

Section 3.2 Water Resources

Comment 3.2-1-PHT: The water treatment plant and the water usage concern me as well. Some of those wetlands south of here are my land now, as is that stream. It's a healthy, vibrant stream. [Matthew Anderson, November 17, 2007 Public Hearing Transcript, pages 123-124]

Response 3.2-1-PHT: Please see Response 3.2-2-PHT.

Comment 3.2-2-PHT: I am concerned about the effluent that's going to be pumped into the creek from the proposed wastewater facility. I'm concerned about the capacity of the creek to carry it. The water is already overflowing the banks now because of the recent rains and snow melt. [Michael Chamberlain, March 5, 2008 Public Hearing Transcript, page 71]

Response 3.2-2-PHT: As a point of clarification, treated effluent from the WWTP will not directly discharge to the Amenia/Cascade Brook; it will be discharged to the existing island green pond. The WWTP will be designed to meet NYSDEC intermittent stream standards, which are the highest standards available in these regulations, and supplemental bathing beach standards,⁸ which adds additional constituents to be reviewed and monitored by the NYSDEC and the WWTP operator.

The NYSDEC regulates all discharges (including those to streams) from the WWTP and the stormwater management system through implementation of the State Pollution Discharge Elimination System (SPDES) permit process. The NYSDEC is and will continue to be closely involved in the permitting of the WWTP and the stormwater management system in order to closely review any impacts, whether direct, secondary or cumulative, on the quality of waterbodies on and downstream of the site.

To more directly respond to this question from a hydrogeologic perspective, current groundwater and surface water movement on the Silo Ridge site is generally from uphill areas to wetland and stream complexes downhill of the site along Route 22. Since the inception of the existing golf course, water has been removed from Silo Ridge's deep irrigation pond for irrigation purposes, seasonally intercepting a share of site groundwater and surface water to support an existing 18-hole golf facility. In large measure, this irrigation water has been a net loss to local aquatic environments since irrigation water is normally transpired to the atmosphere by the watered vegetation. The

⁸ See NYSDOH Regulations, Section 6-2.19, "Bathing Beach Design Standards," Item 4.11-1, "Bacteriological Quality," for the purposes of the WWTP design, and Section 6-2.15, "Water Quality Monitoring," Item (c), "Bacteriological Quality," for the purposes of WWTP operation.

current status of streams and wetlands down-gradient of the site is already in equilibrium with the use of this water for irrigation. During seasons when no irrigation is occurring, site runoff and groundwater flow to streams and wetlands along Route 22, and then off-site.

The proposed Silo Ridge project has been designed to minimize disruption to the established water cycle described above by reusing water removed for potable uses as treated effluent for golf course irrigation. In its simplest portrayal, the site's potable water infrastructure simply adds a potable water pre-use cycle ahead of the summer irrigation withdrawal. More than 80 percent of the potable water withdrawal will be returned to the environment near the irrigation pond area. During the non-irrigation seasons, groundwater and runoff will continue to flow to receiving streams and wetlands along Route 22, with a share of the groundwater discharge shifted to a surface water flow with return water from the potable water use. This arrangement will result in little net change to the site's wet-season or dry-season water budgets. Stated another way, the treated wastewater discharge to the island green pond will be almost fully off-set by a reduction in groundwater discharge to surface waters, protecting local streams and wetlands from any flooding increases.

It has been an intentional component of site design to consider and design the potable water needs of the Silo Ridge project as a water pre-use component rather than as a compounding new water use. The reuse of treated effluent generated from the potable water supply use all on the same site significantly minimizes any change to the dry season or wet season water budgets on the site or the budgets of water flowing to offsite streams and wetlands via surface water or groundwater pathways.

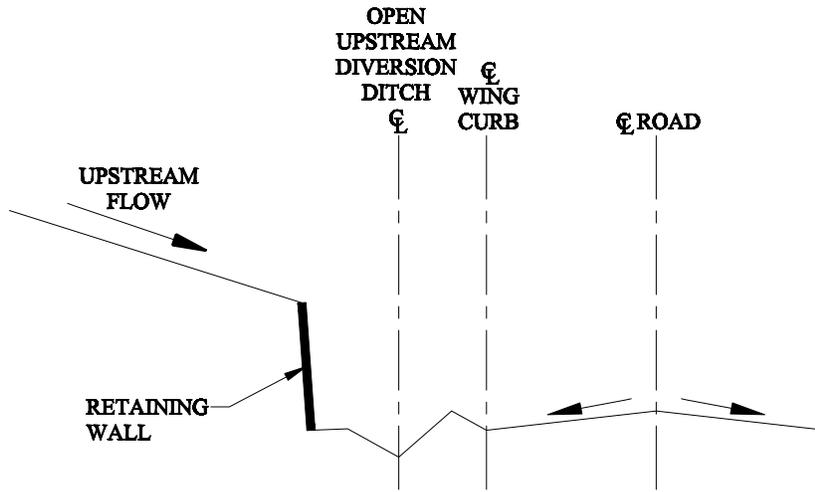
As agreed to during the April 22, 2008 meeting with the NYSDEC, the Applicant has completed an expanded explanation of this water budget analysis of the site in support of the NYSDEC SPDES permit application for wastewater treatment discharge and any Article 15 Stream Disturbance permit. In order to address concerns regarding climate change, the water budget was completed for a wet year, a dry year and a normal year. Please see Appendix J for the full water budget analysis.

Comment 3.2-3-PHT: I'm very familiar with agricultural chemicals, particularly those used for golf course turf maintenance, and they are extremely injurious to wetlands, lakes, aquatic life and habitats. If they expand the golf course, there are more issues related to that. [Cheryl Morse, November 17, 2007 Public Hearing Transcript, page 141]

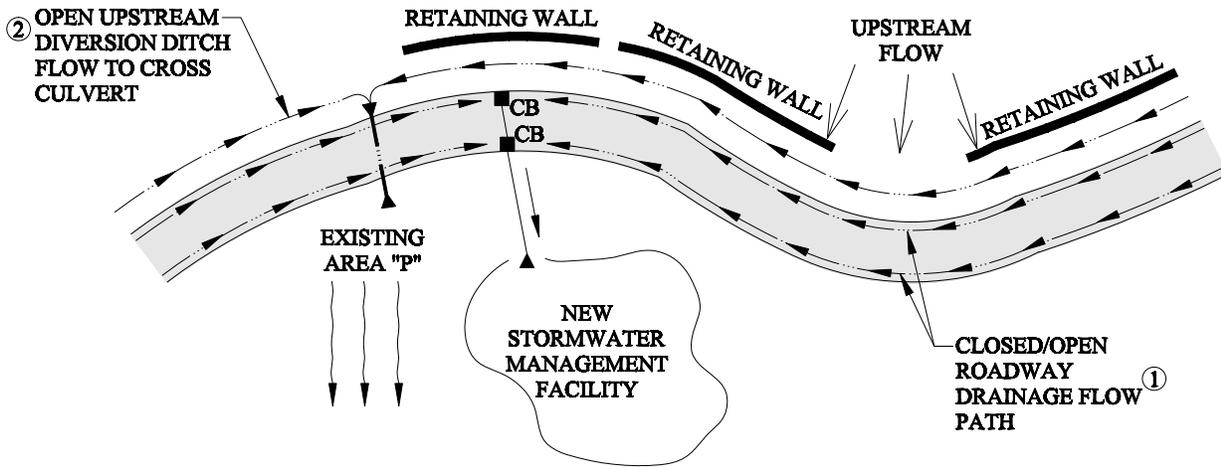
Response 3.2-3-PHT: Please see Response 3.1-1-PHT and Response 3.1-2-PHT. As a point of clarification, it is anticipated that the maintained portion of the re-developed golf course will be less than the existing golf course area currently being maintained, as explained in greater detail in Response 3.1-1-PHT.

Comment 3.2-4-33Y: Wetland P is identified on DEIS wetland map, but there is no discussion of it. It is not an isolated wetland because it has a connection to wetland "L". Wetland P appears to be a spring that supplies a small stream identified as wetland "M". Wetland P needs to be discussed in the DEIS because it is nearly surrounded by Block J single-family residences that are perched on the steep slopes within a few feet of the wetland. A road is proposed on the western side several feet above wetland P. These residences and the road should be evaluated as possible threats to this spring fed wetland. When the wetland was visited by members of the Planning Board in February 2007, there was water flowing from the spring and Dr. Klemens commented to the effect that it would be salamander habitat. The grading plan indicates that a great deal of construction will go on around wetland P including major alterations of already steep slopes surrounding the wetland. This should be discussed in the DEIS even though the wetland is a small one. The maps on the following pages shown the location of wetland P. [David Reagon, Letter, March 20, 2008, Comment Y, pages 19-20]

Response 3.2-4-33Y: Area P is identified within the DEIS as a stream that originates from the adjacent hillside as a seep. It is described in the DEIS in Table 3.2-1, "Stream Characteristics," as an intermittent NYSDEC Class C stream, approximately 2 to 4 feet wide with 0.5 to 3 foot banks and a silt/cobble bed. To minimize impacts to this stream corridor, the roadway and surrounding buildings are separated from the headwall of the stream by a 50 foot set-back area. In order to ensure that adverse impacts from development are minimized, hillside flows from natural areas are designed to be segregated from stormwater runoff from developed areas. Runoff from developed areas, such as the residences, the surrounding lawns, and paved surfaces such as the driveways and roadway will be collected and conveyed into the stormwater treatment system. Flows from natural areas will be directed into a grassed diversion swale located adjacent to the roadway and will be collected and discharged into the headwall of Area P. In this way, both the quantity and quality of flow into Area P will not be impacted by the development. Figure 3.2-1 provides a schematic detail of how the natural area flow path will be segregated from the roadside and developed areas drainage path.



1
TYPICAL SECTION
 FIG 2 SCALE: NONE



2
TYPICAL PLAN
 FIG 2 SCALE: NONE

NOTES:

- ① DRAINAGE FROM PROPOSED ROADWAY SYSTEM DISCHARGE TO NEW STORMWATER MANAGEMENT FACILITY.
- ② UPSTREAM FLOW ENTERS OPEN DIVERSION DITCH.

ALTERATION OF THIS DRAWING, EXCEPT BY A LICENSED P.E. IS ILLEGAL. ANY ALTERATION BY A P.E. MUST BE INDICATED AND BEAR THE APPROPRIATE SEAL, SIGNATURE AND DATE OF ALTERATION.

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SILO RIDGE RESORT COMMUNITY

UPLAND STORMWATER MANAGEMENT

TOWN OF AMENIA, DUTCHESS COUNTY, NEW YORK

drawn TAH	checked PR
date 05/15/08	scale NONE
project no. 10454.02	
sheet no.	

FIG 3.2-1

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Comment 3.2-5-34A: Regarding DEIS page 1-17, [t]he proposed action will disturb wetlands yet no mitigation appears to be offered for the wetland loss. The mitigation of 50 and 100 year storm event is inadequate in the current climate change scenario. [Dr. Michael W. Klemens, LLC, Letter dated March 18, 2008, Comment A, page 1]

Response 3.2-5-34A: With respect to the current Traditional Neighborhood Alternative, the subject plan does not disturb wetlands in support of stormwater management. A Master SWPPP has been developed in accordance with applicable NYSDEC regulations which include mitigation of the 50 and 100 year storm events. The SWPPP cannot be modeled to take into consideration a “climate change scenario.” This is because a) the NYSDEC regulations for SWPPP preparation are very specific about the storm events that are to be modeled; b) the “climate change scenario” is not defined and not predictable; and c) the NYSDEC stormwater management regulations do not require consideration of a climate change scenario. The Master SWPPP has been reviewed by the Town Engineer and it has been deemed adequate for SEQRA purposes. The Town Engineer and NYSDEC representatives will be responsible for review and approval of the detail SWPPP prepared in support of the site plan review process. In order to address concerns regarding climate change and the water budget, as discussed in Response 3.2-2-PHT, the water budget will be completed for a wet year, a dry year and a normal year.

No wetland impacts are proposed within the NYSDEC wetland or its 100-foot adjacent area. With regard to Amenia/Cascade Brook, there will be re-grading of the 4th fairway within 50 feet of the brook in the vicinity of an existing golf course fairway. With regard to federal wetlands, permanent impacts are proposed to less than 0.1 acre of regulated federal wetlands. Mitigation is being offered for the minor wetland impacts being proposed on the site. These mitigation measures include: NYSDEC buffer enhancement through replantings of a mowed area and removal of a cart path, restoration of approximately 400 linear feet of currently culverted streams on site, planting of buffer vegetation along Amenia Creek in the vicinity of the 4th fairway, and aquatic bench development around many of the ponds on the site. These mitigation measures will be described in greater detail in permit applications to the US Army Corps of Engineers (ACOE) and NYSDEC.

Comment 3.2-6-34B: Regarding DEIS page 1-18, DEIS, consideration should be given to an organic golf course and LID storm water management. [Dr. Michael W. Klemens, LLC, Letter, March 18, 2008, Comment B, page 1]

Response 3.2-6-34B: With regard to development of an organic golf course, please see Response 3.1-1-PHT. With regard to Low Impact Development (LID) stormwater management, Audubon International promotes these practices including stormwater management. Tailored to each individual property, Audubon recommends Best Management Practices such as permeable surfaces, vegetative swales, as part of a stormwater management system in order to treat water before it enters waterbodies. The Applicant has proposed the following specific measures on the site:

- Placing the vast majority of parking underground. This will have the effect of resulting in a green roof on the top of the parking at ground level (i.e., a landscaped area), rather than additional parking at ground level, which would result in additional impervious surfaces at the site.
- Installing roof gardens on the two largest structures on the site (at the hotel/spa and clubhouse parking);
- Using pervious materials on many sidewalks and patios; and
- Using pervious materials at the winery restaurant parking, and draining that through a buffer planting area.

Comment 3.2-7-34E: Regarding DEIS page 3.2-23, [i]n table 3.2-5 wetland I is proposed to be filled. There is no information in any detail on the function and values that will be lost by this fill, nor discussion of proposed mitigation to offset this wetland loss. The Applicant has a wide range of opportunities on the site to create additional wetland or to improve and enhance existing wetlands. [Dr. Michael W. Klemens, LLC, Letter, March 18, 2008, Comment E, page 1]

Response 3.2-7-34E: Wetland I is an isolated wetland, meaning that it has no outflow or connection to any interstate waters. It is not mapped on the National Wetland Inventory, nor is it mapped by the NYSDEC. The wetland is approximately 0.06 acre (2,613 square feet) in size. The wetland is dominated by cattail (*Typha latifolia*), purple loosestrife (*Lythrum salicaria*), soft rush (*Juncus effusus*), tear-thumb (*Polygonum saggitatum*), and duckweed (*Lemna minor*). The wetland is surrounded by managed turf of the existing golf course. A photo of the wetland is provided below from the wetland delineation report.

Because the wetland has no outflow, its function and values are likely limited. For example, using best professional judgment, it is unlikely that the wetland would be effective or have the opportunity to function for floodflow alteration, sediment stabilization, sediment/toxicant retention, nutrient removal/transformation, production export, uniqueness/heritage because of

its lack of outflow and its type. It is also unlikely to have significant values for terrestrial or aquatic wildlife diversity or abundance. It may have some function for groundwater recharge/discharge depending upon its underlying soils and position in the watershed.

