

## RESPONSES TO COMMENTS

### **1.0 Purpose, Need, Benefits, Required Approvals (DEIS Section 1)**

- 1. Page 1 – 3. A discussion of the rationale as to why Batavia Lane and the four single family units are incorporated as part of Phase 2 and not part of Phase 1. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: In response to NYSDEC and WIG comments regarding avoidance of steep slopes, Batavia Lane is no longer proposed. See the Revised Master Plan, L-1.01 in the Errata section. Per figure L-1.01B, DEIS Master Plan Modifications, in the Errata section, Lots 24 and 25 formerly accessed by Batavia Lane have been eliminated and lots 22 and 23 are now accessed by Twin Maple Lane.

- 2. Page 1 – 6. The DEIS lists the various goals of the Town of Windham Comprehensive Plan and describes the means in which the WMSC project achieves these goals, in the opinion of the project sponsor. One such goal is the provision of community facilities. The DEIS states that the provision of community facilities is not a responsibility of a private development, but that the Town can utilize the tax revenue generated from the development to provide enhanced community facilities if desired. The Economic and Fiscal Impact Assessment incorporated in Appendix 14 of the DEIS describes direct, indirect and induced economic benefits of the project. Indirect and induced economic impacts are the result of off-site spending in the community and other economic activity off-site. This infers that either or both employees and Owners/Guests at WMSC will engaged in economic activities in the Town off-site, and while doing so, hopefully, will utilize community facilities. A vibrant community with many excellent community facilities will greatly assist WMSC with sales and satisfaction of Owners and Guests. To the extent that WMSC intends to “take credit” for indirect and induced economic effects, direct contributions for the enhancement of community facilities should be incorporated into the WMSC project. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: See the response to comment 1 in section 3.11 regarding recreation facilities. In addition to tax revenue which is realized only as assessable improvements are constructed, the WMSC Applicant has expressed a willingness to cooperate with the Town Board in its efforts to provide cell service to Hensonville and surrounding areas. The WMSC project may have land that could be utilized for telecommunications infrastructure. In addition, the Applicant has stated that a section of public access trail could, if circumstances created by others arose, be located on the southwest portion of the project site in the vicinity of Windham Mountain’s World Cup and Wicked ski trails and east peak lift top terminal proceeding off the property to the southeast.

3. **Page 1 – 9. A statement is made that market studies show a significant need for single family homes in Windham. Data to support this statement should be provided. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: A full market study has not been completed at this time. The statement from the DEIS is based on interviews and discussions with local realtors and other professionals in the residential real estate community from 2007-2011.

4. **Page 1 – 10. The benefits of the project are described in terms of tax generation, employment, open space preservation, and contribution to the consolidation of the water system in the town. All of these affects are recognized and appreciated; however, the DEIS does not present a Cost of Services Analysis, so the tax generation is not tempered by the resulting cost of services. A recent study in the neighboring Town of Hunter indicated that assessed values of residential properties would have to be increased between two and five times in order to fund the actual cost of services associated with residential land uses. While a Cost of Services analysis is not requested, the WMSC project will demand community services in terms of emergency services and costs associated with use and maintenance of public facilities in the town including roads, parks, etc. Consideration for these impacts should be included in the FEIS. Furthermore, the contribution to the water system consolidation is greatly appreciated by the community; nevertheless, the investment is self-serving as well as beneficial to the community. Lastly, it is appears that the WMSC is targeted at ski-season use alone. The FEIS should state elements of the project that are aimed at four-season use and the benefits to the community thereof. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: Appendix D (page 11) of the recent study in the Town of Hunter (*Hunter Corridor Regional Planning Study*, October 20, 2010, Revised February 2011) referenced in the comment states that the assessed value of year-round houses would have to increase in order to fund their costs of municipal services. Chart 1 in Appendix D (page 9) of the same study clearly shows that seasonal residences produce revenues in excess of their costs in municipal expenditures. These findings are consistent with those presented in section 3.10 of the DEIS, including the references to two other studies of the net positive economic effects of second homes on municipal finances.

As stated on page 1-9 of the DEIS, “The Applicant’s goal for the project is to develop a high quality, four-season resort and spa that will provide a collection of recreational opportunities that are unavailable in one resort in the Windham area, while at the same time protecting and complementing that natural beauty that attracts people to the Catskills.” A number of the project amenities have been included to improve the attractiveness of the resort to members/owners which may indirectly increase economic activity during non-ski season periods. These amenities include year-round spa services at the Member’s Lodge and an outdoor pool at the East Lodge. The availability of the project site open space lands for activities such as hiking, mountain biking and other activities is another aspect of the project

that is aimed at having members use their homes during non-ski-season periods. These amenities will not provide any direct benefit to the community since they will be for the private use of Club members and their guests only. Indirectly, these amenities will contribute to the provision of the fiscal and economic benefits to the community during “off-peak” times of the year when visitation and economic activity associated with it are noticeably lower. . Page 3-89 of the DEIS states, “It is expected that the economic activity and the demand for goods and services, particularly recreational opportunities, will further encourage existing recreation providers to expand the seasonality of their offerings thereby strengthening Windham as a year-round leisure destination. The effect of this will be to help existing and new businesses achieve similar year-round business activities, resulting in a general lifting and stabilization of the year-round Mountaintop area economy.” This is an indirect and unpredictable benefit to the community.

5. **Page 1 – 14. In addition to reviewing stormwater plans, DEP will review and approve the wastewater collection system; DEC will likely defer review of the collection system plans to DEP even still, DEC will issue a State Pollutant Discharge System (SPDES) permit to the WMSC Sewer Transportation Corporation for the operation of the collection system. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: These additional permitting purviews are acknowledged and have been included in the Errata section of this FEIS.

6. **In response to your request for public comment, I strongly encourage the Windham Planning Board to work with the applicant of the Windham Mountain Sporting Club project to develop specific activities/benefits that will enhance the Hensonville/Windham business districts and/or community-at-large.**

**As I read through the DEIS submitted by the applicant, I see that little consideration has been given to this topic other than mention of potential property tax revenue and the installation of a water line required by the development. It should be noted that tax revenue will only occur to the extent that the property is improved.**

**This is by far the largest development ever proposed for our community and it will no doubt have a significant impact for many years to come. This project has been proposed to be constructed within our community because the Town of Windham has succeeded in encouraging a vibrant “Main Street” business environment and has succeeded in developing an attractive recreational, cultural and community environment. To the best of my knowledge, the GEIS provided by the applicant fails to describe any specific direct activity/contribution to our recreational, cultural and community environment which would sustain this historical success.**

**I commend the Planning board for your efforts to date and look forward to working with you as this project advances. (Windham Supervisor Stephen J. Walker, April 30 2012 letter)**

Response: See the response to substantively similar comment 2 above that describes the Applicant's willingness to work with the Town to improve cell service in the Hensonville area and the Applicant has stated that a section of public access trail could, if circumstances created by others arose, be located on the southwest portion of the project site in the vicinity of Windham Mountain's World Cup and Wicked ski trails and east peak lift top terminal proceeding off the property to the southeast.

The water system connection that will be provided by the WMSC project is necessary for service to the project. The Town will benefit from this connection by moving a step closer to consolidation of the Windham and Hensonville water systems which is one among many steps in the Town's overall water master plan.

- 7. Councilman Gonzalez stated that the community is challenged by the sour economy and impact from last year's flooding, so the project is welcome. However, aside from taxes, he questioned what other benefits will the community realize? (Carl Gonzalez, Councilman Town of Windham, April 5, 2012 public hearing comment)**

Response: In addition to a willingness to work with the Town regarding the potential locating telecommunications infrastructure on lands owned by WMSC and potential indirect economic activity, the Applicant has stated that a section of public access trail could, if circumstances created by others arose, be located on the southwest portion of the project site in the vicinity of Windham Mountain's World Cup and Wicked ski trails and east peak lift top terminal proceeding off the property to the southeast.

- 8. Mr. Olsen requested that the Town Attorney review Article 2 of the NYS Constitution which provides that agencies may not interfere with any other local government. He stated that DEP is acting in conflict with the State Constitution. He further questioned on what authority the DEP can issue its comments. (Rey Olsen, April 5, 2012 public hearing comment)**

Response: The SEQRA process provides for robust public engagement in the preparation and review of an Environmental Impact Statement. The public including agencies, corporations, non-profits and individuals may comment on any topics covered in the SEQRA review.

- 9. The DEIS should not be accepted as final and a revised or supplemental DEIS should be prepared. The revised or supplemental document should contain the analyses contained herein and propose proper mitigation for the identified issues. (NYCDEP, April 30, 2012 letter)**

Response: Comment noted. This FEIS provides revised and supplemental documentation including additional analysis and mitigation measures in response to all substantive comments received by the Lead Agency.

- 10. The DEIS addresses stormwater and contains the Stormwater Pollution Prevention Plan. It has been determined that the project, due to amount of disturbance of steep slopes, is not eligible for coverage under the General Permit and therefore an individual Stormwater SPDES permit will be required. As discussed, an individual Stormwater SPDES permit will be applied for by the owner/developer of the project. This permittee will be responsible for compliance with the permit for all soils disturbance activities including those associated with the individual lots. An acceptable SWPPP will need to be submitted to NYSDEC prior to public notice of the draft permit. Since the project lies within the City watershed, NYCDEP also has approval authority on the SWPPP. (NYSDEC, February 3, 2014 Letter)**

Response: Comment noted. An application for an individual Stormwater SPDES permit will be made after the completion of the SEQRA process.

- 11. The Department finds the disturbance of steep slopes to be of significant concern to the extent that projects with greater than 1 acre of disturbance on steep slopes are not eligible for coverage under the SPDES General Permit for Stormwater Associated with Construction Activity, GP-0-10-001 (CGP). This project triggered the steep slope ineligibility provision of the CGP (Part I.D.6), therefore, an individual SPDES permit will be required. The SWPPP will need to be revised to remove reference to the CGP. (NYSDEC, February 3, 2014 Letter)**

Response: See the previous response. Also, the SWPPP that is submitted as part of the individual permit application following the SEQRA process will remove reference to the CGP.

- 12. Due to concerns over the shallow depth to bedrock, steep slopes, soil type and project location (i.e. NYC watershed); it will be imperative that strict controls are employed that will limit the disturbed area and employ aggressive erosion and sediment controls. In order to ensure this level of control is maintained, the permit will be issued to a single entity that will be responsible for all construction associated with this project, including the construction on the single-family residential lots. Sections 1.0 and 2.3.2 of the SWPPP (see pages 1, 2, and 5) should be updated to reflect this requirement. (NYSDEC, February 3, 2014 Letter)**

Response: Comment noted. The SWPPP will be modified to identify a single entity, likely the project HOA, prior to submission for the individual permit that will occur after the completion of the SEQRA process. It is understood that the HOA must be formed prior to issuance of the permit if that entity is to be the permit holder.

- 13. As part of the heightened permit requirements for projects that disturb steep slopes which are tributary to waters of the state classified as AA or AAS, the Department require permit coverage under the Individual SPDES permit for one year from the date that the Regional Office confirms that the project is complete.**

**The SWPPP and construction drawings must be revised to reflect this requirement. (NYSDEC, February 3, 2014 Letter)**

Response: Comment noted, see the responses to the previous three comments.

- 14. On December 1, 2009, the US Environmental Protection Agency (EPA) published effluent limitation guidelines (ELGs) and new source performance standards to control the discharge of pollutants from construction sites. The new regulation, Part 450.21 of Title 40 CFR, became effective on February 1, 2010. As a result of the issuance of this new regulation, the Department must ensure that the criteria are adequately addressed in all individual SPDES permits issued for construction activity. Therefore, the SWPPP for this project must be updated to address the new criteria. Specifically, the SWPPP must document how the project meets the criteria in 40 CFR 450.21(A)(1-7) and (D)(1-3) below. Please include a section in the SWPPP that identifies where each of the criteria has been addressed. (NYSDEC, February 3, 2014 Letter)**

Response: A section will be added to the SWPPP identifying where each of the 40 CFR 450.21(A)(1-7) and (D)(1-3) criteria are addressed. The revised SWPPP will be submitted with the final permit applications to NYSDEC and NYCDEP after completion of the SEQRA process. Comment noted, see the responses to the previous four comments.

- 15. The Town of Windham Planning Board, as Lead Agency, must complete the SEQR review process. Following acceptance of a Final EIS, each involved agency, including NYSDEC, will need to prepare a Findings Statement prior to issuance of permits or approvals. (NYSDEC, February 3, 2014 Letter)**

Response: Comment noted.,.

## **2.0 Description of the Proposed Action (DEIS Section 2 and Appendices 17 and 18)**

- 1. Page 2 – 7. This section of the DEIS discusses a plan to have ‘lock off’ units as part of the offering of the larger condominiums. The DEIS states that the lock off units will allow owners of the condos to rent the smaller locked off sections of the condo as hotel-like rental units for owners and guests. The FEIS should identify how the rental of these units will be controlled. Will units be pooled and managed as a group or will rental be at the discretion of each owner. While it is recognized that the investment and price point that is planned for these units should assist in preventing issues associated with ‘time share’ type offerings, controls should be established to prevent problems of inappropriate use of these lock off units. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Club and membership documents will control use of units. All units will be managed and maintained by the club. Rentals are limited to short-term use by members and member-guests only.

2. **Page 2 – 7. The descriptions of the housing units offered at WMSC include a discussion of who will construct the various types of housing offered, with the exception of the condo units. The FEIS should clearly state that the condos are integrated into the lodge facilities and will be constructed by the project sponsor. Further, it is assumed that construction of single family homes, duplexes and townhouses will be based on market demand, but this should be confirmed. While it is easy to envision the sale of lots for single family home lots on a market demand basis, it is less clear under what conditions duplexes, townhomes and condos will be sold and constructed. This should be clarified. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: The Project Sponsor only represents that it will construct Phase 1 of the condo units that are integral to the Members Lodge. Future phases may, or may not, be built by the original sponsor. The assumption that construction of detached units, including duplexes and townhouses, will be market driven is confirmed. The same is true for the condo units not in Phase 1 and integral to the Members Lodge.

3. **Page 2 – 8 and 2 - 25. Section 1 of the DEIS describes limited benefits to the community other than tax generation, open space preservation, jobs and water infrastructure contribution. Page 2 – 8 and 2 – 25 describe other minor community benefits including having the on-site restaurant open to the public and a shuttle bus service that will circulate to the hamlet of Windham. These should be expanded upon and better described in Section 1 to enhance the benefits to the community. While these are minor benefits, it is noted on Page 2 – 9 that the lands of the WMSC will not be open to the public. The FEIS should further define benefits to the community as discussed in Section 1 comments herein. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: See the response to substantively similar comment 2 in Section 1.0. Specific direct community benefit other than tax revenue offered by the Applicant includes an offer to work with the Town regarding the provision of cellular service for the Hamlet of Hensonville and nearby area, and the Applicant has stated that a section of public access trail could, if circumstances created by others arose, be located on the southwest portion of the project site in the vicinity of Windham Mountain's World Cup and Wicked ski trails and east peak lift top terminal proceeding off the property to the southeast. The WMSC project may offer a vantage point for telecommunications infrastructure that may assist with the provision of enhanced cellular service in specific areas of the Town with poor or no cellular service.

4. **Page 2 – 49. This page of the DEIS discusses the need for extensive blasting to accommodate construction of roads, utilities and potentially structures. Reference to the blasting plan/procedures should be included. Additional**

**comments are provided in Section 3. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: See responses to comment 9 in section 3.1 and comment 1 in section 3.9.

- 5. Appendix 17 Section 3 SITE PLANNING, Bullet number 14 – Where it is stated that consulting a Landscape Architect is required, a New York State Licensed Landscape Architect or a Landscape Architect licensed in a state with reciprocity with New York is recommended. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: The ARB Design Guidelines have been modified to include the suggested language regarding the license requirements of the landscape architect. See the revised ARB Design Guidelines in the Errata section.

- 6. Appendix 17 Section 4.10 IRRIGATION – An Irrigation Layout/Plan should be defined within the Site Plan Submittal. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: While irrigation systems are not required, appropriate language will be added and submitted during Site Plan review.

- 7. Appendix 17 Section 5 ARCHITECTURAL DESIGN, Paragraph 6 - An ARB Image Bank is first mentioned as visual aid supplement to the ARB Guidelines. While it is understood that there is no ARB Image Bank available at this time; the bank should be prepared and submitted to the Planning Board as part of the Site Plan and Subdivision Review processes. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: The requested image bank will be provided as part of the Site Plan review application.

- 8. Appendix 17 Section 5.6 PRESERVATION OF SIGNIFICANT VIEWS – The order of importance should be switched; #1 View of any proposed residence and significant natural features beyond is paramount. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: The Applicant views these as being of equal importance and that the current order in the ARB Design Guidelines is appropriate.

- 9. Appendix 17 Section 5.8 ROOFS, Paragraph 3 – Required roofing materials seems very restrictive. It would be more practical to allow for more kinds of roofing materials to promote a more “Green” and diverse “Roofscape” in the WMSC. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**



Response: The Applicant does not agree that the ARB Design Guidelines are too restrictive on the issue of roof materials. The Applicant believes that the guidelines are flexible enough to allow for variety, and that green roofs are allowable under the general types of roofs described.

- 10. Appendix 17 Section 5.9 SUSTAINABILITY GUIDELINES AND ENERGY EFFICIENCY – The 2004 IRC reference should be substituted with the 2010 or current Residential Code of New York State (RCNYS), Chapter 11 with strict adherence to the RCNYS adopted REScheck version 4.4.2.3 (or current) compliance program. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: This modification has been made in the ARB Design Guidelines in the Errata section.

- 11. Appendix 17 Section 5.10 MATERIALS AND FINISHES, Paragraph 4 – The reference to the NAHB Model Green Home Building Guidelines Section 2 should be substituted with reference given to the U.S. Green Building Council, LEED for Homes Guidelines as additional information. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The Applicant disagrees with this comment. The LEED guidelines are still in a pilot program and have not been fully vetted or adopted, whereas the NAHB guidelines have been in use for the last 5 years are equally comprehensive as LEED for home guidelines, are generally accepted amongst home builders across the United States and are less conducive to higher construction costs and restricting local contractors from possibly working at WMSC.

- 12. Appendix 17 Section 5.12 EXTERIOR WALL COLORS, Paragraph 1 – Confirm that the exterior wall colors will be provided in the ARB Image Bank to be submitted during the site plan and subdivision review process. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Exterior wall colors will be provided in the ARB Image Bank to be submitted during the Site Plan and Subdivision review process.

- 13. Appendix 17 Section 5.14 ANTENNAE, SATELLITE DISHES, FLAGPOLES AND WINDMILLS – Need to be more specific on “WINDMILLS” in title of section. How does this apply to energy producing “windmill” devices? (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The ARB Design Guidelines have been modified and windmills have been deleted. See the Errata section.

- 14. Appendix 17 Section 5.19 GUESTHOUSES, GAZEBOS AND GARAGES – The guidelines should states a limit of one accessory structure to be built upon approval of the ARB. Also, the guidelines should state that the “massing” of**

**accessory structures shall be less than half of the primary structure massing.**  
*(Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)*

Response: This will be clarified, although there are very few lots that will allow for accessory structures. The Applicant disagrees with the second part of this comment and believes it to be arbitrary and not regulatory. By leaving it to the ARB, they can work with architects to blend multiple structures more effectively than just defining a limitation without justification.

**15. Appendix 17 Section 5.30 FIRE SPRINKLERS – Add to this paragraph: ...and as required by the (current) RCNYS, Section R313”. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The suggested has been added to the ARB Design Guidelines in the Errata section.

**16. Appendix 17 Section 6.2 LANDSCAPE ARCHITECT – As mentioned earlier in Section 3, each owner should employ a licensed Landscape Architect qualified to conduct business in NYS. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: See response to comment number 5 above.

**17. Appendix 17 Section 10 DEFINITIONS – The Definitions Section of the appendix should be located towards the front of this document after the table of contents for ease of reference. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The definitions section can be moved as suggested or a reference to the location later in the document can be added towards the front of the document.

**18. Appendix 17, Appendix 1 Submittal Requirements and Procedures, PHASE 2- SCHEMATIC DESIGN SUBMITTAL, #5. – The 24”x 36” (a.k.a. ARCH D) size paper will provide quality materials for review; however, it is recommended that the other paper size be 22”x 34” (a.k.a. ANSI D), and the one smaller set be 11”x 17” (a.k.a. ANSI B); which is the exact ½ scale of the ANSI D size paper. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Modifications will be made in order to eliminate the 30x42 sheet sizes and revise the 8 1/2x11 requirement to be 11x17.

**19. The PROJECT DESIGN GUIDELINES are well thought out, thorough and well defined. Utilization of the project design guidelines will result in a project that is in keeping with the visual, physical, and architectural environmental setting in**

**the Town of Windham. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Comment noted - no response necessary.

- 20. As outlined in our September 28, 2010, letter we asked that consideration be given to creating an access point for the Cave Mountain State Forest Preserve to provide public access that would otherwise be precluded by the project. However, the DEIS did not address this issue. Please advise on the options considered including trailhead access and parking.**

**The project provides a sufficient buffer area between the project and the State Forest Preserve. The size of the buffer area is approximately 1,600' between the State Forest Preserve and the proposed buildings and approximately 3,200' in length. (NYSDEC, April 30, 2012 letter)**

Response: See the response to the following subsequent comment made by NYSDEC.

- 20.A As discussed, the issue of providing access to the Cave Mountain State Forest Preserve to provide public access that would otherwise be precluded by the project is now a non-issue. Since our April 2012 DEIS comment letter, the New York City Department of Environmental Protection has purchased land adjacent to the Forest Preserve that will provide public access. (NYSDEC, February 3, 2014 Letter)**

Response: Comment noted, no response required.

- 21. Mr. Woods stated that Windham Mountain is pro-growth and pro-development and while Windham Mountain is not collaborating for the development of the WMSC project, he wished Mr. Wilcock luck. Mr. Woods also stated that Windham Mountain has reviewed the DEIS and wishes to reserve the ability to comment on the project in the future. (Tim Woods, Windham Mountain Partners, April 5, 2012 Public Hearing Comment)**

Response: Comment noted – no response required.

- 22. [Town of Windham Police] Chief Post inquired as to whether the project will increase need for police officers, would the community be gated and will private security be provided? (Stacy Post, Town of Windham Police Dept., April 5, 2012 public hearing comment)**

Response: Private security will be provided on site to handle routine matters of public safety and security on the site. Auto-dialers used on the site in residences and structures for security shall be programmed to call the Club security office. Club security will be the first responder in these instances and contact the appropriate authority as warranted. Auto-dialers for fire alarms will be programmed to call the fire department or 911 as appropriate. Increased

population in the Town is expected to increase the services required from the Town Police Department and other emergency response services; however, no specific demands have been identified and service providers have consented to serve the project.

- 23. The DEIS does not adequately provide for open space and buffer zone preservation. Section 5.1.1 of the Design Manual states that natural conservation areas should be protected during construction and managed after occupancy by a responsible party able to maintain the areas in a natural state in perpetuity. The DEIS notes that these areas may provide open space and recreational benefits, but does not specify any deed restrictions or conservation easements to protect them. Since the stormwater management plan for this development will depend on the preservation of open space and sensitive water resources for reduction of runoff volumes, it is recommended that some form of deed restriction, conservation easement, or restrictive covenant be provided. (NYCDEP, April 30, 2012 letter)**

Response: The project proposes to have 70% of the project site remain as open space.

Section 5.4 of the Master Declaration of Covenants, Conditions and Restrictions that is Appendix 17B of the DEIS will be revised to state that open space areas, including individual lots outside the designated building envelopes, will be protected through conservation easements or deed restrictions.

- 23.A There should be some mechanism, as suggested in DEP's earlier comment letter which would guarantee the restrictions of development of the open space in perpetuity, other than limitations placed on development solely by the Town. As the open areas function both a as a land use element and an important component of the stormwater management for the site, the Planning Board should require the restrictions to be memorialized in perpetually binding documents such as conservation easements. (NYCDEP, August 14, 2014 letter)**

Response: See response to Comment 23.

- 24. It is not clear if the individual grading plans for each lot will be included in the overall construction sequencing and phasing as described earlier in the document. Furthermore, the limits of disturbance must be accurately shown on the drawings. (NYCDEP, April 30, 2012 letter)**

Response: The overall construction phasing and sequencing detailed on the DEIS plans relates to the proposed road construction, utility installation and common area construction. See the response to comment 14.E in section 3.1 of this FEIS that discusses lot grading plans and limits of lot disturbance in detail.

- 25. The Lighting Landscaping and Signage section indicates an intention to use existing vegetation and native landscaping plants as much as possible with the exception of non-native plants in small enclosed gardens. It should be noted that invasive species can escape to adjacent natural areas from developments placed within natural settings. It is recommended that only native, non- invasive plant species be used in landscaping designs. It is also recommended that language to this effect be included in the Use Restrictions segment of the Project Design Guidelines. (NYCDEP, April 30, 2012 letter)**

Response: The Master Declaration of Covenants, Conditions and Restrictions will be amended to include a list of invasive plants that are prohibited within the development. This list can be derived using NYSDEC's Interim List of Invasive Plant Species in NYS (<http://www.dec.ny.gov/animals/65408.html>) and information from The New York Invasive Clearinghouse and its participating partners, including the Catskill Regional Invasive Species Partnership ([http://www.nyis.info/?action=prism&prism\\_id=4](http://www.nyis.info/?action=prism&prism_id=4)).

- 26. Section 4 of Appendix 17 Project Design Guidelines should provide required steps to prevent the spread of invasive plants from gardens such as use of sterile varieties, careful disposal of clippings at appropriate off-site facilities, etc. (NYCDEP, April 30, 2012 letter)**

Response: A prohibition against planting invasive species in project site gardens will be incorporated in the Master Declaration of Covenants, Conditions and Restrictions.

- 27. Section 4 of Appendix 17 Project Design Guidelines should also include information about and drawings of typical measures used to protect existing vegetation during construction, such as tree guards and wells, construction mats over wet areas and tree roots, etc. (NYCDEP, April 30, 2012 letter)**

Response: Section 4.5 of the ARB Design Guidelines specifically states that owners shall retain the services of a professional arborist to make recommendations for tree removal and tree preservation. "The Arborist shall be responsible for recommending which trees are to be preserved given building locations and construction activities and in what manner trees are to be protected during construction." (DEIS Appendix 17A, page 18, emphasis added)

- 28. Section 4.2 of Appendix 17 Project Design Guidelines refers to a restriction on the use of fruit-bearing plants within Zones 1 and 2. Technically speaking, this restriction would be very difficult to achieve because so many shrubs, trees and herbaceous plants produce a fruit. It is recommended to specifically restrict plants that bear fruits that would be especially attractive to bears (such as berries and stone fruits) and to provide a list of those. Likewise, deer-resistant plants should be listed. (NYCDEP, April 30, 2012 letter)**

Response: The clarification regarding berry and stone fruit plant materials will be included in the design guidelines submitted for Site Plan and Subdivision review. The Project Design Guidelines will encourage the use of species of plants that are demonstrated to be the most successful locally.

**28.A The response assumes that DEP's intent in recommending deer-resistant plantings was to limit deer/human interaction. DEP's interest, however is to help ensure the success of the plantings. Accordingly, DEP reiterates the recommendation. (NYCDEP, August 14, 2014 letter)**

Response: See response to Comment 28.

**29. Section 7.14 of Appendix 17 Project Design Guidelines, regarding Protection of Trees, should include drawings depicting what is meant by the "drip line of... tree" and "the outermost 20% of the radius distance from the drip line to the tree trunk." The practice of strapping lumber to a tree trunk should be more fully discussed, since it is just as important that this material is removed in a timely manner. Allowing impervious paving under the dripline of trees when soil is not disturbed is not advised if 1/3 or more of a tree's roots will be covered with impervious material. This will cause tree mortality and a hazardous condition over time. Pervious materials can have the same impact if more than 3 inches deep, including gravel, mulch, etc. Please clarify these items in the text. (NYCDEP, April 30, 2012 letter)**

Response: See response to substantively similar comment 27 above.

**30. Appendix 3 of Appendix 17 Project Design Guidelines, Approved Landscape Plant Palette, does not provide guidance regarding which plants are suitable for natural areas (Zones 2 and 3) and which are only acceptable for use in contained plantings immediately around a home. While a knowledgeable landscape designer may be able to distinguish between native and non-native plants and those that escape cultivation it would be preferable to divide the list further to avoid errors in judgment (DEP's suggestion for dividing the list is follows the comments). (NYCDEP, April 30, 2012 letter)**

Response: Planting plans for the project will be required to be prepared by a New York State licensed landscape architect.

**31. Appendix 17 Part B, Master Declaration of Covenants, Conditions and Restrictions Article 6.14 Landscaping mentions fertilizer and grass seed. It is not recommended to apply fertilizer in the absence of a soil test within the New York City watershed. Failure of vegetation to grow may be attributable to numerous factors (soil type, moisture, shade, contaminants, etc.). It is**

**recommended that fertilizers not be applied unless soil tests indicate a need for them. (NYCDEP, April 30, 2012 letter)**

Response: Use of fertilizers will follow all applicable New York State regulations and restrictions, including restrictions on phosphorus in fertilizers that went into effect in 2012.

- 32. Furthermore, the plans do not include grading limits or detailed information on the amount of cut and fill that will be needed to construct the building pads and driveways. The limits of disturbance and filling/grading shown on this plan and Limits of Disturbance and Open Space (Figure 2-8) plans should be revised to include all contiguous disturbances, including on and off-site fill and spoil disposal areas and utility cuts that will be accessed from the project site. In addition, disturbance associated with heavy equipment access to blasted, ripped, cut, filled or grubbed areas and their associated spoil/debris stockpile areas should be shown on the plans. This should include realistic equipment access routes (corridors) necessary to stabilize steep side slopes and to install erosion and sediment control practices and runoff controls, and to provide access for installation and maintenance of stormwater management practices. (NYCDEP, April 30, 2012 letter)**

Response: The earthwork associated with all shared driveways is included on the grading plans and accounted for within the project cut/fill calculations. Anticipated grading limits/clearing limits for typical lot development scenarios are shown on sheet 8.05, details 3-7., and lot development standards that specify restrictions and requirements relating to lot grading/clearing limits are listed in the project design guidelines DEIS Appendix 17. Refer to responses to comment 24 above and comments 14.E and 21 in Section 3.1 for additional information.

- 33. General Note 3 on drawing L-6.01 indicates that areas that are not to be mowed regularly but, rather, allowed to re-vegetate naturally will be seeded with Agway Conservation Seed Mix. Agway Green Grass Conservation Mix contains perennial ryegrasses, red fescue, Kentucky bluegrass, and white clover. None of these are native to New York and are not recommended for use in areas where the intention is to return an area to native grassland, shrubland or forest as these grasses tend to persist and prevent establishment of native species. A native seed mix combined with Annual Ryegrass (which does not persist) would be preferred in these areas. Consider using roughly 10 lbs. /acre of Annual Ryegrass and 20 lbs. /acre of Ernst Conservation Seeds native mixes such as one or more of the following: Native Habitat for Strip Mines Mix, Warm Season Grass Mix, Showy Northeast Native Wildflower and Grass Mix, Eastern Ecotype Native Grass Mix. Other vendors, such as New England Wetland Plants and Pinelands Nursery, also carry acceptable native seed mixes. (NYCDEP, April 30, 2012 letter)**

Response: Seed mixes for the areas mentioned have not yet been specified for construction. However it is anticipated that the seed mix used for all stabilization throughout the project could be an annual ryegrass for temporary stabilization, or a combination of annual and perennial ryegrass, such as the 'Quick Erosion Control Mix' manufactured by Ernst Conservation Seeds, or a similar mix such as 'Native/Naturalized Ernst Solar Farm Seed Mix', 'Commercial Conservation Mix', "Native Right of Way Woods Mix with Annual Rye", all by Ernst Conservation Seeds, or a similar mix for final stabilization. Final seed mix specifications will be included in the final permit applications to NYSDEC and NYCDEP, and Site Plan/Subdivision review drawings. The purpose of the seeding is to provide an effective ground cover to stabilize soils in disturbed areas with a readily available, economical and effective product. Left unmaintained these areas will eventually revert to later successional stages comprised of nearby species that contribute seed stock over time.

- 34. Planting Note 1, also on drawing L-6.01, states that plant material will conform to the guidelines in the American Standard for Nursery Stock published by the American Association of Nurserymen. The organization changed its name and is now the American Nursery and Landscape Association. The guidelines, which the organization still develops, are ANSI Z60.1 American Standard for Nursery Stock and should be referred to as such. (NYCDEP, April 30, 2012 letter)**

Response: The updated name of the association is noted. Any references will be updated in the plans that are submitted for Site Plan and Subdivision review

- 35. Planting Note 4 should state that plant beds shall receive no more than 3" of bark mulch. Excessive mulching causes plants, especially longer-lived woody plants, to establish roots shallowly in the soil or even within the mulch, which makes them very susceptible to extremes in soil moisture conditions. (NYCDEP, April 30, 2012 letter)**

Response: Comment noted. Note 4 will be revised to state that plant beds shall receive no more than 3" of bark mulch.

- 36. Drawing L-8.02 Detail Drawing 5 Micropool Extended Detention Pond (P-1) requires seeding of duckweed and pondweed (Sago) in the permanently inundated area, Ernst Waterfowl Buffet Mix nearer the edge of the permanent pool, and Agway Conservation Seed Mix above pool level. It is recommended that Duckweed (*Lemna spp.*) and Sago Pondweed (*Stuckenia pectinata*) be provided with scientific taxonomy on the drawing. The Ernst Waterfowl Buffet Mix is appropriate for this location but must be established during a period when conditions are moist but not inundated with several inches of water. A note should be added to the drawing to reflect this. As noted above, Agway Conservation Seed Mix does not contain native seed**



**material and would not be appropriate in close proximity to wetlands, watercourses or other natural areas where the goal is to avoid introduction of non-native species. (NYCDEP, April 30, 2012 letter)**

Response: Comment noted. Scientific taxonomy of all plant materials will be provided on final plans submitted for Site Plan approval. Regarding successful establishment of planting and seeding, all seed mixes will be installed as per manufacturer's recommendations. This will be included in project specifications issued with construction plans. Successful establishment will also fall under the purview of the SWPPP with regards to final stabilization. The proposed seed mix contains naturalized species that currently exist in most locations adjacent to the site, and is readily available at a reasonable cost. The project is committed to using non-invasive plant materials as defined by NYSDEC and listed on their Interim List of Invasive Plant Species in New York State.

- 37. Drawing L-8.02 Detail Drawing 8 Bioretention Area states that each area will have one tree, sixteen shrubs, and twenty-four herbaceous perennials per 1000 square feet of surface area. This quantity appears to be adequate to provide complete cover at maturity; however, some guidance about appropriate placement of plants relative to expected soil moisture conditions would be helpful. Sandy soils may not retain sufficient soil moisture to support plants that require wet conditions. Please provide additional information about plant placement either here or in the list of acceptable plants in Appendix 17. (NYCDEP, April 30, 2012 letter)**

Response: The soil mix specified for the bioretention areas is a well-drained sandy loam. In addition to its suitability for bioretention areas, this is an industry standard soil specification for a good quality topsoil suitable for supporting plant growth. Its porosity allows high moisture retention and air circulation while maintaining excellent drainage capabilities. All plant materials listed in the Bioretention Area Plant Palette were selected based on their ability to survive fluctuating hydrologic conditions typical within bioretention areas, and are expected to perform well in this type of soil. At this time there is no need for additional information regarding placement. Final planting plans for each area will be provided prior to construction and will include plant placement requirements.

- 38. Drawing L-8.04 Detail Drawings 1 (Deciduous Tree Planting) and 2 (Evergreen Tree Planting) both depict use of guying and staking materials. Current industry standards (International Society of Arboriculture) limit use of guying and staking to severe conditions where trees are exposed to high winds, flowing water, steep slopes and the like. Even in these conditions, trees develop better root systems and wind firmness when guying materials are removed within a year after planting. This avoids bark damage and mortality if guying materials are not removed at the appropriate time. In addition, tree wrap has been found to harbor insects and diseases and should only be used on thin-barked trees in areas where they will be susceptible to sunscald. Please review standard detail drawings found at:**

<http://www.isa-rbor.com/education/onlineResources/cadPlanningSpecifications.aspx>. . At minimum, a note should be added to these details requiring the landscaping contractor to remove guy wires and tree wrap, where used, within one year following planting. (NYCDEP, April 30, 2012 letter)

Response: Comment noted. The drawings that are included with the final SWPPP permit package will include language requiring the removal of tree guys and wrapping as part of a contractor's maintenance responsibilities. This language will be included as part of this project's construction specifications. Ultimately it is the contractor's responsibility to ensure the tree remains plumb, and the use of tree anchors is at their discretion. The information is shown on the detail in the event this method is used.

### **3.0 Environmental Setting, Potential Impacts and Mitigation Measures (DEIS Section 3)**

#### **3.1 Geologic and Topographic Resources, Surface Water Resources, Groundwater Resources, Soils (DEIS Sections 3.1, 3.2, 3.3 and 3.5 and Appendices 3, 4, 9 and 15)**

##### **1.A Provide Figures 3-8A through 3-8C, Watercourse Maps at a scale not too exceed 1" = 100' (referenced in section 3.2 of the DEIS - 'Surface Water Resources' third paragraph under section B 'On-site Surface Waters'). (NYSDEC, March 3, 2014 Email)**

Response: Surveyor-stamped and signed survey maps for delineated watercourses are included in the Errata section. The master sheet is at 400-scale and the match line sheets are at 200 scale and all drawings were last revised 7/19/11 per the drawings. Also in the Errata Section is a November 23 letter from Joe Damrath of NYCDEP accepting the delineation of these watercourses as shown on the same drawings last revised 7/19/11.

