the State's initial issuance of the Stormwater Management Design Manual (formerly included as Appendix A). The calculations also account for the more realistic TP removal efficiencies for the proposed SMPs, as well as compensate for the expected removal efficiencies for the SMPs in series. The resulting phosphorous loading values are more realistic and significantly higher than those included within the applicant's SWPPP. These values are compared in Table 1 below. The phosphorous loading calculations are also included as Attachment A. The applicant should provide documentation as to why the loads offered by the Simple Method are not realistic or utilize one of the other methods offered above.

Table 6-1
Phosphorous Loading (lbs/year)

	Simple Method			SWPPP		
	Existing Conditions	Pre-Treatment	Post-Treatment	Existing Conditions	Pre-Treatment	Post-Treatment
DL-1	0.7	25.76	17.14	0.59	2.29	0.45-0.91
DL-2	2.63	50.43	26.91	1.78	5.65	1.53-2.58
DL-3	3.33	76.19	44.05	2.37	7.94	1.98-3.49

***Response 6-54*:** *Refer to Response 6-49.*

Comment 6-55 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): We recommend that the Stormwater Pollution Prevention Plan (SWPPP) and accompanying design plans be revised to ensure that all proposed stormwater management controls are sized and constructed according to Chapter 10 of the NYS Stormwater Manual. Beginning on September 30, 2008, the New York SPDES Permit will require all construction projects within the entire New York City Watershed located east of the Hudson River which encompasses the

Salem Hunt Site, to prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards.

This project should be redesigned in accordance with the requirements of Chapter 10. Noteworthy elements include the following:

- Design for a water quality volume of the 1-year frequency storm (approximately 3.2" according to Page 10-12 of the NYS Manual versus 1.2 used in the current DEIS);
- Application of a different SMP for Design Line 1, as the Pocket Pond (P5) is not an acceptable practice for phosphorus control (see Page 10-23 of the NYS SM Manual);
- Reduction in runoff volume using Better Site Design techniques (see comments below);
- Treatment of stormwater runoff to achieve an effluent concentration for particulate phosphorus of 0.1 mg/l; and
- Treatment of stormwater runoff to achieve an effluent concentration for dissolved phosphorus of 0.06 mg/l.

***Response 6-55*:** *Refer to Responses 6-10, 6-11, 6-29, and 6-42. The SWPPP and accompanying site plans have been revised to incorporate specific requirements of Chapter 10 of the Manual, as follows:*

- *The stormwater treatment practices have been designed for the water quality volume of the one-year frequency storm in accordance with pages 10-12 of the Manual;*
- *The stormwater management practice for Design Line 1 has been revised from a Pocket Pond (P-5) to a Pocket Wetland (W-4). Following treatment in the Pocket Wetland, the water quality volume will discharge to a Surface Sand Filter (F-1);*
- *Several Better Site Design (BSD) techniques have been incorporated into the revised site plan which reduce the post-development runoff volumes. These proposed techniques include:*

  Treatment of stormwater runoff from the majority of the Salem Hunt project will be accomplished by a treatment train of two treatment practices specified in Chapter 10 of the Manual. One treatment train will consist of two Micropool Extended Detention Ponds (P-1) and the other train will consist of a Pocket Wetland (W-4) and a Surface Sand Filter (F-1). Each of the practices have been designed to meet the requirements of Section 10.4 of Chapter 10 of the Manual. The Manual states that a single practice designed in accordance with Section 10.4 will achieve an effluent concentration for particulate phosphorus of 0.1 mg/L and an effluent concentration for dissolved phosphorus of 0.06 mg/L. As such, the proposed practices in series will achieve the effluent concentration noted in the comment.

Comment 6-56 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): As stated above, one of the treatment goals included within Chapter 10, Enhanced Phosphorous Removal Standards, of the NYS Stormwater Manual is to reduce runoff volumes by requiring each project to assess the feasibility of hydrologic source controls, and where feasible, implement those source controls. For each proposed plan provide the reasons for acceptance

and rejection of the various controls." Chapters 10.3.2 and 10.3.3 of the NYS Stormwater Manual recommend that BSD or Low Impact Development (LID) practices be implemented to achieve this goal and reduce the runoff volume by reducing the total impervious area and increasing infiltration. Since the Site is within a sensitive phosphorous loading area, development should be consistent with this goal and provide the least impacts to the environment. There are many different BSD approaches that can be integrated into the proposed site; these should all be carefully evaluated and the most applicable and effective BSD components should be chosen for the site. An example of a BSD approach that may be appropriate for this site would be the inclusion of rain gardens and vegetated filters on at least half of the residential sites: although other options may also be appropriate. The list of BSD and LID approaches and techniques on pages 10-19 through 10-20 of the New York State Storrnwater Management Design Manual should be considered as well as those included within the following references:

- New York State Better Site Design Handbook, 2008. New York State Department of Environmental Conservation.
- New York State Stormwater Management Design Manual, 2008. Chapter 9.

Response 6-56: *Refer to Response 6-55. The Salem Hunt project has been redesigned utilizing BSD principles and practices where appropriate. Incorporating the BSD techniques will reduce impacts associated with post construction changes in stormwater to the maximum extent practicable. In addition, the proposed stormwater management basins have been revised to comply with Chapter 10 of the Manual. The revised site plans incorporate three major BSD principles:*

- *Preservation of natural features and conservation design.*
- *Reduction of impervious cover.*
- *Use of natural features and source control for stormwater management.*

The revised site development plan incorporates the following BSD techniques in accordance with the NYSDEC publication Better Site Design, April 2008.

1. *No regulated (Town or State) wetland buffer disturbance, other than that resulting from construction of access road and off-site drainage improvements;*
2. *Preservation of natural areas and vegetation, specifically along the southern property line;*
3. *Reduction in clearing and grading;*
4. *Reduction of impervious cover;*
    - *Reduction in roadway width from 24 feet' to 20 feet;*
    - *Reduction in roadway length by 375 linear feet;*
    - *Elimination of cul-de-sacs;*
    - *Parking areas, driveways and walkways will be pervious pavement;*
5. *Disconnection of impervious surfaces;*
    - *Roof leaders (approximately 50 percent) will discharge to rain gardens, grass, and/or grass swales;*
6. *Implemented source controls;*

- *Pervious pavement.*
- *Rain gardens.*
- *Grass swales*

7. Landscape design improvements.

- *Use of native plant materials.*
- *Use of drought resistant plant materials.*
- *Minimize mowed lawn areas.*
- *Increase use of shrubs and ground covers.*

The following table summarizes the changes between the prior site plan and the current proposed site plan

Table 6-2
Summary of Plan Changes

	Conventional Site Plan	***BSD Site Plan***
Total Area of Disturbance	*20.3 acres*	*20.2 acres*
Wetland Buffer Disturbance	*1.0 acres*	*0.45 acres*
Proposed Impervious Surfaces	*5.9 acres*	*4.3 acres*
Proposed Mowed Lawns	*4.6 acres*	*2.5 acres*

The use of the specified BSD techniques has significantly reduced potential adverse impacts associated with stormwater. The proposed use of the noted source controls (disconnection of impervious surfaces, pervious pavement, rain gardens, grass swales, and dense landscaping) has reduced the water quality volume required to be treated and result in a further reduction in post development pollutant loads.

Comment 6-57 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The Phase II Phosphorous TMDL Calculations Report for the Muscoot Reservoir suggests that the drinking water resource is currently water quality limited. A phosphorous TMDL has been designated as 9,397 kg/yr for the reservoir, and today 11,560 kg/yr of phosphorous are being supplied to the reservoir, causing the TMDL to be exceeded by approximately 2,163 kg/yr (NYCDEP, 2000). Consequently, an I8.7% reduction in total phosphorus must be realized to meet TMDL requirements. In order to assuage the effects of elevated nutrient levels in the reservoir, not only should there be no additional inputs of phosphorous from this project, but phosphorous levels should be decreased by approximately 19%. Assuming the proposed phosphorous loading calculations in the Salem Hunt DEIS are correct, the project has the potential to contribute and additional 1.12 lbs/yr (0.51 kg/yr) phosphorous. Note that based on the comments above, the actual increase in phosphorus loading is likely to be much more than this value. The following excerpt from the NYSDEC April 2008 SPDES permit fact sheet exemplifies the urgency for reducing phosphorous within the New York City Watershed East of the Hudson River which encompasses the Muscoot Reservoir watershed and the Salem Hunt Site:

> The CWP report, [Recommendations for Developing an NPDES Phase II Stormwater General Permit for Municipal Separate Storm Sewer Systems in the East of Hudson Watershed], recognizes that the New York City Watershed East of the Hudson is among the most sensitive watersheds in New York State that supplies drinking water to millions of people, but at the same time experiences substantial development pressure. The conditions that apply in the New York City Watershed East of the Hudson are targeted at practices that prevent and reduce phosphorus contributions to the entire watershed Because the needed reductions will be so difficult to attain

and because protection of drinking water is at the top of the environmental protection hierarchy, the conditions that apply to the New York City Watershed East of the Hudson are the most rigorous to be included in GP-0-08-001.

