HUDSON HIGHLANDS RESERVE
CONSERVATION SUBDIVISION

FINAL ENVIRONMENTAL IMPACT STATEMENT

Proposed Action: Approval of Conservation Subdivision

US Route 9
Town of Philipstown, Putnam County, NY

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TABLE OF CONTENTS

FIGURES

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TABLES

APPENDICES

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INTRODUCTION

The following Final Environmental Impact Statement (FEIS) provides responses to comments received from a public hearing (Appendix A) and in writing (Appendix B) during the public comment period held as part of the process established under the State Environmental Quality Review Act (SEQRA). If a pertinent received comment is not included within the FEIS, it is because the same point had already been expressed within another comment that has been included. This FEIS includes responses not only in writing, but also tangible revisions to the proposed project plans, provided in Figure 1. Figure 2 shows the DEIS plan, and is provided on the following page for comparison. The primary purpose of these revisions is to reduce the potential for adverse environmental impacts identified during SEQRA review.

The greatest single change to the proposed action is the elimination of the Equestrian Center. The elimination then allowed for other significant changes. Among them are the reduction of the length of all three of the original roads, namely Highlands Trail, Forest Court and Ulmar Pond Drive. These changes resulted in a significant reduction in the amount of impervious surfaces represented by the reduction in road length, elimination of parking for the equestrian center, and the elimination of the large equestrian center building. It also allowed for the relocation of some of the houses.

Another significant change is the reduction of the lot count from 25 to 24 homes, and the reduction of the number of homes near Ulmar Pond. Despite zoning calculation discrepancies between the Project Sponsor's and the Town's consultants, the Project Sponsor has decided not to pursue any further analysis or discussions regarding the maximum number of lots allowed by the zoning law. The applicant will follow the Town Engineer's guidance and will only pursue a 24-lot subdivision. In response to multiple comments from Planning Board and community members, and to accommodate the agreed number of total number of homes (twenty-four), the applicant has eliminated three homes directly to the west of the pond. This reduction has also allowed for the design of Ulmar Pond Road to be reconfigured from a cul-de-sac to a short drive with a turnaround serving just two homes. In consequence, the ecosystem around the pond will be further protected and the proposed disturbance will be located farther away from the wildlife corridor between Ulmar Pond and the Clove Creek.

Other less obvious changes are contained in the revised plan. To review them, this discussion starts at the intersection of Route 9 and Highlands Trail, and proceeds into the property ending at the emergency access easement at the southern end of the property. Planned improvements for the proposed entrance from Route 9 now include a left turn lane into the project. Along the entry road, the drainage facilities have been modified to incorporate the recommendations of the Town Engineer. Where Highlands Trail reaches the top of the hill, a left turn will lead to the former Frisenda house that originally was to be utilized as a maintenance building. It will now be adapted to be used as one of the 24 houses in the community, eliminating the construction of one new home. Proceeding southerly and easterly along Highland Road, the new plan provides a modified profile that reduces the amount of excavation (cut and fill) necessary to construct the road.

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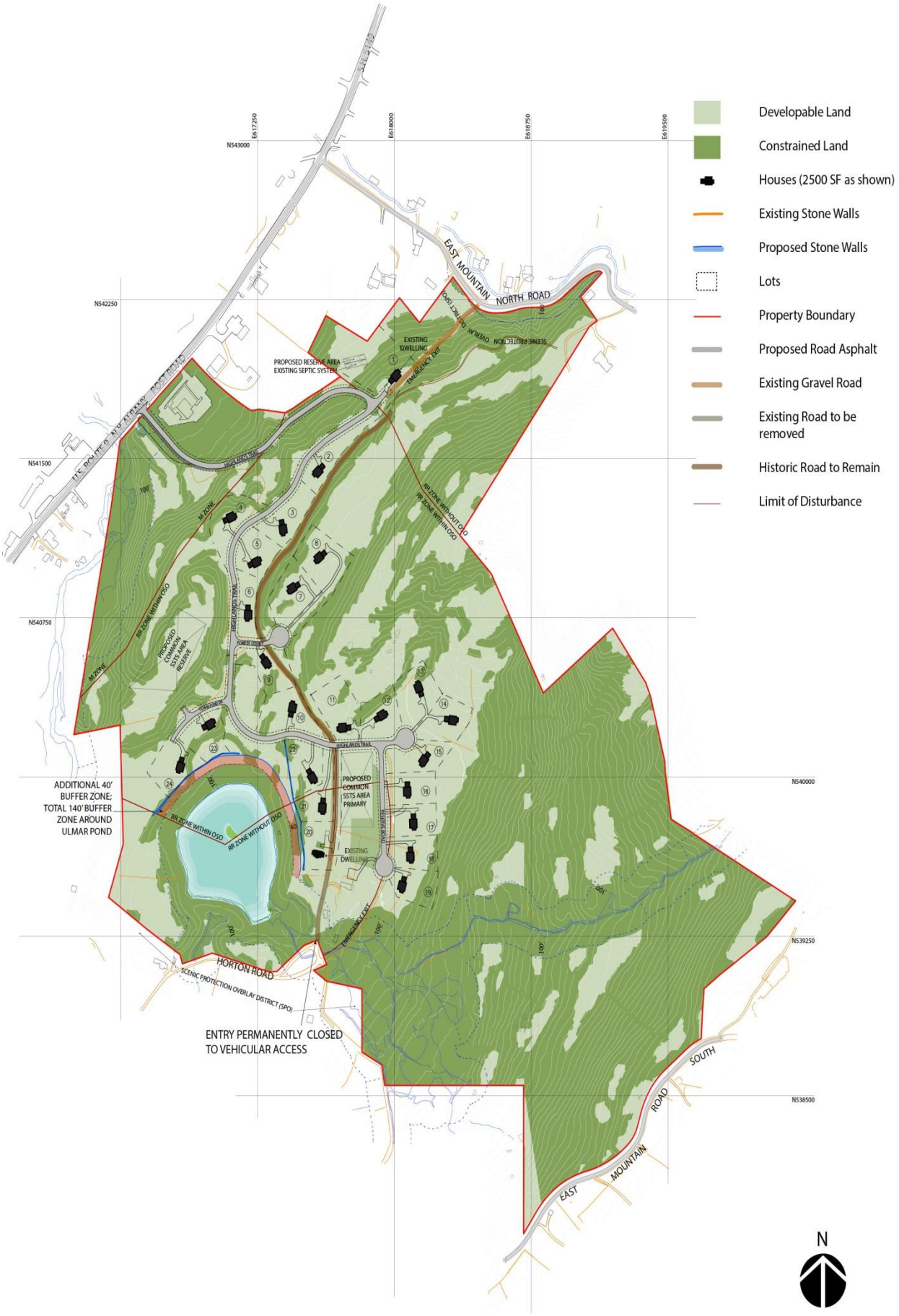

02.2022 HHR SCHEMATIC MASTER PLAN

Figure 1

10.01.2017 HHR SCHEMATIC MASTER PLAN

Figure 2

The first intersection along this portion of Highland Trail has been designated Forest Court. Compared to the plans contained in the DEIS, this road has been shortened by approximately 1,000 feet, and three homes have been removed. It will now provide access to two homes instead of five as shown in the DEIS plans. This reduction in length requires less grading. The houses that were previously shown on Forest Court have been relocated and will no longer require pumping to deliver septic effluent to the common septic system.