##### **1. Review of the sections of the DEIS regarding site geology, topography, water resources (surface and ground) and stormwater management has revealed that in general, the stormwater pollution prevention plan presented in the DEIS is thorough and well designed. The following comments are directed to sections of the SWPPP where additional information is needed or where additional information would help with the implementation of the SWPPP. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Comment noted – no response required.

##### **2. Page 14: The SWPPP proposes to manually dose stormwater in the sediment traps with a flocculent until turbidity is less than 50 NTU and then batch discharge stormwater from the sediment trap via a pump equipped with an in-line turbidity meter and an automatic shutoff valve system that will**

**discontinue dewatering the sediment basin if the turbidity rises above 50 NTU.**

**Use of a flocculent will require a Water Treatment Chemical (WTC) permit from the New York State Department of Environmental Conservation, at a minimum pursuant to the Blue Book (This procedure assumes the sediment basin has the capacity to store all stormwater runoff to the basin prior to discharge and that the basin will be dewatered prior to any subsequent storm. Therefore, sediment basins should have sufficient storage capacity to store at least all runoff from a 10-year storm. Runoff calculations documenting sediment basin capacity to store all runoff from a 10-year storm should be provided.**

**Consideration should be given to installation of a principle spillway designed pursuant to the New York State Standards and Specifications For Erosion and Sediment Control (Blue Book) Standard and Specification For Sediment Basins, with the capacity to discharge runoff from a 10-year storm. The spillway would provide a controlled outlet from the sediment basin if proposed pumping system is incapable of dewatering the pond during or between storm events. This would minimize the potential for uncontrolled over topping of the sediment basin by stormwater runoff. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: The comment is correct that a WTC permit will be required from NYSDEC. The proposed flocculent is one that NYSDEC is very familiar with based on their review of the product as part of the recent review of another project in the Catskills.

The storage requirements of the sediment basins that have been designed to exceed the storage volume required by the Blue Book (3,600 ft<sup>3</sup>/acre of drainage area, DEIS Appendix 9, page 13). The size of the sediment basins was maximized based on the amount of available area in which they were situated so that they will detain as much water as possible.

A principle spillway will be added to detail 1 on Drawing 8.01 and the revised drawing will be included in the plans that are submitted for Site Plan and Subdivision review and for NYSDEC and NYCDEP stormwater permitting.

**2.A Section 4.0 of the SWPPP (see pages 14 and 15) indicates that a flocculent will be used in the sediment basins to reduce turbidity Please be advised that the use of flocculants must be reviewed and authorized by the Department prior to use. At a minimum, the Department will need a completed Water Treatment Chemical form and the necessary support information. The form is located on the following webpage: <http://www.dec.ny.gov/permits/9325.html>. . (*NYSDEC, February 3, 2014 Letter*)**

Response: Comment Noted. A completed WTC form will be submitted as part of the individual stormwater permitting process with NYSDEC.

**2.B In addition, the SWPPP must be updated to address the following;**

- **The SWPPP must indicate where the treated stormwater from the sediment basins will be discharged. Include the separation distance to the closest downstream surface waterbody.**

Response: As per detail 1 on sheet 8.02 of the plans that accompanied the DEIS, as well as page 15 of the draft SWPPP that accompanied the DEIS, basins will be discharged to their stabilized outlets at non-erosive velocities. For proposed basins A through G the distance from the stabilized outlets to the closest downstream waterbody as shown on DEIS sheets L-3.01 through L-3.05 is as follows, A = 200 feet to roadside swale Trailside Road; B=200 feet to drainage ditch; C=95 feet to watercourse, D=85 feet to watercourse, E=85 feet to watercourse, F=200 feet to watercourse; and G>500 feet to watercourse.

- **Given the potential for increased sediment load, identify the heightened maintenance requirements that will be used to ensure the required storage is maintained in the sediment basins. Also, indicate how and where the sediment will be disposed of. (NYSDEC, February 3, 2014 Letter)**

Response: As stated in the draft SWPPP that accompanied the DEIS, a staff gauge will be installed in each basin to assist in properly dosing the basin with flocculent. The same staff gauge can be used to track sediment accumulation. As per the DEIS draft SWPPP, if and when sediment levels reach the elevation equivalent of ½ of the storage volume of the basin, the basin will be cleaned out, and the removed material will be placed either nearby in an active work area protected by sediment and erosion control practices or in an active soil stockpile area protected by sediment and erosion control practices.

**3. Sheet L-8.02 Detail 2 Fiber Roll: The detail for the fiber roll states that flocculent may be added at the discretion of the qualified inspector. As noted above, any use of flocculent will require prior written approval from the NYSDEC. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: It was intended that detail 2 on L-8.02 would be amended prior to inclusion in the plan set. The amendment would have removed the use of flocculent in conjunction with fiber rolls. Flocculent is only proposed to be used at the sediment basins. Note 3 will be removed from this detail when plans are submitted for Site Plan and Subdivision review and for NYSDEC and NYCDEP stormwater permitting.

**4. No seed specification appears to be provided for the following:**

- **Temporary diversion swales (Typical Detail Sheet L-8.01#7)**
- **The seeding for temporary stockpiles (Page 13 of SWPPP)**

- **The dry swales (Typical detail Sheet L-8.02 #9)**
  - **Stormwater conveyance swales (Typical Detail Sheet L-8.02 #4)**
  - **Grassed Broad Crested Weirs (Typical Detail Sheet L-8.02 #7)**
- (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)*

Response: The final seed mixes for the areas mentioned have not yet been specified. However it is anticipated that the seed mix used for all temporary stabilization throughout the project will be an annual ryegrass, or a combination of annual and perennial ryegrass, such as the ‘Quick Erosion Control Mix’ manufactured by Ernst Conservation Seeds, or a similar mix. . The seed mix for all stormwater conveyance swales including Dry Swales, and broad crested weirs will be the ‘Native/Naturalized Ernst Solar Farm Seed Mix’, ‘Commercial Conservation Mix’, Native Right of Way Woods Mix with Annual Rye’, all by Ernst Conservation Seeds, or a similar mix. Final seed mix specifications will be included in the final SWPPP for NYSDEC and NYCDEP stormwater permitting, and Site Plan/Subdivision review drawings.

- 5. Micropool Extended Detention Ponds Broad Crested Weir Outlets: Typical detail (Sheet L-8.02 # 7) states that the final surfacing and the stabilization of the weir outlet will be determined prior to construction based on anticipated flow rates. The SWPPP should provide specifics for each pond broad crested weir outlet. The anticipated flow rates should be available from the post development hydrological modeling. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The final SWPPP submitted for review by NYSDEC and NYCDEP and the Site Plans submitted for Planning Board review will include specific surfacing for the weir on each pond outlet. It is anticipated that the surfacing will either be rip rap, or a turf reinforcement mat capable of supporting flow velocities as high as 15 fps.

- 6. Micropool Extended Detention Ponds: Summary tables should be provided documenting the following for the micropool extended detention ponds:**
- **Required sizes for each outlet/orifice for each pond outlet structure.**
  - **Required size of the broad crested weir for each outlet structure.**
  - **Treatment capacity of the pretreatment forebay for each pond. The NYS Stormwater Design Manual requires that forebays be designed to contain 10 percent of the water quality volume.**
  - **Permanent pool storage capacity. The NYS stormwater Design Manual requires that for micropool extended detention ponds that a minimum of 20 percent of the WQv be provided in the permanent pool and a maximum of eighty percent be provided as extended detention.**
  - **Storage above permanent pool of the required WQv (less the volume in the permanent pool area) and the storage for the CPv.**
  - **Calculations for the required volume for the CPv**

*(Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)*

Response: The requested summary table is provided on Sheet L-8.02, Site Details, provided in the Errata section. This information will also be provided in future plan sets submitted to the Town of Windham for Site Plan Review, and to NYSDEC and NYCDEP as part of future stormwater permit applications.

**6.A The Design Report indicates that Wet Ponds will now be used at this site instead of Micropool Extended Detention Ponds. Therefore, Sheet L-8.02 must be updated to include the required design/construction specifications for the Wet Pond. At a minimum, this must include a sectional and plan view that addresses all the required design criteria in Section 6.1 of the Design Manual (i.e. aquatic and safety benches, inlet and outlet structures, pond geometry, buffers setbacks, etc.). In addition, the "Site Layout, Materials and Planting Plan" drawings (Sheets L-6.01-L-6.09) must be updated to reflect the use of Wet Ponds instead of the Micropool Extended Detention Ponds. (NYSDEC, February 3, 2014 Letter)**

Response: The requested detail illustrating a 'Wet Pond' is provided on Sheet L-8.02, Site Details, provided in the Errata section. Benching is noted on the detail, and the requirement for construction in accordance with NYSDEC requirements is provided as note #1. Also included on sheet L-8.02 is detailed information relating to the outlet control structure and weir outlet, along with a table summarizing pond data and sizing information relating to the outlet control structure for each pond. Additional detailed information, along with updated "Site Layout, Materials and Planting Plans" will be provided during Site Plan Review and to NYSDEC and NYCDEP as part of future stormwater permit applications.

**6.B Detail 5, Sheet L-8.02: This Detail should be deleted since there are no longer any micro-pool extended detention ponds on the project site. (Watershed Inspector General, November 21, 2012 Letter)**

Response: Detail 5 on Sheet L-8.02 will be deleted in the drawings that are updated for submission for Site Plan and Subdivision review and for NYSDEC and NYCDEP permitting.

**7. Stone Outlet Protection Typical Detail Sheet L-8.01 #5: The detail specifies stone outlet width and length requirements based on pipe sizes. Each stone outlet apron for each outlet should be designed pursuant to the Blue Book Standard and Specifications For Rock Outlet Protection. Calculations for each outlet should be provided in the SWPPP. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Comment noted. The detail will be revised to state that aprons shall be sized in accordance with the Blue Book specifications, and calculations will be provided within the Final SWPPP submitted for NYSDEC and NYCDEP review and on plans submitted to the Planning Board for site plan and subdivision approval.

8. **Bioretention Area Typical Detail Sheet L-8.02 # 8:** The detail depicts a 30 mil Poly or PVC liner around the soil media and underdrain system. The liner will restrict infiltration which is one of the goals of using green infrastructure practices for stormwater management. The intent of this liner is unclear and should be removed from the detail.

Response: The liner will be removed from the detail, and a note will be added to clarify when a liner may be applicable. The revised detail will be included in the plans submitted for Site Plan and Subdivision review and for NYSDEC and NYCDEP permitting. One of the goals of using bioretention areas is in fact to maximize the potential for infiltration. Based on soil investigations to date, there may be some instances where the bottom of the bioretention areas cannot achieve adequate separation from shallow depth to bedrock and/or seasonal high groundwater. In these cases, as a last resort, a liner can be added to protect the filter bed from groundwater contamination.

9. **In addition to stormwater comments relative to Section 3.5, page 3-41 of this section provides a description of a proposed blasting notification plan. In order to be effective, all property owners within ¼ mile of the blast location must be notified. The proposed solicitation for notification and assumed opt out is unacceptable. Further, all property owners and the Town of Windham Police Department shall be notified at least 24 hours prior to blasting activities. A written record of such notification shall be maintained and available for inspection by the Town of Windham Police Chief on demand. All explosives shall be stored in an approved tamper-proof explosive storage unit. If vehicle storage is utilized, the vehicle storing the explosives shall not be left unattended at any time while on site nor shall the vehicle remain on site overnight. Any explosive storage unit to be utilized that is not contained within a vehicle shall be secured to the satisfaction of the Town of Windham Police Chief.**

Furthermore, the blasting procedure to be utilized shall incorporate the following required actions:

**Before each blast the blaster shall follow this procedure:**

- **5 minutes before the blast the area will be cleared and secured**
- **2 minutes before the blast the blaster will blow 3 short blows from a horn to warn of the blast**
- **1 minute after the blast the blaster will blow 1 long blow from a horn to signal the all clear**

*(Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)*

Response: Revised blasting mitigation measures are included in the Errata section of this FEIS.

- 10. The DEIS addresses and contains the Stormwater Pollution Prevention Plan. The SWPPP has to be approved by DEC prior to construction. Since the project lies within the City watershed, NYCDEP also has approval authority on the SWPPP. (NYSDEC, April 30, 2012 letter)**

Response: A version of the SWPPP contained in the DEIS that has been modified in accordance with this FEIS will be prepared prior to construction. The roles of NYSDEC and NYCDEP as they relate to the SWPPP are acknowledged.

- 11. The DEIS addresses the preferred use of span structures over waterways. These span structures provide for natural stream bottoms and accommodate stormwater flows. (NYSDEC, April 30, 2012 letter)**

- 11.A The DEIS addresses the preferred use of span structures over waterways. These span structures provide for natural stream bottoms and accommodate stormwater flows. Based on the U.S. Army Corps of Engineers determination of nationwide permit requirements, a Water Quality Certificate may be required from NYSDEC. (NYSDEC, February 3, 2014 Letter)**

Response: Comments noted. If a water quality certificate is required from NYSDEC, an application will be made following the completion of the SEQRA process.

- 12. The DEIS does not adequately apply the required 5 step process outlined in the Design Manual. Section 3.6 of The Design Manual states that designers are required to adhere to a five step process for stormwater site planning and practice selection when preparing a Stormwater Pollution Prevention Plan (SWPPP). It is apparent that the five step process has not been applied to the proposed site layout. The first step requires that natural resources and sensitive areas that are susceptible to construction-related impacts be identified and preserved in order to minimize runoff and maintain the pre-construction hydrology of the site. These sensitive areas include but are not limited to wetlands and their buffer areas, watercourses and their buffer areas, steep slopes, highly erodible soils, and exposed/shallow bedrock areas. The layout and design of the project must then be configured using the process of "site fingerprinting" to avoid these areas wherever possible and to minimize environmental impacts when disturbance is unavoidable. Only after Section 5.1.1 through 5.1.5 of Chapter 5 of the Design Manual (Green Infrastructure Practices) are fully implemented should the designer consider construction or post-construction treatment practices to mitigate the impacts of development. (NYCDEP, April 30, 2012 letter)**

Response: Exhibit B of DEIS Appendix 9 (pages 14 to 20) addresses the 5 step process under the headings "Design Process" and "Green Infrastructure Practices". Additional information regarding the 5-step process and sensitive areas such as steep



slopes and riparian buffers can be found in section 3.1. Impacts to steep slopes have been reduced by nearly 14 acres and minimum riparian buffers have been increased from 25 to 50 feet.

**13. The DEIS does not provide an adequate stream and wetland buffer zone width. Section 5.1.2 of the Design Manual specifies that naturally-vegetated riparian buffers should be preserved along streams and wetlands to prevent stormwater from concentrating and flowing directly into protected water resources. A minimum of 25 feet of buffer for streams and wetlands is recommended (streamside or inner zone), with additional buffer width (middle and outer zones) provided to transition from the inner zone to upland development areas. As discussed in previous letters to the Lead Agency in reference to this project, the effectiveness of a given buffer zone can be determined by a number of features:**

- 1. Slope: The greater the slope of the buffer zone area, the larger the area must be to adequately slow runoff velocities into the wetland.**
- 2. Development Intensity: The larger the proposed impact on the wetland, the larger the buffer zone should be to effectively minimize the impact**
- 3. Vegetative Density: The less vegetative cover and associated organic debris a buffer zone has, the more area is needed to successfully dissipate the energy of rainfall and runoff.**
- 4. Soil Erodability: If the soil of the area adjacent to a wetland bears a high erosion potential, a larger buffer zone is needed to separate the disturbed area from the wetland. This increase is necessary in order for the buffer zone to attenuate the abnormally large sediment load contained in the runoff.**
- 5. Wetland Value or Sensitivity: The more valuable a wetland or the more sensitive it is to impacts, the greater the need for a buffer zone large enough to provide adequate protection of the wetland resource.**
- 6. Depth to Bedrock: Steep land with shallow soil (less than 3 feet) Under intense rainfall produces rapid stormflow whether forested or not (Hewlett, 1982). A visit to the project site found numerous bed rock outcrops throughout the site. In addition, the Vly-Halcott soil complex found over the vast majority of the site is stated as having shallow bedrock at 10 to 40 inches deep.**

**The buffer zones at the WMSC are all limited in most or all of these categories. As such, the 25 foot proposed buffer zone for this project is inadequate. Given the site conditions and the limited opportunity to apply other practices discussed in Chapter 5 of the Design Manual, all site buffer zones should be increased to a minimum of 100 feet and genuinely protected in an undisturbed state. (NYCDEP, April 30, 2012 comment letter)**

Response: See the response to comment 14.E in this section that includes provisions for increased buffers. While initial design efforts maintained a minimum 25 feet federal wetland buffer and a 100 feet riparian buffer to all NYCDEP regulated watercourses, plans have been modified further to reduce and/or eliminate buildings within 50 feet of all wetland areas. This exceeds the minimum 25 feet buffer width to perennial streams recommended in section 5.1.2 of the Design Manual.

Section 5.1.2 of the NYSDEC Stormwater Management Design Manual states “Naturally vegetated buffers should be defined, delineated and preserved along perennial streams, rivers, shorelines and wetlands.”. Section 5.1.2 also states “Delineate and preserve naturally occurring riparian buffers (as well as vegetated buffers along streams listed as intermittent by the Department).” Section 5.1.2 of the Design Manual then goes on to state that “a minimum 25-foot undisturbed buffer is needed for even the smallest perennial streams”. Wetlands, perennial streams and intermittent streams were delineated on the site and considered during the project design.

As stated in section 2.1.1 of the DEIS, “The project design is responsive to site development constraints imposed by natural resource conditions on the project site, primarily steep slopes, watercourses under the jurisdiction of NYCDEP and wetlands under the jurisdiction of the USACOE.” None of the project buildings are proposed within the 100 foot regulated buffer around NYCDEP jurisdictional watercourses. Also Figure 2-6 of the DEIS illustrates the project master plan in the context of USACOE jurisdictional wetlands, NYCDEP watercourses and the regulated setbacks from the watercourses. (Note: the USACOE does not establish a regulated setback/buffer around wetlands that are under their jurisdiction.). Figure 2-6 shows that nearly all project elements are located some distance from wetlands and watercourses. An exception to this is the East Base Lodge that is located close to a USACOE wetland, but is nevertheless 50’ away from the wetland at its closets point. However, this occurs on one of the flattest portions of the project site, and development is proposed at the same elevation as the wetland, and not uphill of the wetland. These factors significantly reduce the potential for this wetland to be impacted.

Distances for development closest to watercourses are as follows. For lots, the distances are from the specified building envelopes. For amenity buildings and duplexes, it is the distance to the building itself. This list does not include spanned road crossings of watercourses.

East Lodge – 110 feet

Member’s Lodge and Clubhouse – 310 feet

Lot 145 – 110 feet

Lot 15 – 100 feet

Lot 17 – 100 feet

Lot 7 - 100 feet

Lot 141 – 120 feet

Lot 140 – 130 feet

Lot 135 – 180 feet

Lot 127 – 110 feet

Lot 111 – 100 feet  
D24 – 200 feet  
Lot 164 – 150 feet  
Lot 122 – 220 feet  
Lot 116 – 130 feet  
Lot 115 – 170 feet  
Lot 120 – 120 feet  
Lot 119 – 130 feet  
Lot 130 – 160 feet

The following are distances to wetlands for the closest development. Measurements for lots and for buildings were made the same way as described for watercourses above.

D8 – 50 feet  
Lot 29 - 50 feet  
Lot 17 – 50 feet  
Lot 1 – 50 feet  
Lot 146 -50 feet  
Lot 102 – 50 feet  
Lot 161 – 50 feet  
Lot 162 – 50 feet  
Lot 127 – 50 feet  
Lot 116 - 50 feet  
Lot 115 – 50 feet  
Lot 119 – 50 feet  
Lot 130 – 50 feet

Updated Project Master Plan With Constraints (with and without enlargement) L1.01A and L10.01-10.09 included in the Errata Section illustrate the current, enlarged buffer areas.

**13.A The site includes 12.67 acres of intact headwater wetlands subject to regulation by the Army Corps of Engineers. These wetlands provide important water quality protections which could be undermined by construction of impervious surfaces in the "buffer" areas adjacent to the wetlands. In its DEIS comments, DEP recommended that the Project respect 100 foot buffers around the wetlands as a result.**

**The Club would allow substantial development of impervious surfaces within areas adjacent to federally protected wetlands. Development would include portions of 27 residential units, the East Lodge (Building C3), the west tennis court at the Wellness Center (Building C2), the East Lodge chairlift, and approximately 4,605 linear feet of roads, all within 100 feet of such wetlands. This results in 3.8 acres of impervious area within the buffer. Of the residential units, 12 would lie within 50 feet of wetlands.**

**We recommend reduction in impervious areas within 100 feet of wetlands to the extent feasible as an impact avoidance/mitigation measure. A detailed evaluation**

**should be made of whether those surfaces should be relocated to less sensitive locations onsite or otherwise removed. (*Watershed Inspector General, November 21, 2012 Letter*)**

Response: See the previous response.

“Federally protected wetlands” are regulated by the US Army Corps of Engineers under Section 404 of the Clean Water Act. Project activities proposed in areas close to these wetlands are not prohibited by USACOE regulations/the Clean Water Act. All proposed building envelopes have been moved so that they are at least 50 feet from wetlands.

**13.B Sheet L-1.01a, dated 01/29/14, provides an overlay of the project master plan with slopes greater than 25%. What is the data source for the steep slope areas shown on sheet L-1.01a? (*NYSDEC, March 3, 2014 Email*)**

Response: Site topography was mapped by Mapmaker Photographic Services, Inc from an April 26, 2006 flight. Ground control survey was provided by Kaaterskill Associates. Mapping of 25% and greater slope was created from this mapped topography. Slope mapping was generated with AutoCAD drafting software. Existing topographic surface information (2-foot topography line work) was taken from the surveyor and imported into AutoCAD to digitally create a slope banding surface based on the horizontal distances between the contour data. The AutoCAD user can specify the parameters that the software analyzes to depict which slopes are generated for the final mapping (i.e., 15% slopes, 20% slopes, 25% slopes, etc.).

**14. The DEIS does not effectively limit development on steep slopes. Section 5.1.4 of the Design Manual (Locating Development in Less Sensitive Areas) states that steep slopes should be kept in undisturbed natural conditions to help stabilize hillsides and soils. On slopes greater than 25%, no development, re-grading, or stripping of vegetation should be considered. The DEIS identifies a proposed disturbed vegetation area of approximately 141 acres associated with this development. As noted above, this estimate may not include all on- and off-site disturbances associated with this project; however, if this disturbance limit is compared to Drawing L-2.01, the total disturbance on soils with a slope classification of "E" or "F" will be approximately 37 acres, meaning that approximately one-quarter of the total site disturbance will occur on slopes of 25% or steeper. DEP recommends that the amount of clearing and grading on steep slopes be substantially reduced to reduce the potential for failure of the proposed erosion and sediment control and stormwater management practices. (*NYCDEP, April 30, 2012 letter*)**

See the response to comment 14.E regarding the significant reductions in the amount of disturbance on slopes greater than 25%.

**14.A The Club proposes disturbance of approximately 141 acres of land according to the DEIS, including 35 acres of land having steep slopes of 25% or greater. But in sensitive watersheds, such as within the NYC Watershed, it is best to**

avoid construction on steep slopes. Slope influences the retention and movement of water, the potential for soil slippage, accelerated erosion, the ease with which machinery can be used and the engineering uses of soils. It has been our experience that construction on steep slopes can result in large stormwater erosion events during construction activity.

Because of the water quality risks posed by construction on steep slopes, the New York State Stormwater Management Design Manual recommends that no construction occur there:

*Development on slopes with a grade of 15% or greater should be avoided, if possible, to limit soil loss, erosion, excessive stormwater runoff and the degradation of surface water. Excessive grading should be avoided on all slopes, as should the flattening of hills and ridges. Steep slopes should be kept in an undisturbed natural condition to help stabilize hillsides and soils. On slopes greater than 25%, no development, re-grading, or stripping of vegetation should be considered*

New York State Stormwater Management Design Manual (August 2010), at p. 5-12 (emphasis added).

While this recommendation does not affect an absolute prohibition against construction on slopes exceeding 25 percent, it reflects the State's best professional judgment that such construction should normally be avoided and that strong justification for deviating from it should be provided, especially in sensitive areas such as the NYC Watershed. If allowed, the extent of such construction should be limited and mitigation requirements should be employed to minimize potential impacts and fully stabilize the site as soon as possible.

According to the DEIS documentation for the proposed development, significant disturbance will take place on steep slopes (>25%). Thirty-five acres or nearly a quarter (24%) of site disturbance would occur on those slopes. However, the DEIS does not show that such disturbances are unavoidable, justify such intensive development, or demonstrate that potential impacts from those disturbances have been minimized. (*Watershed Inspector General, November 21, 2012 Letter*)

Response: See the response to comment 14.E.

**14.B** The Design Manual states, "Development on slopes with a grade of 15% or greater should be avoided, if possible, to limit soil loss, erosion, excessive stormwater runoff and the degradation of surface waters. Steep slopes should be kept in an undisturbed natural condition to help stabilize hillsides and soils. On

slopes greater than 25%, no development, re-grading or stripping of vegetation should be considered." The Department recognizes that there might be limited circumstances where disturbance of these areas absolutely cannot be avoided; these should be the exception rather than the rule. Examples may include the construction of a linear project such as a power line which generally has a limited disturbance and would entail far less disturbance than routing the power line around the steep slope. While the SWPPP makes the statement that the applicant has taken great efforts to limit significant development on steep slopes, this statement appears to be unsupported given the amount of site disturbance and density of development proposed in these areas. This is a critical issue and NYSDEC shares the concerns that have been raised by the Watershed Inspector General and New York City Department of Environmental Protection that strong justification is needed to show that such disturbances are unavoidable, justify such intensive development, or demonstrate that potential impacts from those disturbances have been minimized. Demonstrating this project will meet regulatory standards for permit approval will be based upon the resolution of the Department's technical comments within this letter. Since the Department's technical comments address project design and impact issues which are also reflected in the NYCDEP and Watershed Inspector General's comments (dated 4/30/12 and 11/12/12 respectively) we would need to see those comments addressed as well. We note the recent submittal of responses to the Watershed Inspector General's letter and which is now under review.

**The SWPPP must clearly identify those areas where steep slopes and riparian buffers could not be avoided and why. In each area, the SWPPP must identify the type of development proposed as well as the heightened measures that will be used to fully mitigate impacts both during and after construction is complete. (NYSDEC, February 3, 2014 Letter)**

Response: See the response to comment 14.E.

**14.C DEC indicated in the comment letter dated February 3, 2014 that strong justification will be needed to show that disturbances of steep slopes are unavoidable and requested that the SWPPP clearly identify those areas where steep slopes and riparian buffers could not be avoided and the reasoning. Although the revised layout removes some development on steep slopes and from riparian buffers, the revised layout continues to show development in these sensitive areas. For example, Lots 52, 54, 77, 64, 125 and 135 would require disturbance of slopes >25% for either the building envelop or access. D8, C3-East Lodge and the East Lodge Chair lift are shown within the wetland buffer area. Please provide an itemized list identifying each area where steep slopes and riparian buffers cannot be avoided; the justification as to why these areas cannot be avoided; and the additional measures that will be used to fully mitigate the impacts both during and after construction. (NYSDEC, March 3, 2014 Email)**

Response: See the response to comment 14.E.

**14.D** The DEIS states that road construction would disturb 15 acres of land on slopes exceeding 25 percent. Much of this will occur along Sheridan Drive (Sheet L-1.01) to gain access to the upper portion of the proposed development site. An 80-foot high, near vertical cut is designed at the switchback location of this road. This will create a massive amount of excavation that is anticipated to be mostly in rock on a 1 foot horizontal to 1 foot vertical slope (1: 1) or 100% slope. This is basically a 45 degree angle up from the roadside.

In draft comments directed to the Sponsor on September 20, 2012, we recommended that road disturbances be significantly mitigated. We noted that because of the length of Sheridan Drive beyond Lot 32 to the junction of Cave Mountain, and the massive excavation needed to build that overly steep section, Sheridan Drive beyond Lot 32 should be deleted, and we recommended that an alternate flatter route be established to tie into the upper portion of the project.

In response to our draft comments, the Sponsor stated that a better alternative to Sheridan Drive as currently proposed was not available. Specifically, it noted that the DEIS considered a "No Waivers" alternative, but that this option would entail significantly more disturbance on steep slopes than the roads currently proposed, and that another alternative route, to access the site from Route 296, was not feasible.

However, other alternatives that would avoid and mitigate road construction disturbances on steep slopes have not proposed or considered. An alternative design of the road sections should include the use of structural retaining wall units to minimize the amount of lateral disturbance and reduce the volume of excavation from open slope designs. We estimate that this would reduce road construction disturbance on steep slopes by approximately 1.62 acres, from 15 acres to approximately 13.38 acres, and also significantly reduce the volume of excavated materials.

Retaining walls typically lean into the slope with a "batter" of 1 foot horizontal to 6 feet vertical. These units should be used in all areas where the vertical cuts exceed 20 feet, beginning and ending where the design cut is 10 feet. This would result in an estimated 3,680 linear feet of structured wall.

In addition to using retaining walls, the access to Lots 22, 23, 24, and 25 should be re- designed to use Twin Maples Lane to upper Batavia Lane instead of using the lower portion of Batavia Lane. By doing this, the lower portion of Batavia Lane can be eliminated and with it 650 feet of road on steep slopes and an estimated 0.82 acres of disturbance. (*Watershed Inspector General, November 21, 2012 Letter*)

Response: See the response to comment 14.E.

**14.E** A significant number of the proposed 278 residential units are also planned to be constructed on slopes exceeding 25 percent. Of the 197 single home, duplex, and town house units proposed, 52 are to be constructed on such slopes.<sup>8</sup> The Project's 81 condominium apartments are to be housed in two buildings, the East

**Lodge (Building C3) and the Members Lodge (Building C1). A portion of C1 is to be constructed on steep slopes. In addition, areas adjacent to the Wellness Center (Building C2) are to be constructed on slopes exceeding 25 percent.**

**These disturbances can be avoided by eliminating the 52 units, and relocating and reconfiguring Buildings C1 and C2, to allow construction of those two buildings on shallower slopes. We estimate that these modifications would reduce disturbances on slopes exceeding 25 percent by approximately 13.2 acres. This is calculated using an estimated disturbance envelope of 10,000 square feet for the single family home sites, while measuring the disturbed areas for the town houses and the resort building C1. We recommend modifying the Project in this way unless the Sponsor demonstrates that construction on steep slopes is unavoidable and that potential impacts from those disturbances have been minimized. (Watershed Inspector General, November 21, 2012 Letter)**

Response: The project has been modified to significantly reduce, minimize and/or eliminate potential impacts to slopes greater than 25% and riparian buffers. These modifications include potential reduction of road widths, program modifications including the removal of project components such as the Wellness Center building and outdoor recreational facilities, townhomes and specific single family home lots, and the addition of specific limits of disturbance for each proposed single family home and duplex lots. After these project modifications, remaining areas where steep slopes cannot be avoided are shown on the Project Master Plan, L-1.01, included in the Errata section of this FEIS. As part of this effort, adjustments have been made to every single family home lot proposed. In some cases the adjustment is only to the lot lines and limits of disturbance, in other cases lots have been reconfigured to include shared driveways or shifted to reduce potential impacts to sensitive areas and some lots have been eliminated altogether.

The following table summarizes the numbers of buildings and numbers of units for the project plan that was the subject of the DEIS, for the currently proposed project plan (provided herewith), as well as the differences (reductions) between the two plans. Under the current plan there are 65 fewer units and 16 fewer buildings as compared to the DEIS plan. Changes to the DEIS plan are shown on the Figure L1.01B, DEIS Master Plan Modifications, included in the Errata section of this FEIS.

	<b>DEIS #</b>	<b>DEIS #</b>	<b>FEIS #</b>	<b>FEIS #</b>
<b>Type</b>	<b>Buildings</b>	<b>Units</b>	<b>Buildings</b>	<b>Units</b>
Single Family Home	143	143	137 (-6)	137 (-6)
Duplex	12	24	6 (-6)	12 (-12)
Townhouse	5	54	1 (-4)	7 (-47)
Condo	2	81	2	81
<b>Total</b>	<b>162</b>	<b>302</b>	<b>146 (-16)</b>	<b>237 (-65)</b>



The following table summarizes the extent of activities proposed on slopes greater than 25% for the project plan that was the subject of the DEIS and the currently proposed project plan.

	DEIS Plan (ac.)	FEIS Plan (ac.)	Change (ac)
<b>Buildings greater than 25% slope</b>	15.47*	7.84**	-7.63
<b>Roads greater than 25% Slope</b>	15	11.73	-3.27
<b>TOTAL</b>	30.47	19.57	-10.90
*only included building envelopes of single family home (sfh) lots, did not include driveways			
** includes driveways and building envelopes for sfh lots			

Additionally, an itemized list of all project components, including single family homes (SFH), duplexes, townhome, Member’s Lodge and roads that provides the total anticipated disturbance to slopes greater than 25% for these project components is included as the table entitled Lot Summary Table that is included in the Errata section of this FEIS. Project-wide development proposed for slopes greater than 25% under the current plan is 21.07 acres broken down as follows; 7.84 ac SFH, 0.31 ac duplex, 0.15 ac townhouse, 1.04 ac Member’s Lodge, and 11.73 ac roads. This 21.07 acre total represents less than 5% of the project site.

The DEIS for the project did not contain a project-wide total for proposed disturbances on slopes on 25% or greater. The WIG, in their November 11, 2012 letter to the Windham Planning Board (page 4 of their attached technical comments), states that project-wide disturbance on slopes greater than 25% in the DEIS plan is 35 acres. Using this total of 35 acres, the current plan represents a reduction of 13.93 (nearly 14) acres. In their same letter (page 1 of their attached technical comments) the WIG states that “Construction disturbances on steep slopes to build residential units and roads should be reduced by approximately 16 acres.....” The Applicant has substantially met this request of steep slope construction reduction made by the WIG.

Further detail relating to each development component is as follows:

Roads:

- Justification

The nature of the project - second home, recreational residential development adjacent to Windham Mountain Ski Area, makes disturbance of steep slopes and riparian buffers unavoidable, particularly for the linear components of the project such as roads which are used to connect the flatter, more easily developable portions of the project site. In order to access and connect the developable areas of the project site, areas with slopes greater than 25% must be traversed. In order to minimize potential impacts, alternative access options were explored, and existing road/logging corridors were identified for potential re-use. A complete ‘Alternative Access Analysis’ was performed and presented to the Windham Planning Board in a March 2010 Report, a copy of which is included in the Errata section of this FEIS. The

report analyzed alternative access scenarios, and potential impacts to greater than 25% slopes associated with each scenario, concluding that the current access to the project site via Sheridan Drive, as proposed, resulted in the least amount of disturbance to greater than 25% slopes.

The same is true for riparian buffers. To access the areas suitable for development, some wetland areas and riparian buffers must be crossed. However, in order to minimize any potential impacts to the greatest extent practical, the roads have been designed to maintain a 25' buffer from the wetlands. This is true in all locations except where roads must cross a wetland, such as on Sheridan Drive south of Meadow Crossing and on Cave Mountain Road adjacent to the East Lodge. In these cases, the crossing locations where potential impacts would be smallest were chosen, and in most cases bridges have been proposed so the wetland areas / buffers can be spanned to the maximum extent practical. Additionally, the project maintains a 100-foot riparian buffer to all NYCDEP regulated watercourses in accordance with NYCDEP regulations. This exceeds the minimum 25 feet buffer width to perennial streams recommended in section 5.1.2 of the Design Manual.

- Minimization
  - Potential impacts to riparian buffers and slopes greater than 25% have been minimized by exploring design options, weighing impacts associated with each and selecting road alignments that avoid these areas to the greatest extent practical as described in the section above. Additional measures include:
    - Batavia Lane and its associated impacts on slopes over 25% (1.37 ac.) has been completely eliminated as suggested.
    - A reduced road width (driving surfaces and shoulders) with narrower disturbance limits can be explored during Site Plan review with the Planning Board. Currently, the proposed road widths are at the Town minimum of 28 feet, and a further reduction would require the issuance of a waiver by the Planning Board. If such a waiver is pursued, it would likely be only for some of the more minor “collector roads” in the project such as Meadow Crossing, Tuck Trail and Sunrise Terrace and not for the major access roads such as Sheridan Drive.
    - Utilizing extensive retaining walls to minimize earthwork and reduce impacts. Currently over 4,300 linear feet of retaining wall are proposed adjacent to areas of slopes greater than 25%. This proposed retainage is, for the most part, proposed in areas of fill, in order to limit the amount of fill placed on steeper slopes. These 4,300 feet includes 1,000 feet of retaining wall that was added in areas of cut slopes in response to comments made by the Watershed Inspector General (WIG) and at a cost of approximately \$300,000 to the applicant. This resulted in impacts to slope greater than 25% being reduced by 0.26 acres. Additional locations with much taller retaining walls suggested by WIG were considered and determined to be cost prohibitive. Refer to responses 14.F and 14.H that follow.