In order for the applicant to develop the Salem Hunt Site in a way that is consistent with the goals of the State of New York and the State Stormwater Management Design Manual as well as to mitigate the impacts to the Muscoot Reservoir watershed and NYC's drinking water supply, the applicant must take a pro-active approach to stormwater management and phosphorous loading mitigation. In addition to carefully choosing and implementing stormwater management source control strategies recommended in Chapter 10 of the Manual, the applicant should consider working with other parties in the watershed to reduce and treat the total current stormwater runoff and associated phosphorous loading generated within the watershed. We recommend that the applicant either significantly reduce the scope of the project or consider an offsite offset program to reduce and treat polluted runoff generated from a nearby property within the Muscoot Reservoir watershed in order to achieve a net decrease in phosphorous loading to the Reservoir of approximately 19% to meet targeted phosphorus reductions identified in the TMDL.

Response 6-57**:** *Refer to Responses 6-10, 6-29, 6-41, 6-42, and 6-56. As a condition of site plan and subdivision approval, Salem Hunt will be required to provide an amount of dollars to the Town of North Salem to assist the Town in completing phosphorous reduction projects in the Town. By the end of 2009, the Town intends on completing a study of potential phosphorous reduction projects. The amount to be provided is an approximation of the applicant's pro-rata share of Town's cost of phosphorous reduction for projects it intends to complete to reduce phosphorous in the Muscoot Reservoir.*

Comment 6-58 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The project will discharge to a phosphorus restricted reservoir and therefore we recommend the Applicant revise all water quality (WQ) stormwater calculations to reflect the latest Chapter 10: Enhance Phosphorus Removal Standards, which require WQ calculations based on the 1-year storm event. The Applicant's statement in the DEIS, "that the burden for reducing current phosphorous loading to achieve the TMDL in the Muscoot Reservoir rests with the Town of North Salem and other Municipal Separate Storm Sewer Systems (MS4s) in the Muscoot Watershed" seems to be a logical statement. However, adding additional phosphorous loading to the watershed is neither a solution nor a proactive approach, and it is hard to see how the project can be considered "consistent" with the TMDL Implementation Plan.

Response 6-58: *Refer to Responses 6-10, 6-11, 6-29, 6-29, 6-41, 6-42, 6-55, and 6-57*.

Comment 6-59 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): Although referenced in the report and Sections shown on Sheet 13 of the Plan. the plan view layout of both Basin 1.1 and 2.1 do not include aquatic benches. 4:1 side slopes do not provide an adequate aquatic bench and a flat bottom basin with standing water to a depth of four feet can not be considered an aquatic bench. 1 he designs are not conducive to plant growth and both will not function to the treatment levels identified by the applicant. To achieve adequate water quality treatment in conformance with the NYS Stormwater Manual, the wet pond designs must include the meandering of stormwater by means of aquatic bench areas extending into the permanent pool. This will facilitate a long flow path through the system that enhances pollutant removal.

Response 6-59*: *The required aquatic benches have been further detailed on the site plans (Sheet 13-D-3) and now satisfy the requirements set forth in Chapter 10 of the Manual.

Comment 6-60 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): We question whether adequate maintenance access is provided to all four basins. These basins are fairly deep (deepest being Basin 2.2 at 16 feet) and have side slopes of 4: 1 and therefore removing sediment from the bottom will be difficult from the basin's edge. We recommend the basins are equipped with adequate access road to the bottom. We note, the Applicant is proposing that the operation and maintenance of the drainage conveyance system and stormwater management system be the responsibility of a limited liability corporation homeowner's association, June Road Properties, LLC and/or the owner of the property.

Response 6-60*: *Access to the stormwater management basins for maintenance has been detailed on the site plans and now satisfies the requirements of Chapter 10 of the Manual.

Comment 6-61 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The plan view and profile in the Plans of do not show a defined forebay for Basin 1.1. Appendix G of the report calculates the forebay volume to be 12,100 cubic-feet, which we cannot verify from the information provided. From the plan and profile the forebay appears to only be a 1-foot high earth berm below the permanent pool with a volume of approximately 600 cubic-feet (40' long x 15' wide x 1' deep). This is not adequate WQ storage and does not provide the required 4-6 deep forebay depth per the NYS Stormwater Manual. Also, see HydroCad comment on Forebays.

Response 6-61*: *The SWPPP has been revised to clarify the sizing of the necessary forebays, and additional detail demonstrating that the necessary forebay volume is provided has been added to the plans.

Comment 6-62 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The Manual requires that no woody vegetation be planted within l5 feet of the toe of the embankment. Plantings need to be installed on flat aquatic benches or benches just above the permanent pool, depending on plant species. We question why plantings are included around and within Basin 1.1 & 1.2 and not Basin 2.1 and 2.2.

Response 6-62*: *The proposed plantings in and around stormwater management basins 1.1, 2.1, 21, and 2.2 have been revised to comply with the latest requirements set forth in Chapter 10 of the Manual. Currently plants are proposed on flat aquatic benches, or benches just above the permanent pool, and no woody vegetation is proposed within 15 feet of the toe of any embankment.

Comment 6-63 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The Basin details on Sheet 13 of the Plans propose a horizontal perforated pipe system as the discharge mechanism for the detention basins. According to the NYS Stormwater Manual, horizontal discharge systems in detention ponds are more prone to clogging. We recommend that the applicant revise the outlet configuration using a design that is less likely to clog per the guidance in the NYS Stormwater Manual.

Response 6-63**:** *The outlets for the stormwater detention ponds have been revised to eliminate horizontal discharge mechanisms pursuant to the comment and the requirements of Chapter 10 of the Manual.*

Comment 6-64 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): It is difficult to distinguish the internal drainage divides in Figure 3: Post Development Drainage Map (i.e. difference between Subcatchinent 1.1 and 1.2). This makes it hard to evaluate the impervious surface area assumptions in the drainage calculations. The HydroCad calculations assume all residential areas within the site have a Curve Number (CN) based on 1/8 acre lots (65% impervious). This is not necessary or an adequate assumption and is possibly underestimating the actual impervious area proposed for the site. Although this assumption may not have a significant affect on the peak-flow attenuation requirements due to the soil types, underestimating the impervious area will result in reducing the Water Quality (WQ) requirements. We recommend the Applicant calculate the actual impervious surface area based on the proposed site plan and revise the HydroCad and WQ calculations accordingly.

Response 6-64**:** *The actual proposed impervious surface area has been calculated at be 4.3 acres, based on the revised site plan. This impervious area has been utilized in the revised HydroCAD and WQv calculations included in the current SWPPP*.

Comment 6-65 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): HW analyzed the stormwater Pond/Basin designs with the test pit data supplied on Figure 4 of Appendix F: Preliminary Stormwater Pollution Prevention Plan. These test pits were conducted on 07-18-2007. The following summarizes our analysis:

Test Pit SW1:
Location: Forebay of Basin 2.1 (Micropool Extended Detention Pond)
Existing Ground (EG) of test pit: 521 feet
Total Depth: 120" (10 feet)
Bottom of Pit: 511 feet
Groundwater El: None
Basin bottom elevation: 512 feet

Findings: Pond is proposed as a wet pond. Groundwater not intercepted. Applicant proposes to line the pond with clay, which is acceptable per the NYS Stormwater Manual.

Response 6-65**:** *The results of additional test pits have been added to the revised SWPPP. The additional test pits were excavated in support of the basin redesigns. The prior testing noted in the comments is no longer applicable.*

Comment 6-66 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008):
Test Pit SW2:
Location: Main Cell of Basin 2.1 (Micropool Extended Detention Pond)
Existing Ground (EG) of test pit: 515 feet
Total Depth: 120" (10 feet)
Bottom of Pit: 505 feet
Groundwater El: 507 feet (8 feet below)
Basin bottom elevation: 510 feet

Findings: Pond is proposed as a wet pond. Groundwater not intercepted. Applicant proposes to line the pond with clay, which is acceptable per the NYS Stormwater Manual.

Response 6-66**:** *Refer to Response 6-65*.

Comment 6-67 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008):
Test Pit SW3:
Location: Main Cell of Basin 2.2 (Dry Extended Detention Basin)
Existing Ground (EG) of test pit: 511 feet
Total Depth: 120" (10 feet)
Bottom of Pit: 501 feet
Groundwater El: None
Basin bottom elevation: 504 feet

Findings: Pond is proposed as a dry pond. Not finding groundwater down to the bottom of the test pit (elevation 501 feet) is surprising given the results of test pit SW2, which is 120 feet away to the west of SW3 and groundwater was found at elevation 507 feet. From the elevation of the adjacent wetland and the results of test pit SW2 it is possible that this basin will intercept groundwater. A loam and seeded basin that intercepts groundwater poses a significant mosquito breeding habitat. We recommend more investigation into the groundwater elevation at this basin location.