Moving farther along Highland Trail, the next intersection is with Ulmar Pond Drive. It will proceed southwesterly and provide access to two houses, instead of five as shown on the plans that are part of the DEIS. Three homes have been removed from the southern and western sides of the pond, opening up a connection between conserved areas on the eastern and western sides of the project site. This road has been shortened by approximately 275 feet, and the cul-de-sac design has been replaced with a modified hammer head turn-around.

The third intersection with Highland Trail is Reserve Road. This is a new road that connects Highland Trail to the emergency access route from Horton Road. It is 620 feet long and occupies essentially the same location as the driveway originally proposed for the equestrian center. It provides access to four lots and the historic barn that will be repurposed as a community building.

The last portion of Highlands Trail lies between Reserve Road and the cul-de-sac at the end of Highland Trail. It is now 140 feet long, approximately 250 feet shorter than originally proposed. In addition to shortening the road, this change also allowed the designers to regrade the road, further reducing the excavation required to construct it.

In summary, the road system is now approximately 900 feet shorter than that shown on the plans included in the DEIS. Six homes have been removed/relocated, three from the shortened Forest Court, and three from Ulmar Pond Drive. Of these six, one has been replaced by the former Frisenda house, and four have been relocated to the area originally proposed to be occupied by the equestrian center. One has been eliminated entirely. In addition, one home originally proposed at the end of the Highland Trail cul-de-sac has been shifted to a lower part of the cul-de-sac into an area originally proposed for the equestrian center.

These changes have significantly reduced the level of the potential adverse environmental impacts including the following:

Table 1: Changes in Potential Impact

ITEM	**DEIS PLAN**	**FEIS PLAN**	**NET CHANGE**
Site Disturbance	45.7 acres	38.1acres	Decrease 7.6acres
Impervious Surfaces	11.1 acres	7.7 acres	Decrease 3.4 acres
Total Excavation (gross cut fill)	28,792 CY spoil	10,487 CY spoil	Decrease 18,305 CY spoil
Water Demand	24,000 GPD	17,700 GPD	Decrease 6,300 GPD

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Finally, the amount of land that will be made subject to the proposed Conservation Easement has been decreased from 170.8 acres to 163 acres. This, however, does not mean that more land is being developed. As noted in the table above, the actual amount of land being disturbed has been reduced by approximately 7.6 acres from 45.7 acres to 38.1acres. The DEIS plan identified 170.8 acres to be included in the Conservation Area, which included 11 acres within the area identified for the planned equestrian center that was proposed in accordance with recreational uses allowable within Conservation Areas. The area of the Conservation Area outside the Equestrian Center had would have therefore been 159.8 acres.

However, the Conservation Area originally included areas where some of the permanent stormwater management practices are to be located, the primary subsurface sanitary disposal field, and the early nineteenth century barn. Being considered instead as features of the "developed" landscape, these areas have now been removed from the proposed Conservation Area. The proposed boundaries of the Conservation Area were then expanded to add new areas no longer being developed by shortening Forest Court, the end of Highland Trail and Ulmar Pond Drive. The required area to be made subject to a Conservation Easement is 154.1 acres as provided in the Conservation Findings, Appendix B of the DEIS. The net result is that the modified 163-acre Conservation Area still exceeds the required minimum area, has increased the amount of acreage truly being conserved beyond the original area without the equestrian center, and includes additional area for wildlife habitat around and across the southerly portion of Ulmar Pond, north of Forest Court, and east of the Highland Trail cul-de-sac.

Responses to specific comments follow below, arranged by the order of the DEIS.

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I. EXECUTIVE SUMMARY

Comment 1.1 (AKRF): The impact summary table included in the Executive Summary should include a note regarding the significance of the impact cited for the 24,000 gpd water demand from the proposed project.

Response 1.1: Table 3 in the DEIS (p. 67) shows an expected water usage volume of 24,000 gpd (rounded) and includes a 15% safety factor. This volume represents 13% of the estimated daily recharge rate of 179,641 gpd. The revised plan no longer includes an equestrian facility, which was expected to demand 4,675 gpd or 5,376 gpd if the 15% safety factor is applied.

Additionally, one of the two "other buildings", the former Frisenda residence, will not be used as a maintenance facility as originally planned. Rather, it will be one of the 24 residential units. Accordingly, the early 19th century barn, which will be adaptively reused to serve as the community center, will now be the only "other" building. This will further reduce the anticipated water demand by 200 gpd (the difference between the use of the home being eliminated and the use of a maintenance facility), or 230 gpd when the 15% safety factor is applied.

As summarized in the tables that follow, the total water demand has been reduced from 24,000 gpd to 17,700 which represents a 26% reduction in anticipated demand, reducing the demand to 9.8% of the anticipated daily recharge rate.

Table 2: Change in Water Demand as a Result of Design Change			
Change in Water Demand as a Result of Design Change			
Original Water Demand Estimate including 15% safety factor (gpd)			24,000
Source of Demand Reduction	Original Estimate (gpd)	Safety Factor (15%) (gpd)	
Equestrian Facility	4675	701	(5,376)
Frisenda House (Lot 1)	200	30	(230)
Lot 25	600	90	(690)
Revised Water Demand (gpd)			17,704
Revised Water Demand (gpd) Rounded			17,700

Table 3: Original and Revised Demand as a Percent of Daily Recharge (gpd)			
	Demand	Daily Recharge	Demand as a Percent of Daily Recharge
Original Demand (gpd)	24,000	179641	13.4%
Revised Demand (gpd)	17,700	179641	9.8%

The total daily water demand that was anticipated in the DEIS (13.4%) was small when compared to the site's daily groundwater recharge rate. The 26% reduction in the overall

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demand to 9.8% of the site's daily groundwater recharge rate reduces the demand to the greatest practical extent.

The 17,700 gpd anticipated water use includes the demand from two existing houses and the commercial building on Route 9. These demands are current demands that will continue regardless of whether the Hudson Highlands Reserve is built. As shown in the table that follows, the actual increase in daily water demand is 15,500 gpd over the existing demand that will continue.