With regard to mitigation, it is the Applicant's opinion that the project will be designed to have a net benefit on wetland functions and values. Please see Section 2.4 of Appendix F, "Habitat Management Plan," which discusses the plans to restore aquatic habitats on the site, including severely eroded stream channels and channelized (and culverted) stream channels. See also Response 3.2-5-34A, for specific measures to provided mitigation to offset wetland losses. Overall, the project is designed to have a net gain in aquatic functions and values that outweighs any functional losses associated with the project, including the loss of the small, minimally functional, isolated and non-regulated Wetland I. No additional mitigation to specifically address the impacts to Wetland I is proposed.



Photo #8
Isolated Wetland I.

Comment 3.2-8-34AA: Re: Sewer Plant and Cascade/Amenia Brook. I would ask the Applicant to address the following questions: What are the possible impacts to this aquatic system during periods of drought, when the primary contribution to the water flow will be treated effluent? Does the brook have sufficient capacity to accommodate effluent discharges during periods of high water without appreciably

increasing flood risk? [Dr. Michael W. Klemens, LLC, Letter, March 18, 2008, Comment AA, page 5]

Response 3.2-8-34AA: Please see Response 3.2-2-PHT.

Comment 3.2-9-34CC: It would be helpful to address the issue of the contamination levels that may exist in the present golf course, and what adverse impacts grading the existing course area may have on the release of chemicals stored in the ground into the watershed. This has been a concern on at least one golf course redevelopment that I was involved with. [Dr. Michael W. Klemens, LLC, Letter, March 18, 2008, Comment CC, page 6]

Response 3.2-9-34CC: Please see Response 3.1-2-PHT.

Comment 3.2-10-20B: There are documented groundwater resources beneath the property? However, little mention is made of how construction and operational activities may affect nearby residents and businesses which rely on these resources for their drinking water needs. [Elaine LaBella, Housatonic Valley Association, Letter, March, 25, 2008, Comment B, page 2]

Response 3.2-10-20B: Please see Response 3.2-12-26A. An approved SWPPP including sediment control measures will be implemented prior to any construction activities. Plans for these measures would be pre-approved by the municipality and enforceable at the Town and State level. The intent of these erosion and sediment control measures and stormwater management facilities is to prevent turbidity and stormwater impacts on the site, on offsite streams, and so protect the local environment including nearby residences and businesses.

Comment 3.2-11-20C: HVA is concerned that the proposed storm water management system may not be adequately designed to protect the un-named tributary of Wassaic Creek which parallels Route 22 directly adjacent to the proposed project. The drawings submitted for review are incomplete and do not provide the information needed to review and assess the stormwater management controls for the project. The only stormwater information on the drawings is proposed detention ponds. The features not present include, but are not limited to catch basins, piping, vortechnic or other devices to capture sediment, measures to capture and manage flow from the steep slopes the new roads for houses would require, level spreaders, and designs for the drainage ponds. The depth of the existing water table and depth to ledge are critical factors in a pond design. The applicant has provided text to describe control measures and the calculations for each but none of those structures are located on any of the plans" making a thorough assessment impossible. [Elaine LaBella, Housatonic Valley Association, Letter, March, 25, 2008, Comment C, page 2]

Response 3.2-11-20C: The master SWPPP and associated site plans have been prepared to support the SEQR process for the project. The intent of this master SWPPP is to provide sufficient documentation for an overall SEQR determination and to serve as the baseline for the final SWPPP that will be prepared for the proposed development, as approved. As such, design concepts are provided for stormwater collection and conveyance systems and water quality and quantity control facilities. Stormwater quality and quantity controls designed for this master SWPPP are preliminary in nature and are intended to demonstrate their location, approximate size, and design concept. This report is not intended to be a final engineering document as certain detailed aspects of the project are likely to change during the site plan review process. Detailed analysis of these practices must be performed and their design refined as part of the final SWPPP.

Portions of the design were advanced to substantiate regulatory compliance determinations and to provide input pertinent to the environmental assessment of impacts of the project. The methodology used to develop this master SWPPP shall be adhered to for the preparation of the project's final SWPPP. Final stormwater facility designs will be advanced in support of and during the site plan permitting process. This approach was deemed acceptable by the Town during a workshop review session held May 19, 2008.

Comment 3.2-12-26A: Sole Source Aquifer Issue (Drinking Water Quality). In Volume 9.5.1 the applicant is making a very spurious argument and misusing reference sources when it states that "the project site is not over a 'principle primary or sole source aquifer'" and cites the 1982 Atlas of Eleven Selected Aquifers in New York. This book was written in order to clarify the importance of the largest and most important of the "sole source" aquifers in the state, primarily because the Health Department was then concerned about the location and protection of urban water supplies. The particular eleven aquifers chosen were selected as the focus of study based on certain criteria. (U.S. Geological Survey) It was not a systematic review of all sole source aquifers and therefore many important but smaller ones were left out of the study entirely. This does not mean they are unimportant or non-strategic to the communities in which they are located. The Harlem Valley Aquifer, on which Amenia's water supply depends, is indeed "sole source" for Amenia and Wassaic.

This aquifer supplies very high quality drinking water to Wassaic Hamlet, without significant nitrites or nitrates, and flows southward through the Harlem Valley. An important illustration of its importance is the fact that a mere mile downstream from the Silo Ridge Site, exists an historic hamlet of about 75 homes, most of which use point wells to reach down into the upper aquifer. This supply of drinking water to the Wassaic Hamlet is exceptionally good and is geologically funneled through the "gap" below the Amenia Stream running though the middle of the Valley from

North to South. (All pollution prevention measures should be designed with these specifics in mind, not in the abstract.) The DEIS literally ignores the existence of the nearby hamlet. [Sharon Kroeger, Letter, March 24, 2008, Comment A, page 1]

Response 3.2-12-26A: In the Part III checklist of the long Environmental Assessment Form (EAF) under SEQRA, the aquifer discussion relates to technically-defined Sole Source and Principal and Primary aquifers. Sole Source aquifers are designated by the federal government. No Sole Source aquifer has been designated for this area. Similarly, Principal aquifers are designated by the State of New York. An attempt was made some years ago, initiated by the Town of Dover, to designate the carbonate aquifer in the Harlem Valley either a Principal or Primary aquifer. The State did not accept the designation for various reasons, including the lack of deep saturated sediments which is a critical criterion for this designation. Notwithstanding, the Commenter correctly notes that a high quality aquifer exists in the Harlem Valley bottomlands, consisting of various waterbearing sediment units overlying generally fractured carbonate bedrock. The resource is important to the Silo Ridge project and clearly important to the existing Amenia and Wassaic hamlets and surrounding lands. The Silo Ridge project includes all appropriate measures to preserve the quality of this aquifer, including its commitment to a tertiary wastewater treatment program, an environmental monitoring program, all appropriate stormwater management programs, and a cluster-type development format which limits impervious surfaces.

Comment 3.2-13-26C: Note that Volume 9.5.1 does not mention permeable surfaces either. [Sharon Kroeger, Letter, March 24, 2008, Comment C, page 2]

Response 3.2-13-26C: Please see Response 3.2-6-34B.

Comment 3.2-14-26F: Ecological Studies. On page 12 of this section in Volume 9.7, I was unhappy to see that there was no clear acknowledgement of the viability of Amenia Stream. DEC has it labeled Class 3 (T) and it is clearly known by all as a brown trout spawning stream, as well endowed with wildlife, and visited often by the Great Blue Heron. [Sharon Kroeger, Letter, March 24, 2008, Comment F, page 3]

Response 3.2-14-26F: As discussed in Section 3.2.1 of the DEIS, Amenia/Cascade Brook is identified and regulated as a Class C(Ts) stream by the NYSDEC. As discussed in Response 3.2-5-34A and in the Habitat Management Plan (Appendix F), the project involves restoration of the stream buffer along locations of Amenia Brook, which will help to maintain and/or improve the viability of this stream for trout spawning and other

habitat. Also see Response 3.2-45-GP51 regarding NYSDEC input into the restoration of the stream buffer along Amenia/Cascade Brook.

Comment 3.2-15-32D: While golf courses provide many important benefits, the potential also exists for degradation of ground and surface waters. Fortunately, a number of recent advances make it possible to design and operate a golf course with little aquatic resource impact. However, because these advances are not universally incorporated into the design of every new course, one should not assume that proposed fairways, greens, and tees will be benign. Particular care is needed when new golf courses are proposed near uniquely sensitive aquatic resources such as sole-source aquifers, shallow wells, headwater streams, threatened-endangered species habitat, wetlands, lakes, and other vulnerable waters. The advances in design can also be used to reduce the impact of existing golf courses. For example, by replanting fairways and greens with hardier grass species application rates of fertilizers, pesticides, and irrigation water can be cut by a one-half to two-thirds yet still provide a quality playing surface. There are even organic (pesticide-free) golf courses.

In recent years there has been a trend towards converting golf courses to other land uses, such as housing, offices, or other commercial projects. If a course is more than two- or three-decades old then there is a possibility residues of highly-toxic and very persistent pesticides remain. The residues may be sufficiently high to be of concern if the soils are eroded into nearby waterways during the construction phase or if children play on greens converted to residential lawns. Fortunately, soil testing can determine if there is cause for concern on a particular course and, if so, then techniques are available for resolving the concern. (From www.ceds.org website) My real concern is the impact that reconstructing the golf course will have on the aquatic environment and the residents who live in reasonably close proximity to the site. The attached documents are critical in consideration of the Silo Ridge project, as the residue of agricultural chemicals persistent in the soils can be very harmful to the environment, wildlife, domestic animals, and humans that will inhabit the site or those who reside in close proximity.

The document should be carefully read. It is clearly written in lay terms that most will understand. It is backed up with real scientific data, but also indicates mitigation strategies to minimize the negative impacts. PLEASE consider the information carefully. When golf courses accounted for more than 50% of the watershed land use, then a moderate to severe level of stream quality degradation was found. Such a waterway would be unfit for most human uses. The following factors are identified as potential causes of the degradation revealed by the studies: stream channelization, destruction of wetlands, lack of a wooded buffer along waterways, elevated water temperature due to; lack of shading vegetation, reduction of groundwater inflow, release of heated water from the surface of ponds, entry of heated stormwater runoff from impervious surfaces, reduction of base (dry-

weather) stream flow due to ground or surface water withdrawals for irrigation, release of toxic substances and oxygen deficient water from ponds, intermittent pollution incidents such as spills of pesticides, fertilizers, or fuel, loss of pesticides or fertilizers by way of ground or surface water runoff, entry of stormwater pollutants washed from parking lots and the other impervious surfaces associated with a golf course, accelerated channel erosion due to increased stormwater runoff velocity or prolonging the amount of time channels are exposed to erosive velocities, elimination of the scouring benefits of flooding by storing runoff in ponds, poor erosion and sediment control during the construction phase, and inadequate treatment of sewage and other wastewater generated on the golf course.

Monitoring should begin one-year prior to the construction of a golf course and continue throughout the construction phase and the first five years the course is used. Ground and surface water should be analyzed quarterly for ammonia, nitrate, phosphorus, and pesticides. Biological sampling should be performed quarterly, then, beginning in the third year, once annually, in August. Fish tissues should be examined once a year for any pesticides used on the course which have the potential to bio-accumulate. A groundwater monitoring program should also be established to detect effects upon existing wells or wetlands. Base-flow and water temperature should be monitored in any streams or rivers in the vicinity of the course. Monitoring should not be considered a substitute for measures that design impacts out of a golf course.

Please note: CEDS (the providers of the studies) has found that a disturbing number of commitments made during the permitting process to monitor golf courses are ignored once the course is completed. Since the golf course existed prior to 1990, then soils on the greens, tees, and fairways should be analyzed for organochlorine and metallic pesticide residues. If residues are present, then mitigation measures should be taken to minimize movement to ground surface waters, such as increasing matter content of soil. [Cheryl Morse, Email, March 25, 2008, Comment D, pages 1-3]

Response 3.2-15-32D: Comment noted. The Project Sponsor is dedicated to reducing the potential environmental impacts of the proposed golf course by implementing applicable measures mentioned above. See Response 3.1-1-PHT regarding mitigation measures and Response 3.1-2-PHT and Response A.9.11-6-MP2 regarding soil testing on the golf course.

Comment 3.2-16-32F: All wetland buffers should be repaired/mitigated to within 100 – 150 feet, with native shrubs and trees heavily planted to prevent run-off and erosion from impacting the streams and wetlands adjacent, contiguous, and bound by the site. Too much chemical leachate has been entering the stream during rain episodes and have been damaging the watercourses as long as the golf course has been in operation. Of all agricultural uses, golf courses utilize far more agricultural

chemicals than any other agricultural use. [Cheryl Morse, Email, March 25, 2008, Comment F, page 3]

Response 3.2-16-32F: In his letter dated July 31, 2008 regarding comments on the FEIS (see Appendix E), Dr. A. Martin Petrovic states, *“The NRMP is a sound conceptual plan to produce a viable golf course and to protect the environment from contamination from fertilizer and pesticide applications. Golf courses managed in a responsible fashion, as outlined in the NRMP, have been shown not to pose an unreasonable risk to water quality.”* With regard to wetland buffers, see Response 3.4-4-34C. With regard to the turf management practices on the site, including the movement of turfgrass chemicals, see Responses 3.1-1-PHT and 3.1-2-PHT. The project has been designed to reduce the impacts of the golf course management on the environment compared to the existing conditions. One major way this reduction has been achieved is by reducing the maintained area of the golf course by 74 acres as compared to the existing course, as described in Appendix F, Habitat Management Plan. The commentor is correct that per acre, golf courses utilize more agricultural chemicals than agricultural uses. However, as Dr. Petrovic states in his letter, *“It is true that most studies done under research conditions and monitoring of actual golf courses have shown that pesticides are seldom found in either surface or ground water at levels above standards set by the US Environmental Protection Agency. The turfgrass ecosystem does tie up and degrade most of the pesticide that has been applied.”*

Comment 3.2-17-33K: The DEIS does not consider the effects of major floods that take place during construction phases. Given the length of the construction period, major floods could take place during this time and mitigation measures should be proposed by the DEIS. Newly created steep slopes will increase runoff velocity and erosion. These newly created steep slopes should be discussed in the DEIS. [David Reagon, Letter, March 20, 2008, Comment K, page 8]

Response 3.2-17-33K: Only a small portion of the project site is within the 100-year floodplain (i.e. portion immediately adjacent to the Amenia Cascade Brook north of the main site entrance. No buildings or structures are proposed within the floodplain. Reshaping of the existing golf course will occur within this area; however, this effort will result in no net filling of the floodplain. For the most part, slopes within this area are gradual.

In general, for an erosion and sediment control (E&SC) plan to be effective, E&SC measures must be identified in the design stage. These measures will be developed as part of the final stormwater pollution prevention plan (SWPPP), in concert with the site development drawings. In order to minimize the transport of sediment to surface waters and subsequently minimizing

environmental degradation, basic engineering principles have and will be incorporated into the site design. These principles include, but are not limited to, 1) planning the development to fit the particular topography, drainage patterns and natural vegetation on-site, 2) minimizing the extent of exposed soils at any given time, 3) applying E&SC measures to minimize soil exposure, 4) keeping run-off velocities low and retain run-off on the project site as practical, 5) stabilize disturbed areas immediately after final grading and 6) implement a maintenance and inspection program during construction. The E&SC plan will meet the minimum standards and specifications for erosion and sediment control as set forth by the NYSDEC.