Response 6-67**:** *Refer to Response 6-65.*

Comment 6-68 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008):
Test Pit SW4:
Location: Basin 1.1 (P-5 Pocket Wet Pond)
Existing Ground (EG) of test pit: 563 feet Total Depth: 120" (10 feet)
Bottom of Pit: 553 feet
Groundwater El: 556.5 feet (6.5 feet below) Basin bottom elevation: 553 feet

Findings: Pond is proposed as a wet pond with a permanent pool at elevation 557 feet. This pond is adequately designed in terms of groundwater elevation.

Response 6-68**:** *Refer to Response 6-65.*

Comment 6-69 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008):
Test Pit SW5:
Location: Basin 1.1 (P-5 Pocket Wet Pond)
Existing Ground (EG) of test pit: Varies see below Total Depth: 84" (7 feet)
Bottom of Pit: Varies see below
Groundwater El: None
Basin bottom elevation: Varies see below

Findings: The location of the test pit is not constant between Figure 4 of the appendix and the design plans. If the location shown in the figure is correct we would expect to see groundwater at the bottom of the pit due to the ground surface elevation being 563 feet, which is the same elevation (+/-) of SW4 and the fact that this basin is actually closer to the wetland than SW4. If the location in the plan is correct than the EG is 566 feet and the bottom of the pit would be 559

feet. Clarification is needed by the Applicant on this test pit. Pond is proposed as a wet pond with a permanent pool at elevation 557 feet.

Response 6-69**:** *Refer to Response 6-65.*

Comment 6-70 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008):
Test Pit SW6:
Location: Main Cell of Basin 1.2 (Dry Extended Detention Basin)
Existing Ground (EG) of test pit: 557 feet
Total Depth: 120" (10 feet)
Bottom of Pit: 547 feet
Groundwater El: None
Basin bottom elevation: 554 feet

Findings: Pond is proposed as a dry pond. Adjacent wetland extends up to elevation 551 feet approximately 100 feet north of the test pit. Not finding water down to elevation 547 feet is surprising, since this elevation is approximately 4 feet below the wetland elevation and up-gradient of the wetland. As mentioned above, it is important that basins designed to be dry do not intercept groundwater. We recommend a monitoring well be installed at this basin location to adequately determine the groundwater level.

Response 6-70**:** *Refer to Response 6-65.*

Comment 6-71 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008):
Test pits logs are missing in Appendix I: Soil Testing Results in and around the stormwater basins. Other than D10, this appendix only includes the logs for the wastewater disposal field. The stormwater logs should be provided if available.

Response 6-71**:** *The test pit logs previously included in Appendix I of the DEIS were performed only for the purpose of determining suitability for the wastewater treatment system. The updated stormwater test pit information is included in the revised Supplemental Hydrogeology Investigation prepared by GeoDesign (see Appendix K).*

Comment 6-72 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008):
HydroCad Calculations: The Applicant is proposing drainage lines in place of design points. Design line 2 does not adequately model the pre-development conditions. Half of drainage area 2 is tributary to the north property line while the other half is tributary to the wetland on the east. The consequence of this is that the pre-development peak flow and volume are over estimated to the wetland to the east in the calculations. This wetland is where the post-development basins discharge, which allow the post-development system to meet the equal to or less than peak flow and volume requirements. The Applicant's argument might be that this is a better solution then discharging a portion of the treated water/overflow from the pond to the residential area to the north, which could cause more impacts to properties than increasing the flow to the wetland. Either way the Applicant should address this.

Response 6-72**:** *The portion of the drainage area discharging to Design Line 2, which is tributary to the north property line, continues through the developed residential property to the north and east of the project site, and into the stream which flaws through the wetland to the east of Design Line 2. By discharging the proposed flow in a controlled*

manner, and at non erosive velocities, to the wetland east of Design Line 2, the stormwater, potential impacts on the wetland will be mitigated.

As suggested in the comment, the project engineer believes this approach is a better solution than discharging a portion of the treated stormwater/overflow from the stormwater basin to the developed residential property to the north. Additional explanation justifying the approach is provided in the revised SWPPP.

Comment 6-73 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): It appears there is offsite area tributary to the site from the parcel to the south, which will contribute to both treatment trains. It does not appear to be a large area but the Applicant has stopped the divide at the property line. All offsite area to the site must be included in the sizing of the stormwater facilities.

***Response 6-73*:** *The small offsite area tributary to the site from the parcel to the south has been included in the revised stormwater modeling upon which the sizing of the stormwater facilities was based.*

Comment 6-74 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): It appears there is offsite area tributary to Pond 1.1 (P-5 pocket wetland) to the south-west of the property that is not included in the drainage area. Since the topography does not show a break at the wall along the property line, we recommend that the Applicant clarify why this area was not included.

***Response 6-74*:** *The small offsite area tributary to Pond 1.1 to the southwest of the property has been included in the revised stormwater model included in the SWPPP.*

Comment 6-75 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The calculations do not model any forebays and it is unclear how the volumes of these forebays are being determined. Forebays should be modeled as separate ponds with control structures to evaluate WQ containment volumes. Presently, the calculations model the multi-cell basins as single detention basins with parabolic volumes (no berms, benches, etc.). WQ calculations should be determined by the stormwater volume behind the forebay berm and not the volume of the entire basin above the designated forebay. If stormwater is not contained and released behind the forebay it is then part of the main cell. We recommend that the design and calculations be revised.

***Response 6-75*:** *The forebays have now been modeled as separate ponds with control structures to evaluate WQ containment volumes. The revised WQ calculations were determined by the stormwater volume behind the forebay berm and not the volume of the entire basin above the designated forebay. Additional details of the forebay sizing has been added to the revised SWPPP.*

Comment 6-76 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): All ponds should be modeled as impervious due to standing water during storm events.

***Response 6-76*:** *The permanent pools in the stormwater management basins have been modeled as impervious surface in the revised SWPPP due to standing water during storm events.*

Comment 6-77 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): Impervious areas should be calculated based on the site plan. Applicant is using 1/8 Acre Lots for residential areas within the site in post-development.

> ***Response 6-77*****:** *Proposed impervious surfaces have been calculated at 4.3 acres based upon the revised site plan. The Hydrocad calculations and WQv calculations have been revised based on the revised impervious areas calculated on the site plan*.

Comment 6-78 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The proposed Water Control Building and area surrounding the building are not included in the drainage calculations.

> ***Response 6-78*****:** *The proposed water control building has been relocated and is now included with the stormwater modeling with the area surrounding the building.*

Comment 6-79 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The applicant is using unusual Time of Concentration path (Tc) for Subcatchment 2.1 in terms of the sheet flow changing from short to dense grass.

> ***Response 6-79*****:** *The time of concentration path for subcatchment 2.1 has been revised in the revised SWPPP*.

Comment 6-80 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): In the calculations, the bottom elevation of dry Pond 1.2 should be elevation 554 feet not 553 feet.

> ***Response 6-80*****:** *The proposed stormwater ponds have been redesigned therefore this comment is no longer applicable.*

Comment 6-81 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): In the calculations, the invert out of the 24 inch pipe should be elevation 553.0' to match the details in the Plans.

> ***Response 6-81*****:** *Refer to Response 6-80.*

Comment 6-82 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): In the calculations, the bottom elevation of dry Pond 2.2 should be elevation 504 feet not 503 feet. Again, due to the area at elevation 503 feet in the calculations this is not a significant difference in storage but it still should be modified.

> ***Response 6-82*****:** *Refer to Response 6-80.*

Comment 6-83 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): Peak flow to DL 1 for the 10 year event should be 3.16 not 3.61 as listed in the Report.

> ***Response 6-83*****:** *The stormwater calculations, and proposed stormwater management ponds, included in the SWPPP have been revised (see Appendix F).*

Comment 6-84 (Letter #19 Phil Bein & Charles Silver, Watershed Inspector General, Tech App A, July 30, 2008): Information on the wastewater system has not been included. We

recommend the wastewater system is provided for review. We note the soil logs provided in Appendix I show adequate material for effluent disposal.