Table 4: Anticipated Demand Adjusted for Existing Demand (gpd)			
Revised Demand (See above)			17,700
Existing Demand			
Source	Demand	15% Safety Factor	
Frisenda House (Lot 1)	600	90	-690
Ulmar House (Lot 20)	450	67	-517
Commercial Building	920	138	-1,058
Anticipated increase in demand			15,435
Anticipated increase in demand (Rounded Up)			15,500

After considering the net reduction in demand as a result of the elimination of the equestrian center and the allowance for existing demand that will continue, the impact actually associated with the approval of the Hudson Highlands Reserve is 15,500 gallons per day or 8.6 percent of the daily recharge. Whether the demand is 8.6% or 13% of the daily recharge, it is a small demand on the available supply.

Comment 1.2 (AKRF): If an impact summary table will carry over to the FEIS, an additional column noting where within the document the discussion/analysis relevant to each topic can be found.

Response 1.2: The revised impact summary table (Table 5) follows on the next page. An additional column has been added to identify where within the document the discussion/analysis relevant to each topic can be found.

Comment 1.3 (AKRF): The third paragraph found under B.1.b includes a currently unsupported statement that Ulmar Pond will actually be in better condition after the proposed project is developed" due to the retention of a lake management firm through the HOA. We note an inconsistency in that later in the DEIS (Section IV.A.2.a.ii), this same statement is prefaced with the phrase "the project sponsor believes..." which is more appropriate.

Response 1.3: The Project Sponsor believes the pond will actually be in better condition after the project is developed than it is now. The pond is currently suffering degrading conditions that can only be corrected through active management, such as will occur with the proposed HOA. Currently the pond is not actively managed, and is experiencing excessive nutrients, algal blooms, and imbalanced biological communities (phytoplankton, zooplankton, fish and aquatic plants). Following development, it is envisioned that the HOA will engage with a professional lake management firm to actively address these ongoing issues and manage the pond as this is

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Table 5: Summary of Impacts				
Topic	Identified Impacts	Proposed Mitigation	Notes	Discussion/Analysis
Water Resources: Stormwater Runoff	6.7 acres of new impervious surfaces (one acre existing)	Stormwater Management System to reduce runoff rate to below pre-existing conditions	Adverse impacts have been reduced to the greatest practical extent	Section III-A.1, generally and Responses: 1.3, 2.33, 2.45, 2.77, 2.80, 2.92, 3B.11, 3B.68, & 5.2
Water Resources: Ulmar Pond & Clove Creek	No impact	Providing 140' buffer around pond under conservation easement, reduced number of new homes from 7 to 4	Adverse impacts have been reduced to the greatest practical extent	Section III-A.2, generally and Responses:1.3, 2.18, 2.19, 2.20, 2.54, 2.70, 2.83, 3A.10, 3A.12, 3A.13, 3A.14, 3A.15, 3A.16, 3A.21, 3B.6, 3B.24, 3B.25, 3B.38, 3B.48, 3B.50, 3B.52, 3B-54, 3B-61, 3B-63, 3B.65, & 3C-1
Water Resources: Groundwater	17,700 gpd demand (15,500 new demand)	None	Average recharge of 179,641 gpd is 11.6 times the increase in demand	Section III-A3 generally and Responses: 1.1, 2.74, 2.77, 2.84, 2.99, 3A.11, 3B.52, 5.1, 5.2
Water Resources: Floodplains & Wetlands	No impact	None	No floodplains or wetlands are proposed to be disturbed	Section III-A4 generally and Responses: 2.18, 2.20, 3B.6, 3B.24, 3B.70
Vegetation & Wildlife	Conversion of 38.1 acres of Natural vegetation/wildlife habitat to 30.4 acres of Lawn/ landscaping and 7.7 impervious acres	Permanent preservation of 163 acres of undisturbed forest and wetland habitat via a conservation easement.	Adverse impacts have been reduced to the greatest practical extent.	Section III-B generally and Responses: 2.18, 2.19, 2.20, 2.33, 2.46, 2.50, 2.51, 2.54, 2.55, 2.59, 2.62, 2.64, 2.66, 2.69, 3A.9, 3A.10, 3A.27, 3C.3, 3D.4, 4.2, 4.9, 5.1 & 5.2
Zoning & Land Use	No impact	None		Section III-C generally and Responses: 2.17, 2.23, 2.18, 2.24, 2.27, 2.28 2.29, 2.32, 2.33, 2.54, 2.55, 2.71, 3A.5, 3B64, 4.1, 4.4, & 4.11
Community Character	Visual impact limited to view of entrance road from US Route 9	None	No structures will be visible from trails or nearby properties	Section III-D generally and Responses: 2.71, 2.89

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an important resource for the community. Further, the onsite subsurface sanitary disposal systems for the existing home at Ulmar Pond and the early 19th century barn (which currently contains a residence) will be abandoned, with sewage collected in a sewerage system that will be directed to a disposal field far removed from the pond. As runoff from developed surfaces will also be directed to stormwater management and treatment facilities prior to entering Ulmar Pond, the pond is not expected to experience any adverse increase in nutrient loading to exacerbate the existing degraded conditions. The proposed management of the pond is therefore not being proposed to mitigate any anticipated impacts, but rather to improve the existing condition.

Comment 1.4 (AKRF): The discussion of the existing architecturally significant house and barn on the property first appears in the DEIS as the fourth paragraph on page 24. The text indicates that the house "will remain on one of the Hudson Highlands Reserve residential lots" and that the barn will be "restored and adaptively reused for meetings by the HOA." AKRF has reviewed the previously issued letters on the proposed project from the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP). The FEIS should refer to these letters while clarifying that the 1920's home and the 1825 barn have been identified as architecturally significant through extensive site surveys and consultation with OPRHP, and that the proposed adaptive reuse of the barn will be designed through close coordination with OPRHP as development of the proposed project progresses. The existing language in the DEIS regarding historic significance seems to indicate that the determination of architectural significance was made by the Applicant without consulting with OPRHP, which is not the case. The applicant should provide the Planning Board with written concurrence from the SHPO that the proposal to adaptively reuse the barn is acceptable.

Response 1.4: Both historic structures will be utilized. The 1920s home will be renovated and sold as one of the 24 residential units. The early 19th century barn will be adapted for reuse as a community center. The Project Sponsor's architectural historian identified both structures as being architecturally significant as part of a survey conducted in 2015. This survey was submitted to OPRHP. In a letter dated May 17, 2016, OPRHP indicated that the result of their review was that only the barn was eligible for listing in the State and National Registers of Historic Places. As requested by OPRHP, plans for this adaptive reuse will be developed in consultation with OPRHP. It is not necessary to coordinate with OPRHP on the renovation of the house.