Furthermore, E&SC measures will be implemented for steep slope conditions on a case by case basis. Based on the overall grading plan, the preliminary subsurface investigations and general engineering knowledge, TCC does not anticipate any unusual construction issues with respect to E&SC. Consistent with the basic design principles identified above, specific E&SC objectives on steep slopes are: 1) prevent as much storm water as possible from flowing down the slope into the construction site, 2) reduce the velocity of the water on the slope as much as possible and 3) to collect stormwater and remove excess sediment before discharge from the construction site.

Where practical, steep slopes (over 3H:1V) will have devices at the top of the slope to limit stormwater flow over and into a construction site. Wherever possible, the ground at the top of the slope should be graded and protected so stormwater flows away from the construction site. Measures will be implemented, as required, down the slope face to slow storm water runoff. Silt fences will be used at the bottom of steep slopes and erosion control blankets are practical measures used for E&SC on steep slopes. Other methods of protecting the slope when rain is likely may be used such as plastic and spray on soil binders. Where practical, diversion swales and sediment basins will be located at the base of the slope as designed in accordance with NYSDEC guidelines. A sock or bag filter can and may be used to remove sediment from the sediment basin effluent so the water is further filtered before discharge off site.

Comment 3.2-18-31LL: Stormwater Management: Provide site plans that identify the stormwater management practices shown in the "Drainage Diagrams for Existing Conditions" and the "Drainage Diagrams for Proposed Conditions" for both the proposed project and the Traditional Neighborhood Development. [Michael Soyka, Rohde, Soyka & Andrews, Letter, March 27, 2008, Comment LL, page 3]

Responses 3.2-18-31LL: A final SWPPP plan will be submitted during Site Plan Review in accordance with agreement reached with Rohde, Soyka & Andrews, who is the Project Review Engineer for the Town of Amenia.

Comment 3.2-19-32E: The construction along the ridgeline and the impact that it will have with regard to run-off and erosion during times of heavy rains, and the engineering of retaining walls to hold back and keep those areas stabilized is another concern, and will require appropriate engineering and construction to prevent failure of retaining walls. Turf grass is not an adequate type of plant material coverage to prevent serious erosion problems during periods of heavy rain, and silt fencing is inadequate at best during those event periods. [Cheryl Morse, Email, March 25, 2008, Comment E, page 3]

Response 3.2-19-32E: Comment noted. In support of site plan review and/or building permit process, appropriate engineering of structural retaining walls, drainage diversion measures, erosion and sediment control measures, and other engineered portions of the project will be completed as deemed necessary by the design engineer, and/or Town's Engineering Consultant. The measures to be implemented will be designed in accordance with applicable local and state regulations.

Comment 3.2-20-33C: There should be no grading next to this stream. The Stream Protection Corridor in the zoning should be observed. [David Reagon, Letter, March 20, 2008, Comment C, page 4]

Response 3.2-20-33C: Amenia/Cascade Brook in the northeast portion of the site is the only stream on the site within the Stream Corridor Overlay (SCO) District identified in the Town of Amenia Zoning Law adopted July 19, 2007 (see Article IV, Section 121-14). The SCO District includes all lands lying within 150 feet of the top of bank on either side of this stream. Under this local regulation, no principle structure can be located within 100 feet of the watercourse and no accessory structures within 50 feet of the watercourse. The setbacks do not apply to bridges or other structures that by their nature need to be located near the stream. Within this district, Site Plan Approval is required for any structures greater than 500 square feet, for filling or excavation more than 5,000 square feet or grading or altering more than 10,000 square feet of the landscape. During Site Plan Approval, the Planning Board can grant Site Plan Approval if it finds that the proposed activity will not degrade the scenic character of the stream, will not result in erosion or stream pollution, based on slopes, drainage patterns, water entry points, soil erosivity, depth to bedrock, high water table and other relevant factors, and will comply with other applicable provisions of this chapter.

Currently the golf course immediately abuts Amenia/Cascade Brook. The project proposes approximately 6 acres (261,360 square feet) of grading within 150 feet of Amenia/Cascade Brook for the re-shaping of Hole #4 on the golf course. However, it is noted that the project will involve revegetating a substantial section of the streambank that currently has no riparian buffer.

See Response 3.2-5-34A. In addition, the project will seek Site Plan Approval from the Town for this work, and may also require a stream disturbance permit from the NYSDEC under Article 15 of the New York State Environmental Conservation Law.

Comment 3.2-21-GP35: Page 3.2-10 indicates the Army Corps of Engineers (ACOE) will not issue a jurisdictional determination letter until the ACOE and the US EPA have resolved internal agency issues. We note the ACOE and US EPA in June of 2007 issued a joint guidance memorandum for their field offices. The applicant should revisit this issue and identify how the Planning Board will verify what requirements, if any, the ACOE will impose on this project. [Greenplan, Inc., Letter, April 6, 2008, Comment #35, page 6]

Response 3.2-21-GP35: With regard to the Jurisdictional Determination, Brian Orzel of the ACOE visited the site and approved the wetland delineation verbally. By transmittal dated June 25, 2007, The Chazen Companies submitted the final wetland delineation maps to Brian Orzel. See Appendix E, Correspondence. Subsequently, the ACOE was asked to verify the wetland delineation, but because of workload issues, jurisdictional validations are a low workload priority for the ACOE. The Applicant's consultant is comfortable with the delineation's accuracy given Brian's site inspection and other feedback from the ACOE. Specifically, on June 26, 2007, the Applicant's consultant sent to Mr. Brian Orzel of the ACOE a letter discussing the project and asking for feedback from that agency (and the NYSDEC) regarding the project. See Appendix E, Correspondence. By e-mail dated August 28 through September 18, 2007, the ACOE provided feedback. See Appendix E, Correspondence. On August 30, 2007, the ACOE stated:

"I just reviewed your submittal, and I don't think that I need to participate in the meeting. The impacts that you are showing appear to be minimal, so going over the proposal in person does not appear to be necessary. When you get to the point of actually applying for the nationwide permit verification, you will need to submit three copies of all grading plans, so that it can be clearly seen whether an activity would encroach upon waters. I would also want to see the height and span of each bridge or 3-sided culvert to prove that you would be avoiding impacts to streams or wetlands. You will also need to provide ESA assessments for Indiana bat and bog turtle. In your letter, you stated that you wanted to coordinate with us on the stream restorations of streams that are currently located within culverts. My only comment would be to try to replicate the stream sections just upstream and downstream of the existing culverts."

TCC then asked about the excavation of the ponds to create littoral wetlands benches, to which Mr. Orzel responded: *"In theory, it's a good idea to add the wetland area around the existing ponds. I would still want to see the actual*

grading plans to make sure that you would not be grading into the existing ponds. Grading into the existing jurisdictional waters would need to be included in any impact calculations.”

It is noted that the Applicant’s consultants have completed ESA assessments for the bog turtle and the Indiana bat.

Comment 3.2-22-GP37: Figure 3.2-1 does not show 100 year floodplains. Furthermore, the DEIS states there will be some grading within the floodplain for redevelopment of the 4th fairway for the preferred alternative. The specific details of the grading needs to be described and potential impacts identified for evaluation in the FEIS. Will the grading be reshaping the land? It also appears that enhancement to Pond A, Pond B and Pond D will also occur within the floodplain area. Potential impacts related to these activities will need to be identified. The applicant needs to explain how this is consistent or inconsistent with the purposes of the RDO as it relates to significant protection of water resources. [Greenplan, Inc., Letter, April 6, 2008, Comment #37, pages 6-7]

Response 3.2-22-GP37: The approximately 6 acres of grading within the 4th Fairway is for reshaping the existing golf course use in support of a minor golf course modification. The net cut and fill within the floodplain area is balanced (i.e., essentially zero) and thus will not change the associated floodplain elevation. In addition, consistent with NYSDEC discussions, the reshaping of the land within the 4th fairway will involve enhanced plantings and buffer immediately adjacent to the Amenia/Cascade Brook. See Response 3.2-5-34A. Modifications to the ponds referenced were discussed in other DEIS sections. Figures 3.2-2 and 3.2-3 show floodplain restoration and planting around Hole 4.

As a result of consultation with the Town during the FEIS preparation, a Stormwater Management Basin has been relocated so that it is more than 100 feet from the edge of Amenia Creek. This will allow the outfall discharge to flow over more than 100 feet of vegetated swale before discharging into the Amenia Creek. The discharge flow path for this basin will be routed during the site plan review process to maximize the flow path length and contact with natural vegetation within the confines of the NYSDEC Stormwater Design Manual. See Figure 3.2-4, “Relocation of Stormwater Management Basin at Holes #2 and #3.”

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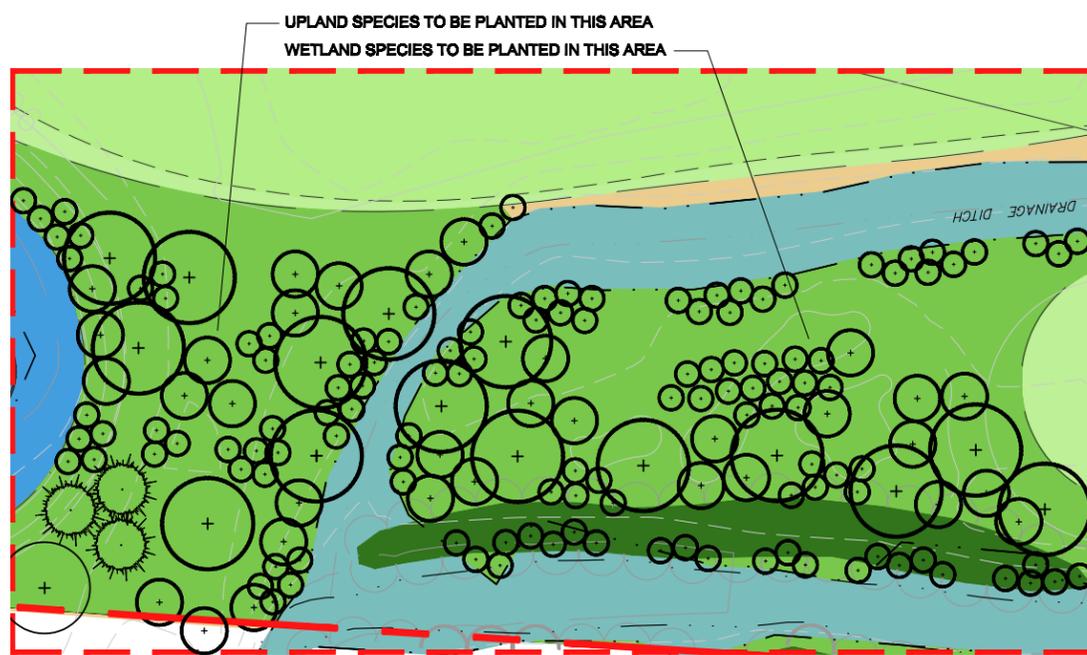


1
3.2-2
SCALE: 1"=200'

HABITAT CLASSIFICATION LEGEND		PLANT LEGEND	
	FOREST HABITAT		UPPERSTORY TREES
	P2 P3 P4 GRASSLAND AND SCRUB/SHRUB		UNDERSTORY TREES
	WETLANDS		SHRUBS
	AQUATIC HABITAT		
	GOLF COURSE		

PLANT SPECIES TO BE USED IN FLOODPLAIN RESTORATION

- UPPERSTORY TREES**
ACER RUBRUM, RED MAPLE
BETULA LENTA, SWEET BIRCH
NYSSA SYLVATICA, BLACK TUPELO
PINUS STROBUS, WHITE PINE
QUERCUS BICOLOR, SWAMP WHITE OAK
- UNDERSTORY TREES**
AMELANCHIER CANADENSIS, SERVICEBERRY
CORNUS ALTERNIFOLIA, ALTERNATE LEAVED DOGWOOD
HAMAMELIS VIRGINIANA, WITCH HAZEL
JUNIPERUS VIRGINIANA, RED CEDAR
PRUNUS VIRGINIANA, CHOKECHERRY
- SHRUBS AND FERNS**
CLETHRA ALNIFOLIA, SWEET PEPPERBUSH
CORNUS AMOMUM, SILKY DOGWOOD
CORNUS RACEMOSA, GRAY DOGWOOD
CORYLUS AMERICANA, AMERICAN HAZELNUT
ILEX VERTICILLATA, WINTERBERRY
LINDERA BENZOIN, SPICEBUSH
OSMUNDA REGALIS, ROYAL FERN
SAMBUCUS CANADENSIS, ELDERBERRY
SPIREA LATIFOLIA, MEADOWSWEET
VIBURNUM TRILOBUM, CRANBERRYBUSH
VIBURNUM



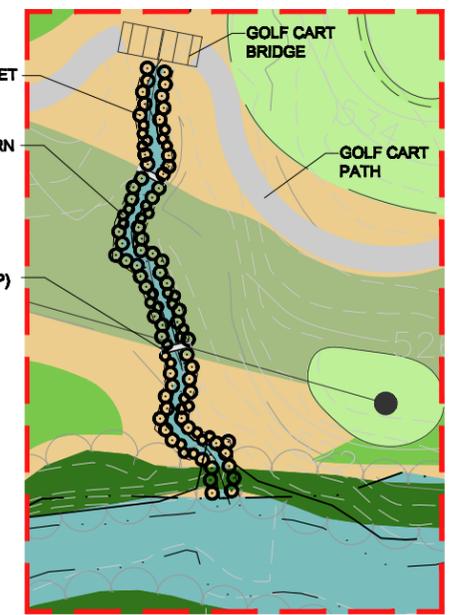
2
3.2-2
SCALE: 1"=60'

FLOOD PLAIN RESTORATION PLANTING
 UPPER AND UNDERSTORY TREES AND SHRUBS WILL BE PLANTED IN THIS AREA TO CREATE A BUFFER FOR THE STREAM AND PROVIDE HABITAT. THE AREA WILL ALSO BE OVERSEED WITH NATIVE GRASSES AND WILDFLOWERS.

THE AREA BETWEEN THE POND AND THE DRAINAGE DITCH IS DRIER AND WILL BE PLANTED WITH UPLAND PLANT MATERIAL.

THE AREA TO THE NORTH OF THE DRAINAGE DITCH IS WETTER AND WILL BE PLANTED WITH WETLAND PLANT MATERIAL. AN EFFORT WILL BE MADE TO INCLUDE WETLAND SPECIES CURRENTLY EXISTING IN THE WETLAND TO THE SOUTH.

THE DENSITY OF PLANTINGS WILL BE AS SHOWN. HOWEVER, THE EXACT LOCATION AND SPECIES IS TO BE DETERMINED.