- Utilizing bridges to span sensitive areas, as described above.
  - Utilizing existing logging road corridors. While proposed road corridors are wider than the existing logging corridors, a portion of a corridor already exists. By re-using this corridor the amount of earthwork required is less than if an entirely new corridor was planned in a similar location.
- Mitigation
  - Mitigation for any potential impacts associated with the roads is through strict erosion and sediment control measures and procedures and re-vegetation efforts. Sheets L3.01-L3.05 from the DEIS illustrate and describe the methods which must be used, performance standards, the amount of areas that can be disturbed, and the stabilization requirements that must be followed within each work area before beginning work on a new work area . Heightened erosion control measures include but are not limited to the use of a dedicated erosion and sediment control contractor, specific sequencing procedures that limits the amount of disturbance at one time, redundant sediment control measures such as double rows of silt fence and/or fiber rolls, the use of flocculants to aid in settling of fine materials, the use of hydroseed and tackifier for rapid and efficient stabilization, temporary stabilization of areas that will not be disturbed within seven (7) days in lieu of fourteen (14) days, the diversion or diffusion of runoff from areas uphill of disturbed areas and more frequent inspections by the Qualified Inspector, such as twice per week and at the end of the work day when there is rain forecasted the following day. Revegetation efforts include tree planting and seeding all disturbed areas. Seeding with stabilization methods are indicated on DEIS plans L3.01-L3.05 and specified on supporting details on DEIS Sheets L8.01-L8.04.

#### Single Family Home/Duplex Lots:

- Justification
 

To minimize costs and environmental impacts, the Sponsor and the planning team have made concerted efforts to avoid large areas of potential impacts and locate single family homes and other residential units in areas with the least potential for disturbance to sensitive areas, while finding routes for roads and utilities to serve these preferred portions of the site. The road sections, though, are costly. The number of single family units proposed is the minimum needed to make the project financially feasible.

  - The most developable portions of the project site are the flatter plateaus or ‘benches’ within the topography that consist primarily of slopes less than 25%. This is where most of the building development for the project is located. Within these flatter developable areas are small areas of slopes greater than 25%. In many cases these are small areas isolated and disconnected from large consistent areas of 25% slopes, or narrow bands of a 25% slope within a larger flatter area. An example of this is the area with proposed lots 146-148, where the Lean-to currently exists. (The lean-to was a stopping point for most site tours including those made with

the Planning Board, WIG and NYSDEC.) These areas of 25% slopes are not significantly contiguous and they do not adequately represent the more consistent character of the topography in the areas proposed for development. Because these small areas are located within the larger, flatter developable portions of the site, it is not reasonably practical to develop single family home lots on the most developable portions of the property without some disturbance to these smaller irregular areas of greater than 25% slopes. Therefore disturbance within numerous, small areas of 25% slopes is unavoidable. Using the lots 146-148 area referenced above as a way of putting disturbances on greater than 25% slopes into perspective, the Lot Summary Table in the Errata section of this FEIS shows disturbance on slopes greater than 25% to be 4,485 sf, 3,265 sf and 1,675 sf for the 3 lots, respectively (0.22 acres total), or an average of 0.07 acres per lot. This 0.07 acres is equivalent to an area of +/- 57 feet by 57 feet. When all of the SFH, townhouse and duplex lots currently proposed, and listed in Lot Summary Table in the Errata Section, are considered together the mean and median values for square footages on slopes greater than 25% are 2,510 and 2,345 sf, respectively, or the equivalent of 50 feet by 50 feet and 48 by 48 square feet respectively. These are relatively small and manageable areas when it comes to lot construction and accompanying sediment and erosion controls.

- Some of the flattest, most developable areas of the property include or are adjacent to wetlands and/or regulated watercourses. While initial design efforts maintained a minimum 25 feet federal wetland buffer and a 100 feet riparian buffer to all NYCDEP regulated watercourses, plans have been modified further to reduce and/or eliminate buildings within 50 feet of all wetland areas. This exceeds the minimum 25 feet buffer width to perennial streams recommended in section 5.1.2 of the Design Manual.
- Refer to Project Master Plan with Constraints, sheet L1.01a, and the 50 scale enlargements of the Project Master Plan with Constraints, sheets L10.01-L10.09 in the Errata section of this FEIS to see the modified plan with slopes greater than 25% and wetland and watercourse setbacks.
- Minimization:
  - Potential impacts to sensitive areas has been minimized by first re-assessing the development plan and determining if reconfiguration of the project program elements could result in a project that was still viable, while further reducing potential impacts to riparian areas and slopes greater than 25%. It was determined that the following modifications could meet that criteria:
    - Replacing Townhouse units (TH2-TH3) and the Wellness Center with fewer single family home lots, which allow for more flexible development and less contiguous disturbance.

- Replacing Duplex lots D9-D18 with fewer single family home lots which allow for more flexible development and less contiguous disturbance.
  - Eliminating Duplex Lots D5-D6
  - Eliminating Townhouse units (TH1).
- Next, all single family lots were examined. Special attention was paid to lots noted in DEIS comments issued by NYSDEC, NYCDEP and the WIG. These include lots 3, 6, 8, 9, 16, 24, 25, 31, 35, 37, 38, 41-45, 48, 52, 54, 57, 58, 64, 75, 77, 79-83, 84, 87, 88, 106-109, 114, 116, 120, 121, 124-126, 129 and 135. The Lot Summary Table in the Errata section identifies the lots that were removed from the project as part of this effort.
- Additional modifications were then made to the remaining lots through extensive analysis of several development scenarios. This analysis included a detailed assessment of lots of various types which tested lot configuration, lot access, different building sizes, maximum impervious areas, stormwater management devices, and the anticipated earthwork that would be needed to accommodate these scenarios on lots with varying site conditions. This analysis began by determining the minimum amount of impervious area that would be necessary to develop a house footprint that would be the smallest size that could be reasonably marketed and sold within the context of this project. This minimum impervious area was determined to be 1,500 square feet and includes the roof area of a potential house along with any small accessory walks or patios. Driveways are not included as all driveways have been designed to be managed within the project-wide stormwater management system. For simplicity, the terms impervious area and house size are used interchangeably. Next, a bioretention area was sized in accordance with NYCDEP and NYSDEC requirements based on this maximum impervious area of 1,500 sf. As per item 2 of the LA Group's May 6, 2014 letter to NYSDEC, the HydroCAD links for the residential units with information relating to sizing of the bioretention areas was provided to you via e-mail on March 4, 2014. A copy of this information regarding HydroCAD links for residential units is in the Errata section of this FEIS. Once the sizing was determined, the 1,500 sf house footprint and appropriate bioretention area were sited within each remaining lot noted in DEIS comments issued by NYSDEC, NYCDEP and the WIG as set forth in the Lot Summary Table. A grading plan was developed for each of these lots and included potential driveway access along with the house and bioretention areas, and the siting of the house was adjusted as needed to minimize potential impacts/disturbance. In some cases, shared driveways were incorporated to further reduce disturbance. In other cases, lots were enlarged, reconfigured, or removed based on the potential for impacts to slopes and/or riparian buffers. Once the grading plans were completed, a 'minimum disturbance area' was applied to each lot. This line represented the minimum amount of area

necessary to develop the site including the house, bioretention area, driveway and other utilities. In areas where no significant additional impacts to sensitive areas would be anticipated, the minimum disturbance area was expanded in order to provide as much flexibility for lot development as possible. This expanded area is the ‘maximum disturbance area’, and represents the maximum area that could be disturbed within that lot. However, this maximum disturbance area is not intended to allow a lot buyer to disturb that entire area. This area is being used for the purpose of analyzing potential impacts and protecting sensitive areas only, and measures a hypothetical worst case scenario while allowing a potential lot buyer some flexibility in lot development. A lot buyer will be required to develop a specific lot plan and determine their own ‘minimum disturbance area’ based on their specific site plan which will be subject to review and approval by the WMSC Architectural Review Board (ARB), as explained in more detail later in this response. Once the maximum disturbance area was established, a building envelope was delineated. This defines the area where a house could be built, and is generally defined as the property line setbacks, the setback from regulated wetlands or watercourses, or the edge of the maximum disturbance area, whichever is more restrictive.

- The ‘minimum disturbance area’ resulting from the grading plans developed for the lots with the 1,500 sf house size noted above, which encompass most types of topographic lot conditions typically found across the project site, was then used as a guiding template and applied to all the remaining lots. Lots with similar development characteristics were compared against one another, and in a few cases additional lot studies were generated where more challenging topographic or development conditions were found. The 1,500 sf impervious area/house size and minimum disturbance area was placed on each lot to verify feasibility and weigh potential impacts. The same process of expanding the disturbance area while protecting significant areas of slopes greater than 25% and riparian buffers was performed to come up with a maximum disturbance area for each lot within the project. In some cases it was clear that a maximum disturbance envelope could be large enough to support larger impervious areas/house sizes. As a result additional development scenarios using larger house sizes/impervious areas were also explored and used as templates to be compared to other similar lots across the site. The process was the same as noted above for the 1,500 sf impervious area/house size, and was performed for larger house sizes/impervious areas of 2,250 square feet and 3,000 square feet using appropriately sized bioretention areas and testing a grading plan to determine a minimum disturbance area necessary for each scenario. If, as part of this process, a particular lot had a maximum disturbance area that appeared large enough to support a larger house size, bioretention area and associated earthwork, or if the inclusion of a larger house size would not result in additional

impacts to small areas of slopes greater than 25%, the feasibility of applying a larger house size/impervious area on that lot was explored by incorporating the larger house, bioretention area and minimum disturbance envelope. Based on the results, the appropriate house size/impervious area was selected, and the maximum disturbance area delineated in the same fashion as described above. This assessment and testing was performed for each lot and resulted in refined, specific development criteria as indicated in the Lot Summary Table in the Errata section.

- As a result of the exercise described above, disturbance to slopes greater than 25% will be minimized through strict control of development on each lot. A maximum allowable impervious area has been designated for each lot, based specifically on each lot's specific site conditions (See the Lot Summary Table in the Errata section). This limits the size of home that can be built on each lot, and determines the amount of stormwater management that will be required. On challenging lots with more site restrictions such as small areas of slopes greater than 25%, the smallest feasible impervious area/house size has been set as the maximum allowable. These lot development limits established to minimize disturbance on slopes greater than 25% will be incorporated into SEQRA Findings Statements as well as subsequent permit conditions.
- Based on the lot size, maximum impervious area, and specific site conditions a maximum limit of disturbance has also been designated for each lot. (See the Lot Summary Table in the Errata section). This limit was developed to protect areas of slopes greater than 25% and riparian buffers from disturbance, and is based on analysis of several development scenarios explained in the response above. On lots where disturbance of slopes greater than 25% or riparian buffers is unavoidable, the maximum disturbance area includes only the area necessary to construct a home, driveway and stormwater management device.
- In addition to the maximum disturbance area, each lot will also have a designated building envelope as described above, within which the proposed building must be located. In most cases this envelope is established by property line setbacks. However on lots adjacent to riparian buffers or watercourses, the building envelope is more restrictive so that no building can be located within 100' of NYCDEP watercourses, or within 50 feet of USACOE designated wetlands.
- The detailed lot studies/development scenarios performed as part of this exercise are shown on sheets L9.01-L9.03 included in the Errata section. Detailed lot statistics are included in the Lot Summary Table in the Errata section that lists the lot size, maximum potential disturbance and disturbance on slopes greater than 25%. All adjustments to single family home lots including the maximum disturbance areas and building

envelopes are shown on sheet L-1.01A, Site Master Plan With Constraints included in the Errata section.

By establishing a maximum area of disturbance and building envelope, the building architecture will have to be designed to 'fit' into the site to fit within these areas. This practice along with additional architectural controls will minimize disturbance on each proposed house lot. Again, these lot development limits to minimize disturbance on slopes greater than 25% and riparian buffers can be incorporated into SEQRA Findings Statements as well as subsequent permit conditions.

- Mitigation:
  - In addition to the mitigation by avoidance measures described above, strict controls and performance standards relating to the disturbance and required erosion and sediment control practices for the development of single family home lots within the project will be included in the future SWPPP that will be part of the stormwater permit applications that will be made to NYSDEC and NYCDEP after the conclusion of the SEQRA process. For the project as a whole, the future SWPPP will require a qualified inspector responsible for oversight and inspection of all sediment and erosion control procedures and practices and ensuring compliance with the future SWPPP, and a dedicated erosion and sediment control contractor responsible for implementation and maintenance of all sediment and erosion control procedures and practices in conformance with the future SWPPP. These two entities will be responsible for all construction on the project site relating to erosion and sediment control, and will be employed directly with the Permittee/ARB/Applicant. They will also be responsible for ensuring that the limit on the area allowed to be disturbed at any one time is strictly adhered to for all construction on site including construction of the roads, common buildings and single family homes.
  - For the roadway, utility and common building construction, mitigation for any potential impacts relating to erosion and sediment control was included in the Draft SWPPP that was included with the DEIS and outlined in the Erosion and Sediment Control Plans for anticipated Phase 1 construction (DEIS Plans L3.01-L3.05). Since Phase 1 road construction plans have not changed, the Draft SWPPP and ESC plans for Phase 1 construction in the DEIS do not need to be updated at this time, but will be amended to reflect necessary adjustments prior to filing permit applications.
  - For the single family home lots, mitigation for any potential impacts relating to erosion and sediment control will be specified on a 'final' erosion and sediment control plan prepared by a licensed professional that complies with the project permit and SWPPP. The final plan must include implementation of heightened erosion and sediment control measures, and



will be subject to strict compliance requirements that must be met as part of a thorough review and approval process required by the WMSC Architectural Review Board. A general approach to erosion and sediment control on a typical single family home lot is illustrated on sheet L9.04, Erosion and Sediment Control Diagrams for Single Family Home Lots. These typical diagrams are meant to illustrate a general approach to erosion and sediment control, set forth typical construction sequencing, note overall compliance requirements, and serve as a basic starting point for the development of a 'final' plan by a lot buyer's consulting professional. The 'final' erosion and sediment control plan for each lot must be prepared by a licensed professional in accordance with NYS Standards and Specifications for Erosion and Sediment Control, heightened erosion and sediment controls identified in the future project SWPPP, NYSDEC/NYCDEP permit requirements and the WMSC Project Design Guidelines. The final plan must be approved by the ARB, and notification of approval and conformance with the final Permit/Project SWPPP will be provided to NYSDEC, NYCDEP and the Town Code Enforcement Officer prior to construction. Heightened requirements for erosion and sediment control on single family lots that will be included in the future Project SWPPP include but are not limited to the use of a dedicated erosion and sediment control contractor, adherence to a pre-determined limit of disturbance to protect sensitive areas, redundant sediment control measures such as double rows of silt fence and/or fiber rolls, the use of hydroseed and tackifier for rapid and efficient stabilization, the diversion or diffusion of runoff from areas uphill of disturbed areas, temporary stabilization of areas that will not be disturbed within seven (7) days in lieu of fourteen (14) days, and more frequent inspections by the Qualified Inspector, such as twice per week and at the end of the work day when there is rain forecasted the following day. As stated earlier, the Lot Summary Table in the Errata section shows the mean and median values for square footages on slopes greater than 25% are 2,510 and 2,345 sf, respectively, or the equivalent of 50 feet by 50 feet and 48 by 48 square feet respectively. These are relatively small and manageable areas when it comes to lot construction and accompanying sediment and erosion controls. Any earthwork/disturbance within this small area can be effectively managed through implementation of the erosion and sediment control measures described above.

- Compliance:
  - Compliance with the permits/ Project SWPPP for all single family home construction will be the responsibility of the Project Sponsor (permittee). The following process and controls are in place to ensure construction on every single family home lot will be in compliance with the permits/project SWPPP.
    - In addition to the specific lot-by-lot limitations on development areas and amounts of impervious areas contained in the Lot

Summary Table and shown on the plans in the Errata section, the WMSC project includes a set of Design Guidelines that establishes a set of performance standards, including minimum acceptable levels of site planning, design and construction that all development within the project must adhere to. The Design Guidelines also include a step-by-step approval process for all structures to be built within the project.

- The ARB is responsible for enforcement of the design guidelines and the approval of (among other things), all proposed single family home development. The ARB is made up of fully-licensed professionals – architects, civil and landscape architects, and not property owners.
- Each purchaser of a single family home lot is required to retain a licensed Architect and licensed Landscape Architect qualified to practice in New York State, to guide them through the site development process. All licensed professionals must be approved by the ARB.
- The ARB will establish a list of pre-approved builders/contractors. Using pre-approved builders maximizes opportunity for consistent quality of construction and familiarity with project wide permit requirements. This list will be made available to Lot Owners for their use. All builders/contractor must be approved by the ARB.
- Each lot buyer is required to go through an extensive design review process in order to get permission to build on their lot. This process includes a series of design submissions and review by the ARB to ensure compliance with the Design Guidelines and applicable project permit requirements, and ends with the issuance of a Construction Authorization Certificate. The review process begins with a meeting on site with the Lot Owner, Architect/Landscape Architect and ARB to review unique characteristics of the lot including the presence of any sensitive environmental areas, prior to any specific site design being performed.
- During the design review process, the Lot Owner is required to field stake proposed improvements and other critical features such as setbacks and the disturbance envelope to clearly delineate where the work is allowed to occur, and to communicate the location of site improvements. Clearly staking the allowable limits of disturbance as indicated on the project plans helps ensure protection of any sensitive areas, and reinforces compliance with the SWPPP and the approved project plans.
- During the review process the Lot Owner must submit a ‘Drainage Compliance Agreement’, which certifies that the Owner understands and agrees to comply with all drainage / stormwater requirements of the approved plans and project SWPPP.

- A pre-construction conference is required where the ARB, site contractors and dedicated SWPPP inspector meet to discuss and review construction staging, construction requirements and permit requirements prior to construction.
- The Dedicated SWPPP inspector responsible for oversight of all erosion and sediment control measures throughout the project is responsible for twice-weekly SWPPP inspections for all single family lot home construction. Deficiencies will be noted in the SWPPP and reported to the lot owner, the contractor and the ARB.
- The process listed above including required approvals and oversight is well above and beyond what would typically be required for construction of a single family home lot, and can ensure erosion and sediment control procedures and methods will be adhered to.
- The ARB will submit a copy of ARB approvals for each lot, stating that all conditions regarding sediment and erosion control and post-construction stormwater management have been met in the plans submitted by lot buyers to the NYSDEC, NYCDEP and the Windham Code Enforcement Officer. This “registration process” will allow these entities to track lots as they get approved by the ARB prior to construction.

**14.F The January 29, 2014 response to the WIG stated that building ±0.75 mile of retaining wall was cost prohibitive in the context of the project budget. Please provide the engineering estimate based on the actual design of the walls versus the cost of construction for the excavation and lay back structure to support that the MEP standard has been met for avoiding disturbance of these steep slopes. (NYSDEC, March 3, 2014 Email)**

Response: Table 1 in the WIG comments letter to the Windham Planning Board of November 21, 2012 “recommended” locations for retaining structures. These were Sheridan Drive, Cave Mountain Road, Sunrise Terrace, Meadow Crossing North and Batavia Lane for a total distance of approximately 3,680 feet (0.70 miles). In the pricing and verification exercise with a contractor, it was determined that the costs associated with these +/- .70 mile sections, using Figure 1 from the WIG letter of November 21, 2012 as a basis for costing, would be approximately **\$1,310,000** for construction of a series of retaining wall structures averaging 10 feet in height above the adjacent roadway and with a maximum height (maintaining an acceptable ASHTO and NYSDOT standards and life-safety margin, specifically relating to acceptable shoulder lateral off-sets to fixed obstructions and limitations/ safety criteria for single, continuous wall height stability during construction) of 40 feet, where applicable, for short distances.

In comparison, the costs associated with excavation of rock and soil; layback of slopes; revegetation efforts; erosion control; and on-going management of same, equated to **\$103,600**. The use of retaining structures is therefore 1,265% of the current approach shown in the DEIS and would result in only a +/- 0.92 acre decrease in impacts to slopes greater than 25%. This is equivalent to an additional cost of approximately \$9,000 per lot.

**14.G** The revised layout continues to show a large lateral disturbance at Sheridan Drive from elevation 2077 to 2101. A retaining wall at this location would eliminate an additional 40' vertical scar as well as approx. 1.3 acres of disturbed steep slope. Please provide the engineering estimate for this wall versus the cost of construction for the excavation and lay back structure to support that the MEP standard has been met for avoiding disturbance of steep slopes. *(NYSDEC, March 3, 2014 Email)*

Response: See the response to comment 14.H below.

**14.H** The revised layout continues to show a large lateral disturbance Cave Mountain Road from elevation 2086 to 2203. This lateral disturbance may compromise the ability to install the bioretention units for the two home sites at the top of this proposed road slope. A retaining wall at this location would minimize the disturbance of steep slope, protect the two home sites and provide additional room for the bioretention units as proposed. Please provide the engineering estimate for this wall section versus the cost of construction for the excavation and lay back structure to support that the MEP standard has been met for avoiding disturbance of these steep slopes. *(NYSDEC, March 3, 2014 Email)*

Response: DEC indicates that there is still a concern relative to the lateral disturbance currently shown at the "switchback" location along Sheridan Drive and a continuation of same beyond the intersection of Sheridan Drive and Cave Mountain Road. Figure 1 in the November 21, 2012 WIG letter to the Windham Planning Board was a sketch plan showing that a 40 foot tall retaining wall would eliminate the vertical scar on Sheridan Drive and as much as 1.62 acres of disturbed steep slope with an additional savings of steep slope impact using retaining walls on Cave Mountain Road in a similar fashion.

The Applicant's contractor/cost estimator has indicated that the costs associated with a section of retaining wall in the specifically-identified areas of Sheridan Drive and Cave Mountain Road indicated in the memorandum, would be approximately \$229,800 for construction of a series of retaining wall structures averaging 10 feet in height above the adjacent roadway and with a maximum height (maintaining an acceptable ASHTO and NYSDOT standards and life-safety margin- specifically relating to acceptable shoulder lateral off-sets to fixed obstructions and limitations/ safety criteria for single, continuous wall height stability during construction) of 20 feet for short distances.

In comparison, the costs associated with excavation of rock and soil; layback of slopes; revegetation efforts; erosion control; and on-going management of same, equated to \$31,677. The use of retaining structures is therefore 689% of the current approach shown in the DEIS and would result in only a +/- 0.21 acre decrease in impacts to slopes greater than 25%. This is equivalent to an additional cost of approximately \$1,575 per lot.

The applicant will commit to installation of retaining structures (average 10 feet in height) at a cost of \$300,000 (design, construction and contingencies) and the associated reduction in cut slope impacts to the following areas;

Sheridan Drive from Station 39+00 to 42+50, 50+50 to 53+00, 81+00 to 84+00

Cave Mountain from Station 0+00 to 1+00

This additional retainage resulted in impacts to slope greater than 25% being reduced by 0.26 acre.

**14.I Concerns have been raised with regard to the proposed limits of disturbance for areas not supported by retaining walls due to the lack of earth/rock borings to show that the 1:1 rock cuts can stand competently on a 1:1 slope. The January 29, 2014 response on this issue does not provide adequate information for any reasonable judgment of competency of the rock or impacts of the blasting on existing site conditions. (NYSDEC, March 3, 2014 Email)**

Response: DEC has raised concerns about the adequacy of the applicants January 29, 2014 response to the WIG regarding this topic. The following is a reiteration of that response from a Certified Professional Geologist which is sufficient for a SEQRA assessment. The applicant will be required to collect additional geotechnical information including borings prior to the preparation of construction drawings. The data from these borings will be evaluated by a structural engineer and design adjustments made based on the evaluation and recommendations.

Kevin-

This email is in response to your phone call this morning. The 1:1 (45 deg) road cuts proposed for the Windham project are appropriate given the site geology. The unconsolidated material above bedrock at the project site is predominantly sandy till and is typically thin (< 5 ft). Water passes through this material readily and pops out on top of bedrock ledge rock at existing road cuts. This drainage greatly reduces the susceptibility of the unconsolidated deposits to slope failure.

The bedrock consists primarily of competent, thin to thick beds of massive sandstone with shale interbeds that are typical of the Catskill Formation. These beds dip gently toward the south into the mountain (not toward the proposed roads) and are unlikely to present a slope stability problem for the proposed 1:1 slopes on roadcuts.

Let me know if you've got additional questions.

-Steve

Steven M. Trader, CPG

Geologist

Alpha Geoscience

**14.J Lots #83, #84, #87, #88 and #125 show significant construction disturbance on slopes greater than 25%. These lots should be re-configured or deleted from the project. This is also true for new lots #162 and #163. (Watershed Inspector General, August 14, 2014 letter)**

Response: See Comment Response to 14.E above. Specific lot configurations are subject to site plan and subdivision review by the Planning Board the review of which shall consider construction on steep slopes as well as stormwater impacts and mitigations.

**14.K Attached are a figure and table from the New York State Stormwater Management Design Manual, August 2010, that show the typical configuration and physical feasibility parameters required for bioretention practices. Although**

**the response from the LA Group shows that there is spatial room to construct this practice on these lots, additional criteria must be met. The depth to the groundwater table and maximum ground slope of 6% have not been verified as having been met. Since this practices is critical for runoff reduction on this site, and has been shown by [www.bmpdatabase.org](http://www.bmpdatabase.org) to have an average total phosphorus (TP) removal of 18%, these criteria must be investigated and the results submitted to NYSDEC for approval. (*Watershed Inspector General, August 14, 2014 letter*)**

Response: It is understood that site specific conditions such as depth to the water table and slope must be considered to ensure the appropriate application of bioretention for on-lot treatment in order to achieve the performance standards envisioned by the Stormwater Design Manual. The project will be issued an Individual Permit for stormwater discharges by the NYSDEC and through the permitting process, detailed site specific conditions will be considered.

**14.L The LA Group should revisit its response letter to DEC dated May 6, 2104, which addresses DEC's comments 1-5 based on the site plan then being proposed. This is necessary due to subsequent changes reflected in the revised FEIS Mater Plan dated June 20, 2014. The LA Group's response to comments 1-5 addressed hydrology and the design points for drainage areas. Due to the reconfigurations in the revised site plan, some of these comments may not be totally accurate due to the change in layout.**

Response: The original LA Group's response dated May 6, 2014 is incorporated in the Appendix for reference. However, the text of the Comment Responses incorporated herein has been updated to reflect changes to the project layout.

**15. Several of the pre-development watershed areas contributing to design points have been significantly overestimated. Incorrect characterization of pre- development areas can lead to inaccurate conclusions regarding the magnitude of the impact of stormwater discharges from the project. For example, the existing watershed Area 2 is oversized. The northern watershed boundary (adjacent to Area 2b) extends up from the property line for approximately 400 feet at which time the boundary turns sharply north (parallel to the property line) along a logging road for another 400 feet before turning west to the top of the hill. Based on site visits and aerial photography the flow coming off this section of the mountain does not follow the section of logging road as shown on the preconstruction watershed map. The runoff from this area continues east as shallow concentrated flow and does not contribute to design point 2. This extra section of the watershed in effect erroneously adds an additional 30% to the preconstruction watershed Area 2 acreage. Similar issues exist with watershed areas contributing to design points 1, 3, 4, 9 and 12.**

**The watershed area draining to design point 4 is also overestimated. The pre-construction area for watershed 4S is 12.33 acres. The pre-**

**construction diagram indicates this watershed extends up the mountainside for a considerable distance. However, in assessing aerial photographs of this location, a swale can be clearly seen running across the slope above what will be Sheridan Drive. This swale captures all of the runoff from the area above the proposed Sheridan Drive and therefore cuts off the majority of what is shown for the pre-construction watershed. This diverted flow is directed east across the slope to a water bar approximately 250 feet west of DP-3. The post construction HydroCAD report in the DEIS indicates a watershed area identified as 4.1S consisting of 2.52 acres.**

**This area is a more realistic delineation of the pre-construction watershed to DP-4 and should be adjusted accordingly. As calculated by DEP staff, the 10-yr post construction flows (12.12 cfs) at DP-4 without the diversion are still greater than the pre-construction flows. As such, the pre-development flow is 19.17 cfs and jumps to 50.51 cfs. (NYCDEP, April 30, 2012 letter)**

Response: The Applicant believes that none of the pre-development watershed areas contributing to design points have been significantly overestimated. Extensive site investigations were performed prior to the stormwater design to document and analyze existing flow patterns and hydrology. Once the design was completed, additional site visits were performed to confirm information in areas as needed. Upon receipt of NYCDEP comments, additional site verifications of areas in question were performed on May 30, 2012. A series of storms the night before resulted in rainfall amounts of at least 0.4" as reported by Weather.com, while the Batavia Kill gauge at Red Falls near Prattsville, NY reached a height of nearly 2.30', making hydrologic flow patterns easily discernable.

The watershed boundary in question along the logging road west of Design Point 2 was examined to determine the point where uphill flow was directed to Design Point 2. An adjustment was made to the mapping and is shown on the Existing Subcatchment Diagram, Sheet L-5.01 in the Modified Stormwater Management Design Report in the Errata section of this FEIS. The additional logging roads further uphill along the adjusted watershed boundary were also examined to verify the accuracy of the boundary. The result is a watershed with less contributing acreage, however the difference when comparing the flow rates of the 10 and 100-yr storm event in the pre-development condition is only 11 cfs and 22 cfs respectively, a difference easily accounted for with slight design adjustments.

The contributing watershed to Design Point 4 is correctly mapped. There are a series of several waterbars along Upper Panorama (above and below the switchback), which convey flows from the uphill swale mentioned above, across the road to Design Point 4. The watershed boundaries defining contributing areas to Design Points 1, 3, 4, 9 and 12 were examined in the field during the May 30, 2012 site visit, and conditions shown on the pre-development subcatchment mapping were confirmed as accurate. As a result, no additional adjustments to the watershed boundaries were made, except as needed to accommodate additional design points or design point adjustments in accordance with the recent NYCDEP

clarification/definition of a Design Point. (See comment #16 and response below.) Updated pre-development mapping is included on the Existing Subcatchment Diagram, Sheet L-5.01 in the Modified Stormwater Management Plan.

- 16. The physical location of several design points are inappropriate. The NYC Watershed Regulations define a design point as "...a point where stormwater runoff enters a watercourse or wetland or leaves the site of an activity for which a stormwater pollution prevention plan must be prepared, etc." As such, the design points must be located where the stormwater is released from the treatment practice and enters a receiving stream. For example, DP-11 should be deleted and three new design points located at R11.11, R11.24 and R11.26 identified. These new design points should be utilized for the pre/post analysis. The above example is by far the most significant; however similar instances exist at DP-1, DP-8, DP-9 and DP-12. (NYCDEP, April 30, 2012 letter)**

Response: See the previous response. All project design points have been updated to include all points where stormwater leaves a stormwater management practice and enters a watercourse, in accordance with the recent NYCDEP clarification/definition of a Design Point. The watershed for Design Point 1 has been modified to account for the new Design Point 1a. The location of Design Points 2, 3, 5-9 and 12 remain essentially unchanged. Design Point 4 has been adjusted from a horizontal line to a specific point at an existing drainage channel. Prior to the installation of the waterbars on Upper Panorama, this drainage channel conveyed a significant amount of uphill runoff from areas above Upper Panorama Lane. (Refer to the Updated Stormwater Management Report, Section 6, pg 13). Utilizing this channel restores hydrologic flow patterns prior to the installation of the waterbars. This Design Point 11 remains the same, but additional design points have been added upstream, within the same watershed. Refer to the Existing Subcatchment Diagram, Sheet L-5.01 in the updated Stormwater Management Design Report in the Errata section.

- 16.A Up-to-Date Hydrology Data: The entire stormwater hydrology for this site is based on outdated data, much of which goes back to the 1960s. Outdated hydrology numbers can result in undersized and/or oversized stormwater controls. Undersized stormwater treatment facilities can be overwhelmed, causing water quality violations, additional soil disturbance, and erosion. Oversized facilities can account for more soil disturbance than is necessary at the site and create associated water quality impacts. To correct for the outdated data used in the DEIS, the stormwater hydrology should be recalculated using the hydrologic data and rainfall distributions, published by the Northeast Regional Climate Center (NRCC) in January 2011 on their website [www.precip.net](http://www.precip.net). A spot check comparison for Design Point 4 (DP4) showed a significant difference in the peak discharges for all storm frequencies. These values can be imported into HydroCAD or Natural Resources Conservation Service (NRCS) Technical Release 20 (TR20) for use in watershed evaluations and stormwater practice design. Addressing this deficiency is particularly important as the outdated**



mountain values were specifically evaluated in the final calibration of the project site hydrology. The results of the revised hydrology work should be provided.

Observations during the site inspection on August 16, 2012, lead us to conclude that some runoff curve number (CN) values should be adjusted to better reflect field conditions. For example, "woods-grass combination" CN values were used when this condition does not actually exist in the field. A more appropriate CN category is "brush-weed-grass mixture, with brush the major element." These CN values are lower than those used in the current model and should replace them. A revised analysis should be made available.

**Revise Time of Concentration:** Time of concentration (T<sub>c</sub>) is defined as the time required for a drop of water to travel from the most hydrologically remote point in a sub-catchment to the outlet. T<sub>c</sub> sheet flow lengths of 150' were used in the model for most sub-areas. Field observations lead us to conclude that values between 60'-90' more accurately reflect the sheet flow length, due to the densely wooded areas on steep slopes with abundant ground litter. A longer T<sub>c</sub> results in lower peak rates of discharge flows ("Q"). Thus, discharge rates that are presented in the DEIS documentation appear to be much lower than they should be. Higher post-development runoff rates would result in more severe erosive forces, particularly on steep slopes. The T<sub>c</sub> values should be revised and provided. (*Watershed Inspector General, November 21, 2012 Letter*)

Response: Comments III.2, III.4 and III.5 in this letter all recommend adjustments to the parameters used to develop the HydroCAD model. These parameters include the hydrologic data, CN values, and time of concentration.

The Applicant implemented a new analysis using the local precipitation frequency data and a custom synthetic rainfall distribution to determine how this data could impact the model. The recommended adjustments to the T<sub>c</sub> and CN Values were performed individually using the DEC/DEP required Type II storm event and rainfall data, to determine potential impacts of each adjustment to the model based on DEC/DEP required storm events. The applicant incorporated the T<sub>c</sub>, CN Value, and rainfall data adjustments into a single model to determine the potential impacts of all three combined. The results are as follows.

In response to comment III.2 in this comment letter, the hydrologic data used in the current stormwater model is in accordance with NYSDEC and NYC DEP requirements for stormwater sizing criteria. However, in an effort to respond to comment III.2 and determine the impacts of using local precipitation data in the stormwater model, the local hydrologic data published by the NRCC on their website [www.precip.net](http://www.precip.net) was downloaded and imported into HydroCAD, based on selection of a point within the middle of the project site. Using this data, a custom synthetic rainfall distribution curve was then generated and incorporated into the model. The differences in the rainfall depths are as follows:

	<u>1-YR</u>	<u>10-YR</u>	<u>100-YR</u>
DEC Published Data	3.0”	5.0”	7.5”
Local Precip. Freq. Data	2.37”	4.24”	7.61”

In general, the results of a modified analysis using this data show peak rates and volumes that are significantly less at the design points than originally modeled. On average, the pre and post development conditions were 63% and 61% less respectively. In addition, pre and post development runoff volumes are nearly one (1) acre-feet (af), or roughly 43,000 cf less than originally modeled.

Comment III.4 in the Watershed Inspector General, November 21, 2012 Letter requested a more detailed breakdown of project covertypes and associated CN values, specifically using ‘Brush/Weed/Grass’ combination with a CN value of 65. The CN values for the project were chosen based on vegetation mapping and field observation, which determined that the on-site watershed is primarily wooded with small open areas of and meadow/shrub cover types, on Hydrologic Group C soils, with some wetland areas and Hydrologic Group D soils. There are also several areas within the project site where bedrock is exposed at the surface or present as steeper rock outcroppings. Using combinations of these covertypes, preliminary testing was performed to determine how to accurately represent the variety of covertypes by using a general CN value. Based on this testing, it was determined that a CN of 72 was an appropriate representation for a majority of the project site. In HydroCAD, the coertype titled “Woods/Grass combination” has a CN value of 72, and as such this listing was chosen when entering coertype data into HydroCAD.

The Applicant’s response to comment III.4 in the Watershed Inspector General, November 21, 2012 Letter included modifying and breaking down the model on a more detailed level to include the ‘Brush’ CN value in the areas where it was present. These areas include a portions of the eastern part of the site between Design Points 1 and 3, and lower portions of the site adjacent to Trailside Rd. and the northern property line. Additionally, other CN values were either added or adjusted in order to be consistent with this detailed analysis. These CN values include 70, for all wooded areas on C soils, 77 for all wooded areas with wetlands (D soils), and 71 for areas of meadow grass. The meadow areas are limited to the existing ski trails on site which are generally mown once a year. These CN values were incorporated into both the pre and post development analysis. In the post development conditions, the areas under the proposed ski lifts were also considered to be brush, since this is the typical coertype present under ski lifts.

In general, the results of the modified analysis using this data showed that predevelopment peak runoff rates increased by approximately 3.0 cfs, and the runoff volume was reduced by approximately 0.5 af. In the post development condition, peak runoff rates increased by approximately 1.0 cfs, and the runoff volume was reduced by approximately 0.4 af.