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II. DESCRIPTION OF THE PROPOSED ACTION

A. Project Purpose, Public Need and Benefits

Comment 2.1 (Conservation Board): Plans for HHR call for 10 of the 40 horses at the Equestrian Center to be owned by HHR and available to the public for riding, training, and similar use, at an unstated but presumably market-rate commercial fee. The fact that the public will be able to pay commercial rates in order to use the Equestrian Center is the primacy public benefit identified by HHR in its Draft Environmental Impact Statement (the "DEIS"). The DEIS implies that there are not other equestrian centers available for public use, although such centers appear to be available elsewhere in Putnam and Dutchess Counties. The remaining 30 horses will be owned and stabled at the Equestrian Center by individuals who have purchased one of the 25 lots in HHR and built a house there.

Response 2.1: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.2 (Merante): How was it determined that
"as urban incomes have grown, access to and engagement with horses on any level." there is a need to satisfy demand for such facilities.
"to satisfy a local need . . .facility-owned school horses in service of a comprehensive high-quality program for local children who are eager to participate in [horse activities]

Response 2.2: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.3 (Merante): Where are the studies establishing a "public need for the project. . "
Where are the studies establishing that there is a significant second-home demand in the Hudson Valley?
And a "long established pattern of second-home demand in (sic, Philipstown)? How is the fact that `"Philipstown is part of an area that is easily reached from New York City, where city residents buy a second home while choosing to continue to rent in the city," relevant to the creation of a conservation subdivision?

Response 2.3: The Project Sponsor's market analysis deems Putnam County as a target for second home buyers as it is relatively close to Manhattan. Studies have indicated that people in Manhattan looking to purchase property are more likely to purchase a second home in this area versus a primary residence in the City because their investment goes further. In addition, there have been trends in the home buying market towards more sustainable properties which this conservation subdivision provides. Lastly, since the public hearing and the market analysis, there has been a surge in people moving out of the metropolitan area and to nearby upstate towns, largely fueled by the covid crisis. The anticipation is that this trend will continue over the next few years and a demand for inventory will increase.

Comment 2.4 (Merante): Is there, or has there been, an explicit call for "new housing stock in Philipstown."

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... especially on the price scale as described in the project information and on such sensitive land?

Response 2.4: The Project Sponsor's market analysis and current trends in the housing market show an increased demand for inventory outside of the metropolitan area. This demand has further increased since the onset of the covid crisis. The proposed area of development has been further revised in order to preserve the most sensitive land, and only build on land that is most appropriate for development. The proposed properties were initially priced higher than the local housing market. However, the anticipation was that for a newly constructed, energy efficient, sustainable home, a buyer would be willing to invest more. Based on more recent market analysis, the price point of these newly constructed, energy efficient, sustainable homes is now in line with other current housing stock in the vicinity.

Comment 2.5 (Merante):.•. has there been an expressed call for increased tax revenue [for what need?] - and what is the particular benefit of "commercial taxes?"

Response 2.5: The Equestrian Center has been removed as an element of the proposed action. There will therefore not be any increase in "commercial taxes". However, all residents of the development will pay state and local taxes therefore providing increased revenue to Philipstown. Although there may not be a direct call for increased tax revenue, increased revenue would provide additional funding for the town to use and therefore be positive.

Comment 2.6 (Farrell): And it struck me on page 27 under A2 public need for the project and benefits, that the applicants did not discuss the public needs of Philipstown residents, but the needs of New York City residents, which was puzzling.

Response 2.6: The Project Sponsor anticipates that future homebuyers would be a mix of residents new to Philipstown, and current Philipstown residents looking for new housing. The future homebuyers all will be Philipstown residents. As previously stated, all homeowners will be paying taxes and therefore contributing to Philipstown and its residents. Another benefit of the proposed project is that the design limits development to 38.1 acres, and permanently preserves 163 acres of forest, wetland, and watercourses in its natural state, which preserves the existing character of Philipstown.

Comment 2.7 (Rae): When I first was looking into the LLC that is behind this project, I was taken aback that they didn't put their names to it, and it was a blind LLC. So I looked at the architect whose name is on the whole filings, and his address matches the address of the LLC. It's the same one. It's in the New York 91st Street. And also that address is shared with the construction company.

So, right now, I know who the developers are, and who they are because they are all living together and working together in New York City. And not that that's a crime or that shouldn't be done or developed, but it seems to me that these people can move this development anywhere the cons tonight outweigh the pros. They live in New York City. They are just looking for a place to put an equestrian subdivision. Equestrian subdivisions are the latest fad in subdivisions in America, California, Texas, Florida, the Carolinas. Golf subdivisions now are played; they are saturated.

So, now, they are doing subdivisions with horses. And these are first-time builders of this subdivision. If you go on the architect's website, there's not a one-acre home development on the site. The construction company, there's not a 25-home one-acre development. There's not an equestrian center. The architect says on the site that he is the general contractor of all of these projects which include homes interiors. So I don't know how this is our first project. And it seems to me we have to trust these first-term developers who are just looking for a fad. They are just developers to make money, promising us a lot of tax dollars. But if this development turns into a 501C, does that have an implication on our tax dollars?

Response 2.7: Ulises Liceaga, the Project Sponsor, is a homeowner in the Town of Philipstown. It is common practice to place development projects in their own LLC to isolate any liability from other holdings. The Equestrian Center has been removed as an element of the proposed action. The project is now a 24-lot conservation subdivision.

B. Conservation Subdivision Design and Layout

Comment 2.8 (Conner): How many

- Existing structures including dwellings
- Existing dwellings
- Proposed new structures including dwellings
- Proposed new dwellings including any caretaker residences for the equestrian facility
- Proposed structures related to the equestrian facility
- Proposed structures related to sewage treatment facility
- Parking spaces for cars for the equestrian facility
- Parking spaces for horse trailers for the equestrian facility
- Parking spaces for other purposes unrelated to the equestrian facility

Response 2.8: The following tables show the number of structures and parking spaces under the original proposal and as currently modified. The modified proposal reflects the elimination of the Equestrian Center and other changes.