3
3.2-2
SCALE: 1"=60'

SPIREA LATIFOLIA, MEADOWSWEET PLANTED 4' ON CENTER (TYP)

OSMUNDA REGALIS, ROYAL FERN PLANTED 3' ON CENTER (TYP)

WATER BAR (TYP)

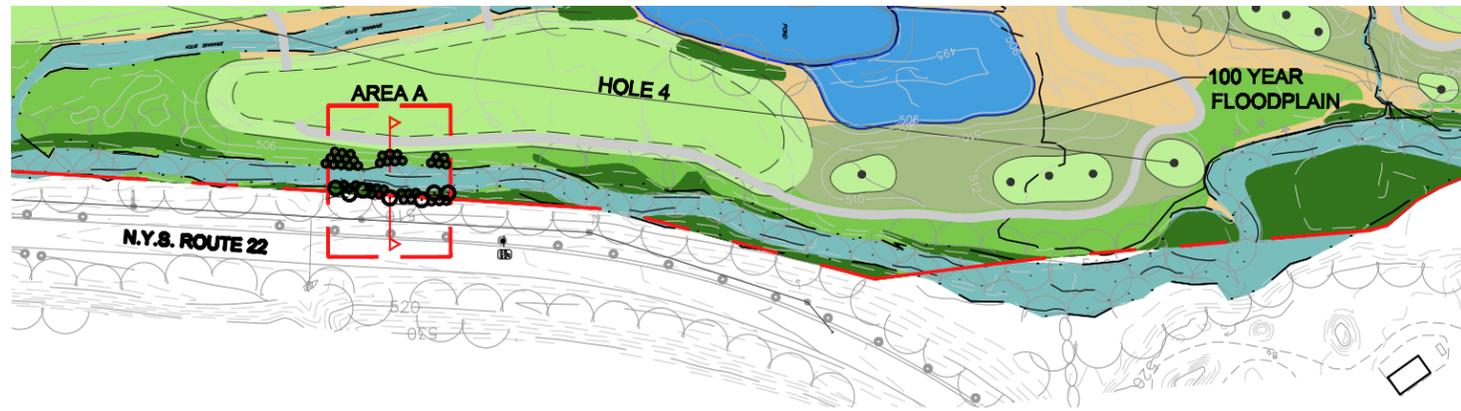
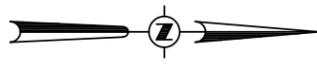
STREAM RESTORATION AND EROSION CONTROL

- CREEK BANKS WILL BE WIDENED TO 10'.
- THERE WILL BE A 3' PLANTING SHELFF ON EITHER SIDE OF THE CREEK WHICH WILL BE PLANTED WITH *OSMUNDA REGALIS* (ROYAL FERN) AND *SPIREA LATIFOLIA* (MEADOWSWEET) TO CONTROL EROSION AND PROVIDE HABITAT.
- THE STREAM BED WILL BE LINED WITH 12-24" COBBLE.
- TWO WATER BARS CONSISTING OF 18-24" DIAMETER LOGS WILL BE PLACED TO SLOW THE WATER AND FURTHER CONTROL EROSION.



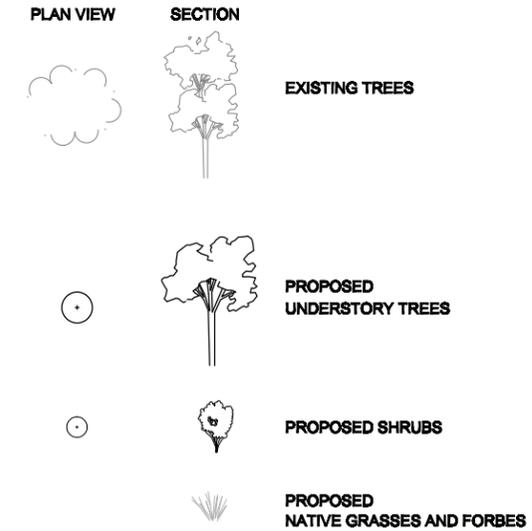
Silo Ridge Resort Community
 Traditional Neighborhood Alternative
DRAFT SCHEMATIC FLOODPLAIN RESTORATION PLANTING
 Town of Amenia, Dutchess County, New York

Figure 3.2-2

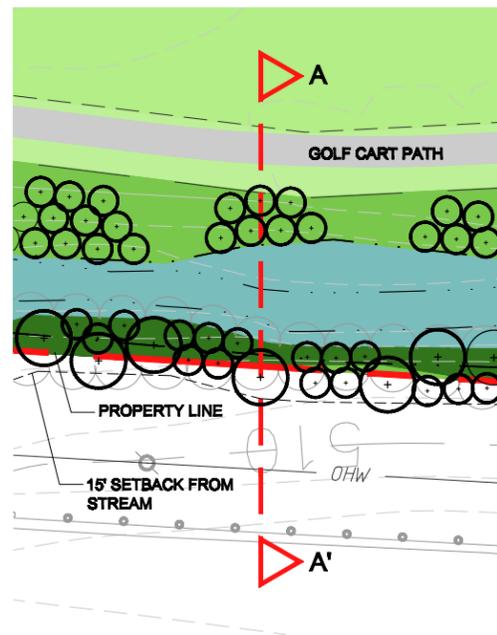


1
3.2-3
PLAN VIEW
SCALE: 1"=200'

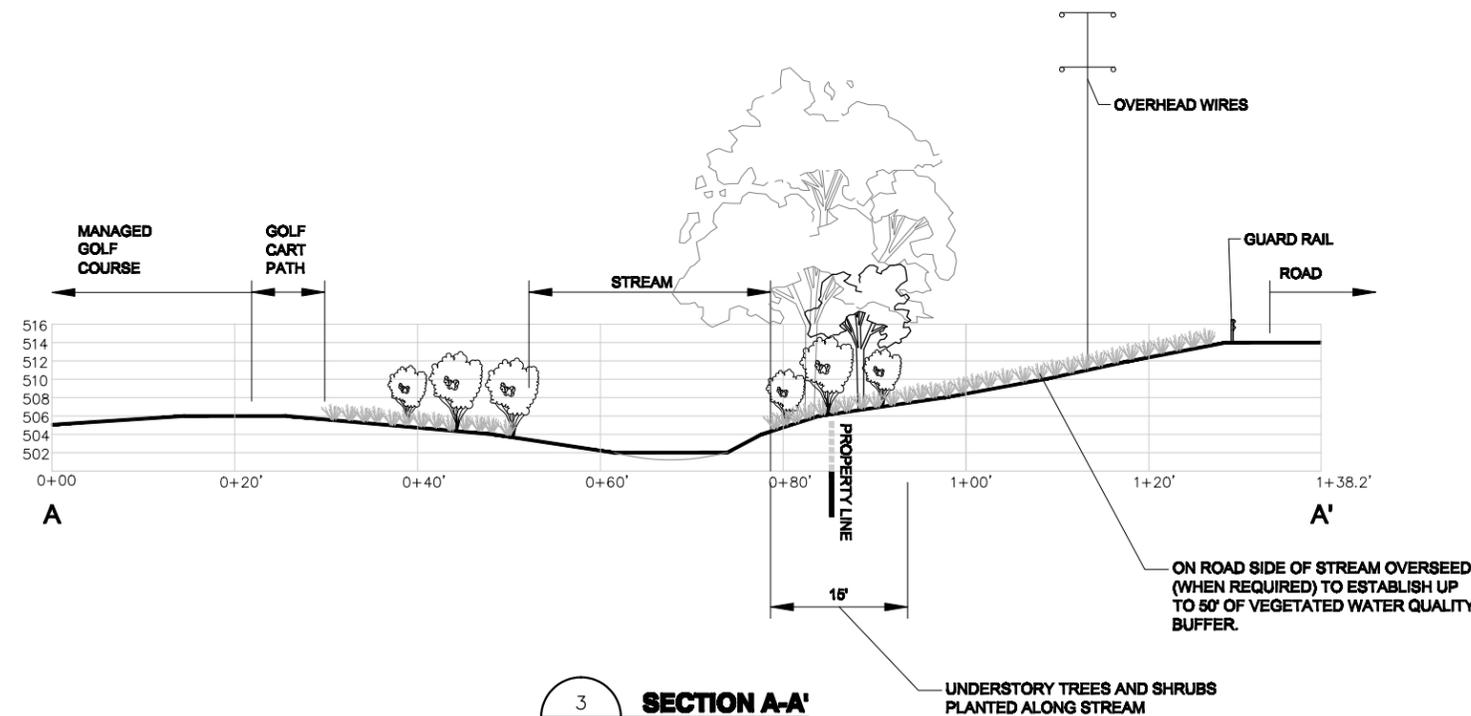
PLANT LEGEND



HABITAT CLASSIFICATION LEGEND



2
3.2-3
ENLARGEMENT AREA A
SCALE: 1"=50'



3
3.2-3
SECTION A-A'
SCALE: 1"=20'

PLANT SPECIES TO BE USED IN FLOODPLAIN RESTORATION

UPPERSTORY TREES

ACER RUBRUM, RED MAPLE
BETULA LENTA, SWEET BIRCH
NYSSA SYLVATICA, BLACK TUPELO
PINUS STROBUS, WHITE PINE
QUERCUS BICOLOR, SWAMP WHITE OAK

UNDERSTORY TREES

AMELANCHIER CANADENSIS, SERVICEBERRY
CORNUS ALTERNIFOLIA, ALTERNATE LEAVED DOGWOOD
HAMAMELIS VIRGINIANA, WITCH HAZEL
JUNIPERUS VIRGINIANA, RED CEDAR
PRUNUS VIRGINIANA, CHOKECHERRY

SHRUBS AND FERNS

CLETHRA ALNIFOLIA, SWEET PEPPERBUSH
CORNUS AMOMUM, SILKY DOGWOOD
CORNUS RACEMOSA, GRAY DOGWOOD
CORYLUS AMERICANA, AMERICAN HAZELNUT
ILEX VERTICILLATA, WINTERBERRY
LINDERA BENZOIN, SPICEBUSH
OSMUNDA REGALIS, ROYAL FERN
SAMBUCUS CANADENSIS, ELDERBERRY
SPIREA LATIFOLIA, MEADOWSWEET
VIBURNUM TRILOBUM, CRANBERRYBUSH
VIBURNUM

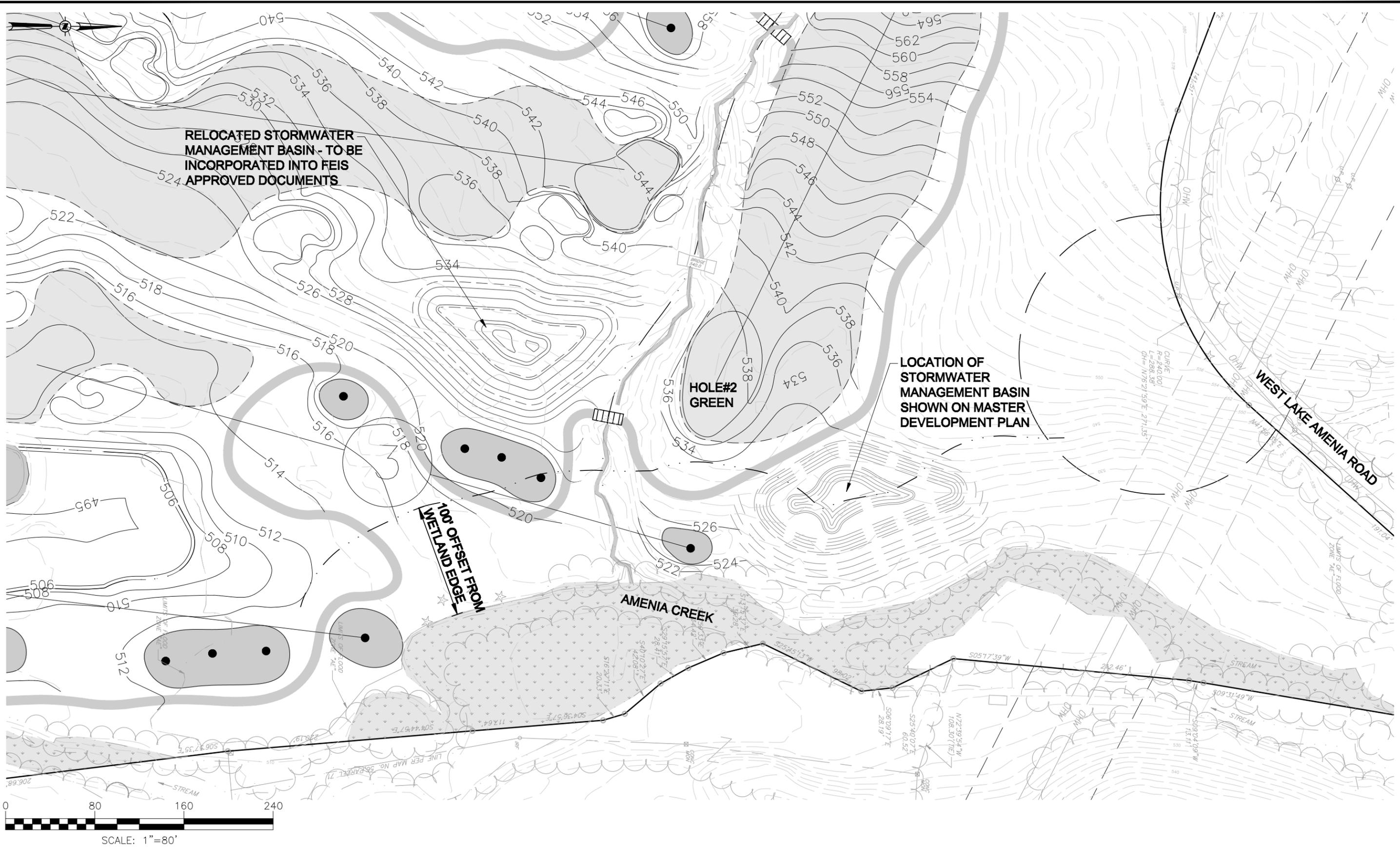


THE
Chazen
COMPANIES

Silo Ridge Resort Community
Traditional Neighborhood Alternative
**DRAFT SCHEMATIC FLOODPLAIN
RESTORATION PLAN - CROSS-SECTIONS**
Town of Amenia, Dutchess County, New York

Figure
3.2-3

Drawing Name: S:\10400-10499\10454-00\ENG\DWG\410_MDP_FIG_3.2-4_10454-02_SWM_BASIN MOD.dwg Date Printed: Jul 17, 2008, 4:42pm



THE
Chazen
COMPANIES

Silo Ridge Resort Community
Master Development Plan
**RELOCATION OF STORMWATER
MANAGEMENT BASIN AT HOLES #2 AND #3**
Town of Amenia, Dutchess County, New York

SCALE: 1"=80'

**Figure
3.2-4**

JOB NUMBER: 10454.02

Comment 3.2-23-GP3/GP38: Stormwater impacts as it relates to water quality and habitat protection is inadequately addressed. Before a final SWPPP is prepared for this project, additional EIS information is needed. [Greenplan, Inc., Letter, April 6, 2008, Comments #3 and #38, pages 2 and 7]

Response 3.2-23-GP3/GP38: With regard to the adequacy of the master SWPPP, see Response 3.2-11-20C. With regard to impacts of stormwater on water quality, as discussed in Response 3.2-22-GP37, the stormwater management basin near Amenia Creek has been relocated more than 100 feet from the stream. There are no stormwater management basins within 100 feet of the NYSDEC wetland. With regard to development of the SWPPP during the site plan review process, the Project Sponsor is committed to providing the Town of Amenia Planning Board, and its consultants, an opportunity to review the Stormwater Management Design at the 30%, 60% and 90% complete stage for review and comment as part of the project approval process.

Comment 3.2-24-GP38a: All impacts on water resources must first be fully described in the FEIS (including seasonal hydrological impacts on wetlands and streams, and stream biomonitoring data as discussed in Section 2.6 of the NYS Stormwater Management Design Manual). [Greenplan, Inc., Letter, April 6, 2008, Comment #38a, page 7]

Response 3.2-24-GP38a: Please see Response 3.2-11-20C with respect to the master SWPPP. With regard to seasonal hydrological impacts on wetlands and streams, see Response 3.2-2-PHT.