> ***Response 6-84*****:** *A revised Preliminary Wastewater System Report accompanies this FEIS.*

Comment 6-85 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): Based on our review of the plans, there appears to be no direct impact to wetland resource areas. There are four separate areas of the project that encroach within the 100 foot NYSDEC, Corps of Engineers or Town regulated wetland buffers. One is at the entrance which is within the buffer area to Wetland D, a NYSDEC, Corps of Engineers, and Town wetland buffer, but arguably is unavoidable to provide access to the project. The other three areas encroach on NYSDEC, Corps of Engineers, and Town wetland buffers as well on the western portion of the site. These three areas include encroachment for the construction of Stormwater Basins 1.1 (impacting the Town regulated buffer to Wetland B) and 1.2 (impacting the Town and Corps of Engineers regulated buffer to Wetland C) as well as for housing construction for buildings 7 and 8 (impacting the NYSDEC and Town regulated buffer to Wetland A), and 11 through 15 (impacting the Town and Corps of Engineers regulated buffer to Wetland C*).* It is our assessment that these impacts to buffer areas are avoidable with a redesign of the project. Buffers have been demonstrated to be a vital component of protecting downstream wetland resources as well as providing natural attenuation of pollutants. Given the sensitive nature of the contributing watershed and the phosphorus limited nature of the Muscoot Reservoir, it is our opinion that buffer impacts should be reduced or eliminated to the maximum extent practicable.

> ***Response 6-85*****:** *The Army Corps of Engineers does not regulate any buffer around any of the wetlands. Further, NYSDEC has assumed jurisdiction only over Wetlands D and A and the ACOE has issued a jurisdictional determination confirming that it will only regulate Wetland D and C (See Jurisdiction Determination in Appendix C).*
>
> *The project plans have been revised to eliminate all NYSDEC and Town of North Salem regulated buffer encroachments except for 0.45 acres (total on-site and off-site) associated with the proposed access road for which no alternative location is available to the Applicant and temporary impact related to utilities, including the pipe along June Road. Wetland impacts are further described in Section 1.3 (page 1-16).*

Comment 6-86 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The essence of Integrated Pest Management is the implementation of strategies designed to *prevent* pest infestations and, in the event that prevention fails, the implementation of control measures that minimize the potential for adverse impacts on health and the environment while reducing infestation levels below the threshold of unacceptability. In most instances, IPM discussions involve the development of a pest management strategy for an existing facility. These efforts often involve a transition from traditional chemical-based pest control to a more diversified and pro-active approach.

In this case, the Plan has been prepared for a new condominium development that is yet to be constructed. There are many opportunities to design and engineer pest exclusion and infestation prevention features into the development which would minimize the need for the implementation of pest control measures after the construction and occupation of the development. The Plan, as drafted, fails to address any such design opportunities, which might include amongst other such measures:

Preservation and incorporation of native plants into the site design and selection of well-adapted and pest-tolerant plant varieties for outdoor plantings can help to avoid or minimize the need for pest controls of any sort. (For further examples see "Fundamentals of a Low Maintenance, Integrated Pest Management Approach to Landscape Design at *http://www.efn.org/~ipmpa/des-cnsd.html.)*

> ***Response 6-86*****:** *The overall landscape design for the project has incorporated native plants and native seed mixes into the site design. The Revised FEIS Site Plan includes 9.2 acres of low maintenance meadow areas, consisting of native grasses and seed mixes. Maintained lawn areas have been reduced from 4.6 acres to 2.5 acres. The FEIS Plan includes only small areas of lawn surrounding each of the residential units, substantially reducing the need for any pest controls. See Drawings SP-2.1 and 2.2 Layout and Landscape Plan.*

Comment 6-87 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): Consideration of pest preventive measures in design of water drainage plans for both buildings and the site. For example, good drainage will minimize breeding grounds for mosquitoes and help prevent the establishment of structural pests.

> ***Response 6-87*****:** *Positive drainage has been provided throughout the site to prevent standing water that would promote mosquitoes and the establishment of structural pests. The permanent pools in the stormwater management basins have been designed in accordance with the Manual and include aquatic benches. According to the Manual, when planted, these areas "can be an important habitat for many aquatic and nonaquatic animals, creating a diverse food chain. This food chain includes predators, allowing a natural regulation of mosquito populations, thereby reducing the need for insecticide applications. to limit breeding grounds for mosquitoes.".*

Comment 6-88 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): Simple design features like screens for windows, door screens, door closures, chimney caps, and others will prevent pest entry into homes and other structures.

> **Response 6-88:** *The Applicant will incorporate the design features noted in the comment into individual building designs.*

Comment 6-89 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): Design and placement of trash management facilities and the placement of exterior area lighting away from building entrances will minimize the entry of rodents and insects into structures.

> **Response 6-89:** *All trash management facilities will be located away from the proposed buildings. Exterior lighting will be located to provide maximum safety*.

Comment 6-90 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): Prohibition of the burial of construction waste, including waste lumber and wood from land clearing activities will help prevent future termite problems.

> ***Response 6-90:*** *The burial of construction wastes, including waste lumber and wood from clearing activities, will be prohibited on the project site*.

Comment 6-91 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): Simple construction practices, such as adequate seals around water spouts, ventilation ducts and other utilities as they enter buildings and course through structures, and treatment of interior wall voids with pesticide will similarly help to prevent pest festations.

> ***Response 6-91:*** *The construction practices noted in the comment will be incorporated into the project*.

Comment 6-92 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): With proper planning, design and construction, the developers can help to prevent future pest problems and avoid the need to resort to potentially harmful pest control measures. Notwithstanding a general statement on page 3 of the Plan that the IPM Coordinator will be responsible for "Coordination with grounds and maintenance staff and independent contractors to carry out procedures for consideration of pest control implications of new construction and building or site modifications" the Plan fails to consider and incorporate these and other similar measures to prevent pest infestations.

> ***Response 6-92*****:** *Consistent with the comment, the final building plans will incorporate procedures for pest control during new construction and site modifications. The proposed FEIS plan incorporates design features which will reduce the potential for future pest problems and therefore avoid the need for chemical pest controls. The revised plan includes only limited areas of traditional lawn area around the buildings (2.5 acres), but includes 9.0 acres of meadow, planted with native grasses and wildflowers. In minimizing manicured lawn areas, the need for pest control is reduced. Buildings will be designed and constructed with quality materials and construction techniques, reducing the potential for pest infestations in building interiors.*

Comment 6-93 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The Draft Environmental Impact Statement describes the proposed development as consisting of 65 two-bedroom residential units and a separate community center building with a swimming pool. It appears that the proposed Integrated Pest Management Plan is intended to cover both indoor and outdoor pest management activities, but there is no indication of who will be responsible for pest management in the residential units. If that will be the responsibility of the residents, will there be any requirement for them to adhere to IPM principles and/or hire only IPM contractors? Will residents maintain private yards or gardens? Will IPM be mandated for those? There is no clear indication of the extent to which the Condominium governance will ultimately control residential unit pest management practices during the "operational" phase on the site.

> ***Response 6-93*****:** *Pest control in the proposed building units will be the responsibility of a property management company engaged by the Homeowner's Association. Compliance with the terms of the IPM will be a provision of the contract between the association and the property management contractor*.

Comment 6-94 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The Plan discusses the elements of a typical IPM plan including the need to designate an IPM Coordinator, to properly train staff and residents, to establish Action/Tolerance Thresholds and to conduct a Monitoring Program with adequate records to support periodic Program Evaluation. Notwithstanding that general discussion, it is not clear that the actual implementation will fulfill the promise.

Response 6-94**:** *The Applicant has committed to implementing the IPM and would not object to its implementation being a condition of the Town's approval*.

Comment 6-95 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The basic structure of the Plan is revealing. Sections 1 and 2 state objectives and goals, a general policy and discuss integrated pest management in the abstract. Section 3 addresses various aspects of the use of chemical controls for pest management, while record keeping and program evaluation are covered in sections 4 and 5. Finally, IPM education and training is addressed in Section 6. While the discussion of IPM in Section 2.1 emphasizes the use of a "combination of cultural, physical, biological and chemical pest population control methods to reduce pests to acceptable levels," the Plan considers only chemical control methods with any specificity. What other specific methods, cultural, physical or biological will be used to control pest populations? How will these methods be monitored?

Response 6-95**:** *Refer to Response 6-45 and 6-46. The IPM has been revised to discuss non-chemical methods to prevent or manage pests and methods to monitor the effectiveness of those methods (see revised IPM in Appendix M).*

Comment 6-96 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): The Pesticide Use Recommendations (p. 6) state that "Pesticides should be used only when other pest prevention and non-chemical control measures are unavailable, impractical, ineffective, or are likely to fail to reduce pests below tolerance thresholds." The decision as to the practicality and effect of non-chemical controls should be based, in large part, on careful records of their performance on site. Yet, the discussion of records pertaining to control methods (Section 4 at p.8) states only that the IPM Coordinator should maintain complete, up to date and detailed records of pesticide applications, including the date, identity of active ingredient, amount and form of chemical controls applied and location(s) treated. Why is there no provision for keeping records of non-chemical controls? The absence of those records will make it impossible to evaluate the efficacy of any non-chemical controls, and to identify those which are most successful.