Table 6: Inventory Of Structures - Existing & Proposed [1]

	Existing Conditions	Change based on DEIS Plan	DEIS Plan Total	Change between DEIS and FEIS	FEIS Plan Total
Existing Dwellings	3	-2	1	1	2
New Dwellings	0	24	24	-2	22
Barns Includes Equestrian Facility	1	0[2]	1	-1	0
Community Bldg. (HOA, former Barn)	0	1	1	0	1
Garages & Service Bldgs.	1	1	2	-1	1
Commercial Bldgs.	1	0	1	0	1
Sewage Treatment Facility	0	0	0	0	0
Totals	6	24	30	-3	27

[1] Excludes existing minor out buildings and ruins

[2] Net of conversion of Existing Barn to HOA building and addition of Equestrian Building

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Table 7: Inventory Parking Spaces [1]					
	Existing Conditions	Change based on DEIS Plan	DEIS Plan Total	Change between DEIS and FEIS	FEIS Plan Total
Dwellings	6	48	54	-6	48
Equestrian Facility (Autos)	0	24	24	-24	0
Equestrian Facility (Trailers)	0	4	4	-4	0
Community Bldg. (HOA, former Barn)	2	4	6	0	6
Commercial Building	45	0	45	0	45
Totals	53	80	133	-34	99

[1] Excludes garaged spaces

Comment 2.9 (Conner): Which of the four LEED building rating systems will the development be built under?

- LEED for Building Design and Construction
- LEED for Interior Design and Construction
- LEED for Building Operations and Maintenance
- LEED for Neighborhood Development

Response 2.9: According to the Project Sponsor, the Project will be utilizing "LEED for Homes", which is described as being appropriate "for single family homes, low-rise multi-family (one to three stories) or mid-rise multi-family (four to six stories)."

Comment 2.10 (Conner): Which structures will be built to LEED standards? (please list all)

Response 2.10: According to the Project Sponsor, all 22 new residences will be built to LEED for Homes standards.

Comment 2.11 (Conner): What level of LEED certification will these structures be built under?

- Certified
- Silver
- Gold
- Platinum

Response 2.11: The Project Sponsor's goal is to achieve LEED Platinum.

Comment 2.12 (Conner): How many square feet for each proposed new dwelling? (please list all)

Response 2.12: Each of the 22 new private residences will be approx. 2,500 – 3,000 square feet.

Comment 2.13 (Conner): How many square feet for each proposed structure related to the equestrian center? (please list all)

Response 2.13: The Equestrian Center has been removed as an element of the proposed project.

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Comment 2.14 (Conner): How many square feet for each proposed structure which is not a dwelling nor related to the equestrian center? (please list all)

Response 2.14: The only non-dwelling structure on site will be the Clubhouse. It will be a modification of the existing early nineteenth century barn. The final design is anticipated to be between 2,500 – 3,000 square feet, similar to the size of the individual dwellings.

Comment 2.15 (Conner): What is the estimated annual energy consumption for each structure, existing and proposed, including heating and cooling? (please list all)

Response 2.15:
The existing structures on the property are not habitable at this time. The intention of the applicant is to completely renovate them, which includes a mechanical, electrical and plumbing (MEP) overhaul. In addition, the applicant plans to install new insulation, windows and finishes. All of these elements will contribute to the LEED certification process and the energy consumption of the existing structures. Therefore, the applicant cannot provide documentation as to the energy consumption at this time. As originally stated, the applicant's target LEED for homes rating is platinum. Based on the United States Green Building Council (USGBC) guidelines, there are several factors that go into achieving this rating, MEP systems being one of them. Without detailed information from private homeowners in the Hudson Valley, the applicant cannot calculate the energy consumption of a regular home versus a LEED platinum home. The applicant has based their anticipated reduction on literature from the USGBC, which is the governing body for LEED certification. The updated reduction in energy is between 20-60 percent according to this summary. More information on the benefits of LEED certified homes can be found here: https://www.usgbc.org/leed/rating-systems/residential

Comment 2.16 (Conner): Will there be swimming pools and if so, how many and what size, i.e., what are the dimensions and how many gallons will each hold? Will they be heated? Will their cleaning methods and effluent be controlled by the HOA?

Response 2.16: The HOA Residential Design and Maintenance Rules and Regulations prohibit exterior swimming pools (both in-ground and above ground). The two current prototypes show private indoor pools ranging from 200-500SF with 9,000-22,500 gallons of water. These pools would be heated. The rules and regulations also recommend natural pools versus traditional chlorinated swimming pools. System maintenance is the responsibility of each individual homeowner.

Comment 2.17 (Scenic Hudson): As proposed, Hudson Highlands Reserve does not adequately meet town code requirements for, nor the generally accepted definition of, a conservation subdivision. As we stated in our February 15th, 2018 letter, rather than cluster homes in a compact arrangements, the applicant proposes homes spread out along multiple cul-de-sacs. The large house lots sprawl across the entire western half of the property, dividing remaining natural areas into three separate sections. This would result in forest fragmentation and would not protect the important habitat values found on the site. This is inconsistent with Philipstown's zoning, which requires that:

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"The configuration of the open space land and dwellings shall not result in fragmentation of the open space land in a manner that interferes with its proper management and protection of its conservation values." (Section 175-21 A(3)(b))

Response 2.17: The Town Code states "a variety of lot sizes" may be in a conservation subdivision and the Planning Board, absent more detailed restrictions must follow the Town Code (Town Code § 175-19.B). The proposed subdivision complies with the Philipstown Town Code, which describes conservation subdivisions as follows:

*"In conservation subdivisions, units are clustered or sited on those portions of a property most suitable for development, while leaving substantial portions as undeveloped open space. Conservation subdivisions may include a variety of lot sizes, ranging from large farm or estate lots to small hamlet-size lots. Conservation subdivision results in the preservation of contiguous open space and important environmental resources, while allowing compact development, more walkable neighborhoods, and more flexibility than conventional subdivisions. Conservation subdivisions must satisfy the standards in § **175-20**."* (Town Code § 175-19.B.)

As required by the Town Code, the proposed project started with the preparation of a Conservation Analysis, from which the Town Planning Board determined areas of the property that were considered to have high, medium, and low conservation value. As can be seen in Figure 4, the proposed layout concentrates development within areas determined to have low conservation value (the "most suitable for development"), with minor intrusion into medium conservation value areas. About 77.6% ("substantial portions") of the property is proposed to be set aside in its natural state and protected, as required by the Code, under a Conservation Easement. All proposed preserved areas are interconnected, and therefore, by definition, contiguous open space. Town Code §175-20 details a long list of requirements, by which the proposed project has been designed and fully complies.

Comment 2.18 (Audubon): When "conservation building designs" were first introduced they seemed to *be* a solution to rampant sprawl. The reality is that the lands the projects set aside as "conservation areas" are usually areas that are unbuildable anyway. They are devoid of the very resources that native plants and wildlife need to survive. The habitats used for the building areas are the ones that animal species need.