A review of the Final Scoping Document adopted on November 17, 2005 indicates that two guidance documents were cited for storm water issues. "Reducing the Impacts of Stormwater Runoff from New Development, NYSDEC, 4/93" and "New York Guidelines for Urban Erosion and Sediment Control, 97". The comment above refers to Section 2.6 of the "NYS Stormwater Management Design Manual." Section 2.6 of the referenced manual does not require a biomonitoring plan. Rather, this section of the Manual states that research indicates that "new development appears to cause declining richness (the number of different species in an area or community), diversity (number and relative frequency of different species in an area or community) and abundance number of individuals in a species)," and thus recognizes the importance of stormwater quality measures in site design.

In order to further establish that the project results in a net environmental benefit, biomonitoring will be undertaken to assess baseline conditions.

Subsequent monitoring will be conducted during and after construction to provide a comparison to baseline standards.

The Town of Amenia recommended utilizing the EPA's Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates and Fish," which is available at <http://www.epa.gov/owow/monitoring/rbp/>. The second document identified by the Town as encapsulating the NYSDEC approach, as utilized by the Hudson River Basin Watch is entitled "Hudson Basin River Watch Guidance Document," and can be found at <http://www.hudsonbasin.org/HBRWGDO4.pdf>.

The following assessment protocol is anticipated.

- Four locations in Amenia Creek as follows: a) one upstream of the site; b) one below the salt yard; c) one within the stream along the proposed Hole #4; and d) one downstream of where the stream exits the site.
- Three monitoring periods throughout the year. These would include a sample to capture late spring base-line data, and should be conducted as soon as possible. Second would be a late-summer event during low flow conditions. Third would be a winter sampling event (chemical sampling only) to capture salt loads. Spring sampling would occur again next spring. The baseline sampling is intended to ensure that the Applicant is not held accountable for pollutant loads introduced by other factors.
- As described in Chapter 5 of the EPA's Rapid Bioassessment Protocol, a pre- and post-construction assessment of the physical characteristics of the stream corridor habitat, including size of water body or stream, water temperature, turbidity, algal growth, riffle size, pool-riffle ratio, substrate size, and embeddedness, shelter for fish, flow pattern, channel alteration, streambank cover and stability, and riparian vegetation.
- As described in the Hudson Basin River Watch Guidance Document, an annual pre-, during, and post-water quality assessment using benthic macroinvertebrates to a Tier 3 level of analysis.
- As described in the Hudson Basin River Watch Guidance Document, undertake a water quality chemical parameter analysis to a Tier 2 level of analysis.

Furthermore, Section 5 of the "NYS Stormwater Management Design Manual" presents a "list of practices that are acceptable for water quality treatment." Section 5.1 continues to state that practices within this manual

“...will be presumed to meet water quality requirements set forth in this manual if designed in accordance with the sizing criteria presented in Chapter 4 and constructed in accordance with the performance criteria in Chapter 6. The practices must also be maintained properly in accordance with the prescribed maintenance criteria also presented in Chapter 6.” The master SWPPP identifies that all stormwater management measures will be designed, constructed and maintained in accordance with the associated design manual.

The Final Scoping Document adopted on November 17, 2005 required a discussion of the following items:

- Post-development drainage patterns and conditions;
- Stormwater quality, runoff, and peak discharge rates for the 2-, 10-, 25-, 50-, and 100-year storms. The ability of on- and/or off-site receiving waters to assimilate additional runoff will be evaluated. The volume of sediment, nutrients and other pollutants that could adversely affect these surface waters, including both construction-related pollutants as well as pollutants that can be expected to be generated by roads, driveways, rooftops, lawns, landscaping, and maintenance of the golf course will be estimated and associated impacts evaluated;
- Potential impacts (if any) to floodplains due to re-grading;
- Potential contamination from roads and other impervious surfaces;
- Potential sedimentation of water bodies;
- Potential impacts to stream and wetland areas;
- Potential impacts to be assessed regarding construction of the project, as well as long-term potential impacts relative to the occupation of the site; and
- Potential impacts to on and off-site groundwater resources.

These discussions were included in the master SWPPP.

The Scoping Document identifies the Proposed Mitigation Measures required:

- Discussion of Stormwater Quality and Management Plan, implementation of Best Management Practices (BMPs), and the potential use of permeable surface areas for enhanced filtration. Inclusion of a SWPPP that

addresses the requirements of the Town of Amenia, Dutchess County, NYSDEC and other appropriate regulatory authorities;

- Discussion of compliance with applicable wetlands and stormwater regulations;
- Discussion of Erosion and Sediment Control Plan as it pertains to water quality.

These discussions were included in the master SWPPP.

With regard to the adequacy of the location and number of groundwater monitoring wells, natural groundwater movement under the Silo Ridge site migrates from western uphill areas to eastern low streams, ponds and wetlands. The proposed network of three shallow groundwater monitoring wells reflected this general trend. On a more specific level, the Silo Ridge site consists of several discrete subdrainage areas directing localized shallow groundwater flow primarily to four discharge areas. These include areas near proposed surface water monitoring locations SW-3 (downgradient from proposed holes 13, 14, 15 and 16), SW-2 (receiving discharge from proposed holes 10, 11, 12, 17, 18 and the driving range), SW-1 (downgradient from and receiving discharge from proposed holes 4, 5, 8 and 9) and an area immediately downhill from proposed hole 3 (downgradient from all or part of proposed holes 1, 2, 3, 6, 7 and 8). No shallow groundwater monitoring well is warranted near SW-2 since groundwater under upgradient golf areas will largely discharge to surfacewater upstream from SW-2 due to topographic and bedrock relationships. However, the three previously-proposed groundwater monitoring locations can be relocated to better monitor the remaining groundwater discharge areas, as follows: previously-proposed GW-1 will be moved downhill of the third green near the small pond separating the 3rd and 4th hole; previously-proposed GW-2 will be moved to where GW-1 was previously proposed, and; previously-proposed GW-3 will be moved to a location just south of SW-3. The monitoring of groundwater in these three locations, combined with interpreting groundwater quality from surfacewater flowing at SW-2, will provide representative groundwater quality data from the majority of the site.

Comment 3.2-25-GP38b: Mitigation for those impacts can then be developed as part of the FEIS, and also be incorporated into the SWPPP as appropriate (for example, standard Low Impact Development practices, an organic management plan for the golf course, de-icing alternatives to road salt, and vegetated buffers). [Greenplan, Inc., Letter, April 6, 2008, Comment #38b, page 7]

Response 3.2-25-GP38b: Refer to Response 3.2-11-20C with respect to Master SWPPP. See Response 3.2-6-34B with regard to LID practices. See Response 3.1-1-PHT with regard to organic golf course management. With regard to de-icing alternatives, please see Response 3.2-38-GP45e. With regard to vegetative buffers, see Response 3.4-4-34C.

Comment 3.2-26-GP38c: The SWPPP can be designed to further reduce impacts (including placement of all detention basins a distance of at least 100 feet from wetlands and streams). [Greenplan, Inc., Letter, April 6, 2008, Comment #38c, page 7]

Response 3.2-26-GP38c: Stormwater management measures identified in the master SWPPP, such as open basins, have been located to capture and treat upland stormwater run-off from developed areas prior to discharge into adjacent wetlands and streams. The master SWPPP has been reviewed by the Town Designated Engineer for the Town of Amenia and has been found to be adequate for the purposes of SEQRA. As the design of proposed stormwater management measures is advanced from the master SWPPP to final design in support of the site plan review process, their location will be refined to optimize, to the maximum extent practical, setbacks from aquatic resources. The Town Designated Engineer and the Town Attorney indicated during a workshop review session held May 19, 2008 that this methodology of proceeding with the SWPPP is adequate for mitigation purposes under SEQRA.

The MDP does not propose any stormwater management facilities within 100 feet of the state-regulated wetland on the site. See Response 3.2-22-GP37 regarding the relocation of a stormwater management basin away from Amenia/Cascade Brook in the northeast portion of the site. Further, well designed stormwater management facilities (designed to meet appropriate stormwater quality and quantity criteria and located in uplands) will not reduce the aquatic values of state or federally regulated wetlands or waters on the site. In fact, the proximity of any water-holding structure with elevated berms should be recognized for its limited potential to provide additional habitat for resident wildlife (waterfowl, nesting areas in berms for reptiles, etc.). This is not to say these basins represent quality habitat, but the added presence of water features in the landscape will attract wildlife, and their proximate location to the streams and wetland areas on the site may represent an improvement in habitat diversity compared to, for example, the mowed turf which currently exists in many of the areas surrounding wetlands on the site.

Comment 3.2-27-GP39: After the additional information has been provided and a site design has been finalized, the SWPPP can then be developed and evaluated for

any potential remaining impacts on wetlands and streams, as part of the FEIS review. [Greenplan, Inc., Letter, April 6, 2008, Comment #39, page 7]

Response 3.2-27-GP39: See Response 3.2-26-GP38c.

Comment 3.2-28-GP40: After the project design has been finalized, the SWPPP should be prepared in full, including a map showing the locations of all stormwater management facilities, and details of outfalls and other conveyance to receiving waters, so that any potentially significant impacts from these facilities can be assessed and evaluated. For water quality protection purposes, none of these should be located within at least 100 feet of any wetland or stream (including intermittent streams). This distance should be increased if the land is on a slope. In addition, information about the outfall from each detention pond is needed to ensure that this outflow (with its residual pollutant load) is spread laterally across a vegetated surface to reduce its erosion potential and maximize infiltration into the soil before it reaches receiving waters. [Greenplan, Inc., Letter, April 6, 2008, Comment #40, page 7]

Response 3.2-28-GP40: See Response 3.2-26-GP38c. As the design of proposed stormwater management measures is advanced in support of site plan review process, their location will be refined to optimize, to the maximum extent practical, setbacks from aquatic resources.

Comment 3.2-29-GP41: Protection of water quality, particularly with respect to onsite wells, the large wetland AM-15, and Amenia/Cascade Brook has not been adequately provided and specific concerns are presented in items 42-52 below. [Greenplan, Inc., Letter, April 6, 2008, Comment #41, page 7]

Response 3.2-29-GP41: See Response 3.2-26-GP38c and Response 3.2-30-42 through Response 3.2-46-GP52. As discussed in these responses, there are no stormwater management basins within 100 feet of NYSDEC Wetland AM-15. The stormwater management basin in the vicinity of Amenia/Cascade Brook has been relocated so as to increase the distance between the basin and the Brook. Biomonitoring is proposed; see Response 3.2-24-GP38a.

Comment 3.2-30-GP42a: Page 3.2-31 states that the implementation of best management practices for stormwater “will serve to provide water quality protection to the stream and wetland areas.” On page 3.2-32: “Design details for the stormwater system and quantification of sediment and nutrient removal will be determined during the site plan stage...” These statements do not address the potential impacts to wetlands and streams, water quality and supply, that are often associated with conventional stormwater management systems. To be fully mitigated these impacts, they must be described in the FEIS. [Greenplan, Inc., Letter, April 6, 2008, Comment #42, pages 7-8]

Response 3.2-30-GP42a: See Response 3.2-24-GP38a and Response 3.2-26-GP38c. The NYSDEC has established the NYS Stormwater Management Regulations is an appropriate and accepted strategy and process for mitigating impacts to surface water bodies from development activities. The design and implementation of the SWPPP on this site in accordance with the NYSDEC Stormwater Management Regulations will provide adequate mitigation for development impacts related to stormwater. The Applicant has provided a master SWPPP that describes the stormwater management design on the site. The Town Designated Engineer for this project has determined that providing the master SWPPP and stating that the project will comply with the NYSDEC Stormwater Management Regulations provides adequate documentation to describe the mitigative measures that will be implemented on this site for stormwater management. This approach was deemed acceptable by the Town during a meeting held May 19, 2008.

Comment 3.2-31-GP43: Appendix 9.5 states that, “The methodology used to develop this Master SWPPP shall be adhered to for the preparation of the project’s final SWPPP. Stormwater quality and quantity controls designed for this Master SWPPP are preliminary in nature and are intended to demonstrate their location, approximate size, and design concept. Detailed analysis of these practices must be performed, and the design of each practice must be refined as part of the final SWPPP preparation.” The SWPPP is being used as mitigation for onsite impacts to water quality and flow, and yet it has not been finalized. In addition, when a final SWPPP is prepared, in detail, it may be found to incur additional impacts on wetlands and streams and therefore must be included as part of the FEIS evaluation. [Greenplan, Inc., Letter, April 6, 2008, Comment #43, page 8]

Response 3.2-31-GP43: See Response 3.2-30-GP42. If, during the site plan review process, the final SWPPP is found to have greater or additional impacts on wetlands and streams than the master SWPPP being reviewed in this SEQRA process, the Lead Agency can then evaluate whether the change in the SWPPP design represents a potential significant adverse environmental impact to the wetland or stream under SEQRA.

Comment 3.2-32-GP44: Appendix 9.5 states: “Several areas of proposed roadway are located such that the topography or adjacent constraints make it impractical to locate stormwater quality facilities. Waivers will be requested from NYSDEC for treatment of stormwater runoff from these areas as the site plan review and approval process progresses.” The potential for water quality impacts from runoff from these roadways has not been addressed. Rather than a request for waivers, which would only perpetuate the potential impact problem, these roadways should be relocated so that runoff can be adequately treated. The applicant needs to explain how this is consistent or inconsistent with the purposes of the RDO as it

relates to significant protection of water resources. [Greenplan, Inc., Letter, April 6, 2008, Comment #44, page 8]

Response 3.2-32-GP44: Final engineering of the roadway designs will occur concurrently with the engineering of the stormwater management facilities to treat runoff from the roadways, adjacent developed areas, and undeveloped areas. One of the design principles of the project will be to direct stormwater runoff from roadways into stormwater management facilities for treatment before discharge to any waterbodies on the site, and to keep that runoff separate from natural sheet flow from the surrounding undisturbed uplands. Response 3.2-4-33Y provides a specific illustration of how this will be done for roadways constructed in steep areas. However, it may not always be feasible to grade a roadway so that it meets both roadway design standards and provides stormwater management for the entire length of roadway. Relocation of roadways would not necessarily resolve this problem, given the potential impact to other adjacent environmental constraints.

It is not until the final engineering and final SWPPP have been completed that the need for a waiver will be determined. Regardless of whether a waiver is needed, the NYSDEC will review the entire SWPPP to determine if the overall stormwater management design, including the stormwater management facilities for roadways, provides appropriate stormwater management for quality and quantity control in accordance with the NYSDEC's Stormwater Management Design Manual. Two of the stated purposes of this Manual are to protect the waters of the State of New York from the adverse impact of urban stormwater runoff, and to provide guidance on the most effective stormwater management practices for new development sites. In the Applicant's opinion, a determination by the NYSDEC that the project provides appropriate stormwater management in accordance with that Manual should equate to a determination that the stormwater management design for the site will protect the waters of the site from adverse impacts, and that the design is using the most effective stormwater management practices for the new development. It is further the Applicant's opinion, that as such, the stormwater runoff from the project will not have adverse impacts on water quality, and thus make it consistent with the RDO relative mitigating adverse impacts to aquatic resources from stormwater runoff.