Response 6-96**:** *The IPM Coordinator will maintain records of all activities conducted pursuant to the IPM, including use of non chemical controls. The IPM has been updated to describe non-chemical pest management methods and the monitoring to evaluate the effectiveness of those methods (see revised IPM in Appendix M).*

Comment 6-97 (Letter #20 Edward & Ervin Raboy, E&Y Operating Corp., July 31, 2008): We also suggest the permanent inclusion in the condominium by-laws of provisions that prohibit introduction of plants not already existing on the property. This is a practice used by other developments to protect nearby wetlands from being infiltrated by invasive species.

Response 6-97**:** *The Applicant agrees to include the noted provisions in the Homeowner's Association by laws*.

Comment 6-98 (Letter #20 Edward & Ervin Raboy, E&Y Operating Corp., July 31, 2008): It is important to remember that residents will use other chemicals outdoors beside fertilizers and water. Paint, cleanser, detergent for washing cars, and others are commonly used. The storm water system needs to be designed to take in these contaminants and filter them out. They should not just be allowed to collect in a storm water basin and slowly be sucked into the earth.

Response 6-98**:** *Use of chemicals such as those noted in the comment will be strictly governed by the Homeowner's Association. The goals of the proposed stormwater management system are to prevent impacts on surface water resources from post construction changes in the peak rates of stormwater discharge and increases in pollutant loads. As demonstrated in the Salem Hunt SWPPP, these goals have been met with the proposed stormwater management practices. Section 5 of the accompanying SWPPP (Appendix F) details the maintenance procedures that will be implemented to ensure the effectiveness of the stormwater management facilities both during and following construction.*

Comment 6-99 (Letter #21 James L Simpson & William Wegner, Riverkeeper, July 30, 2008): The applicant's phosphorus figures are, at best, inconsistent. For example, at various points throughout the DEIS the applicant proposes to increase annual phosphorus loading to the Muscoot Reservoir by 1.12 lbs, 1.05 lbs, 2.31 kg, and 3.96 kg. In addition, the applicant incorrectly equates 1.05 lbs to 2.31 kg. The wide disparity and flawed conversion of these values renders an informed review of annual phosphorus loading impossible. Therefore, the Town Planning Board, as lead agency, should require the applicant to provide accurate and consistent calculations of phosphorus loading for public review.

Response 6-99**:** *Refer to Responses 6-10, 6-29, 6-41, 6-42, and 6-56.*

Comment 6-100 (Letter #21 James L Simpson & William Wegner, Riverkeeper, July 30, 2008): The applicant correctly notes that the proposed Salem Hunt project is located in the phosphorus-restricted Muscoot Reservoir Basin" and that "the Muscoot Reservoir phosphorus TMDL is being exceeded as a consequence of existing point and non-point phosphorus inputs...."

Phosphorus is the primary nutrient for algae, which means that algal production is dependent on the amount of phosphorus available in the water column. Excess phosphorus in the Muscoot Reservoir causes algal blooms, which impair water quality by depleting dissolved oxygen through the process of decomposition, tainting the taste, odor, and color of finished water, and increasing the concentration of dissolved organic carbon. The dissolved carbon then reacts with chlorine during disinfection to create carcinogenic byproducts in finished drinking water.

Response 6-100**:** *Refer to Responses 6-10, 6-29, 6-41, 6-42, and 6-56.*

Comment 6-101 (Letter #21 James L Simpson & William Wegner, Riverkeeper, July 30, 2008): Even though the Muscoot is already suffering from excess phosphorus, the applicant proposes to increase phosphorus loading of receiving waters in the Muscoot Reservoir Basin. The applicant supports this proposal with the proposition that the "annual increase in loading does not represent the potential to significantly impact any wetlands, watercourses, or the 4.9 billion gallon capacity Muscoot Reservoir." This claim erroneously assumes that the cumulative impacts to water quality associated with increasing sprawl in Putman County and the New York City watershed are insignificant, when precisely the converse is true.

Response 6-101**:** *Refer to Responses 6-10, 6-29, 6-41, 6-42, and 6-56.*

Comment 6-102 (Letter #21 James L Simpson & William Wegner, Riverkeeper, July 30, 2008): The applicant further claims that the "burden for reducing current phosphorous loading

to achieve the [phosphorus] TMDL in the Muscoot Reservoir rests with the Town of North Salem and other Municipal Separate Storm Sewer System (MS4s) in the Muscoot Watershed." However, the SPDES General Permit for Stormwater Discharges from MS4s (GP-0-08-002) has been in effect since May 1, 2008 and includes additional minimum control measures for watersheds with improvement strategies, requiring all East-of-Hudson watershed MS4s to:

Develop, implement and enforce a program to reduce pollutants in stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to five thousand (5000) square feet.

It is therefore an advisable action for the Town of North Salem, as a regulated MS4, to develop, implement and enforce a program to reduce phosphorus loading in the Muscoot Basin by denying approvals for construction projects that propose to increase phosphorus loading of the Muscoot Reservoir, including the proposed Salem Hunt project.

***Response 6-102*:** *Refer to Responses 6-10, 6-29, 6-41, 6-42, and 6-56.*

Comment 6-103 (Letter #21 James L Simpson & William Wegner, Riverkeeper, July 30, 2008): The Applicant has hot demonstrated compliance with the requirements of the SPDES General Permit for Stormwater Discharges from Construction Activities (GP0-08-001). The applicant relies on discussions with the New York State Department of Environmental Conservation in January 2007 that indicated that the proposed heightened MS4 requirements for East-of-Hudson municipalities had not been implemented at that time. However, effective May 1, 2008, both the SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-08-001) and the SPDES General Permit for Stormwater Discharges from MS4s (GP-0-08-002) have been in force.

GP-0-08-001 Part 1.B requires that: It shall be a violation of this general permit and the *Environmental Conservation Law (ECL)* for any discharge authorized by this general permit to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York.

It is indisputable that increasing phosphorus loading to a phosphorus-restricted reservoir constitutes the contribution to a violation of water quality standards, in violation of the general permit. Although the applicant claims that the proposed increase in phosphorus loading does not represent a significant potential to impact the Muscoot Reservoir, it certainly contributes to, rather than mitigates, a violation of water quality standards. The project therefore violates the SPDES General Permit for Stormwater Discharges. from Construction Activities.

***Response 6-103*:** *Refer to Responses 6-10, 6-11, 6-14, 6-29, 6-42, and 6-56*.

Comment 6-104 (Letter #21 James L Simpson & William Wegner, Riverkeeper, July 30, 2008): In addition, Part 3.B.3 requires, in part, that: beginning on September 30, 2008, all construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in confoimance with the Enhanced Phosphorus Removal Standards included in the most current version of the technical standard, New York State Stormwater Management Design Manual.

The applicant has not demonstrated that the SWPPP conforms with the Enhanced Phosphorus Removal Supplement to the NYS Stormwater Management Design Manual. Unless construction on the Salem Hunt project commences by September 30, 2008, the applicant will be required to comply with the provisions of Part 3.B.3 above.

***Response 6-104*:** *Refer to Responses 6-10, 6-11, 6-14, 6-29, 6-42, and 6-56.*

Comment 6-105 (Letter #21 James L Simpson & William Wegner, Riverkeeper, July 30, 2008): Stormwater Management Practices Should Be Sited Outside of Wetland Buffers. The applicant proposes "encroachments into the buffer of Town regulated Wetlands A, B, and C, and the buffer of NYSDEC regulated Wetland D, with incidental grading, SMPs, water supply facilities and acess road." Including off-site Wetland D, the applicant proposes disturbance of a total of 1.01 acres in five separate wetlands.

Wetland buffers provide transitional areas that intercept stormwater from upland habitat before it reaches wetlands or other aquatic habitat. Buffers are described generally as "linear bands of permanent vegetation adjacent to an aquatic ecosystem intended to maintain ,or improve water quality by trapping and removing various nonpoint source pollutants." Other water quality benefits of buffer zones include reducing thermal impacts (shade), nutrient uptake, providing infiltration, reducing erosion, and restoring and maintaining the chemical, physical and biological integrity of water resources.

Siting stormwater management practices within buffers can impair buffer function by clearing trees, sacrificing stream channels located above the practice, altering existing wetland hydrology, and increasing thermal impacts. For these reasons, the disturbance of buffers to site stormwater management practices should be avoided, and the applicant should be required to reconfigure the siting of stormwater basins so that no buffers are disturbed in any of the five subject wetlands. In short, the lead agency should require that the applicant to site all stormwater management practices outside of wetland buffers.

***Response 6-105*:** *Refer to Responses 6-2, 6-21, 6-24 and 6-25.. There are four, not five, wetlands on the Salem Hunt site.*

Comment 6-106 (Letter #17 Hilary Smith & Joe Bridges, MDRA, July 30, 2008): Consideration should be given to designing the cul-de-sac to serve as a stormwater management feature (e.g., no curbing, depressed and landscaped).