Response 2.18: The area proposed to be set aside includes areas absent of environmental constraints such as steep slopes and wetland areas. Alternative B depicts an as-of-right conventional subdivision with numerous homes that would be developed within the area currently proposed to be set aside under a Conservation Easement. The area proposed to be conserved was chosen as a result of a comprehensive Conservation Analysis that included consideration of high value native vegetation associations and wildlife habitat. The proposed Conservation Area includes the most valuable habitat areas including the Clove Creek and adjacent floodplain, Ulmar Pond and adjacent uplands, all the watercourses and wetlands within the property boundaries, adjacent uplands to the wetlands and watercourses, and the areas with the highest diversity of undisturbed native vegetation. The proposed development area includes the portions of the project site with the highest percentage of invasive plant species, and none of the high value wildlife habitat listed above.

Comment 2.19 (Schuster): I am commenting on the DEIS prepared for the Hudson Highlands Reserve, proposed to become Philipstown's first "Conservation Subdivision." This is a laudable concept and one that should help our communities live sustainably into the future, while conserving our natural resources, if implemented appropriately. To qualify as a CS, the zoning code states that such projects must preserve contiguous open space and must protect the areas with the most conservation value- in other words those habitats critical for maintaining populations of our native species that are of special conservation concern.

My two concerns are, first that the project as proposed fails the contiguous conservation criterion by establishing a barrier dividing the conserved parts of the project area, and second that the environmental studies to date fail to adequately address the local amphibian and reptile species of highest conservation concern, and the habitats required by these species.

Response 2.19: Regarding the commenter's first concern, all areas proposed to be conserved are interconnected within the project boundaries, as well as through offsite natural habitats. As seen in Figure 1, the revised layout absent the Equestrian Center enhances this connection when compared to the DEIS Plan in Figure 2. The Project Sponsor believes that the proposed development also does not present a "barrier", as a large amount of the existing vegetation will be preserved by design, including tree canopy, and will continue to be porous to wildlife movement.

Regarding the commenter's second concern, while not all suspected herpetological species were observed, their presence is assumed and addressed. Those areas most suitable for their life cycle, especially Ulmar Pond, watercourses, wetlands, and adjacent uplands, are proposed to be preserved in their entirety under a Conservation Easement.

Comment 2.20 (Schuster): Second, the development of the property should be shifted by some additional clustering of some house locations - especially moving them away from the edge of Ulmar Pond - thereby providing for east-west ecological connectivity. The proposed houses and roads are now laid out in a contiguous north-south line that effectively divides the site by a wildlife-inhospitable barrier. The need to maintain east-west connectivity is amplified by the fact that there are large parks not far to the east- Fahnestock SP- and west- Hudson Highlands SP. And Ulmar Pond is nearly encircled by these developed lots and thus is cut off from the surrounding uplands needed for a healthy pond environment.

As ecological science and conservation have developed in recent years, it has become clear that if we want a future that will still include most of our native wildlife species we must pay more attention to connectivity than we have in the past. This will require conserving connectivity where it exists, mitigating barriers where they exist, and certainly not creating new barriers to wildlife movement.

Response 2.20: As stated in Response 2.19, the proposed development would preserve a significant amount of natural vegetation and tree canopy by design, and will therefore still permit wildlife passage. As seen in Figure 1 and Figure 12, the number of proposed homes around Ulmar Pond has been reduced from eight (as seen in the DEIS Plan in Figure 2) to five, of which one is pre-existing, and is located around the northern third of the pond. No development is proposed around the southern two-thirds of the pond, which includes the inflow from a watercourse/wetland system and the outflow to the Clove Creek. The removal of homes from

the southern edge of Ulmar Pond increases the amount of natural connection between the preserved areas on the eastern portion of the property with the preserved areas on the western portion around Clove Creek.

The lots proposed around Ulmar Pond are separated from the edge of the pond by a 140-foot buffer of existing natural vegetation, which will be maintained undisturbed. As currently shown on the plans, the homes themselves will be situated further beyond the 140-foot buffer (from 171 feet to 277 feet from the edge of the pond, and at an elevation of between 30 and 50 feet above the pond). The Project Sponsor maintains that the modified layout would have no significant impact on east-west ecological connectivity with Ulmar Pond. The connection between Ulmar Pond and Clove Creek would be preserved with the preservation of the watercourse and surrounding wetlands that drains Ulmar Pond to the Clove Creek. As is explained in more detail elsewhere in this FEIS, it is the collective opinion of the Project Sponsor's ecological and natural resources consultants that the 76% slope above which the homes would be located presents a greater deterrent to wildlife movement than the proposed homes.

As presented in the FEIS, the Project Sponsor has stated that the proposed road system and siting of homes on lots would not create an environment inhospitable to wildlife movements through the property. Undeveloped natural connections will remain within the project site both north and south of the proposed area of development, and the proposed layout anticipates preserving as much of the existing vegetation and tree canopy as possible, without fencing. While there may be some deterrents such as lightly used paved roadway, wildlife would still be able to move freely through the proposed area of development from one side to the other.

Comment 2.21 (Flinn): I'm here tonight, particularly, because yesterday our state legislature enacted the Climate Leadership and Community Protection Act, which the governor has now signed into law… We are here this evening, of course, to consider the environmental impacts of a proposed -- proposal to build 25 houses on what is essentially undeveloped forest land abutting the pond and fishing stream. This project is not designed -- needed affordable housing for full-time residents of our community, nor is it designed to attract, apparently, well-to-do New -- New York City families seeking second homes, many of whom will likely drive back and forth on the 50-plus miles each way in cars emitting exhaust and gasoline engines. And when they're here, they won't be walking across the street to Food Town for their groceries. There will be 25 additional gas-emitting cars driving to town, seeking space in the Food Town parking lot. How will their new second homes be heated? Their city homes, by the way, will likely remain heated while they are up here. With oil, propane, maybe, electric heat pumps, I hope. And if it is heat pumps, where will they get their clean and generated electricity? There's nothing in the site plan indicating a solar array.

Response 2.21: The Project's intention is to achieve LEED Home Platinum for each dwelling unit. LEED for Homes has strict guidelines regarding energy use. Studies have shown that LEED Platinum homes can reduce their energy consumption by 50-60%. Heating and cooling strategies that use Geothermal Exchangers, Energy Recovery Ventilation (ERVs) and PVT heat exchangers have been considered. It is intended to centralize all systems in the home to provide more efficient operations. Wherever possible, ENERGY STAR rated equipment will be used, which is also a requirement of LEED Homes. Construction means and methods will be

used that contribute to energy efficiency in the homes. These include high performance windows, wall insulation and sealants to avoid air leakage.

Residents will be permitted to install solar collectors at their discretion. Page 49 of the HOA Residential Design and Maintenance Rules and Regulations outlines the requirements and approval process for individual installations and use.