Comment 3.2-33-GP45: Stormwater detention ponds cannot remove all pollutants from stormwater runoff. The remaining pollutant load exits the pond into receiving waters where it has the potential for significant contamination impacts. As detention ponds fill with sediment, their ability to remove pollutants decreases. Therefore they do not provide adequate mitigation for the project's water quality impacts. [Greenplan, Inc., Letter, April 6, 2008, Comment #45, pages 8-9]

Response 3.2-33-GP45: The NYSDEC has established the NYS Stormwater Management Regulations as an appropriate and accepted strategy and process for mitigating impacts to surface water bodies from development activities including pollutant loading from stormwater runoff. The SWPPP will include a maintenance plan for the sediment basins, including regular cleaning of the forebays, which is a specific part of the mitigation basin designed to trap sediments.

The SWPPP is not intended to be a stand-alone document. The SWPPP is an integral part of the associated site design drawings and is not considered complete without them. The Applicant will consider LID measures in the final site design, which will be submitted to the Town for Site Plan Review and Approval. See Response 3.2-6-34B. Until final design is advanced, the Applicant cannot know for certain which LID measures can be implemented.

Comment 3.2-34-GP45a: This is a SEQR issue that goes beyond mere compliance with the minimal requirements of a SWPPP. Compliance with stormwater management design requirements (and preparation of a SWPPP) does not ensure that water quality and habitats will be adequately protected in wetlands and streams. The pollutants that are not removed are still a water quality issue. Without additional mitigation measures, stormwater management facilities alone are not sufficient to ensure protection of wetland water quality and supply. While pollutant load information is provided in the DEIS (Chapter 5), additional information is needed for an assessment of impacts including how much of the pollutant load will exit the stormwater detention basins annually? How can this be mitigated? [Greenplan, Inc., Letter, April 6, 2008, Comment #45a, page 8]

Response 3.2-34-GP45a: The SEQRA documentation included development of a Master SWPPP which outlines how the project will be compliant with the NYSDEC Stormwater Management Design Guidelines. As discussed in Response 3.2-32-GP44, two of the stated purposes of this Manual are to protect the waters of the State of New York from the adverse impact of urban stormwater runoff, and to provide guidance on the most effective stormwater management practices for new development sites. The NYS Stormwater Management Design Manual and associated NYS General Permit GP-02-01, "SPDES Permit for Stormwater Discharges for Construction Activities," does not require a pollutant loading analysis for this site. However, as a result of on-going discussions with the Town of Amenia Planning Board and their consultants, additional mitigation measures have been proposed to address the Town's site-specific stormwater management concerns, such as that expressed in the comment above. These include relocating the stormwater management basin away from Amenia/Cascade Brook and providing a longer flow path through a vegetated swale (see Response 3.2-22-GP37), utilizing LID Design (see Response 3.2-6-34B), installing buffers around streams (see

FEIS Appendix F, Habitat Management Plan), and proposing a water quality monitoring plan in Amenia/Cascade Brook (see Response 3.2-24-GP38a).

A pollutant load analysis was completed as part of the Master SWPPP, dated June 21, 2007 (Appendix 9.5.2 of the DEIS). In this analysis, the “Simple Method” was used to estimate pollutant loads for phosphorous, nitrogen, biochemical and chemical oxygen demand (BOD and COD, respectively) and total suspended solids (TSS). This method is considered precise enough to make reasonable and reliable pollutant management decisions at the SEQRA planning level. Flow weighted mean concentrations of the pollutants (“C”) have been selected from Table 2.1, “National Median Concentrations for Chemical Constituents in Stormwater” of the “New York State Stormwater Management Design Manual.

At the time of the pollutant load analysis, it was and remains the opinion of the Applicant’s consultants, as supported by the Town Engineer (Rohde, Soyka & Andrews Consulting Engineers, P.C.) that it is not necessary to evaluate trace metals, as these constituents are typically of greater concern with industrial and high density commercial uses. Furthermore, proposed buffers implemented as part of the Buffer Management Plan will provide an additional level of water quality treatment and are effective (in some cases greater than 80% removal efficiency) in the removal of trace metals.

Consistent with the drainage analysis, the pollutant load analysis was used to compare the overall project site pollutant export under pre- and post-development conditions (with consideration of NYSDEC Wetland AM-15). This analysis provided an indication of the magnitude of the pollutant loads that could potentially leave the project site if stormwater management and erosion and sediment control measures were not properly designed, constructed and maintained.

The pollutant loading analysis indicated that best management practices and the utilization of stormwater quality management facilities (without the added benefit of the proposed buffer management plan) are effective in reducing post development stormwater pollutant discharges. Post-development stormwater pollutant concentrations are significantly reduced through the use of stormwater management facilities. In addition to the “best management practices” identified above, stormwater quality will be enhanced through the implementation of erosion control measures and suggested maintenance practices outlined in the subject SWPPP

As part of the Habitat Management Plan prepared for the Silo Ridge project (Appendix F), a Buffer Management Plan (BMP) will be implemented. Conservation and water quality buffers will serve to “protect sensitive

habitats from degrading effects of sedimentation, increased thermal inputs from storm water discharge and canopy removal, and nutrient/contaminant loading from overland drainage.” In addition to the stormwater management ponds, the proposed buffers provide an additional level of water quality treatment. Studies suggest that these buffers provide greater than 80% removal efficiencies of nutrient (nitrogen/phosphorous) and contaminant loadings (absorbed components to transported solids, TSS and trace metals – lead, copper, zinc, and cadmium) from stormwater and irrigation run-off.

It is the Applicant’s opinion that post-development annual stormwater pollutant concentrations will be significantly reduced through the use of stormwater extended detention ponds. In addition to the “best management practices” (i.e. stormwater extended detention pond), stormwater quality will be enhanced through implementation of erosion control measures, suggested maintenance practices outlined in the respective SWPPP, and through the implementation of the Buffer Management Plan.

Comment 3.2-35-GP45b: Stormwater runoff contaminants that are not removed by stormwater management facilities and methods, including road salt for deicing, need to be fully described and further mitigation implemented to ensure protection of wetland water quality. All seventeen potential contaminants listed in DEC’s Stormwater Design Manual (page 2-3) should be specifically addressed- especially because of the close proximity of wetlands and streams. [Greenplan, Inc., Letter, April 6, 2008, Comment #45b, page 8]

Response 3.2-35-GP45b: See Response 3.2-38-GP45e regarding deicing. See Response 3.2-34-GP45a regarding the need for a pollutant loading analysis for potential contaminants.

Comment 3.2-36-GP45c: Road salt and other contaminants accumulate in piles of plowed snow. A plan for snow removal that keeps plowed snow out of wetlands and detention facilities needs to be developed. [Greenplan, Inc., Letter, April 6, 2008, Comment #45c, page 9]

Response 3.2-36-GP45c: See Response 3.2-38-GP45e.

Comment 3.2-37-GP45d: Pesticides and herbicides used on landscaping and lawns will contribute to the contaminant load. How will this be mitigated? [Greenplan, Inc., Letter, April 6, 2008, Comment #45d, page 9]

Response 3.2-37-GP45d: See Response 3.1-1-PHT for a discussion of the existing condition of the site as a golf course; the fact that a NRMP has been developed by Audubon International, which identifies measures and procedures that will minimize pesticide and herbicide inputs on the site; and

the fact that the NRMP will identify measures and procedures that will minimize chemical use on the golf course.

Section 5 in the NRMP is “Integrated Pest Management for the Community” and specifically, Section 5.4 is Pest Management ,which includes sub-sections 5.4.1 on herbicides and 5.4.2 on insecticides.

See Response 3.4-4-34C for a discussion of the buffer management plans for the golf course and the remainder of the site. Implementation of these buffer management plans will provide a separation between managed areas and the water bodies and wetlands on the site, which will mitigate contaminate loads through attenuation in the buffer.

Comment 3.2-38-GP45e: Cumulative impacts of road salt on wetlands and aquatic systems are well documented. Road deicing alternatives should be required for use on this site, because of water flow patterns, steep slopes, and sensitive resources. Calcium magnesium acetate and potassium acetate are possible choices. [Greenplan, Inc., Letter, April 6, 2008, Comment #45e, page 9]

Response 3.2-38-GP45e: The NRMP will include a management plan for alternative road de-icing measures. The management plan will include alternative deicing compounds or alternative mixes of sand and chemicals when those alternatives are appropriate based on engineering design and type of pavement. For example, one option is to base the management plan on Environment Canada’s research and code of practices as this information and research appeared to be the most up to date and the most comprehensive, while taking into consideration the needs of the Applicant. This will likely be a salt mixture with fine gravel and applied as a preventative measure (i.e., 4% salt, 96% fine gravel). This is a ratio used by the City of Calgary in Alberta. (<http://content.calgary.ca/CCA/City+Hall/Business+Units/Roads/Road+Maintenance/Snow+and+Ice+Control/Snow+and+Ice+Control+Program+and+Facts.htm>). This is an item that the Applicant needs to defer to the site plan review process, and then incorporate into the NRMP. The MDP needs to be developed for this assessment because the type of pavement and the final engineering design will affect the use of materials on the site. For example, sand should not be used in locations of porous pavement. For safety reasons, winter road treatment will be needed (i.e., the Applicant cannot commit to just plowing the roadways).

Comment 3.2-39-GP46: The golf course soils that will be disturbed during grading and construction are likely to contain a residual of stormwater contaminants including herbicides, pesticides, growth-regulating hormones (as described in the IPM), and fertilizers. The contaminants present in existing soils should be fully described along with potential impacts associated with their disturbance. [Greenplan, Inc., Letter, April 6, 2008, Comment #46, page 9]

Response 3.2-39-GP46: Please see Response 3.1-2-PHT.

Comment 3.2-40-GP47: In light of the increase in development in close proximity to wetland AM-15, and the fact that much of the runoff from the site will eventually find its way to this wetland or Amenia/Cascades brook, the golf course should be managed so that it does not contribute further to these impacts. The IPM plan does not provided sufficient assurance of this outcome. Therefore an Organic Management Plan for the golf course should be developed for evaluation as part of the FEIS. This would provide effective mitigation for some of the water quality impacts on this site. [Greenplan, Inc., Letter, April 6, 2008, Comment #47, page 9]

Response 3.2-40-GP47: Please see Response 3.1-1-PHT.

Comment 3.2-41-GP48: Mitigation for water quality impacts is left largely to the SWPPP. However, a SWPPP is not intended to substitute for mitigation onsite. Low Impact Development practices should be incorporated into the site design to provide effective mitigation. These specific practices are described in many resources including the EPA 2007 publication “Reducing Stormwater Costs through Low Impact Development Strategies and Practices” and should be presented in the FEIS. [Greenplan, Inc., Letter, April 6, 2008, Comment #48, page 9]

Response 3.2-41-GP48: The SWPPP is not intended to be a stand-alone document. The SWPPP is an integral part of the associated site design drawings and is not considered complete without them. Please see Response 3.2-6-34B for a discussion of LID practices that will be implemented.

Comment 3.2-42-GP49: We note the following concerns related to buffers. [Greenplan, Inc., Letter, April 6, 2008, Comment #49, pages 9-10]

a. To further protect water quality onsite, all wetlands and streams should be provided with an intact vegetated buffer of specified width and vegetative characteristics. Research indicates that for optimal water quality protection, the buffer should be at least 100 feet in width. Results of research documenting the effectiveness of various sized buffers in removing contaminants (including sediments, nitrogen and phosphorus and other contaminants that are not removed by detention ponds) from runoff is provided by publications including “Planners Guide for Wetland Buffers for Planners” and “Conservation Thresholds for Land Use Planners” from the Environmental Law Institute. Buffers can become saturated with specific contaminants, and thus a larger size is necessary for continued efficiency over time. All water sources that contribute to the water supply of the large wetland, AM-15, should receive adequate water quality protection buffers. If they are not provided with adequate buffers, the FEIS must state the reasons why this would be acceptable re: water quality.

Response 3.2-42-GP49: Please see Response 3.4-4-34C. Turfgrass research suggests that between 15 and 50 feet is an adequate buffer to protect water quality from runoff⁹. There is no development proposed within 100 feet of Wetland AM-15.

Comment 3.2-43-GP49b: Several disturbances to buffers are described in the DEIS; however, all grading, construction or other disturbance of a 100 foot buffer around both the large wetland AM-15 or Amenia/Cascades Brook - which are both particularly significant resources - should be prohibited. For all other wetlands, streams, and waterbodies onsite, the FEIS should explain why less than 100 feet would be acceptable, in light of the above referenced research and any hydrologic connections with wetland AM-15 or Amenia Brook. [Greenplan, Inc., Letter, April 6, 2008, Comment #49b, page 10]

Response 3.2-43-GP49b: Please see Response 3.2-20-33C which discusses the buffer restoration and minor regrading in the vicinity of Amenia/Cascade Brook and Response 3.2-26-GP38c which discusses that there is no development proposed within 100 feet of Wetland AM-15. Please also see Figure 3.2-4a, which shows a cross sectional view through wetland AM-15 and its 100 foot DEC buffer up the slope and through Building S-11 of Block E development. The existing grade line is dashed while the proposed grade line is solid. Impacts to AM-15 are minimized by collecting, conveying and treating newly developed impervious surfaces (i.e. roadways, buildings roof tops, etc.) within proposed stormwater management facilities prior to discharge to surface waters and not disturbing the NYSDEC 100-foot adjacent area. Additionally, although grading will occur next to the 100-foot adjacent area, in many areas the final grade is no steeper than the existing grade and the hydrology within the tributary drainage area of the NYSDEC wetland is relatively consistent between pre- and post-development conditions. Disturbed areas adjacent to the 100 foot buffer will be re-vegetated per the Habitat Management Plan, Appendix F.

Comment 3.2-44-GP50: Drought and climate change conditions will decrease wetlands function and affect stream flows and runoff events. How will this project affect wetlands and streams in light of these parameters? What mitigation is proposed to offset these impacts? (Reference: Northeast Climate Impacts Assessment “Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions” and other information provided by the NYS Department of Environmental Conservation.) [Greenplan, Inc., Letter, April 6, 2008, Comment #50, page 10]

Response 3.2-44-GP50: Please see Response 3.2-5-34A.

⁹ Kenna, Michael and Snow, James. USGA Green Section. Environmental Research: Past and Future. USGA Turfgrass and Environmental Research Online 1(3):1-25. TGIF Record Number 79123.

Comment 3.2-45-GP51: Proposed mitigation for all wetland and buffer disturbances, should be described in one location within the FEIS so it can easily be evaluated. [Greenplan, Inc., Letter, April 6, 2008, Comment #51, page 10]

Response 3.2-45-GP51: Please see Response 3.2-5-34A which summarizes the wetland mitigation. Also see Response 3.2-21-GP35K which also discusses the mitigation as outlined in the June 26, 2007 letter to the ACOE, contained in the FEIS Appendix E, Correspondence, and the ACOE's response to the project and mitigation proposed. Further, on April 22, 2008, the Applicant and its consultants met with the NYSDEC on-site to discuss the mitigation within the buffer of wetland AM-15 and restoration of the stream buffer along Amenia/Cascade Brook. The NYSDEC provided some specific suggestions regarding the measures they would like to see in these two areas but, in general, seemed to indicate that the proposed mitigation would be adequate to mitigate the impacts on the site. The proposed Buffer Management Plan is provided in the Habitat Management Plan (Appendix F).

Comment 3.2-46-GP52: There are several concerns related to impacts to wetland AM-15. These are described more specifically in items 53-56 below. [Greenplan, Inc., Letter, April 6, 2008, Comment #52, page 10]

Response 3.2-46-GP52: Please see Responses 3.2-47-GP53 through 3.2-54-GP56.