As recommended in comment III.5, the time of concentration values for sheet flow were adjusted to be 60 to 90 feet. More specifically, slopes from 0%-8% were given a 90 feet

length, 8%-35% a 75 feet length, and over 35% a 60 feet length. This data was consistently updated in both the predevelopment and post development models, and corresponding adjustments to the shallow concentrated flow lengths were also accounted for. In general, the results of the modified analysis using this data showed that predevelopment peak runoff rates increased by approximately 10.0 cfs. In the post development condition, peak runoff rates increased by approximately 6.0 cfs. In both cases, the runoff volumes remained virtually unchanged.

The individual analyses above show that the Time of Concentration and CN values do have a slight impact on the model, however it is not at a level that would require significant adjustments to the stormwater management practices. Even with no adjustments to the proposed design, post development rates for the 1, 10 and 100-year storm events are still below pre development levels.

The impacts to the model are more evident, however, if the local precipitation frequency data is used. An adjusted analysis was run incorporating all three modifications to the model, and Pre Development and Post Development Rates and Volumes were compared at the design points to determine the effect of the new data on the stormwater model. In general, the results show peak rates and volumes that are significantly less at the design points than originally modeled. Looking specifically at the 10-yr storm event, the peak flow rates measured at the design points are on average +/-33 cfs less (47% less) in the pre-development condition, and +/-27 cfs less (43% less) in the post development condition. Looking specifically at the 1-yr storm event, the peak runoff volumes measured at the design points are on average 1.13 af (49,223 cf) less in the pre-development condition, and 1.15 af (50,094 cf) less in the post development condition. Please see the Tables in the Errata section, which show pre and post development comparisons of both rates and volumes, for both the Type 2 storm using the DEC published data, and the Custom Synthetic Rainfall distribution using the local precipitation frequency data.

Based on the information above, if this new rainfall data is incorporated into the current stormwater management plan the proposed stormwater management devices would all be somewhat oversized. This is especially true with regards to the DEP Treatment Volume requirement, which is based on the volume of runoff from the 1-yr storm event. Using the local data results, the required Treatment Volume at all stormwater management practices would be approximately 50% less than currently anticipated.

**16.B The January 29, 2014 response to comments to the Watershed Inspector General stated that a new hydrologic analysis was performed using local precipitation data and the recommended adjustments to Tc and CN values and concluded that the modified analysis showed decreased peak rates and volumes. Please submit the HydroCAD data files that were used to develop this response including the updated copy of drainage area maps. (NYSDEC, March 3, 2014 Email)**

Response: The HydroCAD data files are contained on a CD that is included in the Errata section in this FEIS. No changes to the drainage maps were necessary to perform the new hydrologic analysis, so there is no “updated copy of drainage area maps” per the comment.

- 17. Post construction drawings indicate several significant diversion swales (one measured over 1350 ft long) that relocate large drainage areas. The impact of this construction is not properly evaluated in the DEIS hydrologic analysis. (NYCDEP April 30, 2012 letter)**

Response: The diversion swales shown on the post construction drawings have been eliminated as part of the adjustments made to the Stormwater Management Plan. Refer to the Proposed Subcatchment Diagrams, Sheets L-5.02 to L-5.06.

- 18. The true dimensions of the existing mountain streams on the property do not match the dimensions shown in the DEIS hydrologic analysis. The hydrologic model misrepresents the actual channel dimensions located on-site. It is imperative for the model to depict the on-site stream dimensions accurately. By overestimating the dimensions of the channels, the post construction velocities will be artificially low and not representative of the site conditions or the impact on receiving streams. In addition, with no construction proposed within these on-site natural channels, there should not be any change in how they are modeled in the hydrologic analysis when comparing pre vs. post construction. Below are three instances where this error was made, at design points 1, 2 and 12 all in the east basin.**

**Area-1,**

**Pre -760 feet long, 20 feet wide by 1 foot deep (Reach IR: 1)**

**Post -1,332 feet long, 20 feet wide by 1.5 feet deep**

**(R1.3, 1.4, 1.6 combined)**

**Area-2**

**Pre-275 feet long, 2 feet wide by 1 foot deep**

**Post -466 feet long, 20 feet wide by 1 foot deep (R2.13, R2.14 combined)**

**Pre -300 feet long, 1 foot wide by 1 foot long**

**Post -435 feet long, 20 foot wide by 1 foot deep (R12.1, R12.2)**

**(NYCDEP, April 30, 2012 letter)**

Response: The sizes of all relevant watercourses used within the stormwater management plan and model have been updated based on data gathered in the field, and discrepancies within the model have been rectified. Refer to Section 6 of the Modified Stormwater Management Design Report (in Errata Section) for additional information.

- 19. The DEIS must include a detailed downstream analysis of the condition and stability of all receiving channels off and on site. Given the project**

**scale, downstream stream surveys should be performed for all watercourses that will receive stormwater discharges from the site. The surveys typically indicate channel roughness, stability, and dominant stream bank vegetation. The DEIS is notably vague in the descriptions of the design points and associated receiving streams. Page 9 of Exhibit B, Stormwater Management Design Report, states "all of the primary perennial and intermittent drainages are rocky, cobbly mountain streams that convey storm flows and seasonal flows..." However, this is non-specific and somewhat misleading. Only DP-1 is representative of a "rocky, cobbly mountain stream". At each of the other design points, channels either do not exist (6, 7, 2A, 2B) or are located at unstable receiving channels where any increase in discharge velocity or volume may cause significant erosion. The channel off-site at DP-2 is particularly unstable. (NYCDEP, April 30, 2012 letter)**

Response: Upon receipt of NYCDEP comments, the Applicant conducted additional site investigations of all receiving watercourses on May 30, 2012. A series of storms the night before resulted in rainfall amounts of at least 0.4" as reported by Weather.com, while the Batavia Kill gage at Red Falls near Prattsville, NY reached a height of nearly 2.30', making hydrologic flow patterns easily discernable. Field data was collected at each design point including channel size, composition, stability and bank characteristics. Relevant downstream channel characteristics located off-site were also inventoried in the same manner. In general, the data collected indicate that the primary drainages are rocky cobbly mountain streams. In some locations, bed and bank conditions are exposed bedrock. . While there are some secondary watercourses with gravelly and/or vegetated bed/bank conditions, most of them fit the above description. In some locations, there was evidence of deposition of cobbles and gravels resulting from extremely high flow conditions (likely Hurricane Irene), but no bank erosion. While there was some evidence of erosion and instability in some channels within the site, the locations where this was present was upstream of stormwater discharges/design points in locations that are not proposed to be disturbed, or upstream of the proposed development. It is likely, based on past and recent observations that Hurricane Irene caused much of the erosion that was witnessed. It is noteworthy that, in general, there was very little evidence of adverse effects of hurricane Irene on the beds and banks of the watercourses on the project site.

In Section 6 of the updated Stormwater Management Report there is a detailed description of watercourse condition and stability and photographs at each design point. The latter portions of Section 7 include a Rate and Volume Summary, which compares pre and post development flow rates, a downstream analysis summary as it relates to post development flow rates measured off-site, and a description of the Comprehensive Management Plan, which provides a detailed description of the stormwater plan and how proposed discharges relate to existing design points. Section 9 of the report concludes that....."The analysis of the receiving streams and watercourses at each design point along with their downstream conditions show that the downstream channels are stable and have the capacity to adequately convey post construction stormwater flows, which minimizes potential impacts

to channel conditions and downstream hydrology”. Supporting calculations within the HydroCAD model can be found in Appendix C and D of the Updated Stormwater Management Design Report (in Errata Section).

- 19.A **As consistently noted, DEP remains concerned that the proposed density and change in perviousness associated with the project will likely result in the (further) degradation of on- and off-site receiving streams. In response to these concerns, in February 2014, the Planning Board provided DEP the June 2012 Alpha Geoscience report, yet that report does not acknowledge, let alone analyze, quantify, and address these potential impacts.**

**DEP urges the Planning Board to require an assessment of these potential impacts before accepting the FEIS as complete. At minimum, the Planning Board should require reasonable measures to avoid adverse downstream impacts. The LA Group’s proposal to prepare a SWPPP that meets only the minimum runoff reduction (RRv) required by the DEC’s Design Manual does not constitute adequate avoidance or mitigation of these impacts. As DEP has consistently suggested, a SWPPP that goes above and beyond the minimum RRv and further reduces post-development runoff would, at least to some extent, alleviate DEP’s concerns relative to impacts on receiving streams, where DEP has observed varying degrees of channel degradation. (NYCDEP, August 14, 2014 letter)**

Response: With respect to the first paragraph, NYCDEP correctly states that the Alpha Geoscience report (Alpha report) (copy in FEIS Errata 2.21) does not acknowledge that project road cuts will cause groundwater to flow as surface water flows and cause downstream impacts. The Alpha report, prepared by Certified Professional Geologist Dr. Sam Gowan, was based on examination of the project site, examination of road cuts in nearby residential developments west of Windham Mountain and in Copper Ridge, and an assessment of published literature regarding local hydrogeology. The Alpha report found that the very limited amounts of groundwater emerging from road cuts quickly reentered groundwater and did not flow downstream as surface water. See the response #34 in section 3.1 of the draft FEIS.

With respect to RRv, FEIS Section 3.1, #25.H discusses the means through which the project meets DEC’s RRv requirements. NYSDEC has recently issued its proposed draft of the 2015 General Permit for Stormwater Discharges Associated with Construction Activities as well as proposed changes to the NYS Stormwater Management Design Manual. The following is an excerpt from the Summary Sheet for the proposed changes to the Design Manual and is applicable to the WMSC project:

**RRv Sizing Criteria:** Chapters 3 and 4 have been updated to clarify the circumstances when projects may reduce less than 100% of the Water Quality volume (WQv). The proposed changes define site limitations to mean site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include:

seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The proposed changes also clarify that projects that cannot reduce 100% of the Water Quality Volume (WQv) due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. Infeasible has been defined as: not technologically possible, or not economically practicable and achievable in light of best industry practices. In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual.

**19.B Need to Stabilize Existing Stream Channels:** During the course of our site visit on August 16, 2012, we observed existing watercourses that were unstable. They had raw exposed banks, undercuts at culvert crossings, and were eroding laterally where bedrock formed the channel bottom. Development of the Project is likely to cause further damage to these stream channels by increasing the duration and volume of stormwater runoff. The unraveling of these mountain streams is a great concern since their impacts travel beyond the property lines and affect downstream waterways and wetlands, with the potential to increase turbidity in such waters. During our field visit, we noted several locations where streambank stabilization and stream gradient control structures could be used to stabilize existing stream segments. These mitigation measures would prevent further damage to the streams and alleviate adverse downstream impacts.

The on-site watercourses should be evaluated in the context of achieving stability for the existing condition and then preserving that stability throughout the development and post development conditions. This will require a detailed hydraulic analysis of each onsite watercourse at bankful flow for the existing condition and similar analysis of offsite watercourses downstream. Upon completion, alternatives for stabilizing the stream segments should be evaluated, considering the impacts of post-constructed stormwater ponds, to preserve the mountain streams' stability and to minimize downstream offsite impacts. (*Watershed Inspector General, November 21, 2012 Letter*)

Response: The existing stream conditions observed during the site visit were a result, in part of tropical storms Irene and Lee which caused widespread flooding in Windham and many other locations. By incorporating the proposed stormwater management controls, discharge rates to these receiving waters will not increase as a result of the project, including the channel protection volume (CPv) storm event. Also, see the response to the previous comment (#19).

**20. The submitted materials do not provide enough information on the extent of filling and grading necessary to construct the single family lots. Section 2.4 of the DEIS states that "professionally prepared individual grading**

plans for each lot are required to be submitted by the lot owners and approved by the Architectural Review Board (ARB)"; however, it is unclear if the single family lots can be constructed on these steep slopes within the envelopes provided on the plans. Fill side slopes and road embankments adjacent to some of the proposed lots (such as the lots to the north of Meadow Crossing) will exceed 40%, with up to 20 feet of elevation change between the road and the building envelope for the dwelling. This will require extensive filling and grading to provide safe access to the lot and to establish a building pad. (NYCDEP, April 30, 2012 letter)

Response: See previous Response 14.E.

21. **Section 5.1.4 of the Design Manual states that cut and fill grading on steep slopes should be avoided due to the potential for large impacts associated with creating a level building pad. It should be noted that development on very steep slopes disturbs far more than the building footprint: on a 30 percent slope, 250 feet would have to be graded in order to create a 100-foot wide pad for construction, assuming a maximum 2:1 (50 percent) steepness of cut and fill as specified in the Uniform Building Code (NH Innovative Land Use Planning Techniques, A Handbook for Sustainable Development, 2010). The Grading and Drainage Plan should be expanded to include the single family lots, and should include an estimate of the amount of cut and fill required to construct each lot. The plan should identify all areas where soil will be exposed, including the disturbance that will result from construction of the individual residential building pads and yard/driveway envelopes. If the plan shows that a lot cannot be constructed within the specified lot lines, then the property lot lines should be modified or the lot eliminated. Similarly, if lot development at a given location is only feasible with the use of structural slope stabilization practices such as retaining walls, then the approximate size and locations of these structures should be identified on the plans. (NYCDEP, April 30, 2012 letter)**

Response: See Response 14.E. All lots have been analyzed in detail and adjusted accordingly.

22. **DEP recommends that a detailed plan showing the limits of filling, grading and disturbance be prepared for each phase of this project. The limits of disturbance and open space described in the DEIS do not include all disturbance associated with this project. For example, Figure 2-8 does not include the large fill and stockpile areas to be constructed off of Trailside Road or the disturbance associated with utility trenches as shown on Drawing WS-02, Preliminary Water Supply Plans. (NYCDEP, April 30, 2012 letter)**



Response: The requested detailed plans are included in the plan sets that accompany the DEIS including the Site Plan set of drawings that show limits of clearing and grading, including the soil spoil areas, and the water and sewer plans that show water and sewer line routings.

- 23. Dry Swales (0-2): Dry Swales are proposed throughout this project for treatment and conveyance. According to section 6.2.5 of the Design Manual, the peak velocity for the two-year storm must be non-erosive (i.e., 3.5-5.0 fps). The hydrologic report does not provide the data for the two year storm event to evaluate this requirement; however, based upon DEP's calculation, it does not appear that this requirement has been met. The entrance velocities to several of the proposed Dry Swales are too high and will cause scour within the practices:**

**P8.1 - 6.34 fps**

**P12.2 - 5.41 fps**

**P2.2 - 8.83 fps**

**P3.2 - 5.49fps**

**P2.1 - 6.71fps**

**P3.1 - 7.88fps**

**P8.1 - 6.34fps**

**P11.4 - 6.59fps**

**P11.5 - 10.03fps**

**P11.10 - 8.83fps**

**P11.1 - 11.02fps**

**In addition, the Design Manual recommends a two foot vertical separation distance from the bottom of the Dry Swale to groundwater. According to the USGS soil survey the depth to groundwater across the site is within 3 feet of the surface. Based on the soil survey and site observations it is highly unlikely a two foot separation will be achievable for the Dry Swales and therefore these practices will intercept the interflow that naturally occurs at this site. By intercepting this flow and directing it to the collection system the functioning of these practices and the natural hydrology of the site will be altered in a negative way.**

**According to page 20, Exhibit B, Stormwater Management Design Report of the DEIS, the Dry Swales are designed with an 18 inches ponding depth; however, according to the Design Manual a maximum ponding depth of 12 inches is allowed at the mid-point of the Dry Swales.**

**Furthermore, the Dry Swales are incorrectly modeled in the HydroCAD report. The Dry Swales volume would be 400 cubic feet; however, if the same Dry Swale had a 2% slope (2 foot drop in 100 foot length) the volume would only 200 cubic feet of storage. Thus, the HydroCAD report**

**does not accurately model the storage volume provided by the Dry Swales which may in turn require larger receiving stormwater basins.**

**Lastly, Dry Swale 2.4P is modeled in HydroCAD as having a primary and secondary outlet. The schematic in the report indicates the secondary outlet from the dry swale discharges to DP2b via exfiltration; however, based on the soil types, as well as the Dry Swale being designed with an underdrain, the exfiltrated amount of water will be captured in the underdrain and discharge to R2.8. Consequently, this dry swale must be modeled with all of the flow routed to R2.8. (NYCDEP, April 30, 2012 letter)**

Response: The use of Dry Swales for treatment throughout the project was a strategy designed to maximize the amount of stormwater treated at the source by using a green infrastructure practice, and maximize the amount of open channel conveyance. However, based on the treatment volume requirements in the DEP regulations and the calculation methodology presented in other DEP comments, Dry Swales are not capable of providing the required treatment volume for an adjacent roadway, even if the contributing drainage areas are limited to only the roadway and do not include additional uphill flows. This is true even if the swales are oversized. For this reason, DEP requirements make using this green infrastructure practice either infeasible or an inefficient stormwater treatment method, and as a result its use within the modified stormwater management plan has been limited to shared driveways. See the Modified Stormwater Management Design Report in the Errata section for details.

If peak velocities for a 2-yr storm exceed 5 fps, turf reinforcement mat capable of preventing erosion in higher velocity conditions will be utilized.

Understanding that the limiting soil conditions are not ideal, the goal was to maximize the use of green infrastructure practices as stated above. Dry Swales were located in places where the best opportunity to achieve adequate separation existed, based on nearby soil test pit information. In shallow groundwater conditions, Dry Swales can be designed so the bottom of the filter bed is placed at existing grade and a 2' separation is maintained.

The Errata section of this FEIS contains a hydrogeological evaluation prepared by Alpha Geoscience that details how interflow that may be intercepted by drainage swales will not negatively impact local hydrology, both on-site and off-site.

The 12" maximum ponding depth stated in the SMDM is specifically listed as 'Design Guidance', and not a 'Requirement'. The swales are oversized in order to accommodate DEP's additional treatment volume requirements that are substantially larger than DEC WQv requirements. The guidelines listed in the SMDM for specific practices are based on using the WQv as the target treatment volume, and not the substantially larger DEP treatment volume requirements.

The storage volumes presented in the HydroCAD model have been adjusted to account for the slope, and Dry Swale 2.4 has been eliminated. Refer to the modified Stormwater Management Design Report in the Errata Section.

**24. Micro-Pool Extended Detention Basins: According to chapter 6 of the Design Manual, the contributing area to Micropool Extended Detention Ponds should not exceed 10-acres; however, most of the Micro Pool Extended Detention Ponds have significantly larger contributing watersheds:**

- P2.5- 36+ acre watershed**
- P9.2- 19+ acre watershed**
- P3.1 – 20+ acre watershed**
- P11.1 – 24+ acre watershed**
- P3.3 – 20+ acre watershed**
- P12.1 – 17+ acre watershed**
- P8.2 – 27+ acre watershed.**

The Micropool Extended Detention Ponds meet the requirements for the length to width ratio specified in section 6.1.4 of the Design Manual; although, these ponds do not provide the same geometry as shown in Figure 6.1 of the Design Manual. Figure 6.1 shows a Micropool Extended Detention Pond with some key differences that set it apart from other pond designs, such as a micropool at the outlet of the pond and a pilot channel between the forebay and the micropool which provides an area of high marsh between the inlet and outlet. The proposed ponds should be reconfigured to incorporate the key features shown in figure 6.1 of the Design Manual. Furthermore, the Design Manual requires a minimum Surface Area: Drainage Area of 1:100; however some of the ponds fail to meet this requirement.

<u>Pond#</u>	<u>Proposed sf</u>	<u>Required sf</u>
2.5	7,625	7,940
8.2	4,839	10,162
9.2	3,838	6,677
12.1	5,504	7,794

In addition, section 6.1.4 of the Design Manual requires the division of storage of the water quality volume in a Micropool Extended Detention Pond (P-1) as 20% minimum in the permanent pool and 80% maximum in extended detention. Because the 1-year storm volume is greater than the WQv the ponds have been sized to treat the 1-year storm event. According to the information provided in the HydroCAD report, the proposed ponds do not exceed 80% of the volume of the 1-year storm event in the extended

detention; however, all the ponds fail to meet the 20% minimum volume in the permanent pool:

Permanent Pool Volume	Total Volume	1 yr Storm Event	Percentage
P1.1	6,889cf	39,1650cf	17.6%
P2.5	13,933cf	132,727cf	10.5%
P3.3	5,563cf	80,194cf	7.0%
P8.2	10,231cf	114,955cf	9.0%
P9.2	6,979cf	81,370cf	9.0%
P11.1	11,991cf	210,700cf	6.0%
P12.1	5,359cf	158,079cf	3.4%

Since the proper geometry and required elements listed above have not been applied, the benefit described in Exhibit B Stormwater Management Report on page 14 regarding the selection of Micropool Extended Detention Ponds to reduce thermal loading on trout waters is not valid. What is more, as Design Manual requirements and recommendations have not been incorporated, the resulting stormwater basins possess a smaller footprint and hence, reduced stormwater treatment effectiveness. The proposed site plan may need to be altered considerably to apply the Design Manual requirements. DEP encourages the use of appropriate Micropool Extended Detention Ponds for this project, for the important reason that, if not designed and installed properly, they will not provide the necessary intended functions.

The proposed stormwater treatment ponds appear to have been design and located with scant regard to future maintenance. Most of the ponds have been located in inaccessible areas such as at the rear of proposed houses, down gradient of roadways with guardrails and wedged between wetlands. Section 6.1.6 of the Design Manual requires a maintenance right of way or easement which shall extend to the pond from a public or private road. Additionally, maintenance access should be at least 12 feet wide, having a maximum slope of no more than 15%, and be appropriately stabilized to withstand maintenance equipment and vehicles. As well, the maintenance access should extend to the forebay, safety bench, riser, and outlet. *(NYCDEP, April 30, 2012 letter)*

Based on the recently updated DEP regulations and the calculation methodology presented in other DEP comments, all Micropool Extended Detention Ponds have been changed to Wet Extended Detention Ponds. In some cases the exact drainage area suggestions listed for this type of practice are not achieved, however it is believed that this type of practice is the most appropriate, in order to provide the best treatment effectiveness while meeting as much of the suggested/required DEP and DEC design criteria as possible.

The minimum surface area-drainage area requirement is related to maximizing treatment effectiveness. The Wet Extended Detention ponds in the modified stormwater management plan all meet the surface area requirement listed in the SMDM. Refer to the Modified Stormwater Management Design Report in the Errata section for additional information.

The Wet Extended Detention ponds in the modified stormwater management plan are designed in accordance with the recently updated DEP regulations and the calculation methodology presented in DEP comments. Using this methodology, the treatment volume distribution (50% permanent pool, 50% extended detention), are met. Refer to the Modified Stormwater Management Design Report in the Errata section for additional information.

With regards to maintenance several of the stormwater management practices are directly adjacent to proposed roads, offering several options with regards to maintenance access. In the event a stormwater management practice is not located adjacent to a proposed road or driveway or has intervening slopes separating the road from the pond, maintenance access for small equipment such as a skid steer or backhoe can be provided as an "unimproved" trail. The trail will be a stable access path of sufficient size and slope that can be utilized by this type of equipment, providing access to all pond components requiring maintenance. These access paths are typically the same paths utilized for construction access by similar types of equipment.

**24.A Access to Stormwater Management Ponds: The stormwater management ponds at this site are often located in areas that are difficult to access for maintenance. All ponds should have their maintenance access pathways delineated on the site drawings. The revised drawings should be provided. (Watershed Inspector General, November 21, 2012 Letter)**

Response: Maintenance access pathways were shown on the plans in Appendix F of the revised Stormwater Management Design Report provided to the commenter in August 2012 and included in the Errata section in this FEIS. For the stormwater management devices that are immediately adjacent to proposed roads, it was not necessary to show maintenance access. The currently gated farm road off Trailside Road will be used to gain access to the devices in the lowest portion of the site.

**25. Bioretention: The required size and treatment volume of the bioretention basins are based on a few variables, one of which is the coefficient of permeability of the filter media. It appears in an effort to reduce the size of the bioretention basin a coefficient of permeability of 0.5 inches per hour ('/hr) was used in the design calculations. This value is twice as fast as the recommend design coefficient in section 6.4 of the Design Manual. Appendix H of the Design Manual states "A permeability of at least 1.0 foot per day (0.5'/hr) is required (a conservative value of 0.5 feet per day [0.25'/hr] is for the "design permeability"). The intent of specifying a required permeability is for testing material during construction; however, the "design permeability" is for sizing**

**the basin. The report does not provide the required design information or sizing calculations for the individual house bioretention units.**

**According to section 6.4 of the Design Manual "filtering systems should not be designed to provide stormwater detention (Qp) or channel protection (Cpv) except under extremely unusual conditions. If runoff is delivered by a storm drain pipe or is along the main conveyance system, the filtering practice shall be designed off-line. A flow regulator (or flow splitter diversion structure) shall be supplied to divert the WQv to the filtering practice, and allow larger flows to bypass the practice." Bioretention basins 1.2, 2.3, 5.1, 11.7, 11.8 and 11.9 are designed along the main conveyance and must be redesigned off-line to adequately treat only the water treatment volume.**

**Furthermore, adequate pretreatment for bioretention systems should incorporate all of the following: (a) grass filter strip below a level spreader or grass channel, (b) gravel diaphragm and (c) a mulch layer. Bioretention basins 5.1, 11.2, 11.7, and 11.9 do not have adequate pretreatment. The Design Manual states in section 6.4.7: "If a filter is used to treat runoff from a parking lot or roadway that is frequently sanded during snow events, there is a high potential for clogging from sand in runoff". These basins must be redesigned to include pretreatment in accordance with section 6.4.3 of the Design Manual.**

**According to chapter 6 of the Design Manual, "outfalls should be constructed such that they do not increase erosion or have undue influence on the downstream geomorphology of the stream." As designed, the post construction discharges from this project will likely cause significant erosion of the offsite receiving channels.**

**Drawing L-2.01 (Soil Inventory Plan) provides detailed information on soil types present on the project site and identifies the location of forty (40) deep hole test pits performed on the site in October of 2008. Many of the test holes revealed boundary conditions within three feet of the surface due to the presence of hardpan, bedrock or high groundwater conditions. Additional percolation tests were performed by Kaaterskill Engineering on December 20, 2010 (Exhibit H); however, these locations are not shown on the Soil Inventory Plan. At a minimum, additional test pits will be needed wherever stormwater management practices will be installed, since many of these practices will require a minimum separation distance from boundary conditions.**

**The discharge velocity from diversion swale R1.1 along the bottom of Area 1.12 is too high at 5.65fps.**

**Page 13 indicates that "stormwater is captured, treated and attenuated in catch basins..." Catch basins do not provide any treatment or attenuation to**

**stormwater flows. This statement should be removed from the DEIS.**  
*(NYCDEP, April 30, 2012 letter)*

Response: The reason for using a coefficient of permeability of 0.5" per hour is to use a conservative value based on the anticipated soil specification for the filter media, and not to reduce the size of the basin as suggested. A proper sandy loam planting soil (as referenced in Appendix H of the design manual) typically has a perc rate in the range of 1"-5" per hour. For design purposes, the project anticipates, (and will specify) a soil media with a minimum coefficient of permeability of 1"/hr. To establish a conservative design value a safety factor of two is applied, resulting in a design value of 0.5" per hour. While this rate is applied within the HydroCAD model, the bioretention area sizing calculations, (used to determine the square footage surface area of the filter bed), utilizes the slower 0.25" per hour as specified in the manual. This is done as an ultra-conservative measure to prove a bioretention area can fit within the site plan even if a poorly draining filter media was used. . The bioretention sizing calculations for all bioretention areas are included in the modified Stormwater Management Design Report in the Errata section.

The design of Bioretention Areas as on-line system is not uncommon. The proposed bioretention areas typically treat small, directly adjacent drainage areas with minimal flow rates, such as a roof or small parking area. Designing these systems as off-line practices is not practical. Significant amounts of stormwater from other areas are not conveyed through the practices, and any uphill contributing drainage areas are minimized. Even though these systems are not designed specifically to provide attenuation for larger storm events, in many cases it is inherently provided due to the treatment volume sizing requirements and the small contributing drainage areas. . For a more detailed discussion, refer to Section 7 of the Modified Stormwater Management Design Report.

Pretreatment for bioretention areas is discussed in Section 7 of the modified stormwater management report. It should be noted that the purpose of pre-treatment for bioretention areas is to help trap coarse sediment particles, reduce the maintenance burden and extend the life and effectiveness of the treatment facility. The goal is to maximize the amount of pre-treatment to the extent practicable, based on practicality and site constraints. The types of pretreatment used are also typically based on the types of inflow. Utilization of all the methods listed in the SMDM is not practical, and is typically not applicable in all cases.

Pond outfalls project-wide are designed with adequate erosion protection, specifically flared end sections with rip rap outlet protection as shown on Detail 5, sheet L8.01, and as specified on the Grading and Drainage Plans, sheets L4.01-L4.09, or stone level spreaders. A note will be added to the stone outlet protection detail to ensure it is sized in accordance with NYSDEC Blue Book specifications. Furthermore, the required CPv, (designed to protect stream channels from erosion), is provided in each pond. Finally, Section 9 of the modified Stormwater Management Report concludes that, ...."The analysis of the receiving streams and watercourses at each design point along with their downstream conditions show that the downstream channels are stable and have the capacity to adequately convey post construction stormwater flows, which minimizes potential impacts to channel conditions and

downstream hydrology”. Additional supporting documentation is provided within the body of the report.

The comment relating to required test pits is noted, and additional information will be provided as part of the final SWPPP.

The language on page 13 referred to in the comment has been modified to be more specific.

**25.A The project does not appear to fully reduce runoff from the 90<sup>th</sup> percentile storm. The Stormwater Management Plan (Section 7.2.4) indicates that since the minimum RRv has been met, the project meets the RRv requirements listed in the Design Manual. The stated reductions are achieved primarily through the use of bioretention that will address the residential structures; however, the Department has concerns regarding the ability of the proposed bioretention units to be constructed on each lot and achieve the predicted reductions (see comments 15-17). The SWPPP does not fully discuss the limitations that prevent reduction of 100% of the runoff from the roadways. Runoff from the majority of the roadways is not reduced but will be conveyed and treated in Wet Ponds.**

**Traditional methods of stormwater control, such as wet ponds, do not protect downstream hydrology because of the following limitations.**

- **Poor peak control for small, frequently occurring storms:**
- **Negligible volume reduction; and,**
- **Increased duration of peak flow**

**Furthermore, the 1 year storm event information provided in Table 4 "Downstream Rate and Volume Summary" of the Design Report (see page 58) indicates an increase in volume of runoff at both points. It appears that the project does not meet the objective of the runoff reduction requirement. Please include information in the Design Report which demonstrates that the runoff reduction predicted will be sufficient to match pre-developed rates and volumes for the small, frequently occurring storms (90<sup>th</sup> percentile). (NYSDEC, February 3, 2014 Letter)**

Response: Refer to response 25.H for additional information and clarification regarding RRv data and associated limitations. Refer to response 25.E for additional information regarding feasibility of bioretention areas on individual lots. Table 4, “Downstream Rate and Volume Summary” in the Updated Stormwater Management Design Report in the Errata section provides volume comparisons as calculated in HydroCAD. This specific data is not used to calculate RRv or determine RRv requirements. RRv calculation data is provided on Table 5, “Supporting Water Quality Volume Calculations” and summarized in Table 6, “WQv and RRv Summary”.



**25.B Section 7.2.4 (L) "Bioretention" of the "Draft Stormwater Management Design Report" provided (see page 51) indicates that bioretention practices are planned for every proposed residential lot with typical lot layouts showing the bioretention practice (Sheet L-8.05 of the construction drawings (Note: only the downhill condition included a bioretention practice)). In most sub-watersheds, these units are relied upon to achieve the runoff reduction. Given the numerous bedrock outcroppings and/or shallow depth to bedrock, steep slopes, tree clearing limitations (see Architectural Review Board Project Design Guidelines), lot size, proposed house dimensions, and drive and utility locations; it does not appear that the Design Report and construction drawings adequately demonstrate that a functional bioretention practice can be constructed on each of the lots. This raises concerns with the ability of the project to achieve the predicted reductions the Design Report and construction drawings must be updated to include the necessary documentation/information to demonstrate that the bioretention units can be constructed on each lot as proposed. (NYSDEC, February 3, 2014 Letter)**

Response: See the response to comment 25.E.

**25.C The typical provided on Sheet L-8.05 of the construction drawings only shows a bioretention practice for the "Downhill Condition." Since the Design Report indicates that bioretention practices are planned for every residential lot, the "Uphill Condition" typical must be updated to show the proposed bioretention practice. (NYSDEC, February 3, 2014 Letter)**

Response: See the response to comment 25.E.

**25.D Given the shallow depth to bedrock, it appears that many of the proposed bioretention practices on the single family residential lots will have to be constructed in fill. However, the "Bioretention Area" detail on Sheet L-8.02 of the construction drawings does not provide any construction specifications for the proposed fill systems. At a minimum, the construction drawings must be updated to show maximum allowable cross slope (Note: Chapter 7 of the Design Manual recommends maximum cross slope of 6%), required limits of the fill, required depth of fill, fill material specifications, required setbacks (vertical and horizontal), fill placement specifications (i.e. required compaction, infiltration rate, etc.), retaining wall design specifications (if applicable), liner/geomembrane specifications (if applicable) and final stabilization technique. In addition, Section 7.4.1 of the Design Report indicates that runoff from the rooftops will be directed to a splash block or stone flow spreader and then sheetflow to the practice. This raises concerns with runoff from the rooftops short circuiting or by-passing a bioretention practice and structural stability (seeps, blow outs) of practices constructed in fill material. (NYSDEC, February 3, 2014 Letter)**

Response: See the response to comment 25.E.

**25.E DEC comments dated February 3, 2014 raised concerns with the ability of the project to achieve the predicted reductions and request the necessary documentation/information to demonstrate that the bioretention units can be constructed on each lot as currently proposed. (NYSDEC, March 3, 2014 Email)**

Response: A series of twenty (20) lot development studies have been performed to demonstrate that adequate bioretention units can be constructed on proposed single family lots. These studies analyzed several theoretical development scenarios including different building sizes, the size of stormwater management devices that would be required, and the anticipated earthwork that would be needed to accommodate these scenarios on lots with varying site conditions. The specific lots on which the studies were performed were lots 15, 43, 52, 56, 57, 64, 81, 82, 83, 84, 87, 106-109, 112, 124, 125, 127 and 134. These lots were selected based on the following criteria:

- Lots where concerns were noted by NYSDEC, NYCDEP and WIG.
- Lots considered to be the most challenging, or most restrictive.
- Lots considered being ‘typical’ of most site conditions encountered across the site.

By studying the lots deemed to be the most challenging, the most restrictive, and typical of site conditions encountered across the site, the analysis performed demonstrates project-wide adequacy at a level of detail appropriate for the SEQRA process.

The process for the development of the lot development studies was as follows:

- A maximum allowable impervious area was designated for each lot, based on the specific characteristics of the lot and the maximum disturbance area. The maximum allowable impervious areas for the lots were broken into three categories – 1,500 square feet, 2,250 square feet, and 3,000 square feet.
- A bioretention area was sized in accordance with NYSDEC and NYCDEP criteria for each maximum allowable impervious area. The projected inflow of runoff from the 1-yr storm event was generated within a HydroCAD model, and used to determine the required size of a bioretention area for each maximum impervious area. It is important to note that the driveways for each lot will be treated/managed within the project-wide stormwater management system, and will not drain to the bioretention areas located on the single family home lots. This is consistent with the Stormwater Management Plan developed for the DEIS. As per item 2 of the LA Group’s May 6, 2014 letter, the HydroCAD links for the residential units with information relating to sizing of the bioretention areas was provided to NYSDEC via e-mail on March 4, 2014 and a copy of which is included in the Errata section of this FEIS.
- A site plan was generated for each lot study that included a building footprint sized to represent the maximum allowable impervious area for that lot and the required bioretention area. In cases where driveway access is not immediately

off the main road, driveway access to the lot was also included on the site development plan. These components were arranged on the lot taking into account lot specific spatial constraints, sensitive areas, site topography, the building envelope and the maximum disturbance area for that lot. Next, a grading plan was developed for the lot that accounted for all lot development to ensure and confirm that the maximum allowable impervious area, required bioretention area and driveway access could fit within the maximum disturbance envelope for that lot. Adjustments to the site plan were made as needed as the process developed, just as a lot buyer would do when developing their specific site development plans as required by the WMSC ARB.

The studies demonstrate that the required bioretention areas for each lot can be constructed as proposed, and therefore have the capabilities to achieve the anticipated runoff reduction volumes. The Lot Study Plans, sheets L9.01-L9.03, are included in the Errata section of this FEIS. In cases where shallow depths to bedrock or shallow groundwater prevent the required separation to the bottom of the bioretention system, an impermeable liner can be provided. As discussed previously, while infiltration into the ground is more desirable, a bioretention area with a liner is still an effective filtering practice that can provide beneficial treatment. The final SWPPP for this project will include detailed construction specifications, testing requirements and performance standards to ensure the bioretention areas will be constructed to function effectively. Additionally, a specific lot development plan for every lot must be prepared by a licensed professional engaged by the lot owner. The lot development plan must be reviewed and approved by the ARB, as described in the response to previous comment 14.E, who will ensure the plan is developed in accordance with the project SWPPP and meets the required regulatory requirements and performance standards.