Comment 2.22 (Galler): I want everybody to look at the economics of the project. The housing market is flat. And it's probably going to remain flat, not so much abuse of economy, but we no longer have the $10,000 deduction. And millennials really don't want houses. So, all of a sudden, we have a complex that has intense mitigation that needs to be kept up continually. What happens if only two houses are sold or even only 10? Is this feasible? Who is going to take care of it after that?

Response 2.22: Since the time of this hearing, the market has shifted once again, largely due to the covid crisis. There is a greater demand for homes in rural and suburban areas and therefore an increased need for inventory. It is not planned to build all 22 new homes immediately, but base the construction schedule off market demands. In the Project Sponsor's opinion, current and projected market conditions support the full buildout of the subdivision as currently planned. During the construction phase of this project the site will be maintained by the Hudson Highlands Reserve LLC. Once the site is operational, maintenance will be transferred to the HOA which will develop their own annual budget for the site maintenance [HHR By-Laws and Protective Covenants Article VII - Budgets, Common Charges, and Special Assessments].

Comment 2.23 (Deneher): The houses, will they in fact become Airbnbs? What volume could be there?

Response 2.23: Uses not specifically permitted in the Town of Philipstown are deemed prohibited. Vacation rentals, including airbnbs and other short-term rentals, are not permitted anywhere in the Town of Philipstown. The only facilities defined in the Town Code to provide lodging for transient guests include bed-and breakfast establishments or lodging facility, including hotel, motel or inn. Under the Town's Use Table, 175 Attachment 1, lodging facilities are not permitted in the RR Zoning District, and bed-and-breakfast establishments are permitted only pursuant to site plan review. Vacation rentals, such as airbnbs and other short-term rentals, are not permitted on the property because they are not permitted in the Town of Philipstown pursuant to the Zoning Code. However, to make this point clear the Applicant will add an additional restriction to the HOA Declaration stating that each residential lot shall be used as a single-family home only. Such properties may be leased by the home owner to a tenant for a period of not less than 1 month.

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B.1. Residential Subdivision

B.1.a. Lot count

Comment 2.24 (Gainer): Conservation Subdivision Standards - The project's design and layout must comply with all requirements of §175-20 of the Town's Zoning Ordinance. Based upon the current design plans for the project, the applicant should clarify how the following standards are met:

Project Density - Pursuant to §175-20B(l), the applicant has utilized a formula, taking into account the various environmental constraints existing on the tract, in order to establish a permitted overall project density. Through this calculation, they believe that a residential housing count of 25 lots overall is permissible.

As the Board is aware, my office previously reviewed the environmental constraints mapping to evaluate the application of this formula on the subject project, and through this we established that the overall permitted project density utilizing the "formula method" allowed in the Ordinance is 24 units, considering the entire tract (including the property within the "M" zoning district).

Response 2.24: The Town Engineer has developed an assessment that the allowable count for the project is 24 units. The Project Sponsor's designers reported that they revisited their calculations and measurements that resulted in an affirmation of their original conclusion that the allowable number of residential lots is 25. Nevertheless, the applicant has instructed its designers to accept Mr. Gainer's calculation of 24 residential units to remove any question regarding the number of units and eliminate any negative impact that the 25th unit would have caused. Accordingly, the designers have adjusted the plans, which now show a total of 24 residential lots.

Comment 2.25 (Gainer): Further, if it is determined that no density should be assigned to these "M" district lands (since residential uses are not permitted in the Chapter 175 "Use" Table for this zone), the permitted project density would then be reduced to 22 units.

Response 2.25: Among the applications before the Town is a petition to the Town Board, dated May 16, 2017, to rezone that portion of the Hudson Highlands Reserve property presently within the M-Zone and a portion of the property presently within the HC zone to RR (Rural Residential). The M-Zone reflects the former potential use of the property as a quarry, which is no longer plausible on the project site or consistent with surrounding development. In the Project Sponsor's opinion, a land use rationale therefore exists to support the zoning change for the portion of the property currently zoned M.

Comment 2.26 (Gainer): In summary, as the design and layout of the project plans evolve, this analysis of "constrained lands" must again be reviewed to establish with finality the permitted density for the overall tract. Further, with the provision of the equestrian center, it must be determined whether any resident accommodations will be provided for this amenity and whether this too must be considered against the dwelling count ultimately established for the property.

Response 2.26: Please see Response 2.24, above with regard to the constrained lands and permitted density.

As a result of the SEQRA review and analysis, the equestrian center has been removed from the plan. Therefore, further review regarding resident accommodations provided for it is not necessary.

Comment 2.27 (AKRF): Regarding residential density, and the site plan modifications recommended above, please note, from Town Code Section 175-20 — Standards for Conservation Subdivisions: "(5) The maximum number of units as determined by this § 175-20B, whether derived from the density formula or the yield plan, and the density bonuses described in Subsection B(4) shall not be considered an entitlement. The applicant must also demonstrate compliance with all applicable criteria and standards of the Zoning Law, Land Development Regulations, and other applicable laws and regulations. These requirements may result in an actual approvable unit count that is less than the maximum allowed by Subsections B(1), (2) or (4) above."

Response 2.27: See Response 2.24. The Project Sponsor developed a lot count from both the density formula and the yield plan, the lower number of which was 25. The Town's consultants calculated a lot count of 24 from the density formula. The applicant has instructed its designers to accept the Town's calculation of 24 residential units to remove any question regarding the number of units and eliminate any negative impact that the 25th unit would have caused. Accordingly, the designers have adjusted the plans, which now show a total of 24 residential lots. This layout fully complies with all applicable criteria and standards of the Zoning Law, Land Development Regulations, and other applicable laws and regulations.

Comment 2.28 (Butensky): The law says that an applicant may increase the permitted number of dwelling units by use of density bonus granted at the discretion of the planning board. The applicants seem to think they have a right to it, but it's at your discretion. The maximum -- the formula, you know, and the density bonus is described -- as described shall not be considered an entitlement.

Response 2.28: No density bonus is being proposed.

Comment 2.29 (Hammond): Before a protest is raised that the HHR is actually entitled to 25-29 houses, using the two calculation methods cited, let's all acknowledge that that is a red herring. Expert opinion is that zoning and the land would not actually support more than 10 or 11 houses without a conservation subdivision…This means that the HHR is using a law intended to conserve and protect open space against the town itself while "preserving" land that was already preserved.