Comment 3.2-47-GP53: All potential impacts to the wetland are not described adequately in the DEIS. Information including the following should be provided in the FEIS: [Greenplan, Inc., Letter, April 6, 2008, Comment #53, page 10] a. increased ponding (potentially leading to changes in wetland function and quality);

Response 3.2-47-GP53: With respect to the NYSDEC wetland (AM-15) see Response 3.2-26-GP38c, which indicates that there is no development proposed within 100 feet of this wetland. With regard to potential hydrological changes to this wetland, see Response 3.2-2-PHT. Stormwater management measures will serve to control storm run-off from the developed site. The existing outlet configurations at Wetland AM-15 will remain unchanged and thus it is anticipated that the water level fluctuation within the wetland will be negligible.

Comment 3.2-48-GP53b: increased water level fluctuations (potentially rendering wetland conditions more favorable for invasive plant species, and affecting plant species composition); [Greenplan, Inc., Letter, April 6, 2008, Comment #53b, page 10]

Response 3.2-48-GP53b: Wetland AM-15 already contains a significant stand of common reed (*Phragmites communis*) and purple loosestrife (*Lythrum salicaria*). With regard to potential hydrological changes to this wetland, see Response 3.2-2-PHT. Stormwater management measures will serve to control storm run-off from the developed site. The existing outlet configurations at Wetland AM-15 will remain unchanged and thus it is anticipated that the water level fluctuation within the wetland will be negligible.

Comment 3.2-49-GP53c: Changes in wetland water supply including during periods of drought, and in light of climate change impacts; [Greenplan, Inc., Letter, April 6, 2008, Comment #53c, page 10]

Response 3.2-49-GP53c: With regard to potential hydrological changes to this wetland, see Response 3.2-2-PHT. With regard to climate changes see Response 3.2-5-34A.

Comment 3.2-50-GP53d: Decreased groundwater discharge. [Greenplan, Inc., Letter, April 6, 2008, Comment #53d, page 10]

Response 3.2-50-GP53d: With regard to potential hydrological changes to this wetland, see Response 3.2-2-PHT.

Comment 3.2-51-GP54: Impacts to the contributing drainage area (CDA) to wetland AM-15 are not adequately addressed:

a. The road and its associated structures separate the wetland from water flowing from west to east through this portion of the watershed; the impacts of this on the wetland's hydrology are not described. [Greenplan, Inc., Letter, April 6, 2008, Comment #54, page 10]

Response 3.2-51-GP54: Diversion ditches and swales ensure that the overall existing drainage patterns are maintained to the maximum extent practicable while continuing the conveyance of upstream watershed runoff to the wetland. Refer to the master SWPPP with respect to a discussion of Wetland AM-15. With regard to potential hydrological changes to this wetland, see Response 3.2-2-PHT.

Comment 3.2-52-GP54b: While the amount of impervious cover for the entire site is approximately 6%, it appears that a high proportion of that is located within the wetland's CDA. This includes all of the CDA, onsite and offsite. The area of existing impervious surface should be compared to post-construction impervious surface area within the CDA to determine if additional reductions in impervious surface are required to mitigate potential cumulative impacts. Research information from the

Center for Watershed Protection and the DEC document that thresholds of 3-5% impervious surface may affect wetland quality water quality; 10% indicates likelihood of real impacts on wetland quality, and at 20% or more wetland quality is sharply degraded. It is important to know where on this continuum the CDA for the wetland falls, so that additional mitigation can be provided as appropriate. [Greenplan, Inc., Letter, April 6, 2008, Comment #54b, pages 10-11]

Response 3.2-52-GP54b: Under the proposed site conditions (–see Sheet SP-2 of the MDP in Appendix M), the project would result in approximately 37.5 acres of impervious surfaces, or <6% of the total project site area. Considering the contributing watershed of NYSDEC Wetland AM-15 (approximately 536 acres), the approximate impervious cover within the watershed post-development would be 7% of the land area of the watershed. This is less than the 10% impervious cover, which is cited by the commenter as having a likelihood of real impacts on water quality. This 7% impervious calculation assumed that all of the proposed parking/sidewalk/rooftop surfaces were impervious. As Response 3.2-6-34B notes, the project is using several LID practices, including pervious surfaces and infiltration practices, which should further reduce the impervious percentage within the Wetland AM-15’s CDA. As required by the NYSDEC the master SWPPP demonstrates compliance with the NYSDEC Stormwater Management Regulations, designed to mitigate adverse impacts from construction and development. The master SWPPP also demonstrates that the proposed development controls the increase rate of run-off in order not to adversely affect downstream properties (i.e. pre- vs. post analysis). With respect to water quality, see Response 3.2-24-GP38a.

Comment 3.2-53-GP55: Any reduction in water quality for wetland AM-15 has the potential to affect the much larger complex that includes DEC wetland AM-16 and Cascade Brook. This connection is not discussed in the DEIS with regard to water quality and wetland water supply and must be addressed in the FEIS. [Greenplan, Inc., Letter, April 6, 2008, Comment #55, page 11]

Response 3.2-53-GP55: The NYSDEC wetland AM-15 on-site does connect to NYSDEC AM-16 off-site, which flows to Cascade Brook. With regard to water supplies, the proposed development will not have a significant affect on the overall hydrology and functionality of the NYSDEC Wetland AM-15. The hydraulic connection between the NYSDEC Wetland AM-15 and Amenia/Cascade Brook with the off-site will remain unchanged from its current condition. Please see Response 3.2-2-PHT. With regard to water quality, there will be no significant water quality impacts to NYSDEC Wetland AM-15 given the implementation of the SWPPP (see Response 3.2-24-GP38a), the NRMP (see Response 3.1-1-PHT), the Buffer Management Plan and the use of several LID methods (see Response 3.2-6-34B). The

project represents an even smaller percentage of the CDA to NYSDEC Wetland AM-16 and Cascade Brook than to NYSDEC Wetland AM-15. Therefore, any impacts to NYSDEC Wetland AM-16 from the project would be similarly reduced. The NYSDEC will review any impacts to these wetlands and streams as part of their permit review process for this project, which will include a review of the SWPPP.

Comment 3.2-54-GP56: Appendix 9.5 states “Generally stormwater that drains to this large wetland goes through a series of ponds, culverts and/or streams located throughout the central portion of the site prior to reaching the wetland.” Therefore the quality of water in all of these ponds, culverts, wetlands and streams requires protection and mitigation where necessary. The potential pollutant load conveyed into wetland AM-15 from these sources is not adequately described and needs to be addressed in the FEIS. [Greenplan, Inc., Letter, April 6, 2008, Comment #56, page 11]

Response 3.2-54-GP56: Please see Response 3.2-24-GP38a and Response 3.2-53-GP55.

Comment 3.2-55-GP57: There are several concerns related to the impacts to Amenia/Cascades Brook which are described more fully in items 58-60 below. [Greenplan, Inc., Letter, April 6, 2008, Comment #57, page 11]

Response 3.2-55-GP57: Please see Responses 3.2-56-GP58 through 3.2-58-GP60.

Comment 3.2-56-GP58: Changes in the flow of the brook are significant for dilution of water contaminants from stormwater runoff and other sources, and for maintaining in-stream integrity of the brook. Trout habitat is affected by changes in water temperature as well; this is not described in the DEIS. Much of the stormwater runoff from this property will reach the Brook, whether from overland flow or via culvert or stormwater basin outfalls. What impact will this runoff have on stream flow? How will this change during periods of drought, and over time as the stream is affected by climate change? [Greenplan, Inc., Letter, April 6, 2008, Comment #58, page 11]

Response 3.2-56-GP58: It is true that detention of stormwater can cause an increase in water temperature, and that thermal impacts are a concern in trout waters, where cold temperatures are critical for species survival. According to the NYSDEC Design Manual, trout waters may be exempted from the 1-year storm, 24-hour extended detention requirement, with only 12 hours of extended detention required. In order to address this concern at the project site, a 12 hour extended detention time was provided, as discussed in the master SWPPP provided in Appendix 9.5 of the DEIS. With regard to

concerns about water flow to Amenia/Cascade Brook, the master SWPPP has provided analysis that demonstrates that the stormwater rate of runoff off-site in post development conditions will equal or be less than the flow rates under pre-development conditions. With regard to the overall impact of the project on the water budget of the site see Response 3.2-2-PTH. With regard to impacts of climate change see Response 3.2-5-34A.

Comment 3.2-57-GP59: For adequate stream protection, including bank stability, riparian habitat, water temperature, and water quality protection, a buffer of at least 100 feet should be provided along the brook. Vegetation within this buffer should include as much woody cover as possible, and no pesticides or herbicides should be used within the buffer zone. Small portions of the golf course that fall within this riparian buffer (as described on page 5-47) should be relocated outside the buffer. [Greenplan, Inc., Letter, April 6, 2008, Comment #59, page 11]

Response 3.2-57-GP59: Please see Response 3.2-20-33C and Response 3.2-42-GP49. Please also see Appendix F, "Habitat Management Plan."

Comment 3.2-58-GP60: The outflow from the wastewater treatment facility is likely to affect stream flow and possibly temperature. This is not adequately described in the DEIS and needs to be addressed in the FEIS. [Greenplan, Inc., Letter, April 6, 2008, Comment #60, page 11]

Response 3.2-58-GP60: Please see Response 3.2-2-PHT.

Comment 3.2-59-GP61: Page 3.2-35 states that the aquatic in-stream habitat of Amenia/Cascade brook will not be negatively affected but the DEIS does not provide any information regarding macroinvertebrates or other existing habitat/biological conditions within the stream. Even very small decreases in stream flow during periods of drought can cause significant impacts to in-stream biota. This needs to be addressed. [Greenplan, Inc., Letter, April 6, 2008, Comment #61, page 11]

Response 3.2-59-GP61: Please see Response 3.2-2-PHT regarding the water budget and the quality of the effluent being discharged by the WWTP. Also see Responses 3.2-25-GP38b and 3.2-34-GP45a, which discuss the variety of mitigation measures being adopted on this site, which currently exists as a golf course. Given the existing conditions present on the site, and the mitigative measures being proposed, it is the Applicant's position that there will be no significant adverse impacts on in-stream biota, and there may actually be an improvement. See Response 3.2-24-GP38a proposing a water quality monitoring plan in Amenia/Cascade Brook.

Comment 3.2-60-GP62: [DEIS] Appendix 9.8 states, "The anticipated WWTP outfall location will be to an unclassified on-site intermittent stream that drains to

on-site Class C irrigation ponds. These ponds then overflow off-site to Amenia Brook, a Class Ct Stream...” Potential impacts from this overflow on flow levels, water quality and temperature in Amenia Brook should be described. [Greenplan, Inc., Letter, April 6, 2008, Comment #62, page 12]

Response 3.2-60-GP62: Please see Response 3.2-2-PHT regarding discharge location, flow levels, and water quality impacts. The treated effluent is being discharged to the island green pond, where it may be used for irrigation, or may flow into the on-site drainage. The on-site drainage from this location ultimately enters Wetland AM-15 prior to being discharged into Amenia Brook. Because of the mixing of effluent with the island green, subsequent drainages, and Wetland AM-15, it is likely that this effluent will reach thermal equilibrium with surface waters on the site including the NYSDEC wetland prior to entering Amenia/Cascade Brook. As such, it would have a negligible effect on the Amenia/Cascade Brook downstream of the site.

Comment 3.2-61-GP63: What effect will the proposed crossings, filling and encroachments impacts have on the flow/hydrology and water quality of the entire system that appears to drain directly to wetland AM-15 (wetland J/JJ, ponds J1-2 and K, streams J, L, and QQ)? [Greenplan, Inc., Letter, April 6, 2008, Comment #63, page 12]

Response 3.2-61-GP63: Please see Response 3.2-21-GP35 that discusses the ACOE review of the project and Response 3.2-5-34A that discusses the proposed mitigation for the project. The project impacts less than 0.05 acre of wetlands and streams on the site. The project is designed to improve the buffer around the NYSDEC Wetland AM-15, to restore hydrological connections between wetlands by daylighting currently culverted sections of drainage, to improve buffer plantings along the portion of Amenia/Cascade Brook which currently has no buffer plantings, and to improve buffer plantings and management along many of the wetlands within the golf course and remainder of the residential development. The project implements a SWPPP, a NRMP, a buffer management plan, and will use several LID measures as identified in Response 3.2-6-34B. Also see Response 3.2-53-GP55. These measures should minimize impacts to and may even improve the overall conditions of wetlands on the site. With regard to flow and water budget see Response 3.2-2-PHT. With regard to water quality, see Response 3.2-24-GP38a.

Comment 3.2-62-GP64: The DEIS states that the preferred traditional neighborhood plan has only 6% impervious surface. We ask the applicant to confirm the impervious surface number because this is 76 acres less than the proposed action. While this is a great improvement over the proposed plan, the cumulative impact of impervious surfaces within the watershed is not discussed; this should be

added in the FEIS. It is an important issue because as stated previously, there are thresholds for potential impacts from impervious cover. It is important to know where on this continuum the watershed for this project falls, so that additional mitigation can be provided as appropriate. [Greenplan, Inc., Letter, April 6, 2008, Comment #64, page 12]

Response 3.2-62-GP64: The Traditional Neighborhood number of 6% in the master SWPPP is correct (although as noted in Section 1.0 of this FEIS, revisions to the MDP have resulted in a decrease in the amount of impervious on the site by 1.5 acres, so the percentage now is slightly less than 6%). With regard to cumulative impacts, the drainage point used for this analysis is the confluence of the NYSDEC AM-15 wetland outlet and Amenia/Cascade Brook, located just east of Route 22. This drainage point has a 5,839-acre watershed, which includes 570 acres of the proposed site (an additional 100 acres of the site is located outside of the watershed associated with this drainage point). In the existing condition, including the site in its existing condition, there are 225 acres (or 4% of the drainage point watershed) that exists as high, medium or low intensity development. With the 37.5 acres of impervious surface post-development is added to the existing impervious amount in the watershed, then there would cumulatively be 259 acres of impervious area in the 5,839-acre watershed. The overall percentage of impervious land area in the watershed would be still 4%. See Figure 3.2-5, "Landcover Types in the Watershed for the Drainage Point." Data for this analysis is from http://www.csc.noaa.gov/crs/lca/tech_cls.html#13.