**25.F In general, the information related to the WQv/RRv sizing criteria (see Table 1 in Section 7.2.5 of the Design Report (see page 53), the Tables in Appendix B, the HydroCAD analysis and the supporting narrative in Section 7.0) is confusing and needs clarification. There are a number of missing calculations and inconsistencies that make it difficult to determine the required sizing criteria has been met. Some examples include:**

- **Table 1 in Section 7.2.5 list the required Water Quality Volume/Treatment Volume Information by pond number, not by drainage area/design point.**

Response: Table 5 titled “Supporting Water Quality Volume Calculations” in the Updated Stormwater Management Design Report in the Errata section has been re-organized for better clarification. Data within this table has been organized by Design Point.

- **Table 1 (Section 7.2.5) includes a summary of "Upstream Treatment" provided, however, the specific upstream practices are not identified.**

Response: This table was provided to illustrate data relating to NYCDEP Treatment Volume

requirements. The table has been clarified with regards to upstream practices and corresponding RRv provided in these practices. Refer to Table 5 “Supporting Water Quality Volume Calculations” and Table 6, “WQv and RRv Summary” for data relating to NYSDEC WQV and RRv requirements in the Updated Stormwater Management Design Report in the Errata section.

- **The first table in Appendix B indicates an RRv Provided for Design Point 1a of 47,567 cf, however, there are no RRv practices identified in the table.**

Response: Table 5, “Supporting Water Quality Volume Calculations” in the Updated Stormwater Management Design Report in the Errata section has been re-organized to clearly identify Green Infrastructure Practices.

- **The second table in Appendix B (WQv and RRv Summary) includes an item labeled "Adjusted DEC WQv req'd." It is not clear why this is included in the calculations.**

Response: The second table in Appendix B, (Table 6) titled WQv and RRv Summary, has been updated for better clarity and is included in the Updated Stormwater Management Design Report in the Errata section.

- **The second table in Appendix B includes an item under GI Practice for Bioretention Areas (residential), however, it is not clear as to how many residential units are used in the calculations.**

Response: Table 7 titled “Impervious Area / RRv Summary” in the Updated Stormwater Management Design Report in the Errata section identifies the residential lots, organized by drainage area and subcatchment, which include green infrastructure practices.

- **The information provided for Drainage Area 9 in the second table in Appendix B indicates a Total Runoff Reduction of 6763 cf, however, in table 1 of Appendix B, the RRv provided is 0 cf.**

Response: Table 5 “Supporting Water Quality Volume Calculations” in the Updated Stormwater Management Design Report in the Errata section has been re-organized to provide better clarification of calculations.

- **It is unclear from the last two paragraphs on page 61 in Section 7.4.2 where the discharge from P 4.1 is going. This section mentions Design Points 3 and 4.**

Response: Discharge from P-4.1 is directed to both Design Point 3 and 4. The primary discharge is to Design Point 4. The secondary discharge, the overflow weir from the pond, is directed to Design Point 3. Refer to the HydroCAD model in the Updated Stormwater Management Design Report in the Errata section for supporting information.

- **It does not appear that RRv calculations were provided for the sizing or the dry swales.**

Response: RRv calculations for the Dry Swales is provided on Table 5 titled “Supporting Water Quality Volume Calculations” in the Updated Stormwater Management Design Report in the Errata section. Storage capacity of the Swales is provided in the HydroCAD model in the Updated Stormwater Management Design Report in the Errata section.

- **It is not clear how the bioretention practices and dry swales were considered in the sizing of the downstream practices. It appears that the residential lots were modeled as an aggregate impervious area.**

Response: Table 5 “Supporting Water Quality Volume Calculations” in the Updated Stormwater Management Design Report in the Errata section has been re-organized to provide better clarification of calculations. The required and provided WQv and RRv capacities are included on that worksheet, and further summarized on Table 6, “WQv and RRv Summary” in the Updated Stormwater Management Design Report in the Errata section. This information was used to determine if the RRv criteria was met, and if additional treatment of WQv is required in downstream practices. All residential lots were included in the HydroCAD model in accordance with their maximum allowable impervious area. HydroCAD files including the residential lots (modeled as links) were provided to NYSDEC in correspondence dated May 6, 2014 a copy of which is included on a CD in the Errata section of this FEIS.

- **It appears that the bioretention practices were credited with a RRv of 40% of the available storage provided even if this volume was greater than the WQv (90% storm). However, it appears that the minimum RRv was determined using the 90% storm.**

Response: The minimum RRv was calculated using the 90% storm of 1.1”. The RRv “Applied”, or credited is equal to the percentage allowable based on the practice (40% for Bioretention), up to a volume no more than the required WQv calculated for that practice. In most cases the practices are oversized to provide the maximum RRv possible, up to the required WQv. Table 5 “Supporting Water Quality Volume Calculations” in the Updated Stormwater Management Design Report in the Errata section has been re-organized to provide better clarification of calculations.

- **The RRv credit in several of the sub-watersheds where there are single-family lots using bioretention practices was not identified.**

Response: This information is provided in Table 5 “Supporting Water Quality Volume Calculations” in the Updated Stormwater Management Design Report in the Errata section, which has been re-organized to provide better clarification of calculations.

- **The HydroCAD analysis shows several subcatchments that discharge directly to mountain streams. Runoff from developed areas must be treated/reduced prior to entry into these streams. For Example, Reach R1.1 is listed as a mountain stream that receives runoff from Subcatchment 1.1S and 1.1L (residential lots). Compliance with the permit requirements must be demonstrated at the point of entry into the stream for these subcatchments.**

Response: Required WQv treatment for runoff from subcatchment 1.1L is provided in the bioretention area planned for the lots within the subcatchment, prior to runoff discharging into existing stream channels. HydroCAD files including the residential lots (modeled as links) were provided to NYSDEC in correspondence dated May 6, 2014 a copy of which is included on a CD in the Errata section of this FEIS.

- **The HydroCAD analysis uses a link for the residential lots. The link appears to treat the impervious cover associated with the lots as an aggregate. Inflow and outflow rates and volumes appear to be the same. How are the bioretention practices treated in the modeling?**

Response: As per item 2 of a May 6, 2014 letter to NYSDEC, the HydroCAD links for the residential units with information relating to sizing of the bioretention areas was provided to NYSDEC via e-mail on March 4, 2014, a copy of which is included on a CD in the Errata section of this FEIS.

- **Section 7.2.5 of the Design Report indicates that Table 1 presents a summary of the NYC DEP Stormwater Treatment Volume calculations (i.e. post-development runoff from 1 year storm). It is unclear if the information provided represents the required, total treatment volume or remaining treatment volume. In addition, since the information is listed by pond versus Design Point, it is not clear if the required sizing criteria have been met.**

Response: This table was provided to illustrate data relating to NYCDEP Treatment Volume requirements. Refer to Table 5 “Supporting Water Quality Volume Calculations” and Table 6, “WQv and RRv Summary” in the Updated Stormwater Management Design Report in the Errata section for data relating to NYSDEC WQV and RRv requirements. These tables demonstrate that the required sizing criteria have been met.

- **At a minimum, the Design Report must include all calculations used in the design of the post- construction stormwater management controls so we can ensure that the sizing criteria have been met. The information should be broken down by Design Point and required Sizing Criteria. (NYSDEC, February 3, 2014 Letter).**

Response: Table 5 “Supporting Water Quality Volume Calculations” in the Updated Stormwater Management Design Report in the Errata section table has been re-organized to

provide better clarification of calculations. This table, along with Table 6, WQv and RRv Summary, in the Updated Stormwater Management Design Report in the Errata section demonstrate that the required sizing criteria have been met.

**25.G Provide the supporting documentation for each HydroCAD link used for the residential units to provide a better understanding as to how the bioretention practices are treated in the modeling. (NYSDEC, March 3, 2014 Email)**

Response: The requested links were provided to DEC under separate cover on March 4, 2014 and a CD containing the links is included in the Errata section of this FEIS.

**25.H DEC indicated in the comment letter dated February 3, 2014 that the SWPPP does not fully discuss the limitations that prevent reduction of 100% of the runoff from the roadways. Please provide an itemized list of areas that are not reduced along with the justification for not achieving 100% of the WQv for the 90<sup>th</sup> percentile storm for each area. This information may be provided using the excel spreadsheet provided by DEC as a follow-up to the February 18<sup>th</sup> meeting held in the Region 4 offices. (NYSDEC, March 3, 2014 Email)**

Response:

**Summary**

Section 7.2.4 (Runoff Reduction Calculations) of the Stormwater Management Design Report provides an itemized breakdown of each potential green infrastructure practice, describes the consideration given to each practice, and provides detailed justification as to why specific practices were either selected for use, or not suitable for use within this project. Section 7.2.1, Site Planning to Preserve Natural Features, describes the project planning process including the techniques applied to minimize impervious areas as a runoff reduction strategy. Section 4.2, Soils, describes the typical soil conditions found on the property and identifies shallow depths to bedrock and seasonally high groundwater as limiting factors in the design of stormwater management facilities; especially green infrastructure practices. This information provides the general justification for the application of RRv techniques throughout the entire project.

Because of the restricting factors within the soils noted above, and the prominent Hydrologic Soil Group C soils found throughout the site, the potential use of infiltration facilities (most RRv practices) is severely limited. With this site condition, it is simply not feasible to achieve 100% reduction of the WQv. On this site, suitable RRv practices primarily include Dry Swales, Bioretention Areas, and potentially Stormwater Planters. With these site/soil conditions, these practices only provide a 20%, 40% and 45% runoff reduction credit respectively. In order to realize 100% reduction, these practices would have to be significantly oversized resulting in an expansion of the necessary earthwork and site disturbance. This is not feasible in many cases, and not reasonably practical considering the project meets the minimum RRv requirements. Additional impacts associated with the increased disturbance would be the result of trying to exceed those requirements.

After carefully balancing all existing environmental site constraints, stormwater management requirements and the development program it was determined that the most effective and efficient way, (with regards to balancing the amount of site disturbance caused by implementing the practice on the site), to utilize, (and maximize), runoff reduction techniques was to provide them at each building if possible. It was determined that opportunities for RRv practices along the proposed roads were severely limited based primarily on the proposed grade of the roads, and the existing and proposed topography adjacent to the roads. In many cases, the roads traverse more challenging terrain in order to get to suitable development areas. Because of these factors, providing a practically effective RRv practice (such as a bioretention area) adjacent to the roadway corridors would result in significantly more earthwork and an expansion of the disturbed area. Dry Swales are a more appropriate practice for the linear nature of roadway construction, however the soil conditions and road grades prevent this from being a feasible alternative.

The information above is the justification for not achieving 100% of the WQv for the 90<sup>th</sup> percentile storm for each area. An itemized list identifying specific areas directed to RRv practices and organized by subcatchment is provided in the table entitled Impervious Area/RRv Summary in the Errata section. This table is organized in a fashion similar to the one provided by DEC after the February 18, 2014 meeting. Listed below is additional information related to each design point/watershed.

**DP1a:**

- Adjacent topography, road grades, adjacent wetlands and soils are limiting factors for using RRv practices along Cave Mountain Road.
- All single family home lots within the watershed are directed to an RRv practice.
- 41% of the total impervious area within this watershed is directed to an RRv practice.
- The WQv provided in Wet Extended Detention Pond P-1.1, is 5.9 times greater than what is required by NYSDEC, or provides 485% more WQv treatment than what is required by NYSDEC.

**DP1:**

- Within watershed for DP-1, all buildings, including the East Base Lodge, are directed to a practice with RRv capacity.
- Runoff from the shared driveway serving lots 99-102 is also directed to an RRv practice, (bioretention).
- Adjacent topography, road grades, adjacent wetlands and soils are limiting factors for using RRv practices along Sunrise Terrace and Cave Mountain Road.
- 65% of the total impervious area within this watershed is directed to an RRv practice.
- The WQv provided in Wet Extended Detention Pond P-1.3, is approximately 4.5 times greater than what is required by NYSDEC, or provides approximately 386% more WQv treatment than what is required by NYSDEC.



**DP2:**

- All single family home lots within the watershed are directed to an RRv practice.
- Adjacent topography, road grades and soils are limiting factors for using RRv practices along Sunrise Terrace and Cave Mountain Road.
- 54% of the total impervious area within this watershed is directed to an RRv practice.
- The WQv provided in Wet Extended Detention Pond P-2.1, is approximately 2.9 times greater than what is required by NYSDEC, or provides approximately 195% more WQv treatment than what is required by NYSDEC.

**DP4:**

- All single family home lots within the watershed are directed to an RRv practice.
- Adjacent topography, road grades and soils are limiting factors for using RRv practices along Cave Mountain Road, Meadow Crossing and Sheridan Drive.
- 58% of the total impervious area within this watershed is directed to an RRv practice.
- The WQv provided in Wet Extended Detention Pond P-4.1, is approximately 5.0 times greater than what is required by NYSDEC, or provides approximately 400% more WQv treatment than what is required by NYSDEC.

**DP5:**

- All single family home lots within the watershed are directed to an RRv practice.
- No additional impervious area associated with roads is within this watershed.
- 100% of the total impervious area within this watershed is directed to an RRv practice.

**DP6:**

- All Duplex Lots within the watershed are directed to an RRv practice.
- No additional impervious area associated with roads is within this watershed.
- 100% of the total impervious area within this watershed is directed to an RRv practice.

**DP8:**

- All single family home lots within this watershed, Duplex Lots D-7 and D-8, and Townhomes TH2 on Meadow Crossing are directed to an RRv practice.
- Tuck Trail and Duplex Lots D7 and D8 are directed to an infiltration basin. This is the only location on site that met all suitability requirements for use of an infiltration basin.
- The shared driveway for Duplex Lots D9-D12 is directed to an RRv practice.

- Adjacent topography, road grades, adjacent watercourses and soils are limiting factors for using RRv practices near the Wellness Center, and along Meadow Crossing, Cave Mountain Road and Sheridan Drive.
- A portion of the roofs on Duplex Lots D9-D12 could be directed to the Dry Swale adjacent to the shared driveway, however there would be no additional runoff reduction realized due to the limited capacity of the Swale and the inability to make it larger.
- 45% of the total impervious area within this watershed is directed to an RRv practice.
- The WQv provided in Standard Practices is approximately 3.6 times greater than what is required by NYSDEC, or provides approximately 264% more WQv treatment than what is required by NYSDEC.

**DP9:**

- All single family home lots within the watershed, with the exception of Lot 9, are directed to an RRv practice.
- Adjacent topography, road grades, and soils are limiting factors for using RRv practices along Sheridan Drive, Batavia Lane and Trailside Road.
- 40% of the total impervious area within this watershed is directed to an RRv practice.
- The WQv provided in Wet Extended Detention Pond P-9.2, is approximately 3.5 times greater than what is required by NYSDEC, or provides approximately 246% more WQv treatment than what is required by NYSDEC.

**DP11:**

- All single family home lots within the watershed, the Member's Lodge and townhouse lots TH3 and TH4 are directed to an RRv practice.
- The shared driveways accessing lots 33-39, and the shared driveway adjacent to lots 141-143 are directed to RRv practices.
- A portion of Sheridan Drive near the intersection with Meadow Crossing is directed to an RRv practice.
- Adjacent topography, road grades, and soils are limiting factors for using RRv practices along the remaining portions of Sheridan Drive.
- 75% of the total impervious area within this watershed is directed to an RRv practice.
- The WQv provided in Wet Extended Detention Pond P-11.1, is approximately 2.3 times greater than what is required by NYSDEC, or provides approximately 133% more WQv treatment than what is required by NYSDEC.

**DP12:**

- All single family home lots within this watershed are directed to an RRv practice.
- The shared driveways accessing lots 33-39, and the shared driveway adjacent to lots 141-143 are directed to RRv practices.

- Adjacent topography, road grades and soils are limiting factors for using RRv practices along Sunrise Terrace and the shared driveways.
- 23% of the total impervious area within this watershed is directed to an RRv practice.
- The WQv provided in Wet Extended Detention Pond P-11.1, is approximately 5.0 times greater than what is required by NYSDEC, or provides approximately 410% more WQv treatment than what is required by NYSDEC.

**25.I Lot #43 was previously deleted in the January 29, 2014 draft environmental impact statement. However, it was reintroduced in the final EIS. It is located on slopes steeper than 25% and should be deleted. The other reintroduced lots, #42 and #56, have been reconfigured and appear to work with the topography.**

Response: Lot 43 provides less >25% slope impacts and was reintroduced as a tradeoff for eliminating lots 33, 34, 35 and 36 that were previously located on the other side of Sheridan Drive and that had significantly more impact on a larger continuous area of slopes >25% than Lot 43.

**26. The proposed method of focusing attention on sediment control rather than erosion control during construction is contrary to the proper, primary fundamental design criteria for an erosion and sediment control plan. The WMSC project is proposed to be constructed on steep slopes with areas of exposed bedrock and shallow soils. Construction-related activities will alter the nature of shallow subsurface groundwater flow on the site, concentrating surface runoff and subsurface flow from disturbed areas into swales and other existing and proposed drainage features. In addition, clay and fine sediment washed from disturbed areas will be difficult to control. (NYCDEP, April 30, 2012 letter)**

Response: The DEIS (plan sheets L-3.01 through L3.5, sections 2.8 and 3.2 and appendix 9) outlines numerous measures that will be implemented during construction to control erosion at or very near the source. These measures include limiting the amount of disturbed area at any given time to generally 1.5 to 3 acres, the use of diversion swales to route clean runoff around areas of exposed soils, the use of structural controls such as silt fences and fiber rolls, etc. In accordance with the Blue Book, the proposed use of the sediment basins is a necessary secondary means of controlling soil particles dislodged by surface runoff that have the potential for sedimentation if not captured and removed via the sediment basins as proposed. In addition to the materials presented in the DEIS, see response 14.H and associated referenced plans that provide additional information regarding sediment and erosion control measures proposed to control erosion at its source.

See the response to comment 34 in this section and the referenced Alpha Geoscience report in the Errata section regarding subsurface flows.

**26.A Rock Borings:** Any remaining locations of disturbance that will not be supported by retaining walls and where proposed rock excavations would occur on 1:1 slopes should be cored to their design depths. There are no earth/rock borings at these locations shown on the drawing where 1:1 rock cuts are proposed. Thus, there is no evidence that the soil/rock at any of these locations can, in fact, stand competently on a 1:1 slope. Thinly bedded rock, which is present on the project site, is often formed by severe rock weathering. Construction on this type of rock on steep slopes often requires flatter gradients for safety and stability. However, developing flatter slopes generally requires larger areas of disturbance and excavation, since the lateral area of disturbance for a flat slope, such as 2:1, is greater than that for a steeper slope, such as 1:1. The results of the coring work, including changes in areas of disturbance and excavation, should be provided. (*Watershed Inspector General, November 21, 2012 Letter*)

Response: See previous response 14.I

**27. The premise of allowing the concurrent construction of sub-phases without independent oversight and control is inappropriate for a development project of this magnitude on a site with so many physical constraints to development. Appendix 9 of the DEIS states that the first phase of construction will disturb 52.4 acres of land, with the disturbance occurring in 23 distinct sub-phases. Phase 1 will result in the creation of approximately 13,700 linear feet of roads and 150 building units. Table 2-3 of the DEIS, Project Earthworks Quantities, estimates that Phase 1 will result in 271,910 cubic yards of cut and 198,320 cubic yards of fill, with a surplus of 73,590 cubic yards of spoil material to be stored in three on-site soil stockpile areas and at least one off-site area as shown on Drawing L-3.01, Construction Sequencing Plan – Phase 1. (NYCDEP, April 30, 2012 letter)**

Response: As per the DEIS, the project will have a full time qualified inspector as defined by NYSDEC's General Permit. Furthermore, as per the response to comment 29.A later in this section, the Applicant has committed to having a dedicated contractor just for the purpose of installing and maintaining sediment and erosion control practices.

As stated on page 2-44 of the DEIS, the only time concurrent subphase construction will occur is when the combination of the subphase areas is less than 5 acres, temporary structural controls will be installed prior to earthwork, areas to be undisturbed for more than 7 days will be temporarily stabilized by seeding, disturbed areas will be seeded and mulched immediately after final grades are established, and that all sediment and erosion control measures will be under the oversight of a Qualified Inspector as defined by NYSDEC.

**27.A Section 4.3 "Construction Phasing Plan and Sequence of Operations" of the SWPPP (see page 16) indicates that Phase 1 is divided up into 23 different subphases each of which is less than 5 acres in size and any combination of subphases will not be disturbed at a single time that will result in more than 5 acres overall being disturbed at a single time. In addition, the notes under**

**"Phase 1 Construction Sequencing" on Sheet L-3.02 of the construction drawings indicate that no more than 5 acres will be disturbed at any one time and that the contractor shall not proceed to the next work area until the previous area is stabilized and approved by qualified inspector. The SWPPP needs to provide additional detail that specifies the means and methods of stabilization that will be applied and what will be considered approvable to allow the contractor to proceed to the next work area. Please update the SWPPP and construction drawings accordingly. (NYSDEC, February 3, 2014 Letter)**

Response: The means and methods of stabilization that will be applied include the temporary measures described in note #19 under the heading Typical Erosion and Sediment Control Sequencing on the L-3.0# DEIS drawings and those specified on page 13 of the draft SWPPP contained in the DEIS. The approvability of the stabilization will need to be certified by the Qualified Inspector and documented in the SWPPP record keeping during construction. Additional detail will be provided in the more detailed drawings and updated SWPPP that will be included in the individual permit application that will be submitted following the completion of the SEQRA process.

**27.B The SWPPP and construction drawings must identify the heightened erosion and sediment controls that will be used to minimize the disturbance, during construction, of any steep slopes that are part of the final site plan. This shall include the development of a heightened sequencing plan which considers the following measures; establishing smaller thresholds for the amount of soil disturbed at any one time, requiring final stabilization of smaller sections of the steep slope areas before disturbing additional soil, and diversion of runoff away from steep slope areas. Please update the SWPPP and construction drawings to include the erosion and sediment controls that will be used to address this comment. Section 4.3 "Construction Phasing Plan and Sequences of Operations" of the SWPPP and the notes under "Phase 1 Construction Sequencing" on Sheet L-3.02 of the construction drawings may have to be revised to address the heightened controls. (NYSDEC, February 3, 2014 Letter)**

Response: Comment noted. The amended SWPPP and more detailed drawings will be submitted as part of the application for an individual permit that will be filed following the completion of the SEQRA process. See the response to comment 14.E and the drawings of heightened erosion control examples that are referenced in that response.

**28. The impact of individual single-family home lot construction on permanent stormwater management facilities should be better detailed and explained in the DEIS. Erosion and sediment control plans for the individual single-family home lots are not included in the plan, and will be developed after the lots are sold. This will result in ongoing construction activity on the project site after the access road is completed and temporary erosion and sediment control practices have been removed or converted to permanent stormwater management practices. (NYCDEP, April 30, 2012 letter)**

Response: The site plans that accompany the DEIS contain typical sediment and erosion control plans for single family lots, both uphill and downhill of the proposed roads. See Drawing L-8.05 Detail 3 and Detail 7. Furthermore, as stated on page 2-41 of the DEIS, purchasers of single-family home lots will be responsible for having a qualified professional prepare sediment and erosion control plans for the individual lots. Also see the portion of response 14.E regarding single family lot sediment and erosion control as well as sheet L9.04 in the Errata section of this FEIS, Erosion and Sediment Control Diagrams for Single Family Home Lots, that show erosion and sediment control designed for “difficult” single” family home lots in the uphill and the downhill conditions.

**28.A Section 4.1 “Erosion and Sediment Control Practices” of the SWPPP (see Page 13) indicates that the purchasers of the individual single-family home lots will be responsible for having a qualified professional prepare sediment and erosion control plans for the individual lots. The SWPPP needs to provide additional detail as to how the permittee will ensure that the erosion control plan is completed and meets the standards prior to allowing disturbance to occur on that lot. (NYSDEC, February 3, 2014 Letter)**

Response: Comments #10 and #12 in Section 1 of this FEIS clearly state that NYSDEC will require that the permittee be responsible for compliance with all aspects of the project, including those associated with the individual lots. The draft SWPPP language regarding lot owner responsibility will be replaced to reflect this requirement in the SWPPP that gets submitted as part of the Application for an individual permit. Additional detail about controls that will be in place to insure preparation and implementation of proper erosion control plans is included in response to comment 14.E.

**28.B Section 4.1 states that typical sediment and erosion control plans for single-family house lot are provided on Sheet 8.05 of the construction drawings. Given the large area of steep slope being proposed by this project, the SWPPP must include a steep slope typical that identifies the heightened erosion and sediment controls that will be required for the individual lots located on steep slopes. (NYSDEC, February 3, 2014 Letter)**

Response: No construction drawings have been developed for this project at this time. (See response to comment 26.A above. Typical for particularly challenging lots are contained in the Errata section of this FEIS as referenced in response 14.E. Practices and performance standards included on these plans include redundant source controls (multiple silt fences or silt fences and wattles), shortened intervals for stabilizing disturbed areas and more frequent inspections (twice a week and prior to forecasted rains) of all areas of active construction.

**28.C Section 4.3.1 “Sediment and Erosion Control Practices to be Converted to Permanent Practices” of the SWPPP (see page 18) indicates that the temporary sediment basins will be converted to permanent post-construction stormwater management practices when the area draining to these practices is stabilized. Does this include the single-family home lots that drain to the sediment basins?**

**If not, the SWPPP must describe how turbid runoff from construction activities on the single-family home lots will be managed. In addition, the SWPPP must specify the number of lots that can be disturbed at any given time? (NYSDEC, February 3, 2014 Letter)**

Response: See the response to comment 14.E earlier in this section.

**28.D Section 6.1 "Mechanism of Operation and Maintenance" of the SWPPP (see page 28) indicates that the Homeowners Association will be responsible for maintenance of all of the post-construction stormwater management practices onsite. However, this section also indicates that the owners of lots 33, 38, 42 - 45, 47, 49, 51, and 141 -143 will be responsible for the maintenance of the post-construction stormwater management practices on their lot. Please clarify this discrepancy. (NYSDEC, February 3, 2014 Letter)**

Response: The discrepancy mentioned will be rectified in a future NYSDEC/NYCDEP Permit Application / SWPPP. Per previous discussions with NSDEC, it is quite likely that the HOA or the Utility Transportation Corporation will be the permittee for the entire project. Individual lot buyers/owners will not be permittees. See the response to comment 14.E.

**29. The relationship, timing of construction activity and contrary nature between the shared locations and use of temporary soil stockpiling both on and off- site and runoff conveyance swales should be better detailed and explained in the DEIS. Numerous temporary and permanent drainage diversions, swales, level spreaders, and rip-rap conveyance structures are included on Drawings L-3.02 to L-3.05, Erosion and Sediment Control Plan, which are not included in the sub-phase limits shown on Drawing L-3.01. In some cases, these drainage controls are incompatible with the proposed staging and stockpile locations. (NYCDEP, April 30, 2012 letter)**

Response:

The purpose of drawing L3.01 is to show the general anticipated sequencing of construction areas and staging locations. Drawings L3.02 and 3.05 diagram the anticipated application and intent of erosion and sediment control practices based on the sequencing scenario presented on drawing L3.01. The plans also provide very specific performance standards and procedures that must be followed in the event the proposed sequencing or erosion control plans must be modified. (See notes and performance criteria listed on plans). During construction components of both the sequencing and staging plan and erosion and sediment control plans will be adjusted based on schedule, weather, availability of materials, labor, etc. For example, portions of the stockpile area adjacent to Trailside Road will be utilized throughout several subphases. Disturbance within these subphases will at all times have to account for disturbance at the stockpile area. This means an entire subphase area may not be able to be disturbed at one time in order to stay under the 5 acre threshold established by the SWPPP. These adjustments will be made by the contractor and qualified inspector as noted on the plans. Similarly, the implementation of erosion control practices can change given the condition of the site. The plans diagram general locations, applicability and the specific intent

of these practices. It will be up to the contractor and qualified inspector to adjust the practices as needed, based on varying site conditions, in conformance with the performance standards in the SWPPP and on the plans and in a way that the intent of the practice is still fully realized. The specific procedures listing how the changes must be implemented are included in the SWPPP and on the plans.

**29.A As part of the heightened erosion and sediment control requirements for projects that disturb steep slopes which are tributary to waters of the state classified as AA or AAS, the draft individual SPDES permit will require the permittee to have a dedicated erosion and sediment control contractor that will be responsible for the installation, implementation, repair and maintenance of the erosion and sediment controls called for in the SWPPP. The dedicated erosion and sediment control contractor must be on site during all soil disturbance activities associated with the construction of this project, including those associated with construction on the single-family residential lots. The SWPPP must be updated to address this requirement. (NYSDEC, February 3, 2014 Letter)**

Response: Comment noted. See previous response 14.E in which the Applicant commits to the dedicated contractor for erosion and sediment controls. The SWPPP will be modified accordingly prior to its submission as part of the application for the individual permit that will occur following the conclusion of the SEQRA process.

**30. The direct relationship between work areas, sub-phasing and use of soil stockpiles should be better detailed and explained in the DEIS. Drawing L-3.01, Construction Sequencing Plan, Phase 1 Construction, identifies the locations and total area of disturbance associated with each sub-phase, but does not describe which on- or off-site staging and stockpile areas will be active during each sub-phase. (NYCDEP, April 30, 2012 letter)**

Response: Page 2-41 of the DEIS describes which identified spoils areas will be active in which phases. All subphases within a phase will utilize the identified spoil areas.

**31. It should be made clear that this project will require a five acre disturbance waiver from NYSDEC. Section 2.8.3 (B) of the DEIS states that multiple sub-phases may be worked on simultaneously. It is likely that the active disturbance in these areas when combined with active disturbance in stockpile areas and on unpaved construction haul roads will exceed five acres at one time (disturbance of five or more acres at any one time is prohibited unless a specific exemption is obtained from NYSDEC). (NYCDEP, April 30, 2012 letter)**

Response: This comment is incorrect since disturbance will be limited to less than 5 acres at any given time. See response to comment 27 above.

**32. The timing and relationship between the implementation of temporary and permanent Erosion and Sediment Control measures and clearing, grading and other construction related activities within separate sub-phases within the same drainage area must be better detailed and explained in the DEIS. The E&SCP includes temporary stabilization practices, such as mulch and seed to be used in**



**combination with erosion control practices (rolled matting, fiber rolls, inlet and outlet protection, temporary swales and check dams) and sediment controls such as silt fence and sediment basins. On development sites such as the WMSC property where disturbance of steep slopes and soils containing fine sediment and clay is unavoidable, it is strongly recommended that each sub-phase of the plan achieve complete stabilization of sediment source areas and temporary swales before moving on to the next phase. Concentrated runoff must not be allowed to flow onto or through disturbed areas unless they are protected with properly sized and designed armoring or anchored erosion control products. Mulch and seed alone will not provide adequate stabilization on steep cut or fill slopes, particularly in areas where seeps and springs are present or slumping of soil or fill material is likely to occur. (NYCDEP, April 30, 2012 letter)**

Response: Pages 2-48 and 2-49 of the DEIS provides 29 steps in sequence that will be implemented in each work area (< 5 acres) under the headings of pre-construction and site preparation, temporary runoff and drainage control, earthwork and site construction, temporary stabilization of work areas, and permanent stabilization. Steps 1 through 25 must be completed before moving onto the work area. These same steps and sequence are included in drawings L-3.01 through L-3.05 that accompany the DEIS and these same drawings are included by reference in the SWPPP in DEIS Appendix 9. All disturbed work areas will have stabilization measures installed prior to beginning work on the next work area.

- 33. The DEIS E&SCP relies heavily on the use of end of the line sediment traps and flocculent to control turbid discharges. It should be noted that the proposed use of sediment basins in combination with flocculent treatment and dewatering following storm events should be considered as an emergency or "last resort" option, rather than a key component of the E&SCP. Based on DEP's past experience with this practice, the unpredictable timing and intensity of rainfall and runoff events in combination with lack of equipment and qualified personnel to perform the flocculent treatment and pond dewatering operation will result in significant turbidity releases to protected waters. In addition, the DEIS must better detail where and when point discharges from these practices will take place. (NYCDEP, April 30, 2012 letter)**

Response: See response to substantially similar comment 26 above. The proposed sediment basins are proposed as a secondary measure after other measures are implemented to control erosion at or near the source. The equipment and personnel are prescribed in the SWPPP, so not implementing these measures would be in violation of the SWPPP and subject to the penalties that accompany such violations. Locations for sediment basins A through G are shown on drawings L-3.02 through L-3.04. These drawings also show the temporary stone outlet protection for each basin. Detail 1 on Sheet 8.02 shows how basin dewatering discharges will be made to each of the basins' stabilized outlet channel. Basins will be dewatered within 24 hours after rainfall events.

- 34. Construction-related activities will alter the nature of shallow subsurface groundwater flow on the site, concentrating surface runoff and subsurface flow from disturbed areas and cut off swales into conveyance swales and other existing and proposed drainage features. This action will change the pre-development nature of groundwater flow across the slopes down-gradient of the project, potentially reducing groundwater flow. Much of the groundwater base flow will be diverted to stormwater management facilities impacting their ability to function as designed. This issue must be analyzed and resolved in the DEIS during the SEQRA process as the SWPPP is not equipped to address this phenomenon. (NYCDEP, April 30, 2012 letter)**

Response: An evaluation of the project site, review of a USGS study of the hydrology of the Batavia Kill Valley, evaluations of nearby, existing recent developments, and an evaluation of the proposed project prepared by professional geologists from Alpha Geoscience is included in the Errata section of this FEIS. The findings of this report indicate the proposed project will not significantly impact the nature of groundwater flow. As detailed in this report, where constructed roadways and their associated drainage swales do intercept groundwater seeps, this water only occurs as surface flow for short distances after which it seeps back into the ground as groundwater. In existing developments in the area (new road and residential construction west of Ski Windham and at Copper Ridge) groundwater does not get intercepted and diverted to stormwater management facilities.

- 35. The development plan includes temporary diversion swales which will be replaced with permanent swales (rip-rap, dry, or grass lined swales) when the Phase 1 access road system is completed. In some cases, old "jeep trails" will be utilized for diversion swales at the upper project limits. It should be noted that the pre-development runoff patterns in these areas is generally diffuse, with small areas of sheet and shallow concentrated flow contributing to small ponded areas on the "jeep trails." If these areas are to be connected by a well-defined diversion swale, as is proposed for this project, it is likely that the rate and volume of runoff delivered to existing watercourses will be substantially increased at the swale outlets. It is recommended that a downstream analysis for this project include an evaluation of changes in stream and wetland hydrology resulting from these temporary and permanent shallow groundwater and drainage diversions. Similarly, the potential for interception of shallow subsurface groundwater flow by dry swale underdrain systems should be addressed in the SWPPP. (NYCDEP, April 30, 2012 letter)**

Response: The temporary diversion swale along the existing jeep trail north of Meadow Crossing is designed to be very similar to the existing condition. The existing jeep trails are broad depressed areas with gentle slopes, which collect uphill runoff as stated above. The proposed diversion swale will be substantially similar, following the existing grade at a very gentle slope, allowing uphill runoff to pond in places providing opportunity for infiltration and groundwater recharge. Due to the existing conditions and the gentle grades, the only time

runoff is anticipated to flow within the swale would be during a large storm event, such as a 10 or 100-yr event. This is a precautionary measure to ensure if an event of that size occurs during construction, uphill flows will not drain across open areas of construction creating potential for erosion. Check dams are proposed as an additional precaution to minimize flow rates and promote ponding areas. The outlet of this swale is designed to be a level spreader, in an area with gentle slopes, so that sheet flow can be re-established. Once phase 1 is stabilized and permanent stormwater measures are in place, the swale can easily be removed and the area restored to its original condition.

A downstream analysis is included as part of the modified Stormwater Management Design Report in the Errata section and also see response to comment 19 in this section.

The Alpha Geoscience report that includes an analysis of the hydrogeology of the site and the surroundings is included in the Errata section. The report finds that while stormwater conveyances may indeed intercept shallow groundwater flow, the intercepted groundwater will re-infiltrate and will not affect the hydrology of surface waters or the performance of stormwater management devices.

- 36. The DEIS is incomplete because all 1-year and 100-year storm data for all pre/post construction subcatchments within the hydrologic analysis is missing. This information is absolutely necessary to properly evaluate the hydrologic changes in each of the sub-catchments as a result of the development. The 1-year storm is required to determine the channel protection volume and the 100-year storm is required to determine the safe conveyance of runoff to, through and away from the site. (NYCDEP, April 30, 2012 letter)**

Response: The requested supporting data is provided in the modified Stormwater Management Design Report in the Errata section.

- 37. No post-construction reach or culvert data has been provided for the 100- year storm. This information is necessary to evaluate the safe conveyance of the storm flows through proposed structures. For example, Pipe R1.7, located near Cave Mountain Road, is shown as having a 24 inch diameter outlet with the inlet invert set at elevation 2,230'; however, the peak elevation of flow for the 10-year storm at this point is at elevation 2,233.02. As the elevation at the 10-year storm is 3 feet above the inlet invert of the pipe (1 foot above the pipe) it is likely the 100-year storm elevation will be significantly higher than the culvert and could pose a safety issue with overtopping at Cave Mountain Road. (NYCDEP, April 30, 2012 letter)**

Response: The requested supporting data is in the Modified Stormwater Management Design Report in the Errata section.