Response 6-106: *All cul-de-sacs have been eliminated from the plans.*

Comment 6-107 (Letter #17 Hilary Smith & Joe Bridges, MDRA, July 30, 2008): The FEIS should identify the permanent depth of water associated with the stormwater basins and for safety measures proposed as may be appropriate.

Response 6-107: *The stormwater basin details shown on Drawing D-3, included with this FEIS, now indicates the depth of the permanent pools as well as the side slopes of the basins. The forebay and micropool permanent pool depths for basin 1.1P and 2.2P are 5' while the forebay depth for basin 2.1P is 4' and its micropool is 5 feet. The side slopes of the basins above the permanent pools would be graded to 4 feet horizontal to one foot vertical for safety.*

Comment 6-108 (Letter #19b Richard Claytor, Horsley Witten Group, Inc, July 29, 2008): We have reviewed the overall erosion and sediment control plan in conjunction with the construction phasing plan and find the overall approach and methods used appropriate for the project. However, the applicant is proposing silt fence for erosion control barriers. We would recommend using a proprietary silt sock instead of a silt fence. It is our experience that silt fence is rarely installed properly (embedded into existing grade) and is susceptible to wind damage without proper stabilization.

Response 6-108: *Silt fences are proposed on the revised site plans in accordance with the New York State Standards and Specifications for Erosion and Sediment Control. The Applicant concurs that silt fence are frequently installed improperly. However, the Applicant will engage a Certified Erosion and Sediment Control Professional to oversee implementation of the Erosion and Sediment Control Plan. In addition, the provisions of the erosion control plan will be subject to rigorous enforcement by the NYCDEP, as well as, the site inspection requirements associated with the NYSDEC SPDES General Permit.*

Comment 6-109 (Letter #17 Hilary Smith & Joe Bridges, MDRA, July 30, 2008): Development of manicured lawns and stormwater controls within Controlled Areas (buffers) is inconsistent with the intent and purposes of the Town's Master Plan and Wetlands and Watercourse Law, as well as the County's Master Plan: Patterns for Westchester. Each of these identify the need for naturally vegetated buffers to maintain wetland integrity. The site includes sufficient land area to avoid all Controlled Areas (wetlands and associated regulated 100-foot buffer areas), either by reducing unit sizes, reducing unit count or re-designing the current plan. Refer to related comments below, for more detail on the importance of maintaining adequate wetland buffer areas.

Response 6-109: *See Response 6-2, 6-21, 6-24, 6-25, 6-42, and 6-56.*

Comment 6-110 (Letter #23 Ms. Ashley Ley, AKRF Environmental and Planning Consultants, August 13, 2008): The Design Line used in the stormwater analysis may not be appropriate for this site. It appears that a portion of the predevelopment subcatchment area PRE-2 discharges via overland flow towards the property N/F Cleary. The other portion discharges via overland flow towards Wetland L-32 (Wetland D). Therefore, to analyze the true impacts to the wetland/stream, as well as to off-site areas these drainage areas should be divided and analyzed accurately. If the existing drainage area to Wetland L-32 (Wetland D) is smaller than the proposed post-development contributing drainage area, the volume of water as well as the peak flow would be larger than the numbers presented in the tables. As such, there may be a greater increase in volume and flow than what is demonstrated in the DEIS. This may impact the sizing of the stormwater management practices and may affect downstream (off-site) drainage facilities in the Town of Southeast (e.g., culverts under Starlea Road and Fields Lane). The concern is that the effects of the proposed project have not been modeled to show the actual impacts of the project on the downstream wetland/watercourse. Similarly, this would impact the pollutant loading calculations. The pollutant loading summary, Table 6-9, shows that there is an increase of TSS and TN at DL-2. The stormwater analysis should divide the subcatchement areas and re-evaluate the design analysis points to reflect the corrected pre- and post- development drainage analysis points.

Response 6-110: *The proposed project is located in the Town of North Salem and following construction no untreated stormwater will discharge to any portion of the Town*

of Southeast. In addition, post construction peak stormwater discharge rates are below existing rates. As such, impacts on the Town of Southeast drainage facilities are not anticipated.

Design Line 2 is along the northern and eastern borders of the proposed development. This design line was chosen to assess the stormwater runoff from the site that drains to June Road and the NYSDEC regulated wetlands to the east of the development. It is proposed to redirect the area contributory to the northern portion of design line 2 because there is no practical method of discharging basins 2.1P and 2.2P to the northern property line due to the existing development on the adjacent property. To address the increased volume of stormwater runoff to the wetland, Better Site Design (BSD) methods have been incorporated to the greatest extent practical to limit the increase in volume of runoff reaching the wetland. The NYSDEC wetland L-32 (Design Line 2 discharge) has an overall contributing area of approximately 279 acres. Approximately 19 acres of the proposed development will contribute to the wetland making up 7% of the contributing area. As the project represents a small portion of the wetland contributing area, the increase in volume of stormwater runoff from the project is seen as having negligible consequences. To ensure that the small increase in volume does not change the function of the box culvert under June Road that drains the wetland, a downstream assessment was performed in the SWPPP for the project. This assessment concluded that the project will not impact the box culvert under June Road and therefore will not impact the facilities downstream in the Town of Southeast.

Comment 6-111 (Letter #23 Ms. Ashley Ley, AKRF Environmental and Planning Consultants, August 13, 2008): The proposed SSTS area and landscaped areas surrounding a portion of the building will be converted from forested areas to grass. The Stormwater section does not address the treatment of run-off from these areas. Typically the disturbed areas are required to be captured and treated.

Response 6-111: *Refer to Response 6-8. The New York City Watershed Regulations required that runoff from all disturbed areas be captured and treated. To that end, all runoff from the disturbed portions of the site, including the area noted in the comment, will be captured and treated in one of the proposed stormwater practices.*

Comment 6-112 (Letter #8 Mr. Frank Annunziata, Hahn Engineering, July 25, 2008): The design engineer should consider the use of stone check dams in the swale on the southern end of the property. Diversion swales around the soil stockpiles and construction staging should also be shown.

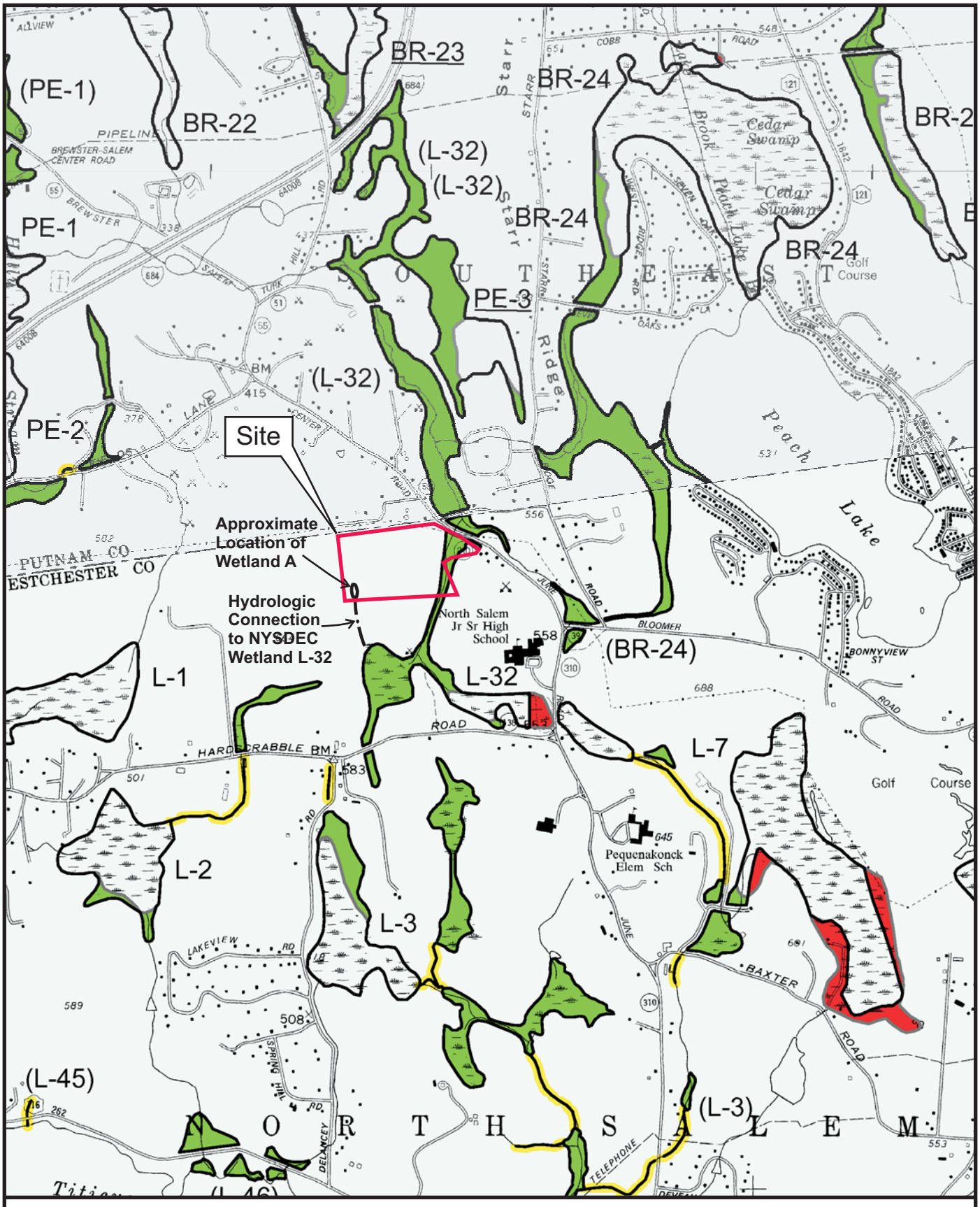
Response 6-112**:** *Refer to Response 6-2, 6-21, 6-24, 6-25, 6-42, and 6-56. Low gradient grass swales with check dams (to provide storage and infiltration of stormwater runoff) are now specified in the SWPPP. The swales will contribute to a reduction in the water* quality volume (WQv) and pollutant loads being discharged to receiving waters. *The Applicant notes that the WQ_v is the required storage volume for stormwater management practice designs set forth in the New York State Stormwater Management Design Manual. The Wqv is designed to improve water quality sizing to capture and treat 90 percent of the average annual stormwater runoff volume. The WQ_v is directly related to the amount of impervious cover created at a site.*