Comment 3.2-63-GP65: What effect will the wetland enhancement plan described in section 5 have on the hydrology of the wetlands and streams onsite? [Greenplan, Inc., Letter, April 6, 2008, Comment #65, page 12]

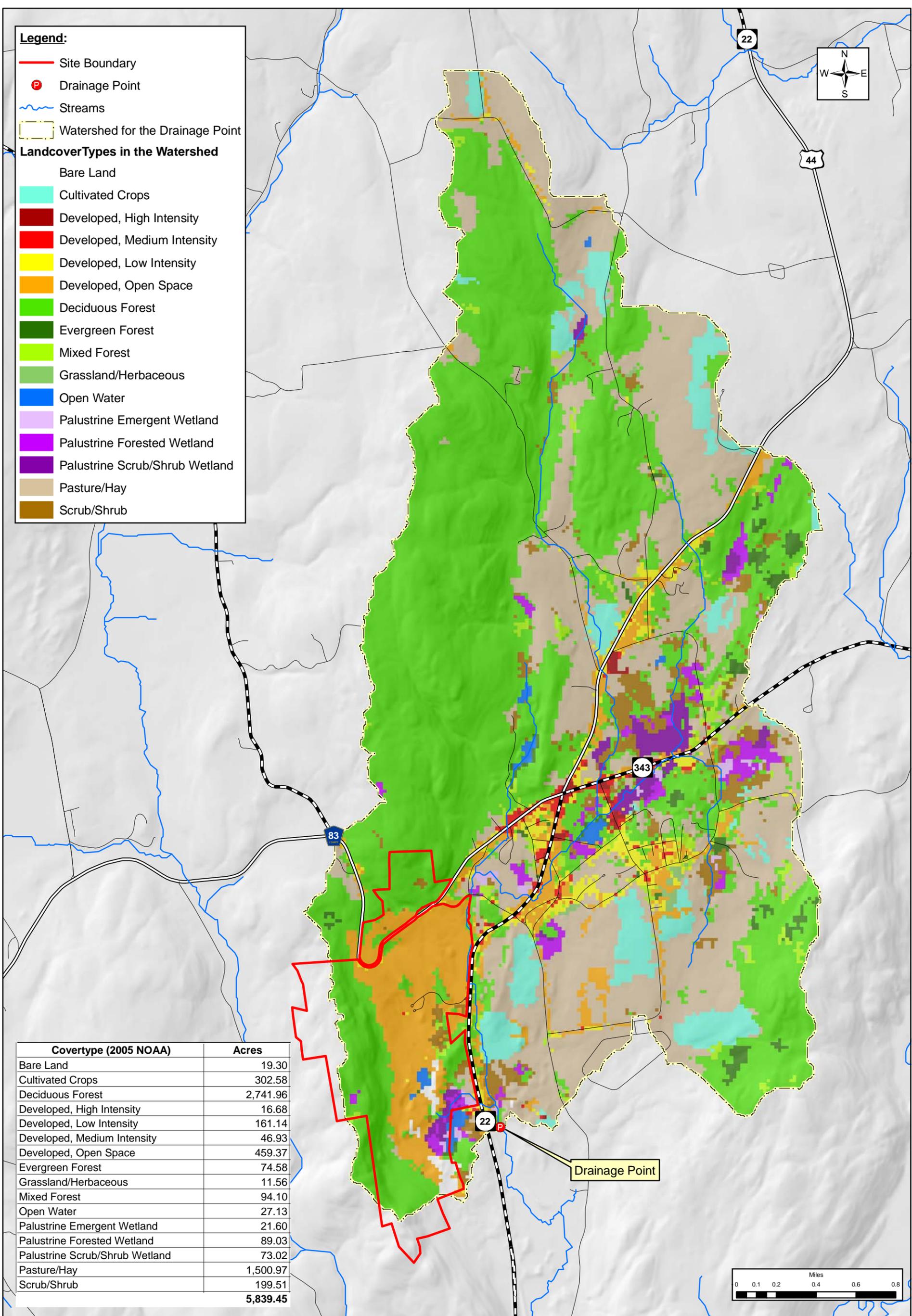
Response 3.2-63-GP65: Please see Response 3.2-61-GP63.

Comment 3.2-64-GP66: Water supply for onsite wells, wetlands and streams, including analyses of drought conditions and anticipated effects of climate change is not adequately described in the DEIS. While the DEIS documents well supply, it does not provide sufficient information on the preferred alternative. Will existing well capacity serve this alternative? If not, where will additional wells be located, and what will be the cumulative effect of water use from all wells onsite on the wetlands and streams onsite and adjacent to the site? [Greenplan, Inc., Letter, April 6, 2008, Comment #66, page 12]

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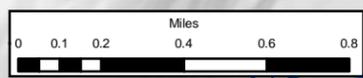
Legend:

- Site Boundary
 - Drainage Point
 - ~ Streams
 - Watershed for the Drainage Point
- LandcoverTypes in the Watershed**
- Bare Land
 - Cultivated Crops
 - Developed, High Intensity
 - Developed, Medium Intensity
 - Developed, Low Intensity
 - Developed, Open Space
 - Deciduous Forest
 - Evergreen Forest
 - Mixed Forest
 - Grassland/Herbaceous
 - Open Water
 - Palustrine Emergent Wetland
 - Palustrine Forested Wetland
 - Palustrine Scrub/Shrub Wetland
 - Pasture/Hay
 - Scrub/Shrub



Covertypes (2005 NOAA)	Acres
Bare Land	19.30
Cultivated Crops	302.58
Deciduous Forest	2,741.96
Developed, High Intensity	16.68
Developed, Low Intensity	161.14
Developed, Medium Intensity	46.93
Developed, Open Space	459.37
Evergreen Forest	74.58
Grassland/Herbaceous	11.56
Mixed Forest	94.10
Open Water	27.13
Palustrine Emergent Wetland	21.60
Palustrine Forested Wetland	89.03
Palustrine Scrub/Shrub Wetland	73.02
Pasture/Hay	1,500.97
Scrub/Shrub	199.51
Total	5,839.45

Drainage Point



CHAZEN ENGINEERING, LAND SURVEYING & LANDSCAPE ARCHITECTS CO., P.C.

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Silo Ridge Resort Community
Landcover Types in the Watershed
for the Drainage Point

Town of Amenia
Dutchess County, New York

Drawn:	CLC
Date:	07/17/2008
Scale:	1:28,000
Project:	10454.02
Figure:	3.2-5

Response 3.2-64-GP66: The Aquifer Report (Appendix 9.12 of the DEIS) did indicate that the site can supply its own water under both normal and drought years with remaining reserve capacity. The table below identifies the number of homes under the Traditional Neighborhood Alternative from the October 2007 DEIS, and the Traditional Neighborhood Alternative that is being advanced as the current preferred alternative under the MDP alternative. The site can supply adequate water under both alternatives. Additionally, as discussed in Response 3.2-2-PHT, water will be reused on-site.

Table 3.2-1, “Traditional Neighborhood Alternative Impacts Comparison of DEIS to MDP”

Feature	Traditional Neighborhood Alternative (DEIS)	Traditional Neighborhood Alternative (MDP)
Total Site Acreage	670±	670±
Total # Homes	359	338
Single-family	60	60
Townhouses/Flats	299	278
Total # Hotel Units	300	300
Water Demand - Max. Daily (gpm)	272	264
Total Estimated Groundwater Production (gpm)	283	283

Comment 3.2-65-GP67: Several of the wells that would be used for the project’s water supply contain levels of certain contaminants that exceed standards. While the DEIS describes how this water would be treated it does not describe the probable causes of this contamination. This information should be included, so that any potential project impacts that might increase contamination can be mitigated. [Greenplan, Inc., Letter, April 6, 2008, Comment #67, page 12]

Response 3.2-65-GP67: Site geologic factors include carbonate bedrock formations and buried iron-rich and weathered former topographic features now converted to bedrock. These features result in the presence of inorganic compounds requiring treatment in the proposed drinking water wells. No potential project impacts that would exacerbate this issue are anticipated.

Comment 3.2-66-GP68: According to the DEIS 43% or 108 acres of project site disturbance are located on slopes of 15% or greater. The entire length of the road that runs along the western side of the proposed project introduces an area of disturbance that interrupts the overland flow of water from the forested slopes of the western portion of the site to the wetlands and streams to the east; the northern portion of the road runs parallel to a small stream and wetlands. Impacts from this road are not adequately addressed in the DEIS. As currently depicted all runoff

from the road, including road salt, will flow directly into the stream/wetland complex. In addition to these potential water quality impacts, how will this road affect water availability to down slope wetlands and streams on the site? Depending on the potential significance of these impacts, mitigation involving the removal of at least the northern portion of this road may be necessary. [Greenplan, Inc., Letter, April 6, 2008, Comment #68, page 12]

Response 3.2-66-GP68: See Response 3.2-4-33Y.

Comment 3.2-67-GP69: DEIS state that groundwater onsite is entirely replenished by precipitation. If stormwater design collects this and carries it offsite, what impact will this have on groundwater replenishment? This potential impact needs to be addressed in the FEIS. [Greenplan, Inc., Letter, April 6, 2008, Comment #69, page 13]

Response 3.2-67-GP69: Since slightly less than 6% percent of the overall property (37.5 acres) will be impervious surface area, the proposed stormwater management program engages a small fraction of total land. See Response 3.2-6-34B for a discussion of LID practices that will be implemented by the Applicant. Such practices would infiltrate captured runoff from most smaller rainfall events. This would mean that under normal conditions, more than 80 percent of total regional annual rainfall would be retained and available to recharge on site. Given the minimal percentage of impervious cover, and the fact that the Applicant is looking to infiltrate as much of that area as practicable, infiltration of precipitation will remain essentially unchanged on the site and no significant loss of groundwater replenishment is anticipated. Finally, it is noted that the estimated project water demand is less than both the estimated current average and drought year recharge values for the site, so some loss of groundwater recharge during the heaviest of rainfalls when infiltration capacity is exceeded can be accommodated by the site without causing any off-site aquifer drawdown impacts. See Response 3.2-2-PHT regarding the water budget. See Response 3.2-64-GP66 regarding site water demand.

Comment 3.2-68-GP70: The DEIS does not describe the location of the staging area for construction materials and chemicals, and any potential impacts and mitigation. [Greenplan, Inc., Letter, April 6, 2008, Comment #70, page 13]

Response 3.2-68-GP70: A potential staging area is at the employee parking lot and locations to the south. As the detailed Site Plans are advanced for review and approval by the Town, construction staging areas will be more specifically defined. Materials will be stored in enclosed containers. The SWPPP requires that a Spill Prevention and Response Plan be developed and

implemented by the contractor and that a copy of this plan be maintained on site.

Comment 3.2-69-GP71: Where will the “routes of convergence” (p.21, Appendix 9.5) be located? Will they traverse any wetlands or streams during construction? [Greenplan, Inc., Letter, April 6, 2008, Comment #71, page 13]

Response 3.2-69-GP71: Routes of convenience are to be avoided in order to preserve natural areas and to prevent unnecessary erosion into sensitive areas. Construction routes will be established during the Site Plan Review process and shown on the site plans.

Comment 3.2-70-GP72: What specific actions does ‘site preparation’ to minimize area and duration of soil disruption entail? (Ref. Appendix 9.5). [Greenplan, Inc., Letter, April 6, 2008, Comment #72, page 13]

Response 3.2-70-GP72: See Response 3.1-2-PHT regarding clearing and soil erosion procedures.

Comment 3.2-71-GP73: The DEIS contains inadequate information regarding the golf course soils and the effects of grading. Will they be compacted, be made to shed water rapidly, or will they be made more friable? What effect will this have on drainage patterns and water absorption? [Greenplan, Inc., Letter, April 6, 2008, Comment #73, page 13]

Response 3.2-71-GP73: Good fertility is important for a golf course, and this includes having soils that are friable so that good, strong turf can be grown. The golf course construction will be undertaken to maintain friability. As a result, the drainage patterns and water absorption on the golf course will remain the same or improve as a result of construction.

Comment 3.2-72-38L: VII. Ironically, with Climate Change, along with increased summer drought conditions, the last two and a half years have presented unprecedented Spring and Fall flooding stresses not seen since the 1950s. With the over-development of the upper slopes of the golf course area, as well as the steep slopes on the north side of Rt. 44, will not the down-valley flooding impact potentials increase significantly? Watershed? But, then again, Wassaic is quite far away, so the fact that it is a flood water drainage bottleneck is not an important consideration...not Silo Ridge's problem! [Patrick J. Nelligan, Letter, March 24, 2008, Comment L, page 6]

Response 3.2-72-38L: With regard to potential hydrological changes, see Response 3.2-2-PHT. With regard to climate changes see Response 3.2-5-34A.

Comment 3.2-73-21A3: [The identified issues of concern from the October 10, 2007 letter include: in regards to the SWPPP and applicants request to 5-acre disturbance waiver, a condition of any approval of the permit would be stabilization in 7 (seven) days rather 14 days.] [NYSDEC, Letter, January 14, 2008, Comment A3]

Response 3.2-73-21A3: Work will be conducted in accordance with the NYSDEC SWPPP regulations in effect at the time. See Response 3.1-2-PHT and Response 3.1-7-33T for the timeframes that are assumed based on current regulations.

Comment 3.2-74-21B: As previously stated, DEC staff will also require a site visit to review the proposed outfall location and potential alternative locations as well as inspect the regulated wetland and stream. [NYSDEC, Letter, January 14, 2008, Comment B]

Response 3.2-74-21B: A site inspection was made with the NYSDEC on April 22, 2008. The discussions from that meeting have assisted in the formulation of responses to some of the comments in the FEIS.

Comment 3.2-75-21C: Please also be aware that to date, the DEC has not received the “Silo Ridge Aquifer Pumping Test Report” which is required as part of the Water Supply Application and review. [NYSDEC, Letter, January 14, 2008, Comment C]

Response 3.2-75-21C: The Silo Ridge Aquifer Pumping Testing Report was sent to the NYSDEC on January 25, 2008. This document will also be included within the Water Supply Application when it is submitted to the NYSDEC for review.

Comment 3.2-76-20D: Additionally, the construction phasing drawings do not adequately show sedimentation and erosion control plans. They should include, at a minimum, planned start and, completion dates for each phase of the project including time in days, design criteria, a planned maintenance program, and identification of other possible local\state and federal permits required. There are no locations for sediment stockpiles, silt fences, hay bales, protected locations for vehicle and material storage, refueling locations or temporary sedimentation basins. This information is critically important in order to review this project. We also believe that a watershed analysis should have been conducted to determine the area of contribution for stormwater runoff before the stormwater management plan was designed. [Elaine LaBella, Housatonic Valley Association, Letter, March, 25, 2008, Comment D, page 2]

Response 3.2-76-20D: See Response 3.2-11-20C. In addition, the master SWPPP presents the pre-development and post-development features and

conditions associated with surface water runoff within the study area. For both cases, the drainage patterns, drainage structures, soil types, and ground cover types were considered in developing the master SWPPP.

Comment 3.2-77-26B: Surface Water Quantity. When thinking about quantity, it is important to note that the Wassaic Historic Hamlet is different from the other settlements and villages up and down the Harlem Valley, in that it was canalled during the 18th and 19th Centuries so as to make sure that the water from the Wassaic Creek and the Amenia Stream would be manageable in all seasons, and their confluence in the man-made location would allow early citizens to build a railroad, a main street, and turbines (water power) for the Borden Plant. This early engineering worked well across the years, and continues to work well even in heavy spring rains. (Except for the unique situation in 1955 when the Amenia dam broke) There are two problems now developing, however. The original canals do a good job but need some form of public maintenance over time. (see canal wall breakdowns from above the firehouse to just past the Lantern Inn, where the water spreads unnecessarily) and 2) Inappropriate storm water runoff has begun both at development sites such as the one on Route 343 and at the asphalt railroad station parking lot since that has been built. Hopefully the Army Corps of Engineers will deal with the canal walls. But the Amenia Planning Board must address the problem of inappropriate addition to river flow from asphalt parking lots and the like.

Specifically, Volume 9.17 supplies all kinds of parking methodologies and quantitative ideas about how many parking spaces may be needed, but there is not one word that could find about the type of construction that would be involved. It is important that Planning Board educate all future developers whose construction could create storm water runoff, about the new ways of using surfaces which facilitate percolation and avoid runoff which could raise the volume of what must be carries by the Amenia stream. [Sharon Kroeger, Letter, March 24, 2008, Comment B, pages 1-2]

Response 3.2-77-26B: See Response 3.2-6-34B with respect to low impact development (LID) measures and Response 3.2-2-PHT with respect to the site hydrology.

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