- 38. No post construction data for Pond 11.9R and no data for pond P2.4: It is impossible to evaluate the outflows from these ponds without the complete pre/post data. (NYCDEP, April 30, 2012 letter)**

Response: Pond 2.4 has been eliminated in the current plan. The requested supporting data for pond 11.9 is in the Modified Stormwater Management Design Report in the Errata section.

- 39. No pre/post data has been provided for design points 8a, 11a and 11b. It is impossible to evaluate the effects of the project on these design points without the 2, 10 and 100-year storm data. (NYCDEP, April 30, 2012 letter)**

Response: These design points were internal analysis points used as part of the design development, and were not considered necessary to prove requirements were being met. All supporting data for all Design Point is in the Modified Stormwater Management Design Report in the Errata section.

- 40. Splitter R3.6 discharges to DP-4 via a proposed swale along the north side of Sheridan Drive; however there is no HydroCAD data for this swale. (NYCDEP, April 30, 2012 letter)**

Response: The flow splitter in this location has been removed. Reach data for the swale leading to Design Point 4 is included in the Modified Stormwater Management Design Report in the Errata section.

- 41. Due to the size, complexity and scope of this project, it would be beneficial if all of the HydroCAD data be provided to involved agencies on a CD and included with the DEIS. This information would provide the reviewer ample access to all of the data used in the hydrologic analysis and allow for an efficient, proper and complete review of this portion of the DEIS. (NYCDEP, April 30, 2012 letter)**

Response: All HydroCAD data included in the hard copy DEIS was included in pdf files on CDs containing the DEIS that were provided to NYCDEP.

- 42. The applicant has improperly calculated the DEP required water quality volume when designing the project's stormwater treatment practices. This has resulted in an undersizing of all the site's practices. It appears that the required water quality volume has been miscalculated in the DEIS Stormwater Management Design Report. Page 16 (Exhibit B) of the report states that the WQv calculation utilized both the 1.1 inch storm event (90% rainfall) and the 3.0 inch storm event (1 year/24-hour rainfall). The 1-year storm event is not intended to be used in the WQv calculation, rather the runoff volume utilizing the 1 year storm, is to be calculated using the National Resource Conservation Services (NRCS) method. DEP requires a comparison of the WQv and the volume of runoff generated by the 1-year storm event for sizing SMP's. The NYC Watershed Regulations 18-39(c)(3) states: Stormwater Treatment Volume. All stormwater pollution prevention plans prepared pursuant to this section shall include measures to**

**capture and treat the greater of the volume of runoff generated by the 1-year, 24-hour storm or the Water Quality Volume (WQv). Stormwater management practices which provide treatment shall be designed to accommodate the quantity of runoff flowing to the stormwater management practice, including runoff from off-site areas. To clarify, when calculating WQv one must use the calculation procedure presented in section 18-16(126) of the NYC Watershed Regulations (also found in Table 4.1 in Chapter 4 of the Design Manual). The Water Quality Volume (denoted as the WQv) is designed to improve water quality sizing to capture and treat 90% of the average annual stormwater runoff volume. The WQv is directly related to the amount of impervious cover created at a site. Therefore, the WQv is a culmination of site specific inputs that generate a water quality volume. In this instance, the Stormwater Treatment Volume is based on the post-construction volume of runoff from the 1-year storm event to the stormwater practice. This volume is typically generated using a program for modeling the hydrology and hydraulics of stormwater runoff such as HydroCAD software. (NYCDEP, April 30, 2012 letter)**

Response: The methodology as described above has been incorporated into the Modified Stormwater Management Plan, and the necessary treatment volumes have been provided within the design. The changes resulting from utilization of the new methodology did not result in significant changes to the plan. A summary of the required Treatment Volumes for each practice, along with the supporting HydroCAD data is Appendix D of the Modified Stormwater Management Design Report in the Errata section.

- 43. Design Point 1; (1) Subcatchment 1.3 represents a section of road approximately 600 feet long and 18 feet wide equaling 10,800 square feet; however, the spread sheet only indicates 5,380 square feet of impervious area. (2) Subcatchment 1.4 is listed in the "None/Undisturbed" section of the spread sheet; however, the spread sheet shows an impervious area of 5,600 square feet, and the plans show two proposed houses with bioretention basins, and (3) Subcatchment 1.4 is also listed in the section named "Bioret. on indiv Lots" and the impervious area is half of what is listed above. (NYCDEP, April 30, 2012 letter)**

Response: This has been corrected within the Modified Stormwater Management Report.

- 44. The DEIS improperly applies the DEP's "20% Rule." The NYC Watershed Regulations state that if an activity requiring a stormwater pollution prevention plan will result in impervious surfaces covering twenty percent (20%) or more of the drainage area for which a stormwater management practice is designed, the stormwater pollution prevention plan shall provide for stormwater runoff from that drainage area to be treated by two different types of stormwater management practices in series. The following Subcatchments have impervious surfaces covering twenty percent (20%) or more of the drainage area for which a stormwater management practice has been designed.**

1. Bioretention Basin P1.2 has an impervious area of 27%
2. Bioretention Basin P6.1 has an impervious area of 49%
3. Bioretention Basin P6.3 has an impervious area of 44%
4. Bioretention Basin P9.3 has an impervious area of 35%
5. Dry Swale P11.5 has an impervious area of 27%
6. Bioretention Basin P11.7 has an impervious area of 55%
7. Bioretention Basin P11.8 has an impervious area of 77%
8. Bioretention Basin P11.9 has an impervious area of 22%
9. Dry Swale P12.2 has an impervious area of 27% (NYCDEP, April 30, 2012 letter)

Response: Based on previous conversations with DEP and the desire to treat stormwater at the source as much as possible, it is the Applicant's understanding that this rule does not apply to green infrastructure practices such as rain gardens, bioretention areas and dry swales with small contributing watersheds. Otherwise it would not be practically feasible to incorporate green infrastructure practices near the source. All of the standard stormwater management practices treat drainage areas with less than 20% impervious cover. Supporting information can be found in the Modified Stormwater Management Design Report in the Errata section.

45. **The Project fails to maintain existing drainage patterns. Section 18-39(c)(5)(i) of the NYC Watershed Regulations states that "to the maximum extent practicable, an activity requiring a SWPPP, and the SWPPP prepared for such an activity, shall be designed to minimize the alteration of the existing drainage areas..."** Contrary to this requirement, the project proposes to radically alter existing drainage patterns. This is best exemplified by the frequent use of splitters and secondary outlets at six different locations. These structures are used at several locations on the site to manually manipulate and distribute low and high flow events to different drainage (design) points. A total of three hydraulic flow splitters (identified as CB R3.6, R8.15 and R11.28) are used as standalone units to divide low versus high flow storm events. These locations also represent a point of possible failure during an extreme storm event if the devices are not regularly maintained or if an excessive amount of storm related debris affects the functioning of the unit during a storm event. It is advised that the project not rely on such devices given the sensitive nature of site hydrology. (NYCDEP, April 30, 2012 letter)

Response: The project implements Low Impact Design Principles and was designed in accordance with the 5-step process outlined in the SMDM which integrates the stormwater management plan with project development, effectively balancing the needs of each to create a plan that minimizes impact and preserves existing hydrologic patterns to the maximum extent practicable. This is explained in detail in Section 7 of the modified Stormwater Management Report, and supported in other sections of the report. It is recognized that in some cases flow splitters are used to distribute flow. The reason for their use is an effort to achieve what is mentioned above – minimization of alteration to existing drainage patterns by maintaining the acreage of contributing drainage areas to the maximum extent practicable. This way, the amount of uphill flow diverted away from its pre-development design points is minimized.

Any part of a hydrologic system, existing or proposed, can fail during an extreme storm event. Systems that can be regularly maintained and observed such as this can in some cases be beneficial, in that opportunities for failure can be recognized and remedied prior to a significant storm event. The flow splitters are all located in areas that can be easily accessed and readily maintained, so that opportunities for potential failure are greatly minimized.

- 46. Given the extent of soil disturbance proposed on the United States Department of Agriculture (USDA) E/F slopes (very steep and highly erodible soils), it appears that the project will require New York State Department of Environmental Conservation (NYSDEC) review and approval of an individual permit in accordance with Part 1.D.6 of the 2010 SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001). (NYCDEP, April 30, 2012 letter)**

Response: This comment is correct and NYSDEC review will be for an individual permit.

- 47. Due to the very real potential for the proposed action to result in significant adverse impacts to surface water quality in the New York City Watershed, Riverkeeper hereby expresses its agreement with the comments contained in and fully supports the recommendations made by the comment letter submitted by the New York City Department of Environmental Protection (DEP) dated April 30, 2012. That letter identifies numerous deficiencies in the project as proposed in the DEIS which, if approved, will significantly impact water quality in the Batavia Kill and the Schoharie Reservoir Watershed. These impacts include, but are not limited to: inadequate watercourse and wetland buffers; disturbance of on-site wetlands; disturbance of 37 acres of steep slopes with shallow, erodible soils; a flawed hydrologic analysis; inadequately sized stormwater management practices; a deficient SWPPP and Erosion and Sediment Control Plan; and the underestimation of projected wastewater flows. In addition, the DEIS fails to provide key information regarding land clearing and grading, construction sequencing and mitigation of groundwater and stormwater impacts, among other issues.**

**Consequently, we agree with DEP that a supplemental DEIS is warranted to cure the existing deficiencies and propose adequate mitigation for the potential water quality impacts arising from WMSC. Accordingly, we urge the town of Windham Planning Board not to accept the DEIS in its current form, but rather require the preparation of a revised or supplemental DEIS that would be subject to additional public review and comment, before proceeding to a final EIS. (Riverkeeper, April 30, 2012 letter)**

Response: This comment has been addressed previously in this section.

- 48. DEP has identified impacts to water resources in the DEIS. Erosion and sediment control is required for 160 acres of disturbance. There will be water quality impacts associated with the loss of forested cover and change in drainage patterns. The introduction of impervious surfaces will exacerbate erosion that is prevalent due to the site soil types. Groundwater recharge impacts have been**

**identified. An increase in the volume of stormwater offsite has been identified and the DEIS does not address these impacts to water resources. (Joe Damrath, NYDEP, April 5, 2012 Public Hearing)**

Response: This has been addressed previously in this section.

- 49. Revise Water Quality Evaluation: The water quality evaluation contained in Appendix 9 of the March 2012 DEIS stormwater pollution prevention plan (SWPPP) needs to be re-calculated based on the revised drainage areas for stormwater analysis noted by DEP in its April 30, 2012 DEIS comment letter. The revised evaluation of water quality should be provided. (Watershed Inspector General, November 21, 2012 Letter)**

Response: The revised evaluation is included in the Errata section. Proposed development reductions have incrementally reduced TP and TSS export.

- 50. Box Riser Dimensions: Detail 6, Sheet L-8.02, a column should be added to the table to set forth the pre-cast concrete box riser dimensions. Human access for future maintenance should be considered when establishing these minimum dimensions. (Watershed Inspector General, November 21, 2012 Letter)**

Response: Concrete box riser dimensions will be added to the drawings when they are updated for submission for Site Plan and Subdivision review and NYSDEC and NYCDEP permitting.

- 51. Grading Details: The grading details for access to six building lots on Sunrise Terrace, shown on revised Sheet L-4.07, Lots 83, 84, 106, 107, 108 and 109, need to be presented. These units are upslope and two lots, 83 and 106, appear completely cut off from the road, due to the proposed location of a biofilter and rock lined drainage channel. (Watershed Inspector General, November 21, 2012 Letter)**

Response: See the response to comment 14.E earlier in this section. All single family lots and their access have been reevaluated and redesigned where necessary in order to avoid steep slopes. As part of this process, suitable access was confirmed for all of the currently proposed lots.

- 52. Move Outlet Pipe: The outlet pipe from Wet Extended Detention Pond P-12 (Sheet L-4.08) extends underneath a wetland that begins just 70 feet downgrade of the pond. This pipe requires excavation under the wetland to connect to the storm sewer line on the Cave Mountain Road spur. This pipe runs along the spur, then discharges at the outlet of this same wetland. Since the pond bottom elevation is 2,294' and the surface elevation of the wetland just 70 feet downstream is 2,284', this pipe should discharge directly to the wetland with appropriate energy dissipation at the outlet to prevent scour. This would eliminate excavation in the**



**wetland and at the proposed storm sewer pipe beyond. (*Watershed Inspector General, November 21, 2012 Letter*)**

Response: The outlet pipe will be adjusted accordingly in the drawings that are updated for submission for Site Plan and Subdivision review and for NYSDEC and NYCDEP stormwater permitting.

- 53. Location Tables: On Sheet L-8.01, a location table for all level spreaders proposed for installation at the project site needs to be added. Also, a stone apron inside the filter fabric drop inlet protector on Detail 11 needs to be added, or this detail can be deleted in favor of Detail 12. A location table for the water bars should also be added to Detail 14. (*Watershed Inspector General, November 21, 2012 Letter*)**

Response: The requested table and details will be adjusted accordingly in the drawings that are updated for submission for Site Plan and Subdivision review and for NYSDEC and NYCDEP stormwater permitting.

- 54. Fascines and Flocculants: On Sheet L-8.02, Detail 2, fiber roll is presented with a table for installation. However, its proposed use is not supported by documentation or a record of performance criteria. In comparison, the 2005 New York State Standards and Specifications for Erosion and Sediment Control, page 4.5, presents a similar practice employing live fascines which are bundles of twigs or branches (e.g. willow) placed in shallow trenches or on either cut or fill slopes for slope stabilization. One of the reasons for the success of this stormwater treatment practice is the close spacing between fascines. We recommend using the spacing specified in this standard for the placement of fiber rolls.**

**In addition, Note #3 refers to flocculants being added at the "qualified inspector's discretion." We suggest that this note be omitted, because the application of flocculants requires NYSDEC approval. (*Watershed Inspector General, November 21, 2012 Letter*)**

Response: Revised spacing in accordance with the Blue Book spacing for fascines will be added to the plans will be adjusted accordingly in the drawings that are updated for submission for Site Plan and Subdivision review and for NYSDEC and NYCDEP stormwater permitting.

The use of flocculants is detailed in the DEIS, including the draft SWPPP, and will be included in the final SWPPP that will be submitted for NYSDEC in an application for an individual SPDES permit for this project. The availability of flocculent is important for this project because of the colloidal nature of the soil types present on the site and the inability of sediment basins alone to settle out suspended soils.

- 55. Creation of Steep Road Bank Slopes:** There are a significant number of locations where steep road bank slopes will be created from rock blasting and excavation. A detail should be added to Sheet L-8.02 presenting a typical section of this proposed work, accompanied by a table specifying the locations of these steep road banks using the appropriate road stationing shown on the road profile sheets. (*Watershed Inspector General, November 21, 2012 Letter*)

Response: The requested typical detail and table will be included in the drawings that are updated for submission for Site Plan and Subdivision review and for NYSDEC and NYCDEP stormwater permitting.

- 56. Concrete Truck Washout:** A significant amount of infrastructure is being proposed at the project site. However, concrete truck washout facilities and their placement at key project locations are missing from the site plans and SWPPP. A detail containing this information needs to be added to the drawings on Sheet L-8.02. In addition, the SWPPP should be revised to add this practice. (*Watershed Inspector General, November 21, 2012 Letter*)

Response: Concrete washouts will be added to the equipment staging areas already identified on the plans included in the DEIS and will be adjusted accordingly in the drawings that are updated for submission for Site Plan and Subdivision review and for NYSDEC and NYCDEP stormwater permitting.

- 57. Construction Phasing:** According to the DEIS, the overall project will be constructed in 3 phases over approximately 15 years. The first phase will include significant infrastructure and approximately 150 units. It has been noted that there are 23 sub-phases in project phase 1, each disturbing less than 5 acres at any one time. A plan view should be prepared with the grading plan that details these 23 sub-phases and demonstrates that the proposed work is indeed balanced. Erosion and sediment controls and other site management requirements should be shown on the plan for each sub-phase. (*Watershed Inspector General, November 21, 2012 Letter*)

Response: The requested information is included in the current plans. The phase 1 construction subphases are shown on drawing L3.01. Grading Plans for the phase 1 construction area, at a scale of 1"=50', are provided as drawings L3.02 through L3.05, respectively. Sediment and Erosion Control Plans, also at a scale of 1" = 50', are also included in the project drawings.

- 58. Snow Management:** The DEIS documentation does not present a snow management plan. Deicing agents, such as rock salt, sand, and/or liquid deicer products, once sprayed onto roadways, are readily transported into water bodies by stormwater and snow melt. A Winter Operations Plan should be prepared to address snow removal, snow storage areas, and use of surface treatments. This

**plan should be made part of the post-construction maintenance plan required by the SWPPP. (*Watershed Inspector General, November 21, 2012 Letter*)**

Response: The use of sand and salt for deicing/traction on project roads will be similar to the types of materials and application rates, used by the Town, County and State on their roads in the area of the project.. Section 6.0 of the SWPPP included in the DEIS already describes post-construction maintenance practices for stormwater management devices, including specifications for sediment removal. Sand used for winter road treatment and captured in stormwater management devices is considered to be sediment. The DEIS includes section 2.7.8, Provision for Snow Plowing/Piling.

**59. The August 14, 2014 letters from the NYCDEP and the Watershed Inspector General incorporate introductory statements and recognition of the modifications to the Project Master Plan in response to agency comments.**

Response: The introductory statements and recognition of the modifications to the Project Master Plan in response to agency comments are noted. Responses to the issues specifically listed within these letters have been separately enumerated and provided in this FEIS.

**3.2 Water System General**

**1. The report discusses Phase I but the figure is not clear as to the limits of service and which pumping and storage tanks would be built. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: Appendix G of the Preliminary Water Supply Design Report includes a schematic which shows the extent of the water system to be constructed during Phase I. This includes Pump Station A, Pump Station B, the Lower Reservoir, the Upper Reservoir, and the water lines labeled on the Appendix G schematic. This information is also presented in schematic form and tabular form in Appendix A of the Preliminary Water Supply Design Report. The extent of the Phase I infrastructure, and the Phase 1 limits of service, will be further clarified in design plans submitted for the permitting reviews by the Town and other regulatory agencies.

**2. All facilities should either be in the road or located on a separate parcel or leased space. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: All facilities will be located within a road right-of-way, or on common lands of the Windham Mountain Sporting Club Homeowners Association, or within appropriate easements. This will be further clarified on the plans submitted for the Site Plan and Subdivision Review processes.

**3. The Sheets are numbered with the prefix “WS” and so are the sections which make the plans confusing to work with; suggest renaming the Drawing Sheets.**

*(Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)*

Response: An alternate drawing label convention will be incorporated into future plan sets.

4. **It would be helpful and clarify the design of the system to provide a simple schematic showing the pumping facilities (pump head, flow and elevation), tanks (high and low water elevation), pressure reducing valve (PRV) stations (elevation and pressure setting) and elevation of water services in each zone (high and low). If this information (or some of it) could be printed out with the model run that would perhaps be sufficient. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Such a schematic will be prepared for the permitting reviews by the Town and other regulatory agencies.

5. **Comments below point out the absence of hydrants on some lines. This was only noted where the line appeared to go near structures. It is understood that some connector lines have no customers and are not accessible. Where noted below, please add hydrants or explain why they are not appropriate. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: As noted in the Preliminary Water Supply Design Report, hydrant locations were chosen so that all of the proposed structures are within 250' of a hydrant. As discussed in a meeting between Kaaterskill Associates and Delaware Engineering June 21 2012, the possibility of incorporating additional hydrants will be evaluated in the preparation of the plans to be submitted for the Site Plan and Subdivision Review processes.

6. **The Town of Windham's water supply permit, under the current regulations, will need to be modified to allow the extension of supply or distribution mains into a new service area not specifically authorized by the existing NYSDEC permit for the system for which the extension is proposed. (NYSDEC, April 30, 2012 letter)**

- 6.A **The Town of Windham's water supply permit will need to be modified to allow the extension of supply or distribution mains into a new service area not specifically authorized by the existing NYSDEC permit for the system for which the extension is proposed. (NYSDEC, February 3, 2014 Letter)**

Response: This additional permitting requirement is acknowledged and is included in the errata section of the FEIS.

7. **In Southeast Naples, there are 80 mountaintop communities that have survived and flourished for 1000 years. How is this possible? These communities offer clean air, water, safety, security, etc. Mr. Olsen applauded Mr. Wilcock for his visionary proposal.**

**Mr. Olsen also stated that water and sewer are needed on Mitchell Hollow Road. He asked if NYCDEP rules govern how quickly the mitigation fees will be used to expand sewer and water on Mitchell Hollow Road. (Ray Olsen, April 5, 2012 Public Hearing Comment)**

Response: This issue pertains to Town management of their infrastructure and is beyond the scope of the WMSC project.

The Town of Windham has extended wastewater collection lines to the wastewater district boundary on Mitchell Hollow Road. NYCDEP rules prohibit any expenditure of NYCDEP funds outside of the wastewater district. Thus, any further extension of wastewater lines to the north of the existing terminus of the collection line on Mitchell Hollow Road must be constructed with sewer district funds. At the present time, the Town Board has no plan to extend any collection lines outside of the sewer district.

Similarly, the Town Board has no plan to extend water lines beyond the existing system layout other than those enhancements which are included in a USDA-funded water system improvement project which is being initiated in August 2012. This project primarily addresses water treatment, storage, and distribution needs in the hamlet of Hensonville. The only other project component is a connecting line to be installed from Main Street to the south end of Church Street. This line will facilitate the interconnection of the Windham Mountain water system and will be the first step in the eventual consolidation of the water systems in the Hensonville and Windham hamlets.

- 8. The project site is outside of the Town's municipal water district. The project sponsor estimates that maximum daily water demand and maximum daily design wastewater flows will approximate 94,024 gallons per day; 180,000 gallons of fire flow over a 2 hour period (1,500 gallons per minute) are also calculated as necessary. Two water reservoirs are proposed with a 50,000 and 300,000 gallon capacity. A Town wide consolidation of existing water supplies in different districts will be required to provide the water demands for the subject project. Additionally, the Town intends to utilize funds collected from project applicants, including WMSC, to pay for the water system consolidation. It might be more appropriate for the Town of Windham to require WMSC to provide a water supply source for WMSC and the Town of Windham within their proposed Transportation Corporation, in addition to the Town of Windham consolidating several municipal and private water supplies. (NYCDEP April 30, 2012 letter)**

Response: The Generic Environmental Impact Statement prepared by the Town of Windham in 2009 identifies consolidation of existing water supplies as a recommended measure. The GEIS states "consolidation of the municipal systems which serve Hensonville and Windham hamlets as well as the Crystal Water Corporation and Windham Mountain ski center systems should be actively pursued." The Preliminary

Water Supply Report contained in the DEIS includes a discussion of the existing public and private water systems in the project vicinity. Information provided by the Town of Windham (included as Appendix D in the Preliminary Water Supply Report in the DEIS) shows that substantial gains in water system capacity can be obtained through consolidation. The anticipated increase in water supply capacity obtained through consolidation is more than sufficient to supply water to the WMSC project without the development of a new water supply source.

It should also be noted that the anticipated water demand has been modified based on plan revisions subsequent to the DEIS. The following summarizes the anticipated peak daily demand:

<u>Type</u>	<u>Unit</u>	<u>Amount</u>	<u>GPD/Unit</u>	<u>GPD</u>
Single Family Home (137)	Dwelling	137	300	41,100
Duplex (6)	Dwelling	12	300	3,600
Townhouse (1)	Dwelling	7	300	2,100
Condo (2)	Dwelling	81	300	24,300
Member Lodge Restaurant & Lounge	Seat	70	28	1,960
Members Lodge Spa	User	24	8	192
East Village Lodge Grill	Seat	30	28	840
East Village Pool/Exercise	User	24	8	192

**Peak Daily Water Demand (gpd)      74,284**

### **3.3 Water System Drawings**

- 1. WS-08: Line WS-06 is a dead end; consider connecting to line WS-07. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: Connection of Line WS-06 to line WS-07 will be evaluated in the preparation of the plans to be submitted for the Site Plan and Subdivision Review processes.

- 2. WS-12: This seems to use 2 PRVs fairly close together, leading to the question of whether two zones are really needed. Information as suggested in Item 4 above would help answer such questions. Also no hydrants are on line WS-11. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: Although the 2 PRVs are fairly close together horizontally, two zones are appropriate due to the existing vertical changes on the site. The additional information discussed in item 4 above, which will be included in the submissions for the permit review, will clarify this.

3. **WS-14: No hydrants.** (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)

Response: See response to comment 5 in section 3.2 above.

4. **WS-17: No Hydrants on Line WS-014. On WS-015, -018, -020 and other sheets the line is shown extending 40-50-ft beyond the last hydrant. On dead end lines we typically locate the hydrant after the last service and at the end of the line to allow flushing. Is there a reason for the pipe after the hydrant?** (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)

Response: See response to comment 5 in section 3.2 above.

5. **WS-23: Hydrants 1100-ft apart.** (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)

Response: See response to comment 5 in section 3.2 above.

6. **WS-24: Hydrant spacing 1000-ft apart.** (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)

Response: See response to comment 5 in section 3.2 above.

7. **WS-41: Pumps should use VFD starters to prevent surge on starting and for flexibility of operations.** (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)

Response: VFD starters will be incorporated into the design in the plans submitted for permit review.

8. **WS-42: The reservoir is shown underground. Under the coming revision of 10-States this is not allowed; 50% or more must be above ground. It is suggested that VFDs be used to start pumps for flexibility of operations. The float valves should be installed outside the tank to allow service; the float only should be located in the tank. The pipe gallery pipe and valves are not clear; suggest numbering valves and providing a key or description of operations in final plans.** (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)

Response: Comment noted. The design features discussed in this item will be evaluated for incorporation into the design in the plans submitted for permit review.

9. **WS-43: the reservoir is below grade – see comment above.** (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)

Response: See response to item 8 above.

**3.4 Wastewater System General Comments**

- The report should contain a better explanation of the extent of pressure sewers and the number of pumps. All sewer lines that will be owned by the Transportation Corporation (TC) should be gravity if feasible and unless the cost is prohibitive. Where force main is necessary HDPE pipe with fused joints should be used. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The table below summarizes which sewer lines were proposed as gravity and which sewer lines were proposed as pressure in the DEIS. Pressure sewers were used where needed due to topography (as with sewer lines SC-026, SC-029, SC-030, SC-031, and SC-032) or where a few remote lots were being served (SC-023 and SC-028). On Sheet SC-28, note 13 identifies the parcels in the DEIS plan that are connected to pressure sewers, and note 14 identifies the parcels in the DEIS plan that will be connected to gravity sewers but which are expected to use grinder pumps due to the relative elevation of the building to the gravity sewer main.

<b><u>GRAVITY</u></b>		<b><u>PRESSURE</u></b>
SC-001	SC-015	SC-023
SC-002	SC-016	SC-026 C
SC-003	SC-016A	SC-028
SC-004	SC-017 (1)	SC-029
SC-005	SC-017 A	SC-030
SC-006	SC-018	SC-031
SC-007	SC-019 (1)	SC-032
SC-008	SC-020	
SC-009	SC-021	
SC-010	SC-022	
SC-011	SC-022 (1)	
SC-011A	SC-023 A	
SC-012	SC-024	
SC-013	SC-025 (1)	
SC-014	SC-027	

The discussion above pertains to the comments on the DEIS plan set. Significant revisions have been made to the plan since the DEIS, including a reduction from 302 residential units to 237 residential units. During the permitting process, the wastewater collection system design will be modified as appropriate based on plan changes which have taken place subsequent to the DEIS.

- Lateral locations should be shown on the final drawings. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**



Response: Lateral locations will be shown on the plans submitted for permit review.

- 3. No drainage piping or stream channels are shown on the plans. There will undoubtedly be such crossings and these should be shown on sections along with separation. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Drainage pipe and stream channel crossings will be fully addressed in the submissions for the permit review.

- 4. Labeling of manholes on the individual plan sheets would be very helpful. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Manholes will be labeled on the individual sheets in future plan sets submitted for permit review.

- 5. The Sheets are numbered with the prefix “SC” and so are the sections which make the plans confusing to work with; suggest renaming the Drawing Sheets, perhaps SS-01, etc. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: An alternate drawing label convention will be incorporated into future plan sets.

- 6. Sewer Main being replaced will require approval from Greene County Highway. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: This additional permitting requirement is acknowledged and is included in the errata section of the FEIS.

- 7. Several sections have pipe laid at >20%. DEP does not typically approve such installations. Their logic goes back to 10-States requirements to protect pipe when velocity exceeds 15-fps; and a 8” pipe laid at 20% slope has a flow velocity of approximately 15-fps. We have argued this point with DEP without success. In the event sewers are approved at >20%, ballast blocks should be used as per the schedule in 10-States. Since so much of the pipe is steep, pipe sections should be installed with the bell end uphill to limit pipe displacement and leakage. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: NYC DEP did not raise this issue in their comment letter (see copy in Appendix 1). If it is necessary to reduce sewer pipe slopes to <20%, this can be accomplished by adding drop manholes in appropriate locations.

8. **The DEIS states that the WWTP has sufficient capacity to handle increased flow from the proposed facility. An engineering report and sewer plans will have to be approved by DEC prior to final issuance. In that approval, the Department will need to determine the sufficiency of the sewer and conveyance system and if a SPDES permit modification is needed. As stated in the DEIS, the formation of a Transportation Corporation is required. To allow for the formation of the Transportation Corporation, once the Department has determined in writing that conceptual approval can be given, this will allow for formation of the Transportation Corporation to proceed. Since the project lies within the NYC watershed, then NYCDEP will have to review the wastewater aspect as well. (NYSDEC, April 30, 2012 letter)**

Response: See the response to 8.A below.

- 8.A **The DEIS states that the Windham WWTP has sufficient capacity to handle increased flow from the proposed facility. An engineering report and sewer plans will have to be approved by DEC prior to final issuance. In that approval, the Department will need to determine the sufficiency of the sewer and conveyance system and if a SPDES modification is needed to the Town of Windham's permit. As stated in the DEIS, the formation or a Transportation Corporation is required. To allow for the formation of the Transportation Corporation, once the Department has determined in writing that conceptual approval can be given, this will allow for formation of the Transportation Corporation to proceed. Since the project lies within the NYC watershed, then NYCDEP will have to review the wastewater aspect as well. (NYSDEC, February 3, 2014 Letter)**

Response: The Applicant acknowledges these procedural steps that will follow the SEQRA process and intends to follow them as described in cooperation with the Town of Windham.

9. **DEP has reviewed the proposed sanitary sewer system and identified an impact in that trenches dug to install the collection system could drain groundwater. This aspect of the project should be coordinated with the stormwater plan. The sanitary sewer system should meet town or other appropriate standards, and management and ownership of system should be defined in the EIS. (Joe Damrath, NYCDEP, April 5, 2012 Public Hearing Comment)**

Response: Concerns regarding the possibility of draining groundwater are addressed in item 34 under Section 3.1. The sewer system is designed to meet Town of Windham standards and other applicable standards. Management and ownership issues are discussed in item 15 below.

10. **Based on the flows allocated to currently approved users and projected flows from other properties within the Town sewer district, the available documented capacity at the Town of Windham WWTP is 100,000 gallons per day (gpd). Full build-out of the subject project (94,024 gpd) in accordance**

**with the DEIS analysis would leave only 5,976 gpd of available capacity. (NYCDEP, April 30, 2012 letter)**

Response: In response to this item, and as discussed during a meeting with NYCDEP staff held on May 9, 2012, an updated flow analysis is presented below.

Discussion of WWTP Flow / Updated WWTP Flow Analysis

A. The anticipated maximum daily flow from WMSC has been modified based on plan revisions subsequent to the DEIS. The following summarizes the anticipated flow:

<u>Type</u>	<u>Unit</u>	<u>Amount</u>	<u>GPD/Unit</u>	<u>GPD</u>
Single Family Home (137)	Dwelling	137	300	41,100
Duplex (6)	Dwelling	12	300	3,600
Townhouse (1)	Dwelling	7	300	2,100
Condo (2)	Dwelling	81	300	24,300
Member Lodge Restaurant & Lounge	Seat	70	28	1,960
Members Lodge Spa	User	24	8	192
East Village Lodge Grill	Seat	30	28	840
East Village Pool/Exercise	User	24	8	192
<b>Total</b>				<b>74,284</b>

B. Data Provided in DEIS: The Preliminary Wastewater Report included in the DEIS presents two primary sources of flow data:

- i. One source (included in Appendix E of the Preliminary Wastewater Report) is a 2008 letter from Delaware Engineering. This letter includes a theoretical calculation which assumes that all of the contracted users are discharging an average daily flow equal to 100% of their contracted flow. The calculation also assumes 100% build-out of all vacant lots within the district, with an average daily flow of 150 gpd for each of these lots. The calculation does not include two approved, undeveloped projects (Copper Ridge and Stonewall Glen), or the recently constructed car wash located on the eastern end of the sewer district.
- ii. The second source is actual flow data at the WWTP, which shows that monthly average flow at the WWTP has been 250,000 gpd or less for every month since the plant was constructed, which is substantially less than the WWTP permitted flow of 445,000 gpd (monthly average flow). The Preliminary Wastewater Report shows data through October 2011. Subsequent to the DEIS comments, additional data was obtained from Delaware engineering:

Actual WWTP Average Daily Flow Data Nov 11 through May 12

Month (2011)	Monthly Average Flow (GPD)	Month (2012)	Monthly Average Flow (GPD)	Month (2013)	Monthly Average Flow (GPD)	Month (2014)	Monthly Average Flow (GPD)
		Jan-12	181,000	Jan-13	220,000	Jan-14	239,000
		Feb-12	181,000	Feb-13	211,000	Feb-14	207,000
		Mar-12	161,000	Mar-13	184,000	Mar-04	198,000
		Apr-12	137,000	Apr-13	173,000	Apr-14	207,000
		May-12	130,000	May-03	150,000		
		Jun-12	128,000	Jun-03	205,000		
		Jul-12	123,000	Jul-13	137,730		
		Aug-12	126,000	Aug-13	140,000		
		Sep-12	148,000	Sep-13	127,000		
		Oct-12	191,000	Oct-13	124,000		
Nov-11	103,000	Nov-12	170,000	Nov-13	129,000		
Dec-11	159,000	Dec-12	221,000	Dec-13	202,000		

Of the two sources of flow data presented, the actual flow data is considered to be more meaningful in terms of capacity at the WWTP than the calculations of potential flows contained in the 2008 correspondence from Delaware Engineering. The NYC DEP comments do not reference the actual flow data, and instead focus only on the calculation included in the 2008 letter.

- C. Monthly Average Flow vs. Maximum Daily Flow: The permitted flow at the WWTP is 445,000 gpd. It is important to note that this is a monthly average flow. (As noted in the Delaware Engineering report contained in Appendix C of the Preliminary Wastewater Report, the maximum daily flow for the WWTP is 890,000 gpd.)

DEIS Flow estimates for the WMSC were developed using the 300 gpd/EDU value established by the Windham Sewer Use Law for residential structures, and data from the 1988 NYS DEC “Design Standards for Wastewater Treatment Works” was used for non-residential structures. Although these documents do not explicitly state that the values are maximum daily values, the flow rates included in the documents are consistent with maximum daily flows. Presumably, similar methods were used to calculate flows from the other contracted flow users (Windham Mountain Village, Crystal Pond, etc.) and the approved-but-undeveloped projects (Stonewall Glen and Copper Ridge). (It is noted that the 1988 Design Standards have been superseded by a March 2014 revision. The March 2014 revision to the Standards does not affect the flow calculations).

It is also important to note that many of the existing contracted users, as well as future residential projects (including the Windham Mountain Sporting Club) will

consist primarily of secondary/vacation homes which will be occupied on an intermittent/short term basis. This obviously will have a substantial impact on monthly average flows.

Considering the above, it is reasonable for Delaware Engineering to use 150 gpd to estimate average daily flows for future residential connections within the district, as was done in the 2008 correspondence contained in the flow. In contrast, however, the use of the maximum contracted flow number for the contracted users is not representative of actual average flows.

An example that illustrates the disparity between actual (monthly average) flows and contracted flows is Windham Mountain Village (WMV). The WMV development contains 99 Townhouse plus amenities, and has a contracted discharge of 30,500 gpd (which is roughly equal to 300 gpd per townhouse, although it is believed that the contracted flow number was based on the previous WMV SPDES Permit which pre-dates the municipal system). The WMV project is 100% built-out and has been for many years. The 2008 report from Delaware Engineering (included as Appendix E of the Preliminary Wastewater Report) contains actual average discharge (monthly) from WMV for the period of May 2007 through May 2008. The highest monthly average discharge during that period is approximately 12,500 gpd, or roughly 40% of the contracted discharge.