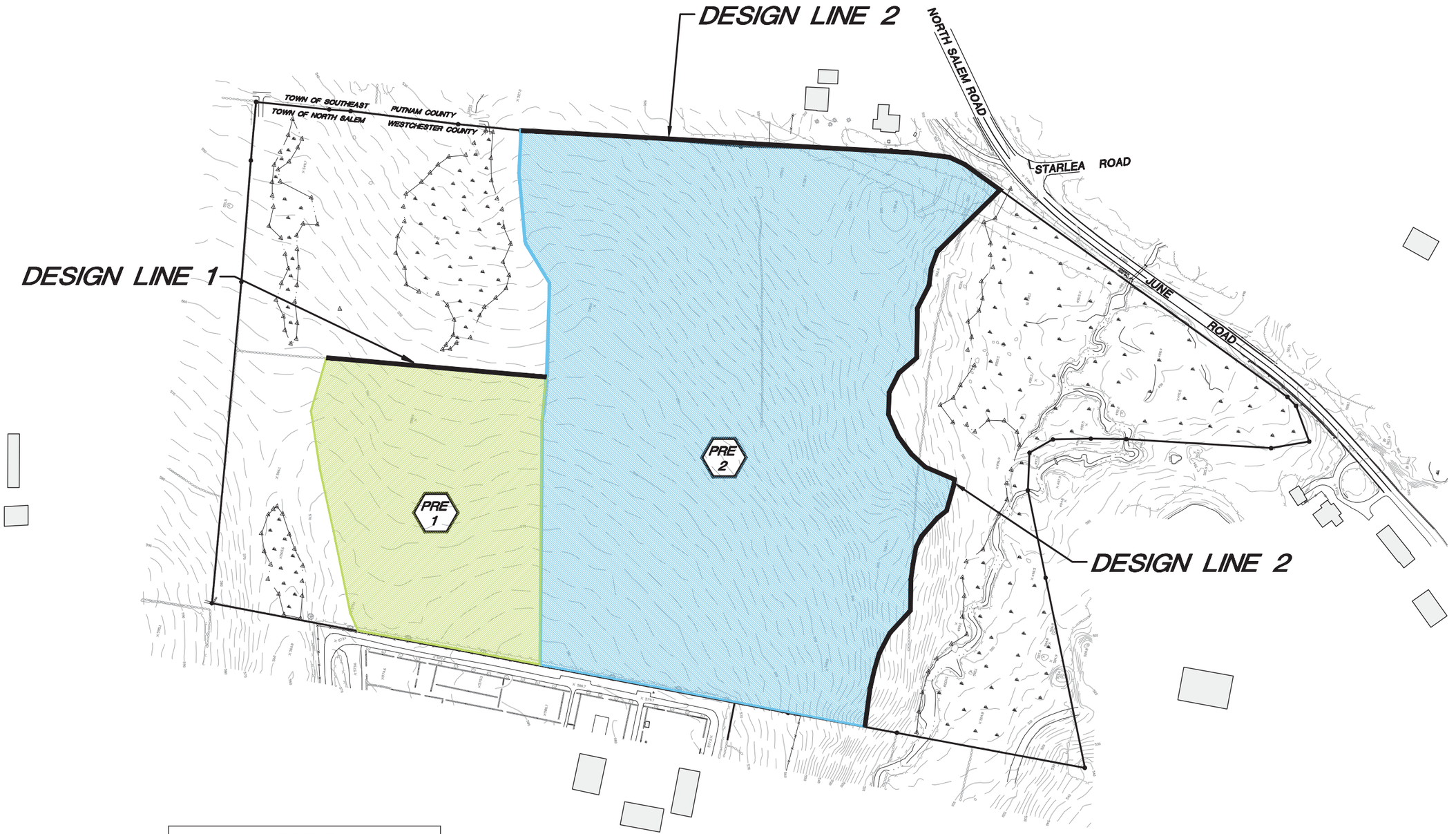
Comment 6-113 (Letter #18 Scott Ballard, NYSDEC July 30, 2008): By copy of this letter, DEC is advising project representatives of the need for the above permits, especially the need for a SPDES permit for the subsurface discharge of wastewater. It is possible that the DEC permit requirements noted above may change based upon additional information received or as project modifications occur. Questions pertaining to the Department's jurisdiction or related matters should be directed to the undersigned at (845) 256-3055.

> ***Response 6-113*****:** *The Applicant acknowledges the need to secure NYSDEC permits, including a State Pollutant Discharge Elimination System (SPDES) permit for the subsurface discharge of wastewater. Refer to FEIS Table 1-6 Project Approvals, Reviews and Permits for a listing of all required approvals and permits.*

Comment 6-114 (Letter #20 Edward & Ervin Raboy, E&Y Operating Corp., July 31, 2008): We also suggest that the developer's suggestion for IPM (Integrated Pest Management), including the provisions for having a qualified individual or company as IPM Coordinator/Contractor, be made a permanent part of the by-laws of the Condominium Association.

> ***Response 6-114*****:** *The Applicant agrees with the comment and confirms his commitment to engaging a qualified company as the IPM Coordinator and to include this condition in the Homeowners Association by-laws*.


Site
Approximate Location of Wetland A
Hydrologic Connection to NYSDEC Wetland L-32
BR-23
BR-24
BR-22
(PE-1)
PE-1
PE-2
PE-3
(L-32)
(BR-24)
L-1
L-2
L-3
L-7
L-32
(L-45)
(L-3)
North Salem Jr Sr High School
Pequenakonck Elem Sch
Golf Course
Cedar Swamp
Peach Lake
PUTNAM CO
WESTCHESTER CO
NORTH SALEM
SOUTH SALEM
HARDSCRABBLE RD
BAXTER ROAD
BLOOMER ROAD
BONNYVIEW ST
LAKEVIEW RD
DELANCEY RD
SPRING HILL RD
TELEPHONE
BREWSTER-SALEM CENTER ROAD
PIPELINE
STARR RIDGE ROAD
JUNE ROAD
Figure 6-1: Wetland A and NYS Freshwater Wetlands L-32
Salem Hunt
Town of North Salem, Westchester, New York
Source: NYS Department of Environmental Conservation
Scale: 1" = 2,000'
N
W
E
S
Site Property Boundary
File 05196 2/27/09
JS:\05196\Oct. Rev.
Tim Miller Associates, Inc.,10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



LEGEND

PRE 1 — Subcatchment

N
W E
S

GRAPHIC SCALE

200 0 100 200 400

(IN FEET)

1 inch = 200 ft.

Figure 6-2: Pre-Development Drainage Areas
Salem Hunt
Town of North Salem, Westchester, New York
Base Map: Insite Engineering, Surveying & Landscape Architecture, P.C.
Date: December 1, 2006
Scale: 1" = 200'

File 05196 4/30/09
JS/05196/Oct. Rev.