- D. Updated future flow projection: Based on correspondence with Delaware Engineering in June 2012, there have not been any significant connections to the municipal system since 2008 other than Crystal Pond and Windham Ridge (Crystal Pond and Windham Ridge were included in the 2008 Delaware Engineering report). There have been a number of residential connections, but these connections were accounted for in the 2008 analysis (which assumed that all vacant lots within the district were developed). There has also been the connection of the Windham Car Wash in 2013. Therefore, the 2008 analysis by Delaware Engineering is valid as a basis to evaluate “full buildout” conditions in the district with the following considerations:
- i. First, the anticipated flow for Stonewall Glen and Copper Ridge should be added to the analysis. The calculated maximum daily flow from these projects is 17,707 gpd and 6,600 gpd respectively. The flow for the car wash constructed in 2013 (maximum 2,400 gpd from a flow equalization system) should also be added to the analysis.
  - ii. Second, for the contracted users that are primarily residential (and second homes / vacation homes), the analysis should be considered in light of realistic discharge numbers. Based on the reasoning and supporting data presented in “C” above, an average daily discharge value equal to 50% of the contracted flow is an appropriate (conservative) percentage. This is applied to residential projects (Stonewall Glen, Copper Ridge, Windham Ridge, Crystal Pond and Windham Mountain Village). In the updated analysis, this percentage was not applied to contracted users with a significant commercial component (Windham Mountain, the Thompson House, and the Windham Car Wash).

Using the methodology described above, the revised “maximum projected flow” discussed in the 2008 Delaware Engineering analysis would be revised as follows:

	Maximum Daily Flow (gpd)	Value Used in 2008 Delaware Eng. Analysis (gpd)	Monthly Average Modification Factor	Monthly Average Based on Methodology Described Above (gpd)
Ski Windham	120,000	120,000	1.0	120,000
Windham Mtn Village	30,500	30,500	0.5	15,250
Thompson House	4,775	4,775	1.0	4,775
Crystal Pond	36,000	36,000	0.5	18,000
Windham Ridge Club	34,000	34,000	0.5	17,000
Stonewall Glen	17,707	17,707	0.5	8,854
Copper Ridge	6,600	6,600	0.5	3,300
Car Wash	2,400	2,400	1.0	2,400
Subtotals		251,982		189,579
Change Relative to 2008 Del. Eng. Analysis				-62,404

The 2008 Delaware Engineering Analysis used several assumptions to calculate a “Maximum Projected Flow” of 350,000 gpd. Using the revised methodology described above and taking into consideration realistic monthly averages as opposed to contractual maximums, the revised Maximum Projected Flow (monthly average) would be reduced by 62,404 gpd. Rounding this reduction off to an even 62,000, the maximum projected monthly average is estimated to be  $350,000 - 62,000 = 288,000$  gpd. This takes into account full build-out on all vacant lots within the district as well as flow from approved (not constructed) developments.

The permitted monthly average discharge from the WWTP is 445,000 gpd. The maximum projected monthly average is estimated to be 288,000 gpd. This leaves an excess capacity of 157,000 gpd. The proposed project has a calculated maximum daily flow of 74,284 gpd. Using the methodology described above, this equates to a monthly average flow of 37,142 gpd which is substantially less than the estimated 157,000 gpd excess capacity under the “maximum projected monthly average” conditions.

Although the evaluation clearly shows that the WMSC project will not create a need to expand or modify the WWTP plant it should also be remembered that the Windham Sewer Use law mandates a connection fee (currently \$5,000 per EDU) which will be placed in a capital fund which will be available for periodic replacement of equipment and/or expansion of the WWTP.

11. **The capacity analysis for Windham WWTP used in the DEIS and noted above is based on a 2008 letter prepared by Delaware Engineering. Many additional connections have been made since that time and there are more**

connections under consideration. For example, Copper Ridge Transportation Corporation permitted flow of 6,600 gpd, and Stonewall Glen Townhouses permitted flow of 17,707 gpd, approved by the Town of Windham, are not included in the remaining capacity analysis. It is important to provide all potential and current flow numbers in the capacity analysis. *(NYCDEP, April 30, 2012 letter)*

Response: See the response to comment 10 above.

- 12. Taking into consideration how narrow the margin is between the proposed flow for WMSC (94,204 gpd) and the reported available capacity at the Windham WWTP (100,000 gpd), and the developments noted above, a current flow analysis is warranted. *(NYCDEP, April 30, 2012 letter)***

Response: See the response to comment 10 above.

- 13. The 2008 flow analysis by Delaware Engineering used 150 gpd per Equivalent Design Units (EDU) to estimate future flow from vacant properties. One hundred and fifty gpd is less than the 300 gpd referenced in the Windham Sewer Use Law. Using the two different EDU values results in inaccurate evaluation of the available capacity of the WWTP. A revised analysis should be provided using consistent flow values. *(NYCDEP, April 30, 2012 letter)***

Response: See the response to comment 10 above.

- 14. Wastewater flow estimates are based on 300 gpd EDU, as referenced in the Windham Sewer Use Law. Homes with four or more bedrooms will likely produce more flow than 300 gpd when occupied. For flow estimation purposes, homes with four or more bedrooms should be counted as more than 1 EDU. Using 1 EDU for a five bedroom house will result in underestimating the projected wastewater flow. *(NYCDEP, April 30, 2012 letter)***

Response: In general, basing the design flow on the number of bedrooms is appropriate when designing a system for a single home or a small number of homes. This allows for significant variations in flow, relative to average conditions, which may occur with a small sample. The value of 300 gpd per EDU has been established by the Town in the Sewer Use Law and is appropriate for use in the evaluation of the WMSC Project. See also the response to comment 10 above.

- 15. DEP pays a percentage of Operations and Maintenance costs to the Town of Windham for the WWTP. DEP requests additional details be provided regarding the transportation corporation structure including details of sewer use fees, maintenance and servicing the sewer mains, sewer laterals and grinder pumps. *(NYCDEP, April 30, 2012 letter)***

Response: The structure of the relationship between the WMSC and the Town of Windham will follow the same model as other contracted users (such as Windham Ridge, Crystal Pond,

etc.) A contract will be executed between the Town of Windham and the WMSC Homeowners Association. Sewer rents charged to the Association will be as defined in Article 14 of the Town of Windham Sewer Use Law. The NYCDEP will not be responsible for any portion of the sewer rent. The WMSC Homeowners Association will form a transportation corporation for operation of the sewer collection system and will comply with all applicable laws for formation of the transportation corporation.

The Windham Mountain Sporting Club Owners Association will be responsible for owning, maintaining, and repairing the sewer collection system serving WMSC. The Town will have the right, and will be provided access, to maintain the collection system at the Association's expense if the Association fails to provide adequate maintenance.

- 16. Appendix 4 Wastewater Design Report Section 3.3.3 With regard to SPDES Permit and Contract Flow- Copper Ridge Transportation Corporation permitted flow of 6,600 gpd, approved by the Town of Windham, is not included in the remaining capacity. It is important to note that together with Copper Ridge, WMSC will exceed the plant capacity. (NYCDEP, April 30, 2012 letter)**

Response: See the response to comment 10 above.

### **3.5 Wastewater Drawing Comments (SC used here refers to the Drawing Sheet, not the Section)**

- 1. SC-02: This shows a section of sewer line being replaced on South Street. No details are shown of this section. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Details for the section of sewer line being replaced on South Street will be incorporated into the design plans submitted for the permitting reviews by the Town and other regulatory agencies.

- 2. SC-04: Pipe section >20%. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: See the response to comment 7 in Section 3.4 above.

- 3. SC-08: Five pipe sections >20%. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: See the response to comment 7 in Section 3.4 above.

- 4. SC-10: Between manholes SMH-48 and SMH-50 a section over 200' long is being filled to a depth as much as 6-ft under the pipe and manholes. Fill should be thoroughly compacted in lifts, and preferably be allowed to settle through one**



**freeze-thaw cycle. This offers the greatest chance of meeting testing. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The compaction procedures for this section of pipe will be incorporated into the design plans submitted for the permitting reviews by the Town and other regulatory agencies.

**5. SC-14: Two pipe sections >20%. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: See the response to comment 7 in Section 3.4 above.

**6. SC-15: Pipe section >20%. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: See the response to comment 7 in Section 3.4 above.

**7. SC-17: Pipe section >20%. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: See the response to comment 7 in Section 3.4 above.

**8. SC-19: Pipe section >20%. Force main and should be labeled as such, showing size and pipe materials. Also, an Air Relief Valve (ARV) is required at or around Sta. 4+20. There is a 40' drop in this 1950-ft long section. Is there a reason it is a force main rather than a gravity sewer. Clean-outs should be included at typical 400-ft spacing. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: See the response to comment 7 in Section 3.4 above regarding the pipe slope. See the response to comment 1 in Section 3.4 regarding the use of pressure sewers. Force main labels, the use of Air Relief Valves, and the use of cleanouts will be incorporated into the design plans submitted for the permitting reviews by the Town and other regulatory agencies.

**9. SC-20: Check Station numbering for SMH-140. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: There is a labeling error in the station numbering for SMH-140. The correct station is approximately 10+05. This will be addressed in the design plans submitted for the permitting reviews by the Town and other regulatory agencies.

**10. SC-24: Force main and should be labeled as such, showing size and pipe materials. The section for station 0+00 – 6+50 appears to be gravity and through the main development. Please provide reasons for not using gravity here or change this section to gravity sewer. An ARV is needed at 12+50 and, if the line stays all force main, at Station 6+50 as well. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: There were two primary factors that led to the decision to use a pressure sewer main for the pipe identified as SC-028. One of the factors was the elevation of the TH3 Townhouse Cluster. The finished grade at the rear (downhill) side of these townhouses will be in excess of 20' lower than the road. The second factor was the elevation and remote location of lots 136, 137, 138, and 139.

Project modifications that are being implemented to address DEIS comments include the elimination of lots 136, 137, 138, and 139. Based on this modification, the use of a gravity sewer main in this location will be considered in the preparation of the design plans for the sewer system.

Force main labels, the use of Air Relief Valves and the use of cleanouts will be incorporated as appropriate into the design plans submitted for the permitting reviews by the Town and other regulatory agencies.

- 11. SC-26: Sheet is numbered 27. On manhole detail, please add a note specifically saying that it is a 24-in clear opening. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: This note will be added to the design set.

- 12. SC-27: The clean out detail for lawn areas shows Schedule 40 PVC pipe. This is not a durable construction and is subject to pipe fatigue and freeze thaw damage. No glued joints should be used underground. Instead a fused HDPE clean-out wye should be used. Alternatively gasketed PVC pipe and fittings rated for pressure service could be used along with mechanical pipe restraints. This protective covers should be a corrosion resistant material not subject to damage by mowers or traffic. A concrete collar with cast-iron hand-hole is preferred. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The design details addressed above will be incorporated into the design plans submitted for the permitting reviews by the Town and other regulatory agencies.

- 13. No force main detail is provided; this should show materials of construction laying depth, conditions for insulation to reduce depth, pipe bedding, locator tape and SS tracer wire extending from one clean-out to the next with wires bonded together and labeled. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The design details addressed above will be incorporated into the design plans submitted for the permitting reviews by the Town and other regulatory agencies.

- 14. SC-28: Detail 2 is for Duplex (not Simplex). A detail should be provided for installation of a check valve between the pump station and the force main.**

**Check valve must remain accessible for future service. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The design details addressed above will be incorporated into the design plans submitted for the permitting reviews by the Town and other regulatory agencies.

**3.6 Terrestrial and Aquatic Ecology, Flora, Fauna, and Wetlands (DEIS Section 3.4 and Appendices 10 and 16)**

- 1. The DEIS contains a narrative discussion of wildlife and floristic features of the WMSC site as well as appendices providing reports regarding wildlife, large mammals and floristic surveys. As a result of review of these sections of the DEIS, the following comment is offered:**

**The “Floristic Survey for Rare, Threatened and Endangered Plant Species and Invasive Plants”, stated that a GPS device was used to help keep track of the locations on the site that were visited. The survey also stated an attempt was made to make a least one pass through each house lot and that less attention was paid to areas where houses, roads and other facilities were unlikely to be constructed. A map depicting locations investigated overlaying the proposed development areas would help illustrate the depth of the investigation.**

**In addition, page 3-24 in Section 3.4.1 states that control of the importation or distribution of invasive species during construction shall be conducted. The discussion states that the documented cleaning of equipment brought onto the site will be required. The intention of this effort is to prevent the carry of invasive species from off-site onto the site. The FEIS should also identify measures to be utilized to reduce or prevent, if possible, the spread of existing invasive species on site from areas of current occurrence to other areas of the site due to construction activities. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: See the Figure entitled Floristic Survey Route in the Errata that illustrates the route that was followed during the floristic survey. Data on site flora was also collected during the wetland delineation performed on the entire portion of the property that is proposed for development.

Control of intra-site spreading of invasives during construction will be difficult due to the linear nature of construction and the scattered nature of invasives on the site. One measure that will be employed is to have pressure washers located on gravel pads at construction staging areas and pressure washing construction vehicle tracks or tires prior to equipment leaving the staging areas.

- 1.A To further enhance the project sponsor’s efforts to control in-site movement of invasive species during construction, if pressure washing stations are set up at**

**construction staging areas, the wash water and seeds must be collected and properly disposed of. (NYCDEP, August 14, 2014 letter)**

Response: See Comment Response 1 above. The collection of wash water and seeds from the washing stations is not feasible. However, the confines of the pressure washing sites will be checked regularly during washing operations for the presence of germinating invasive species which upon discovery, shall be properly uprooted and destroyed.

**2. The DEIS addresses the objective of providing at least 70% open space (322 acres) for the project. However, the issue of deed restrictions needs to be addressed to ensure the benefits of maintaining open space in perpetuity. Wildlife displaced by development will have sufficient area to relocate to and will reduce the impact to the maximum extent practicable. (NYSDEC, April 30, 2012 letter)**

**2.A As discussed, the Homeowners Association will not allow future development ensuring that open space is preserved. Deed restrictions needs to be addressed to ensure the benefits of maintaining open space in perpetuity. Wildlife displaced by development will have sufficient area to relocate to and will reduce the impact to the maximum extent practicable. (NYSDEC, February 3, 2014 Letter)**

Response: Open space will be preserved through conservation easements or other durable institution restrictions on development.

**3. Staff have reviewed the plan for bear proof waste management and the wildlife and wetland reviews. The mitigation measures to minimize bear-human interactions (bear resistant containers, prohibition of fruit trees, no feeding of wildlife) appear to suffice. While there will be 0.094 acre of wetland fill in federally regulated wetlands, the majority of wetlands will not be disturbed. Staff have also reviewed the statement suggesting that the project area was not suitable eagle habitat. While it is not ideal habitat, the possibility of a future nest on the property does exist. The DEIS should reflect that in the future, if a nest is discovered, the NYSDEC will be notified immediately of its existence. (NYSDEC, April 30, 2012 letter)**

Response: In the future, if an eagle's nest is discovered on the project site, the NYSDEC will be notified immediately of its existence.

**4. Large scale development activities immediately adjacent to wetlands and buffers will result in disturbance and encroachment into these areas. If a 50 foot zone of disturbance results from equipment operation at the edge of cut, fill and blasting zones, it is likely that 2.25 acres of ACOE Jurisdictional Wetlands will be lost or severely impacted by construction in these areas. This estimate was obtained by comparing the Grading and Drainage Plans to the Wetland Areas Maps (WD-1 to WD-10) and Blasting Locations Map (2-17). Blasting is proposed to construct portions**

**of the Stormwater Management Practices within 100 feet of regulated watercourses and/or wetlands for ponds 1.1, 2.3, 2.5, 11.1, 11.2, 11.5, 11.7 and 12.1. Cut or fill areas and disturbance associated with the removal of spoil from blasting operations will result in additional encroachment. It is likely that off-site spoil disposal or stockpiling will result in further undocumented impacts and potential wetland losses. (NYCDEP, April 30, 2012 letter)**

Response: The 1 inch equals 50 feet grading and drainage project plans that accompany the DEIS clearly illustrate the proposed limits of disturbance. The same plans, amended as necessary as the result of the SEQRA process, will be part of the submission to the Town of Windham for Subdivision and Site Plan review. The same plans will be included in the Pre-Construction Notification that will be submitted to the ACOE for approval prior to beginning construction on the project. Likewise the same plans will be the basis for the application for a Water Quality Certification by NYSDEC. Deviation from the Town of Windham, ACOE and NYSDEC approved plans would be a violation of the conditions of approvals of the Town and the regulatory agencies.

Wetlands were delineated on the off-site area proposed for soil spoiling, and these wetlands are clearly shown on drawing L-4.01, Grading and Drainage Plan. No wetland fills are proposed in the off-site spoil area.

- 5. Moreover, Section 2 of the DEIS and Drawings L-4.01 to L-4.09 (Grading and Drainage Plans) show the proposed development areas in relation to the delineated watercourse and wetland locations. The proposed treeline (limit of clearing) shown on these drawings indicates that naturally vegetated buffer areas will be cleared up to the wetland edge in many areas within watersheds S-1, S-7, S-8, S-12 and S-13 and within 50 feet of regulated watercourses in S-1, S-7 and S-13. This does not include disturbance associated with clearing or excavation required to install pipes and outfalls for the Micropool Extended Detention Ponds and underdrain pipes and outfalls for the Bioretention units, which are not shown in the clearing limits. Similarly, groundwater interceptor drains, diversions, and foundation drainage outlets are not accounted for in the clearing limits or shown on the Grading and Drainage Plans. In conclusion, the aforementioned issues point again to the need for larger buffers. Larger buffers should be provided at the limits of cut and fill areas to allow for proper stabilization of the side slopes. (NYCDEP, April 30, 2012 letter)**

Response: Buffer widths were previously addressed in response to comment 13 in section 3.1. Drawings L-4.01 through L-4.09 clearly illustrate clearing limits associated with pipes and outfalls for stormwater management devices. For example, see the micropool extended

detention basin on the top of Sheet 4.03. Clearing for groundwater interceptor drains, diversions and foundation drains are not shown on the plans because they are not proposed.

6. **A copy of the final United States Army Corps Engineers (USACE) jurisdictional determination should be included to confirm the extent of federally regulated wetlands and water courses. Confirmation should also be provided from the USACE indicating whether this project requires an individual permit or meets the requirements of Nationwide Permit 14 (Linear Transportation Projects) or Nationwide Permit 29 (Residential Development) as proposed activities include directional boring for utility lines as well as 769.5 linear feet of fill in ephemeral streams for features such as stormwater basins, duplex units, in addition to fills in wetlands for linear transportation features. In any case, the assertion on page 1-15 that the project does not require a Pre- Construction Notification is incorrect, as NWP 14 requires notification for fills to special aquatic sites, including wetlands, and NWP 29 requires notification for all activities. (NYCDEP, April 30, 2012 letter)**

Response: Following the SEQRA process, permit applications will be made to regulatory agencies with jurisdiction over the project. These applications will include a Pre-construction Notification (PCN) to the ACOE for NWP approval (either NWP 14 or NWP 29). A request for a jurisdictional determination will be included in the PCN submitted to the ACOE subsequent to the SEQRA process.

7. **DEP requests confirmation of the boundary of wetland W-24 as there are proposed disturbances within close proximity to this wetland and its boundaries were unclear at the time of the DEP site visit. (NYCDEP, April 30, 2012 letter)**

Response: See the previous response.

8. **While it is important to preserve as much existing vegetation on the property as possible, it should be noted that normal land clearing and grading activities associated with home construction can be detrimental to vegetation far outside the footprint of new structures and access roads. Activities such as placing 3 inches or more of fill over 1/3 of a tree's root system or cuts that sever 1/3 or more of a tree's roots can severely limit the tree's uptake of water and nutrients, de-stabilize the tree or cause mortality. It is not clear whether the entire prism areas of cut and fill from site grading were considered in calculating impacted areas of vegetation for the building envelopes. It is recommended that a Certified Arborist or similar professional be consulted to determine whether trees need to be removed at the time of construction and provide advice at the planning phase in determining impacts. (NYCDEP, April 30, 2012 letter)**

Response: Section 4.5 of the ARB Design Guidelines specifically states that owners shall retain the services of a professional arborist to make recommendations for tree removal and tree preservation. “The Arborist shall be responsible for recommending which trees are to be preserved given building locations and construction activities and in what manner trees are to be protected during construction.” (DEIS Appendix 17A, page 18)

- 9. Section 3.4.2.B of the DEIS should also be amended to indicate that a total of 769.5 linear feet of fill is proposed in ephemeral waters as indicated on drawings W1 and W-2 for the construction of roads, driveways, trails, duplex units (9-12) and a new stormwater basin. (NYCDEP, April 30, 2012 letter)**

Response: As stated in the comment, these activities are included in the tables on Sheets W-1 and W-2 (Waters of the US and NYCDEP Watercourse Activities Plan) that are in the plan set that is part of the DEIS. They are not discussed in section 3.4.2(B) of the DEIS because they are not regulated activities for the ACOE under NWP 14, nor are they regulated activities under NYCDEP’s rules and regulations.

- 10. Section 3.4.3.B of the DEIS should be amended to disclose and assess impacts to wetlands not under jurisdiction of the USACE. The DEIS narrative and wetland drawings WD 1 through 10 indicate 2.74 acres of non-jurisdictional wetlands on site. These wetlands are not shown on any of the project plans. Based on their locations shown in drawings WD1 though 10, direct impacts are anticipated to at least nine non jurisdictional Wetlands (W-16 through W-22 and W-31). These wetlands should be shown on the project plans, and the extent of impacts to them should be disclosed and assessed in the DEIS. (NYCDEP, April 30, 2012 letter)**

Response: The Figure entitled Isolated Wetlands in the Errata section shows the 10 isolated wetlands present on the site. Information regarding these isolated wetlands is presented in the following table.

**Isolated Wetlands on the WMSC Site**

<b>Isolated</b>	<b>Size</b>	<b>Logging Road</b>	<b>Proposed</b>	<b>Disturbance</b>
<b>Wetland #</b>	<b>(acres)</b>	<b>Related</b>	<b>Disturbance</b>	<b>Type</b>
W-6	0.09	No*	None	N/A
W-16	0.16	Yes	Partial	fill, cut
W-18	0.28	Yes	Partial	fill
W-19	1.03	Yes	Partial	mostly fill, some cut
W-20	0.29	Yes	Yes	fill
W-21	0.17	Yes	Yes	mostly fill, some cut
W-22	0.38	Yes	Most	fill, cut

W-23	0.17	Yes	None	N/A
W-31	0.11	Yes	None	N/A
W-32	0.04	Yes	None	N/A
W-6 is a small dug pond believed to be used in the past for watering livestock				

Only 6 of the 10 isolated wetlands will be affected – 6, 23, 31, 31 and 32 will not be impacted.

The sections of logging roads that contain wetlands are generally flat stretches where lack of grade change means that water remains on these sections of roads. The source of water is predominantly from precipitation, but shallow groundwater flow may also contribute some water to these wetlands. . This water sits as surface water or at least saturates the soils long enough to cause these soils to become hydric. The compacted nature of the soils in these logging roads inhibits infiltration further beyond what would have occurred in their uncompacted states.

In some instances the isolated wetlands are almost totally limited to logging roads themselves – i.e. W-20 and W-21. In some instances water from the wetlands in the logging roads finds its way down the slope where the water eventually enters shallow groundwater flow, resulting in these wetlands being isolated – they are not connected to any surface water resources – i.e. isolated wetlands 18 and 19. (See the Hydrogeologic Analysis in Errata section that documents this interaction between surface flows and shallow interflow.)

The Isolated Wetlands Disturbance figure in the Errata section shows the isolated wetlands, the areas that will be undisturbed, area where fill will be placed and areas where cuts are proposed. In areas proposed for fill, rainfall will have a runoff component and infiltration component that have been accounted for in the project stormwater management. In areas proposed as fill, any shallow groundwater flow which previously came to the surface in the isolated wetlands will remain as shallow groundwater flow. In areas where cuts are proposed in isolated wetlands, it is possible that daylighting of shallow groundwater may increase in the few scattered areas in red on this Figure, but this water, as it does currently, will re-infiltrate in a relatively short distance and once again occur as shallow groundwater flow.

**11. In Appendix 10 delineation forms were provided for only 13 of the 36 on site wetlands. Forms for each delineated wetland and adjacent upland area should be included in the DEIS. (NYCDEP, April 30, 2012 letter)**

Response: As per the wetland delineation report (DEIS Appendix 11), the routine wetland determination method from the 1987 ACOE delineation manual was employed. The routine methodology prescribes that a number of locations in representative plant communities be examined and data collected for wetland indicators (vegetation, soils and hydrology). Data collected at the representative locations forms the basis for performing



the site-wide delineation. There is nothing in the delineation manual that requires that data be collected at every wetland. The data sheets that are included in the wetland delineation report encompass the breadth of the site, the different plant communities on the site, and different soils and hydrological conditions on the site. The figure entitled Wetland Delineation Data Point Locations included in the Errata section, illustrates the locations on the site where there are delineation forms included in the wetland delineation report.

In January 2012, the USACOE published a supplement to the wetland delineation manual that provided guidance for improving the accuracy and efficiency of wetland delineations in the Northcentral and Northeast regions. The basic criteria used for delineating wetlands, which is established in the 1987 manual, did not change. After the SEQRA process is complete, the Applicant expects to continue the permitting process that it had originated with the USACOE, and this could include an additional field visit by the USACOE. Also, if needed, delineation data could be provided on the updated data forms included in the 2012 supplement.

**11.A DEP and other involved agencies have consistently expressed concerns about the delineation of on-site wetlands. While project sponsor acknowledges a total of approximately 2.74 acres of wetlands that the project sponsor does not believe are jurisdictional, neither those wetlands nor their associated buffers are depicted on the project construction drawings. Without an assessment of the function and values provided by those wetlands, and, at minimum, an ACOE Jurisdictional Determination confirming which, if any, are subject to federal regulation, it is not possible to properly assess potential surface water impacts and therefore premature to complete this environmental review. For the same reason, the Response to Comment 10 on page 116 of the FEIS [in this section] noting that “only” 60% of the on-site non-jurisdictional wetlands will be impacted is insufficient.**

**Accordingly, DEP urges the Planning Board to require a more thorough characterization of and collection of data in order to assess the function and value of each of the on-site wetland. Response to Comment 11, on page 117 of the FEIS [in this section] suggests that data was collected on only a little over a third of the on-site wetlands. This is not a representative assessment. Again, at a minimum, the Planning Board should require an ACOE Jurisdictional Determination before accepting the FEIS.**

Response: NYCDEP personnel were on-site with the Applicant’s representatives and representatives of the USACOE when the USACOE inspected the delineated wetland boundaries on November 14, 2008. As a result of this site visit some minor adjustments were made to the delineated wetlands on November 20 and 26, 2008 at the request of the USACOE and revised wetland delineation maps and delineation report were submitted to the USACOE

on November 24, 2009 along with a request for a formal Jurisdictional Determination. The ACOE has not acted on this request at this time.

The USACOE currently applies the Northeast Regional Manual (2012) to the practice of wetland delineation. Moreover, the USACOE only approves wetland delineations that have been conducted within five years. The initial delineation of the on-site wetlands was conducted in 2008 which is more than five years ago. In acting on the request for a Jurisdictional Determination, the USACOE may require the applicant re-delineate the wetlands. Past experience has been that the USACOE may approve the existing delineations following a new site inspection.

The comment states that "...wetlands nor their associated buffers are depicted on the project construction drawings..." The drawings associated with this environmental review process are not considered construction drawings. As discussed in the Response to Comment #6 in Section 3.6 herein, a renewed request for a Jurisdictional Determination will be submitted after detailed design is completed for the project at the conclusion of the SEQR process. Moreover, Response to Comment #6 in Section 3.6 recognizes the requirement for a Preconstruction Notice (PCN). The Lead Agency fully supports the importance of accurate and up to date documentation of the location and function of wetlands on the site that could be impacted by either construction or operation of the Club. Thus, the best way to ensure protection of the wetlands is for the ACOE's Jurisdictional Determination to occur as near to the time that construction is anticipated. Any mitigation measures required as a result of the Jurisdictional Determination will be embodied in the Planning Board's site plan and subdivision approval for the project if not in permits issued by NYSDEC, NYSDEP and/or USACOE as appropriate.

- 12. The DEIS does not assure that off-site spoil stockpiles located northwest of Trailside Road will not impact federal wetlands. Additional wetland acreage may be present on adjoining properties that will receive spoil from this development. In addition, adequate buffer zones should be provided to prevent direct and indirect impact to wetland areas from construction activities. A minimum 50 foot buffer should be applied to allow construction site access, allow for installation of perimeter erosion and sediment control measures and preserve wetland integrity. (NYCDEP, April 30, 2012 letter)**

Response: See the response to comment 4 above. Wetlands were delineated on this property and the plans show that these wetlands will not be impacted.

- 13. Proposed fill F8 on Drawing WI-1 will impede flow through wetland 10. This crossing should be designed to maintain connectivity in accordance with NY State Nationwide Permit regional condition II.A.10. In addition, this condition should also be considered for all proposed fills to wetlands and watercourses. (NYCDEP, April 30, 2012 letter)**

Response: A detail will be added to sheet L-8.07 for site plan and permitting drawings to clarify that this crossing will include properly located culverts that will allow for the continued flow of water through wetland 10. The other 2 areas of wetland fills are at the edges of these wetlands and do not affect areas of flowing water. No watercourses are proposed to be filled.

- 14. The blasting locations for the project are shown on drawing 2-17 of the DEIS, dated March 2, 2012. All 11 stormwater detention ponds and 2 bio-retention areas are shown to be excavated to their design grades by explosives. All of these locations, as well as specific blasting sites for road and other construction, are in very close proximity to wetlands.**

**The wetlands will receive shock waves transmitted through the bedrock from many blasting sites surrounding them from different directions. These energy waves could create significant disturbance to the substrata of the wetland areas, causing a radical change in the hydrology of the wetland. The DEIS should be supplemented to address impacts to wetlands from blasting. (*Watershed Inspector General, November 21, 2012 Letter*)**

Response: Wetlands on the project site occur primarily as a result of groundwater discharging to the surface. Groundwater discharges occur because relatively impermeable material is preventing the ground water from penetrating deeper into the bedrock aquifer. This is called a contact spring and is typical of the springs in the Catskills. The impermeable material is typically shale, or a thick layer of locally unfractured sandstone. Ground water, following topography, flows downward via gravity within the open fractures of sandstone layers in the shallow (near surface) bedrock until it encounters a relatively impermeable shale layer, or unfractured sandstone layer, on which it flows outward along this “contact” between permeable, fractured, bedrock and relatively impermeable shale.

Blasting will be done such that the blast energy is not wasted beyond the immediate area where bedrock needs to be removed. Locations where blasting is expected to be needed were illustrated on DEIS Figure 3-3 and potential impacts and mitigation measures were discussed in DEIS sections 3.3.2 and 3.5.2.

Propagation of existing bedrock fractures is not expected beyond the immediate area of the blast. Shallow ground water will be affected within portions of the existing fractured bedrock system by removal of the fracture zones from the footprints of selected structures. Ground water will seep out the fractures where the new bedrock face is exposed (adjacent to a building), then seep back into the bedrock fractures at the first opportunity and re-enter the shallow ground water system. This scenario is already happening all over Cave Mountain. Water from contact springs, if not used as a water resource, commonly re-enters the shallow ground water system at some distance downhill where more fractures are exposed or the fractured bedrock is overlain by permeable soils.

### **3.7 Traffic and Transportation (DEIS Section 3.6 and Appendix 13)**

- 1. The TIS states that field data was collected during the months of January and March, and that data collected in March was adjusted to account for peak season**

**trip generation. The method of adjustment of the March data along with the rationale should be provided. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The final Scoping Document for this project issued by the Lead Agency on March 18, 2010 includes an assessment of traffic for a holiday weekend in January when the ski center is operational (Martin Luther King (MLK) weekend). The data collection at all but one location was performed during the specified MLK holiday weekend in January 2009. Since the final scoping document, issued in 2010 after the MLK weekend had past, included an additional intersection not included in the draft scoping document submitted to the Lead Agency in December 2009, traffic counts were also conducted in the study area in March. In order to accurately represent the peak January holiday weekend traffic, the traffic volumes collected in March were increased to represent the peak January condition by an adjustment factor of 1.9 during the Friday peak hour and 3.5 during the Sunday peak hour. These factors were determined by comparing two-way peak hour traffic volumes on study area roadways collected in March and during the January holiday weekend.

- 2. The TIS provides a trip distribution with 25% traveling to and from the south on Route 296, 60% to and from the east on Route 23 and the remaining 15% to and from the west on Route 23. The TIS states that this trip distribution is based on existing travel patterns and probable travel routes for residents of the WMSC. Additional description of the rationale and any data supporting the trip distribution should be provided. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: As noted, the distribution of site traffic was based on a review of the existing travel patterns in the study area and a review of the expected travel patterns of residents of the site (based on a review of the existing roadway network and connectivity). This method of deriving distribution patterns is typical and follows the proper protocol when conducting traffic assessments.

- 3. The TIS identifies a limited sight distance at the intersection of Trailside Road and South Street. Table 4.1 shows limited sight distance for both left and right turns from Trailside Road onto South Street. Mitigation in the form of grading just west of the Trailside Road and South Street intersection is recommended. This mitigation should be incorporated in the Findings Statement and as a condition of any future local approvals for the WMSC project. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The Applicant concurs that this mitigation measure, or an alternative mitigation measure(s) deemed to be appropriate by the Greene County Highway Department, should be incorporated into the Findings Statement and be a condition of any future local approvals.

- 4. The TIS determined that there is drop in Level of Service (LOS) during the Sunday peak which is the result of an approximately 1.4 second increase in delay at the Route 23 and 296 intersection between the no build and build condition.**

**This decrease in delay does not merit any mitigation. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: Comment noted – no response required.

5. **The eastbound intersection of South Street and Route 296 is an intersection with a very low LOS presently, and the condition is expected to decline over time regardless of whether WMSC is constructed or not. The current delay is approximately a minute. The delay increases by just over two minute without construction of the project by 2027, and increases to just short of four minutes with construction of the project taking background growth into account. A signal warrant analysis was conducted and the TIS states that the traffic volumes fail to meet the standards for installation of a traffic light. The TIS further states that the delays experienced only occur during peak times in the peak ski season and that regional growth patterns that cannot be predicted presently may alter the potential delay. While these statements are true, the FEIS should state if there are any other measures that could be considered to reduce the anticipated delay such as turning lanes and/or directional signage at the junction of Trailside and South Street to direct travelers to exit to the left crossing over South Street to the west to Church Street and through the business district. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: It is expected that the majority of traffic traveling to and from the project site will travel to and from the site from the east via South Street (NY Route 23); therefore, the logical travel pattern (as confirmed with the existing traffic volumes in the study area) is to exit the site and travel east on South Street, north on NY Route 296 and east on Main Street (NY Route 23). Therefore, the traffic study was conducted assuming these travel patterns would be followed, which results in a worst case analysis of the South Street/NY Route 296 intersection. It is however noted that residents of the site may opt to alter their travel patterns during the peak travel times and exit the site to the west and access Main Street (NY Route 23) via Church Street (County Road 79) or alter their travel patterns to avoid busier travel times associated with the ski center; thereby reducing the peak trip generation associated with the project. Since the project will consist of repeat visitor second homeowners, it is not likely that signing will alter their patterns of travel to and from their homes as it is more likely their familiarity with the roadway network will be self-mitigating. However, a sign will be installed at the Trailside Road/South Street intersection with way finding for residents using County Road 79 (Church Street) as an optional route. The capacity analysis indicates that the South Street/Church Street and Church Street/Main Street intersections have ample reserve capacity to support additional trips if residents choose to divert to this route.

Construction of an eastbound right-turn lane has the potential to reduce average delays for vehicle turning right from South Street to NY Route 296. However, construction of a turn lane would result in impacts to access and parking at the adjacent parcel in the southwest quadrant of the intersection and drainage along NY Route 296. In addition, as noted in the TIS, Level of Service F delays are experienced only during the peak hour of the peak seasonal condition. In order to prevent over-designing infrastructure, traffic signals and additional turn lanes are

typically not constructed for worst case conditions. Due to the above mentioned reasons, construction of a turn lane is not recommended.

6. **In addition, Page 3-44 of Section 3.6.2 of the DEIS discusses the inclusion of a Road Use Agreement in the Scoping Document. While it is recognized that the overall proposed build out of the project is anticipated to cover a 15 year period and a road maintenance agreement is inappropriate for such a lengthy duration, page 3-43 of the same section of the DEIS discusses significant heavy truck traffic associated with Phase 1 development specifically the disposal of excess materials off-site and the need to transport oversized loads such as the water tank onto the site. A Road Use Agreement for the portion of Phase 1 involving heavy truck traffic and the movement of oversized loads onto the site is appropriate. The FEIS should contain a proposed Road Use Agreement for these impacts. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: One concern underlying this comment is the potential for materials (earth, stone, etc.) being hauled on South Street by trucks traveling to and from the project to spill out of the tops of trucks and onto the roadway. Such spillage could result in complaint calls from the public to the County or Town Highway Superintendent. In order to address this primary concern, the project SWPPP, under the heading of Off-site Vehicle Tracking, will be expanded to include any truck spillover onto South Street. More specifically, the SWPPP will require that South Street be inspected twice a day – midday and at the end of the construction day, and that any spilled earth, stone etc. on South Street would be swept off the roadway by the project Contractor. In addition, excess wear to South Street may be the result of heavy truck traffic generated during the initial phase of infrastructure construction. While South Street is a County Road, residents of the Town of Windham are likely the most routine travelers on this road, and therefore, the condition of the road is of most concern to the Town. In order to ensure that any damage caused by heavy construction truck traffic is properly assessed, the Applicant agrees to work with the County and the Town to document, through visual means and drivability, road conditions immediately prior to the initiation of the first phase of construction and annually throughout the first phase. The Applicant, County and Town will work together to ensure that the drivability of the road is maintained throughout the first phase of construction. This obligation shall conclude with the cessation of the construction of the first phase of the project.

### **3.8 Visual Resources (DEIS Section 3.7 and Associated Appendix 11)**

1. **Section 4.A. Study Area and Zone of Potential Visibility Mapping**  
**The VIA includes a note that vegetation from USGS quads was used to create the tree cover footprint in the five-mile study area. The USGS quad maps in the Windham area were originally created from 1943 aerial photographs, and later updated with 1978 photography (revisions were primarily additional roads and buildings). The area has undergone development over the several decades and the vegetative footprint may have been reduced. Was the USGS vegetation compared to current orthoimagery to verify if the depicted tree cover layer is**

**accurate and reflects existing development patterns? (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: The desktop mapping was used only as guide when performing the actual VIA. As stated in the Section 3.7 and Appendix 11 of the DEIS, field reconnaissance was performed in the entire study area after the potential visibility mapping was completed, and prior to actually performing the VIA field work (balloon flight and photography) in order to confirm those locations in the study area from which the project site was visible. During both the initial field reconnaissance and the actual VIA field work, the entire study area was evaluated on the ground for potential views into the project site.

**2. Section 4.B. NYSDEC Visual Policy Resource Inventory**

**The VIA was prepared in accordance with the methodology outlined in NYSDEC Program Policy DEP-00-2 *Assessing and Mitigating Visual Impacts*. This Policy Purpose notes: “This memorandum provides direction to Department staff for evaluating visual and aesthetic impacts generated from proposed facilities. This guidance defines State regulatory concerns and separates them from local concerns. There is nothing in this program policy that eliminates or reduces the responsibility of an applicant to local agencies to address local visual or aesthetic concerns.”**

**The NYSDEC Policy is very clear that local resources must be evaluated in addition to those of statewide significance. Why does the VIA limit its Resource Inventory to the 15 categories of aesthetic resources of statewide significance listed in the DEC Policy, and not consider resources of community importance identified at the local and regional level?**

**The Town of Windham Comprehensive Plan (2002), Mountain-top Community Recreation, Cultural Resources and Scenic Quality Strategy (2009), and Generic Environmental Impact Statement on the Development Capacities of the Town of Windham (2009), include listings and maps of resources of local importance.**

**A more comprehensive Resource Inventory may have identified other potential viewpoints of local importance, such as those listed below:**

- **Property on or eligible for the National or State Register of Historic Places**  
The VIA notes there are four sites on the National Register within the study area. However, the Greene County Historical Society has included twenty-four Town of Windham sites listed on the Greene County Historical Register. In addition, the Town of Windham has identified two historic districts located on Main Streets in Windham and Hensonville that should be protected and preserved. Development within these historic districts requires review by the Town’s Architectural Review Board.
- **State Parks**  
Although there are no State Parks in the Study Area, there are several community parks and recreation facilities including the Clarence D. Lane

**Park in Maplecrest, the Town Baseball Field on South Street, and the Windham-Ashland-Jewett School outdoor recreational facilities.**

- **Urban Cultural Parks (now State Heritage Areas)**  
**It should perhaps be noted that Greene County, including the Town of Windham, is part of the Hudson River Valley National Heritage Area.**
- **State Forest Preserve**

**A significant portion of the Town of Windham and the five mile Study Area falls within the Catskill Park, including the entire area south of the Batavia Kill in the Hamlets of Windham and Hensonville. The Windham High Peak Wild Forest (Elm Ridge) and the Blackhead Range Wilderness encompass four peaks above 3,500 feet. Hiking trails to each of the four peaks and throughout the preserve offer hikers the opportunity to explore the park. These include Long Trail, Elm Ridge Trail, and Black Dome Trail and the Escarpment Trail. (It would be helpful to show the Catskill Park Boundary and public trail systems on Figure 4, *Zone of Potential Visibility Map*.)**

**Northern areas of the Town that lie outside the Catskill Park also have State Forest recreational opportunities available to the community. Portions of the Ashland Pinnacle, Mount Pisgah and Mount Hayden State Forests fall within the Town.**

- **A highway designated or eligible for designation as scenic**  
**Figure 4 shows two segments of Mitchell Hollow and Sutton Roads, on the northern boundary of the Study Area, designated as NYS Scenic Byways. NYSDOT's website <https://www.dot.ny.gov/display/programs/scenic-byways/ScenicRoads-no-detailed-info> and the Mountaintop Community Resource Inventory indicate there are also several sections of NYS Designated "Scenic Roads" within the study area: 0.45 miles of NYS Route 23 (The Mohican Trail) and 1.4 miles of Mitchell Hollow Road. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: In response to the question as to why the VIA limits the Resource Inventory to the 15 categories of aesthetic resources of statewide significance listed in the DEC Policy and not consider resources of community importance, the response is that the sites identified by the Lead Agency, the Town Planning Board, in the Scoping Document were assessed. The entire study area and all of its resources, including local resources, were evaluated as part of the VIA. The viewpoints that were used in the VIA were selected based on input from the Windham Planning Board. In an August 15, 2011 memo Delaware Engineering advised the planning Board that their selection/confirmation of viewpoints should take into account important views from within the Town.

In response to the statement that it would be helpful to show the Catskill Park Boundary and public trail systems on Figure 4, Zone of Potential Visibility Map, it is noted that Public Forest Preserve and other State Forest Lands are crosshatched on Figure 4 and the hatching is included in the legend on Figure 4. Trails are included on the mapping on Figure 4 as typical



USGS map designation symbols of dashed lines. The “blue line” for the Catskill Park boundary is irrelevant to the VIA since the entire study area, both inside and outside of the blue line, was evaluated.

### 3. Viewshed Impact

**Although the context and significance of each of the ten selected views is discussed in the VIA, several discussion items listed in the Scoping Document are not addressed and should be in the FEIS. These include:**

- (1) a discussion of the numbers and types of people to be affected
  - (2) the duration of views that can be expected
  - (3) the nature of the visual change and the public’s reaction to such change
- the visual impacts of the project as they relate to the NYSDEC Catskill State Park Land Master Plan. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: The following contains available data for each of the viewpoints and for items (1), (2) and (3) above. Where data was not available the information provided below is based on knowledge of the area along with best judgment.

#### Viewpoint 1 along Escarpment Trail in Forest Preserve

(1) Hikers who leave the marked Escarpment Trail and walk out the herd path will experience the view. Data on the approximate number of users is from the 1994 UMP for the Windham High Peaks that was reused in the 2009 UMP for the Elm Ridge Wild Forest UMP. Data is from trail registers where signing in is voluntary. In 1992 there were 824 sign ins on the north end of the section of the Escarpment Trail (Burnt Knob Acra Point) and 1250 sign ins at the south end (Elm Ridge), for a total of 2,074 sign ins. The number of Elm Ridge sign ins that pass the point of interest will be lower than the 1250 total since some hikers may choose to turn east off the Escarpment Trail and enter into the Windham Blackhead Range Wilderness Area. For the purpose of this assessment assume 75% that enter stay on the Escarpment Trail. This would be 938 from Elm Ridge and a total of 1,762 total passing the herd path view point from both access locations. Assuming 10% will use the herd path and not pass by it means 176 people per year would experience this view.

(2) When the VIA photos were taken in April 2009, there was a clear view in the direction of the site. It is possible that the vegetation in the foreground (branches) may now partially obstruct views. If this is not the case, the view will be year round.

(3) The nature of the change in view during ideal viewing conditions is described on page 32 of the VIA (DEIS Appendix 11) as being bordering on imperceptible. Because of this, it is not expected that there will be a change in the public’s reaction.

#### Viewpoint 2 near Long Path in State Forest (non-Forest Preserve)

(1) Hikers may experience this view during leaf-off conditions. The only sources of user numbers are from the same UMPs mentioned above that list 52 sign-ins at the trail register in a 3 month period. Which 3 months of the year was not specified in the UMP. Using the average rate of 17 per month for 12 months is 204 per year. There is no UMP information on the variation in use by season. Assuming 1/3 occurs in the 5 months of leaf off (November to April) period equates to 68 hikers that could be affected.

(2) - This view is expected to be experienced from fall through winter into the spring months during leaf-off conditions.

(3) The nature of the change in view is described on page 33 of the VIA as being insignificant. Because of this, it is not expected that there will be a change in the public's reaction.

#### Viewpoint 3 Church St. near Centre Church

(1) Southbound vehicles and pedestrians on Church Street would experience this view. No published information could be located on potential number of viewers expected. The Traffic Study (DEIS Appendix 13) has traffic counts during the peak Friday Hour period and the Peak Sunday Hour period. These included 74 vehicles on Friday and 124 vehicles on Sunday. These are peak hour numbers in the evening, on a holiday weekend, when Windham Mountain is in operation. Numbers will vary by time of day and by season.

(2) The duration of the View for drivers traveling at typical speed is approximately 10 to 15 seconds year round.

(3) The nature of the change in the view is described on page 35 of the VIA as being significant. The reaction of the public to the change in the view will vary. Some people will view it as a positive change from the standpoint that the Town's planning goals of developing lands near Windham Mountain for second homes have been realized. Others may negatively view the introduction of additional development on a currently wooded hillside adjacent to the ski area.

#### Viewpoint 4 South Street at Trailside

(1) Vehicles traveling eastbound and westbound on South Street will experience this view. The DEIS Traffic Study had 209 cars (both directions) in the Friday peak hour and 625 vehicles in the Sunday peak hour. Numbers will vary by time of day and by season.

(2) There is about 650 feet of frontage on South Street where this view can be had. At the posted speed limit of 45 miles an hour, this equates to a view-duration of approximately 10 seconds. Actual view durations will be year round and will vary some due to vehicles traveling slower or faster than the posted speed limit.

(3) See the VIA in Appendix 11 for the description for the change in the view. The public's reaction will vary as described above for the Church Street viewpoint.

#### Viewpoint 5 Route 23 near Police Camp

(1) Vehicles traveling westbound on NY Route 23 will experience this view. NYSDOT's website has an average annual daily traffic for this area as 2,632 vehicles. Assuming an even directional split yields 1,316 westbound vehicles per day. Assuming that 80% of this traffic occurs during daylight hours, 1,053 vehicles per day will experience this view.

(2) Video shot while doing the VIA field work and driving along NY Route 23/Main Street from East Windham to the west end of Main Street shows that the duration for this view at typical driving speeds on Route 23 is approximately 55 seconds, with year round views into the site being interrupted on a few occasions, mostly by roadside vegetation.

(3) The nature of the change in this view is described on page 36 of the DEIS. Public reaction to the change will be similar to that of the reaction from the Church Street viewpoint and the South Street viewpoint - some people will view it as a positive change from the standpoint that the Town's planning goals of developing lands near Windham Mountain for second homes

have been realized. Others may negatively view the introduction of additional development on a currently wooded hillside adjacent to the ski area.

#### Viewpoint 6 Route 23 near Pelham Lane

(1) (2) and (3) for this viewpoint will be the same as or very similar to that for Viewpoint 5 above with the differences being a shorter view duration, approximately 20 seconds year round, and that this viewpoint is a mile further away from the project site.

#### Viewpoint 7 Route 23 near Settlement Road

(1) Eastbound travelers on Route 23 will experience this view during leaf-off conditions, and using NYSDOT AADT data and the same assumptions as those used for viewpoint 5, approximately 1,053 vehicles per day will experience this view.

(2) View duration is 10 seconds or less during the fall and winter months of the year.

(3) The nature of the change in the view is described on page 38 of the VIA and the reactions of people to the change in view will be either positive or negative as described previously.

#### Viewpoint 8 Route 296 at Cuomo's Cove

(1) The very few elements of the project visible from this location will be seen by vehicles traveling on NY Route 296 between Windham and Hensonville. Information from NYSDOT for this section of road is an AADT of 2,071 vehicles. The view will occur both northbound and southbound and using the 80% daytime (vs. nighttime) travelers yields 1,657 vehicles.

(2) Year round view duration is approximately 10 seconds or less under the posted speed limit.

(3) The change in view is very insignificant and is unlikely to elicit any reaction from the affected public.

#### Viewpoint 9 Maplecrest Road at Barnum Road

(1) Vehicles traveling northeast on Maplecrest Road (CR 40) will be experience this view. NYSDOT AADT data shows 143 vehicles. Assuming a 50/50 northeast/southwest split, and with the 80% daytime travelers equates to 57 vehicles per day that would be affected.

(2) Seasonal view duration is less than 10 seconds.

(3) The view is nearly entirely screened by vegetation so reaction by the public is likely to be very little to none.

#### Viewpoint 10 Mitchell Hollow Road near Larsen Road

(1) Motorists traveling southbound will experience this view. Based on NYSDOT AADT and the directional and daytime/nighttime assumptions used previously, travelers in 195 vehicles a day would be affected.

(2) View duration is approximately 10 seconds on a year round basis currently, but the potential growth of foreground vegetation may limit this view in the future to seasonal. .

(3) Only that portion of the project closest to the existing ski area trails will be visible, so it is likely that there will very little public reaction to the change in the view.

- 4. The visual analysis appears to be complete and the mitigation measures proposed appear to mitigate potential visual impacts. Mitigation cited in the DEIS included preservation of existing vegetation, underground utility extensions, building design, structures to be below the horizon, exterior colors compatible with**

**vegetation and terrain, linear layout of structures so mass is reduced, conservative directional exterior lighting. (NYSDEC, April 30, 2012 letter)**

Response: Comment noted – no response required.

### **3.9 Sound Resources (DEIS Section 3.8)**

- 1. Page 3-66 in Section 3.8.4 provides a noise complaint procedure. While in general, the noise complaint procedure is adequate, several modifications should be considered. The DEIS states that the procedure will be in place during the first two years of construction. While it is assumed that the site roads and infrastructure will be constructed during this duration, it is clearer to state that the procedure will be in place during the construction of site roads and infrastructure, rather than an arbitrary timeframe. In addition, the timeframe should be amended to incorporate any time during which blasting will occur on site, regardless of the purpose (e.g. Phase 1, 2 or 3). The written complaint log containing the date of complaint, name and contact information for the complainant, any follow-up contact and resolution should be provided at the end of each month to the Town of Windham Police Department. The reason for this is that it is very common for residents with noise complaints to attend Town Board meetings, and it often resolves many issues if the Town is aware of the concerns prior to each monthly meeting. The statement that the applicant has ‘sole discretion’ to determine if corrective action is required seems at odds with the statement that the complaint procedure will not limit other remedies of the Town or any other person or organization with regard to noise conditions at or around the WMSC site. While it is understood that noise is an inevitable result of construction and that it is short in duration, the Town has a duty to protect the health, safety and welfare of its residents; remedies may be required. Please clarify these two statements that appear to be at odds. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The following changes address the Planning Board’s comments.

#### **3.8.4 Mitigation Measures**

- 1. The Applicant will establish and comply with the following noise complaint procedures:**
  - a) During the construction of Phase 1 infrastructure, including roads, as well as during blasting for all phases of construction the Applicant will maintain a telephone complaint line during its hours of operation. Upon receipt of a complaint regarding noise allegedly generated by construction activities, including blasting operations, on its construction site, whether written or oral, the Applicant will enter a record of the complaint in a log maintained for that purpose.**

- b) Within four hours of receipt of the complaint, the Applicant will investigate the alleged noise problem and respond to the person who complained.
- c) In the event that the Applicant determines that corrective action is required, such corrective action will be promptly implemented and a note of such action will be entered in the log.
- d) If the Applicant cannot promptly identify and correct the cause of the noise complained of, the person who complained will be invited to inspect the site, with a company escort, to assist in identifying the source of the problem. Upon completion of any corrective action, the person who complained will be invited to inspect the site, with a company escort, to observe the corrective action.
- e) The complaint log will be kept at the site, and will be available for inspection by the Town. A copy of the log will be provided to the Windham Police Department on a monthly basis.
- f) This complaint procedure will not limit the other remedies of the Town, or any other person or organization with regard to noise conditions at or around the WMSC site.

### **3.10 Land Use and Community Character (DEIS Section 3.9)**

1. **The WMSC project is highly consistent with existing patterns of land use and the character of the Town of Windham as supported by the Town's GEIS. No comments. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Comment noted – no response required.

2. **The DEIS notes that, "...it is unlikely that the proposed project would result in new secondary development impacts or business growth that would have any significant impacts on land use or community character in the Town." If the project was strictly meant to be a winter-based residential community than perhaps it would not result in any noticeable secondary development impacts; however, the applicant has made it clear that this is meant to be a "four season" year-round residential community. As a consequence, it would seem that if the full development potential is achieved on a year-round basis that there would logically be some land use impacts in the Town. (NYCDEP, April 30, 2012 letter)**

Response: The Applicant has stated that this project is intended to be a four-season resort, a land use that is strongly supported by the Town's GEIS. However, the Applicant has not proposed the project as a year-round residential community. The project is proposed as second homes that the Applicant and Town hope will be utilized during all times of the year, and not just in the ski season, for short-term weekend, holiday and/or vacation stay visits. This type of occupancy differs from year round residency. The effect of the project's second home visitors would be seen as increased business in existing business establishments – restaurants, grocery stores, etc., and it is

extremely unlikely that the level of activity would stimulate land use changes, such as new commercial or residential development.

### **3.11 Community Services (DEIS Section 3.10)**

- 1. The Community Services section of the DEIS focuses largely on conditions and potential impacts to the Windham Ashland Jewett School District. The analysis of the impact to the school district appears reasonable given the existing conditions in the District and development patterns in the Town with respect to the number of primary and second homes expected at the WMSC project.**

**This section also briefly mentions that letters to serve were provided by the Town Police Department and EMS services; however, the letters indicated that potential impacts would be identified during the SEQR process. Review of the proposed project in consideration of current conditions with respect to police and emergency services has revealed two comments.**

**The first comment is that a need has been identified by the Town in the GEIS for improved cellular communications specifically in the Hamlet of Hensonville. The WMSC project will be increasing the population using cellular services in the vicinity of the Hamlet of Hensonville due to travel of owners and guests to and from the WMSC project. Due to this, the cooperation of the project sponsor is sought in improving cellular communications in this area of the Town. The referenced cooperation could be in the form of assisting the Town in evaluating potential locations for telecommunication facilities on the project site and/or non-financial support for the installation of such facilities on adjacent properties. The provision of enhanced cellular coverage in the Hamlet of Hensonville would improve emergency communications in the Town and benefit owners and guests of WMSC. The second comment is that emergency services representatives will review the site plans for the project during the Town Planning Board's site plan review primarily for vehicular access and the location of fire hydrants, etc. Specific requirements in these regards will be identified during the site plan review process.**

**In addition to the police, emergency and educational services provided by the Town and/or School District, the Town of Windham provides a number of recreational services and community facilities, the existing conditions, potential impacts and mitigation measures for which have not been included in the DEIS. Consistent with the comments offered regarding Section 1, the FEIS should identify the existing recreational and community facilities provided by the Town of Windham, discuss potential impacts and offer mitigation measures. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

The Windham Town Board is committed to establishing viable cellular and internet service to the hamlet of Hensonville and surrounding areas. This service will solve an existing safety and quality of life issue currently facing the Town. A propagation study to determine how this

service may be provided to Hensonville and the surrounding areas has not yet been performed. However, given the topography and nearby location of the WMSC site it is possible that an opportunity exists for one or more cell towers to be situated on the WMSC property and thereby greatly assist with the provision of service. The WMSC Applicant is willing to provide a suitable location or locations on the WMSC property for the siting by the Town of a tower(s), small support building (s) and construction and maintenance access. Any future actions that may involve telecommunications facilities located on the WMSC site would be a separate action under SEQRA and involve a separate SEQRA review with the applicant being a cell tower company, a cell service provider or possibly the Town of Windham.

Potential impacts to recreation facilities are described in response to comment 1 in section 3.12 (see below). No significant impacts have been identified, so no mitigation measures are necessary. As a community benefit, the Applicant has consented to having a section of trail located on the southwest part of the project site in the vicinity of Windham Mountain's World Cup and Wicked ski trails and east peak lift top terminal that would then proceed off the property to the southeast if circumstances arise that make such an opportunity feasible.

### **3.12 Socioeconomics (DEIS Section 3.11 and Appendix 14)**

- 1. This section of the DEIS and the associated Appendix largely address the economic impacts of the proposed WMSC. On its face, the analysis is extremely positive with the generation of direct, indirect and induced contributions to the local, regional and state economy. While there is no argument that the construction of the WMSC or any portion thereof will generate taxes, employment and spending for local, regional and state jurisdictions, the DEIS does not identify any commensurate costs associated with the provision of services and/or the use of local and regional facilities. As discussed in comments regarding Section 1 of the DEIS, the tax generation potential is not tempered by the resulting cost of services. While a Cost of Services analysis is not requested, the WMSC project assumes that owners and guests will utilize local retail and commercial shops and it is reasonable to also assume that these same people will utilize local community facilities. The increased use of communities facilities is encouraged by the Town in the GEIS; consideration of the demand for and impacts to community facilities such as recreational facilities should be included in the FEIS. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: The 2009-2013 New York State Comprehensive Outdoor Recreation Plan (SCORP) (NYS Office of Parks, Recreation and Historic Preservation, 2008) provides an assessment of recreation within New York State. The following recreational activities are included:

- Parks – picnicking, playgrounds, general day use
- Swimming
- Biking
- Golf

- Walking
- Tennis
- Court games
- Field games
- Horseback Riding
- Camping
- Hiking
- Boating
- Fishing
- Hunting
- Nature Study/Bird Watching
- ATV
- Cross Country Skiing/Snowshoeing
- Downhill Skiing
- Snowmobiling
- Skating & Sledding

Opportunities for some of these recreational activities will occur at WMSC, including swimming, biking, walking, tennis, court games, camping, hiking, nature study/bird watching and cross country skiing/snowshoeing.

Opportunities for some of these recreational activities are available at existing local commercial operations including golf, horseback riding, cross country skiing/snowshoeing, downhill skiing, snowmobiling and skating and sledding.

The availability of the nearby NYS Forest Preserve lands and other State owned land or easements provides opportunity for biking, walking/hiking, camping, fishing, hunting, nature study/bird watching and cross country skiing/snowshoeing.

Thus, most recreational needs of WMSC members are expected to be met by use of facilities or locations other than Town facilities. The possible exception to this would be the Parks and Field Games categories from above. It is likely that this need would be met at the Town's Clarence D. Lane Park. Here there is opportunity for swimming, canoeing and fishing in C.D. Lane Lake, playing sports, including on the outdoor basketball court and baseball field, as well as picnicking at the park pavilion. While it is quite likely that a family or a few families from WMSC may visit the park on any given day, it is expected that this limited additional use can be accommodated at the Park.

2. **Mr. Higgins stated that he believes that WMSC is an environmentally sensitive project that should be supported due to the resulting construction and operation jobs that will be generated for local people. (Alan Higgins, April 5, 2012 public hearing comment)**

Response: Comment noted – no response necessary.



3. **Mr. Jordan stated that development projects in the Town of Windham generate significant tax revenues. He stated that the Enclave is located on 2.5 to 3 acres of land and Whisper Creek generates is located a 2 acre on parcel and together these developments generate more than one million dollars in taxes. The WMSC project will generate significant taxes with little demand for services. (Dick Jordan, April 5, 2012 public hearing comment)**

Response: Comment noted – no response required.

4. **There are a variety of concerns related to the potential for induced growth associated to the WMSC. These include demand for new residential housing, development of additional commercial space along NYS Routes 296 & 23, and conversion of some residential structures to non-residential uses. As a result of this development a number of natural resource impacts are likely to occur, which would have the potential to adversely affect water quality. Potential alterations to natural resources include land clearing for residential and commercial units, addition of impervious surface through paving of roads, driveways, and parking lots, and conversion of forest to landscaped areas, which would increase sedimentation, pesticide use, phosphorus and other contaminant loads within the watershed. (NYCDEP, April 30, 2012 letter)**

Response: Secondary and cumulative impacts were addressed in Section 7 of the DEIS and summarized in Section 7.4. AKRF, the Applicant's socioeconomics consultant, stated the following in section 7.4.

“Based upon this analysis, it is not expected that the WMSC will have any significant impacts on the Windham area economy or patterns of land use. As noted above, the response of existing businesses will be seen in increased hours and/or days of operation, increased customer traffic, and increased inventory and product turnover. To the extent that the Resort directly stimulates new business growth, the analysis shows that it will likely be accommodated by expansion or improvements to existing businesses, or the re-occupancy of existing vacant commercial spaces in Windham, Hensonville, and other nearby commercial centers. It is not anticipated that there will be a significant amount of new construction, if any at all.”

“Since the WMSC is estimated to result in negligible new seasonal or year-round housing construction, the impacts to housing and land use are anticipated to be insignificant. Virtually all of the employees of the project are expected to come from within a regional labor pool, with very few relocating to the Windham area. Those who will relocate include the top mid- to upper-management positions, and it is expected that these employees will either rent or purchase existing homes, even if some do, however, the impacts from a few individual housing starts is not expected to be significant. These employees are unlikely to build new homes, although it is possible that a few might. Regardless, it will be a very small number.”

Moreover, should any new employees consider construction of new homes, there are several residential housing developments for which all permits and approvals have been issued that have building lots available, the impacts of which have been considered in other SEQR proceedings.

### **3.13 Cultural Resources (DEIS Section 3.12 and Appendix 12)**

- 1. The DEIS contains a Phase 1A Literature Review and Archaeological Sensitivity Assessment as well as a Phase 1B Archaeological Field Survey and Reconnaissance.**

**The Phase 1A report was generated as a result of a site file search, literature review, historic and slope map research. The report states that the probability of encountering prehistoric and historic cultural materials within the project site is low to moderate. Documentary and physical evidence of historic uses of the site for lumbering, tanneries, asheries, and distilleries were noted. In addition, the geology could support pre-historic rock shelters. For these reasons, a Phase 1B Field Survey covering an area of approximately 92 acres with excavations at a 50 foot (15 m) interval on testable and marginally testable land was recommended and completed.**

**The Phase 1B study included the excavation of 633 soil test pits (STPs) on 62 transects within the project area as well as an extensive visual survey conducted by walking the project area, including inspection of large rock outcrops and overhangs. Of the total number of STPs, 9.8% were excavated in natural subsoil levels while the majority of which were terminated in shallow soil layers due to the presence of water (56.7%) and bedrock (30.2%). Testing was not conducted on steep slopes or in the presence of water bodies or wetlands. Also excluded from testing were areas of visible disturbance including grading and filling associated with ski trail and ski lift infrastructure.**

**No significant cultural resources were documented as a result of the Phase 1B study. There were no prehistoric rock shelters or camps, and there was no evidence of important historic land uses. On February 8, 2012, the State Historic Preservation Office (SHPO) issued a letter stating that the WMSC project will have No Impact upon cultural resources listed or eligible for listing on either the State or National registers of Historic Places.**

**Based on review of the materials in the DEIS and the letter from SHPO, we offer no additional comment. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: Comment noted – no response required.

#### **4.0 Unavoidable Adverse Environmental Impacts (DEIS Section 4)**

- 1. This section lists a group of unavoidable adverse environmental impacts to land, water, wetlands, flora and fauna, community character and services, aesthetics and infrastructure. Mitigation measures have been or will be (based on comments regarding the DEIS) provided to the extent practicable. No comments. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: Comment noted - no response required.

- 2. Section 4.2 notes that the "The project will also utilize the Town of Windham municipal wastewater collection and treatment system. Full build-out of the project, which is projected for 15 years, may not be accommodated by the Town's wastewater treatment plant's current treatment capacity; however, because the project has a long projected timeframe for build-out, and because each unit that is built on the project will be required to pay a fee to connect to the Town's system, the project, in conjunction with other development proposals in the Town will generate the revenues needed to increase the capacity of the Town's wastewater treatment plant to accommodate the project in its entirety." If expansion of the WWTP is an anticipated impact from the project, the project sponsor should be required to assess the necessary modifications to the wastewater treatment plant within the DEIS. Absent that analysis, the proposed development should be downsized to fit within the wastewater capacity under the existing SPDES permit. (*NYCDEP, April 30, 2012 letter*)**

Response: The project has been downsized for reasons unrelated to the Wastewater Treatment Plant capacity. The anticipated maximum daily flow shown in the DEIS was 94,024 gpd. Plan revisions have reduced the anticipated maximum daily flow to 74,284 gpd. The analysis presented above (in response to comment 10 in Section 3.4) shows that the Windham Wastewater Treatment Plant has the capacity to accommodate the proposed development, along with other proposed developments in the Town and additional connections within the district, without the need to for modifications to the plant.

- 3. Section 4.4 discusses the extent of impacts to flora and fauna in a general way but does not provide specific information regarding the number of acres expected to be re-forested following construction, converted to native grass and wildflower meadows, vegetated with grass lawns and/or landscaping plants, allowed to grow through ecological transitions from field to shrub to forest communities, etc. Value of native plant materials and successional habitats should be evaluated (at least qualitatively) in terms of their contribution to maintaining and enhancing wildlife diversity in the region while areas converted to non-native vegetation can be better evaluated in terms of lost values. (*NYCDEP, April 30, 2012 letter*)**

Response: DEIS Section 4.4 discusses the extent of impact at the level of detail possible at this stage of project planning. As discussed in various locations in the DEIS, development plans for each of the lots, including revegetation/planting plans, will be designed by a licensed landscape architect and then approved by the ARB prior to construction. Cumulatively, these lot plans will determine how much and of what types of revegetation takes place on the site. From a regional habitat perspective, the amount of project disturbance and revegetation is insignificant. New York State has purchased and set aside hundreds of thousands of acres of Forest Preserve in the region and New York City has purchased and continues to purchase lands that will remain undeveloped in the region. To date New York City has purchased over 100,000 acres.

- 4. The project should be modified to reduce the numerous disturbances within 100 feet of wetland areas. Construction within the wetland buffer can negatively impact the buffer and associated wetland and decrease the wetlands ability to provide water quality protection. The EIS should assess these impacts and avoid or minimize them to the extent practicable. (NYCDEP, April 30, 2012 letter)**

Response: As stated in section 2.1.1 of the DEIS, “The project design is responsive to site development constraints imposed by natural resource conditions on the project site, primarily steep slopes, watercourses under the jurisdiction of NYCDEP and wetlands under the jurisdiction of the USACOE.” Also Figure 2-6 of the DEIS illustrates the project master plan in the context of USACOE jurisdictional wetlands, NYCDEP watercourses and the regulated setbacks from the watercourses. (Note: the USACOE does not establish a regulated setback/buffer around wetlands that are under their jurisdiction.). Figure 2-6 shows that nearly all project elements are located some distance from wetlands, and none of the project buildings are within the regulated 100 foot buffer around NYCDEP jurisdictional watercourses. .

An exception to this is the East Base Lodge which is nevertheless located greater than 50’ from a USACOE wetland. However, this occurs on one of the flattest portions of the project site, and development is proposed at the same elevation as the wetland, and not uphill of the wetland. These factors significantly reduce the potential for this wetland to be impacted.

## **5.0 Alternatives (DEIS Section 5)**

- 1. The DEIS lists the range of alternatives requested with the Scoping Document and provides responses to each requested alternative analysis to varying degrees of detail.**

**It is understood that the project sponsor does not own and does not have any option to purchase additional lands for the project. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Comment noted – no response required.

2. **The discussion of alternative uses of the site on Page 5-1 appears reasonable; however, it is noted that the project sponsor's cost of purchase of the land appears to have been based on a highest and best use that may or may not come to fruition which eliminates a number of alternatives from consideration including silviculture and active/passive recreation. It is noted that the project master plan provides for a development footprint of no more than 30% with 70% of the project acreage dedicated to open space. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The discussion on page 5-1 simply presents the facts in existence at the time the DEIS was written. The land had already been purchased, and that fact is relevant to an assessment of feasible alternative uses.

3. **The discussion of a reduced infrastructure demand option seems to avoid the obvious means to reduce the infrastructure demand which is to construct only Phase 1 of the development. Phase 1 is compact and provides for 145 units plus amenities. The FEIS should provide a justification as to why the reduced infrastructure demand alternative presented in Section 5 is appropriate for this analysis. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: The reduced infrastructure demand option as identified in the comment (Phase One of the proposed plan) is not feasible from a financial perspective and while lesser infrastructure demand may be achieved, Phase 1 nevertheless is a significant construction effort with commensurate land disturbance as outlined herein.

The physical constraints of the land area result in a cost to develop that cannot be financially successful without anticipation of later phases of build-out to overcome initial subsidizing of infrastructure costs. In addition, the Phase One area is highly amenitized and encompasses larger structures and their associated capital costs, with limited returns on initial investment.

The 50,000 gpd alternative examined in the DEIS provides a large enough physical plan, a more economically-positive product mix and expanded distribution of infrastructure fiscal costing, resulting in a business model with return on investment to offset financing cost.

Comparison between the Phase 1 only plan and the 50,000 gpd alternative in the DEIS should be made on a broader basis than infrastructure demand only. Physical impacts of the site must also be a part of the comparative analysis of reduced infrastructure demand and reduced physical impacts. The Applicant's reduced demand option, as proposed, provides for less impacts to slopes in excess of 25% and less visual impacts due to vegetation removal (based on the alternative plan proposed changes in product types), than the alternative Phase One areas, alone, and less perceived storm water run-off on steeper grades due to less impervious surface area, as well, while providing a reasonable economic return.

4. **The integral phasing plan provided in the DEIS and discussed as an alternative in Section 5 is well conceived and should be beneficial to the Town and the project sponsor. The phasing plans provided in Section 5 do not appear to match the description of the project provided in Section 2 of the DEIS. The FEIS should correct any inconsistencies or provide explanation as to why the plans are not consistent. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: The proposed phasing plan is Figure 5-4 in Section 5 of the DEIS. (Figures 5-3a through 5-3c were the alternative phasing plans that were originally proposed as part of the sketch plan submission and are superseded by the phasing in Figure 5-4.) Figure 5-4 is the same as Figure 1-7 that is referenced in Section 1.2.2, Project Phasing, and the description in section 1.2.2 is consistent with what is shown on the figure.

5. **The alternative involving no road waivers appears to show that additional environmental impact would occur to avoid the road waivers and there is not a commensurate benefit for such disturbance. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: Comment noted – no response required.

6. **It is understood that the no-action alternative would not generate any benefits or impacts associated with any of the build alternatives including the proposed master plan. It is noted that the project sponsor could sell the land to any number of persons or entities. It is further noted that while the WMSC project is preserving 70% of the site as open space without public access, sale to the NYCDEP and/or a land trust would preserve 100% of the land as open space, likely with public access for passive recreation. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: Comment noted – no response required.

#### **6.0 Irreversible and Irretrievable Commitment of Resources (DEIS section 6)**

1. **This section lists the irreversible and irretrievable commitment of resources to the project, including the land, building materials, water resources, etc. No comments. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: Comment noted – no response required.

#### **7.0 Growth Inducing, Secondary and Cumulative Impacts (DEIS Section 7)**

1. **This section of the DEIS discusses anticipated growth inducing, secondary and cumulative impacts that could result from the WMSC project. The nature of the anticipated positive impacts include an increase in demand for local retail and**

**commercial services, without a commensurate negative impact on housing stock, schools, etc. The type of impact anticipated from the demand for local retail and commercial services is welcome in the local community as demonstrated in the Town of Windham GEIS. The negative cumulative impact of this development is with respect to traffic on South Street, particularly at the intersection of South Street and Route 296. Comments regarding this impact are provided in Section 3.6. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Comment noted, please see the responses provided in FEIS Section 3.7, Traffic and Transportation.

- 2. This section of the DEIS notes that the proposed project has the potential to result in growth inducing effects pertaining to new housing and commercial development. Section 3.11 (Secondary Growth Impacts) seems to make light of this. There does not appear to be any information in the DEIS on the actual costs of secondary and cumulative impacts associated with the proposed development. This information should be provided in a revised or supplemental EIS as presented at the beginning of this letter. (NYCDEP, April 30, 2012 letter)**

Response: The socioeconomic, fiscal, and secondary and cumulative impact assessments prepared by AKRF and included in the DEIS conclude that the potential for secondary and cumulative impacts is minimal. See response to substantially similar comment number 4 in section 3.12.

- 3. DEP also identified secondary impacts to water quality. DEP commented that 10% full time occupancy is not conservative. The DEIS should evaluate secondary impacts based on 100% full time residential use and 100% occupancy because the project does not include a restriction on full time occupation. Because of this, the number of school children, traffic generated, highway impacts and wastewater treatment demands are underestimated in the DEIS. (Joe Damrath, NYCDEP, April 5, 2012 public hearing comment)**

Response: See response to substantially similar comment number 2 in section 3.10. The market for this development is second homeowners. Most of the recent growth in the Town has been in seasonal housing units (GEIS Development Capacities of the Town of Windham, 2009). Section 3.10 of the DEIS provides documentation on how the 10% is a conservative, likely overestimation of full-time occupancy, including references to two studies of the socioeconomics of second home development.

## **8.0 Effect of the Proposed Action on the Use and Conservation of Energy (DEIS Section 8)**

- 1. This section described the use and conservation of energy. No comments. (Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo)**

Response: Comment noted – no response required.

**9.0 Consultation and Coordination (DEIS Section 9)**

- 1. This section lists entities contacted during preparation of the DEIS. No comments. (*Delaware Engineering on Behalf of the Windham Planning Board, April 30, 2012 Memo*)**

Response: Comment noted – no response required.