Tim Miller Associates, Inc.,10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418

Figure 6-3: Proposed Off-site Drainage Location - Facing North
Salem Hunt
Town of North Salem, Westchester, New York
Source: TMA Photo, 12/15/08

Figure 6-4: Proposed Off-site Drainage Location - Facing South
Salem Hunt
Town of North Salem, Westchester, New York
Source: TMA Photo, 12/15/08

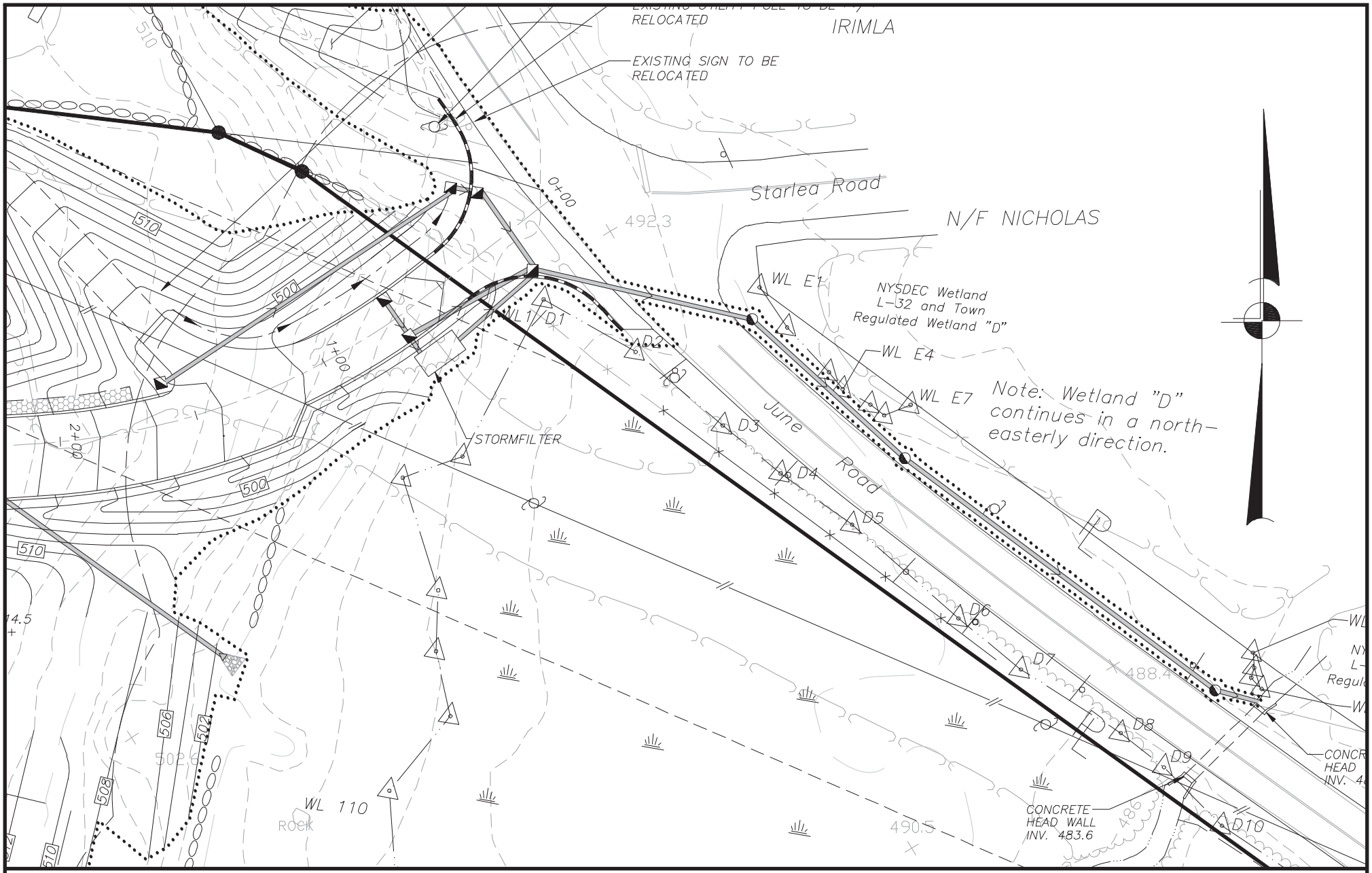


Figure 6-5: Proposed Pipe Installation Plan

Salem Hunt

Town of North Salem, Westchester, New York

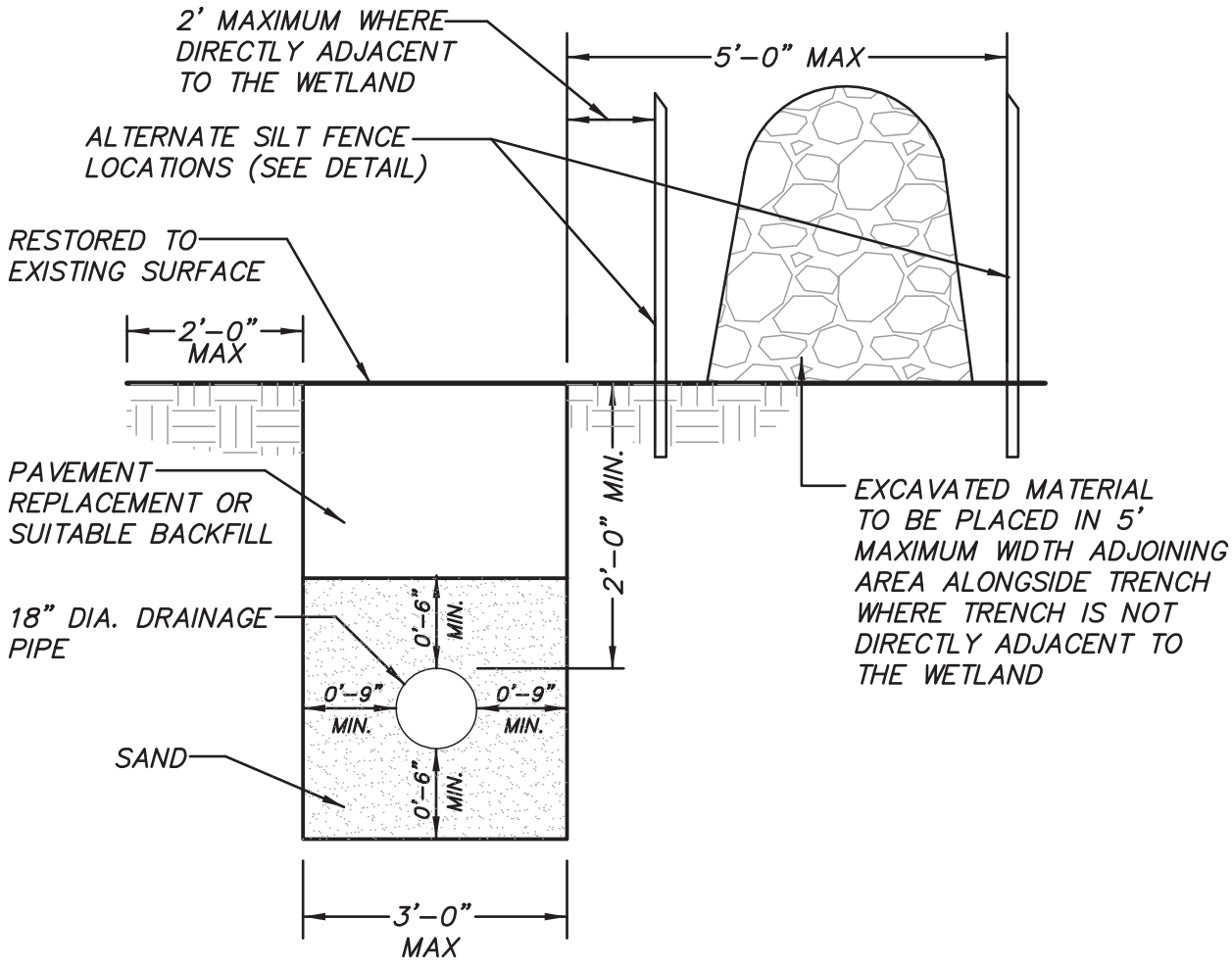
Source: Insite Engineering, Surveying & Landscape Architecture, P.C.

Revised: 04/01/09

Scale: 1" = 50'

File 05196 06/11/09
JS/FEIS

Tim Miller Associates, Inc.,10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



NOTE: EXCAVATED MATERIAL TO BE PLACED IN TRUCKS TO AVOID STOCKPILING WHERE EXCAVATION IS DIRECTLY ADJACENT TO THE WETLAND.

WESTCHESTER COUNTY HIGHWAY PIPE INSTALLATION

(N.T.S.)

Figure 6-6: Proposed Pipe Installation Detail
Salem Hunt
Town of North Salem, Westchester, New York
Source: Insite Engineering, Surveying & Landscape Architecture, P.C.
Scale: N.T.S.