Response 2.29: As seen in Figure 1, the newly revised layout proposes just 24 residential lots. As demonstrated in Alternative B in the DEIS, a conventional as-of-right subdivision would yield 19 homes, with no land set aside for conservation. Wetlands and surrounding buffers would be protected by Town regulations, but these regulations allow some level of development by permit. Town regulations regulate, but don't prevent development on slopes in excess of 20%. Slopes in excess of 20%, wetlands, and wetland buffer are indicated on the proposed plan with a dark green color. None of the areas rendered in a lighter green would be protected or otherwise "preserved" by any regulation or mechanism if not set aside as proposed under a

Conservation Easement. A significant amount of these unprotected areas would be permanently preserved under the proposed plan.

B.1.b. Layout

Comment 2.30 (AKRF): Review of the site plan, specifically Figure 4 of the DEIS, shows that the existing historic house referenced above would be part of proposed Lot 18 and the existing historic barn would be part of the common HOA lot. It is unclear from the narrative if the existing house on proposed Lot 18 is currently occupied. In addition, if this house would share Lot 18 with an additional house constructed as a result of the proposed project (Figure 16 appears to show it would), how did the existing house factor into the overall density calculation for the proposed project, if at all? In addition, if the house is to be restored in a similar fashion to the barn, the applicant should provide the Planning Board with written concurrence from the SHPO that the proposed restoration is acceptable.

Response 2.30: The existing house was occupied until 2018, but is currently vacant. It would be the only house on that lot, and would be counted as one of the allowed number of units. DEIS Figure 16 depicts the yield plan that was developed to determine a lot count, and has no bearing whatsoever on the proposed layout. The Project Sponsor will work with SHPO on the restoration/renovation of the barn, and will provide all necessary documentation to the Planning Board and/or building inspector.

Comment 2.31 (AKRF): The Applicant envisions the residential lots to predominately serve as second home investment properties for New York City renters. The Applicant does not envision year-round permanent occupancy. As lead agency the Planning Board is permitted to request analysis of impacts associated with year-round occupancy as part of the FEIS, if determined warranted during the public review of the DEIS. Similar comments were raised by the Planning Board and during the public hearing.

Response 2.31: While the units would be marketed as seasonal or second homes, it is recognized that units may be purchased for year-round occupancy, especially by existing residents of Philipstown. Accordingly, year-round occupancy has always been assumed as a worst case scenario in analyzing impacts such as traffic and school populations in the EAF. In the DEIS, and by extension, the FEIS, year round occupancy was also assumed for such issues as water supply and wastewater disposal.

Comment 2.32 (AKRF): Why is the area of the project site just north of the Horton Road cul-de-sac and south/east of Ulmar Pond, classified as "Residential Multi Family" on the existing land use map (Figure 14)?

Response 2.32: This was an error in trying to abbreviate the type of existing use for the figure's key. The lot in question is tax lot 17-1-76.21 and has a land use code of 280. The full label for the land use should be "Residential Single Family – Multiple Residences", not implying Multi Family structures. Figure 3 (see following page) is a revision of DEIS Figure 14, corrected with the abbreviated label "Residential Multi Residences".

Comment 2.33 (Gainer): Lot sizes- Per §175-19B, a variety of lot sizes are recommended so as to represent a "cluster" subdivision layout and so maximize the creation of substantial open space. In §175-20C, it is further suggested that lot sizes as small as those permitted for the Town's "Hamlet" zoning districts be considered (or ½ acre). However, the development proposes a "cookie cutter" layout of lots all generally 1 acre in size, which is not in keeping with the intent of these regulations. This ultimately leads to the opposite effect of committing excessive land to individual lots, and spreading out the development into areas of higher conservation value, which could be avoided with smaller, or at least some variety of lot sizes (i.e.; lots which extend along the west side of Ulmar Pond). It is suggested that various lots around Ulmar Pond either be eliminated or otherwise significantly reduced in size to increase both conserved lands as well as to widen wildlife corridors.

It is recognized that "Alternative D", while having other disadvantages, does represent a different lot arrangement whereby smaller lots are proposed so that additional lands may be protected, specifically in the area of Ulmar Pond. The project design which is ultimately endorsed by the Town should be no less protective of the site's established high and medium conservation value lands.

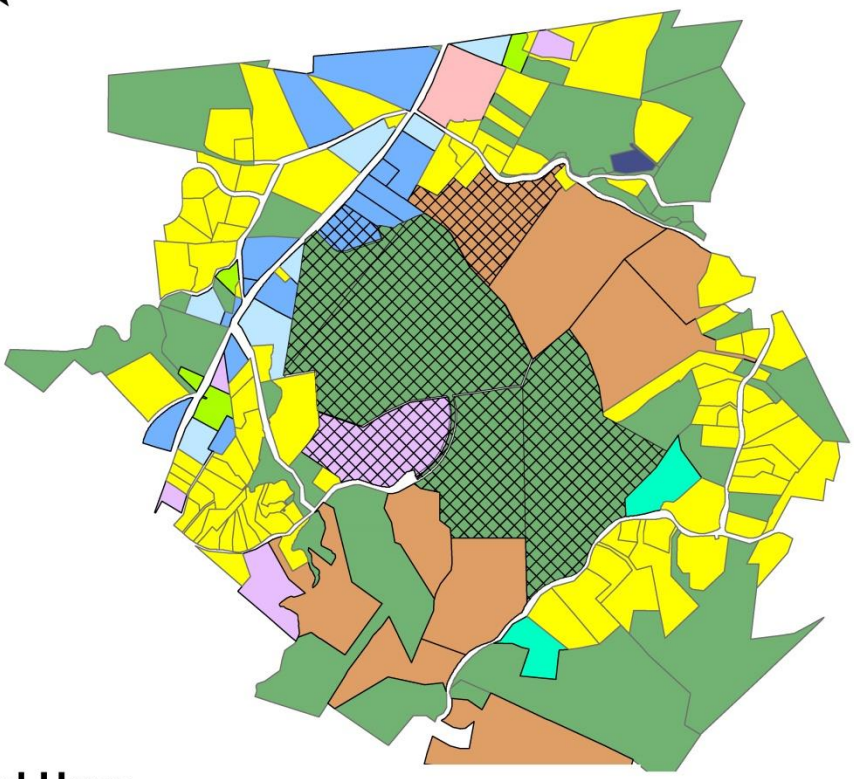
Response 2.33: This section of the Code allows a variety of lot sizes, while not mandating consideration of only the smallest of lots, or 'hamlet' size. Specifically, the Code states, *"Conservation subdivisions may include a variety of lot sizes, ranging from large farm or estate lots to small hamlet-size lots."* The Project Sponsor decided that incorporating "large farm or estate lots" would be contrary to the true purpose of clustering, and would reduce the amount of land that could be set aside from individual land ownership and more easily preserved under a conservation easement. The Project Sponsor also believes that the use of half-acre sized lots in this particular area of the Town will defeat the purpose of "maintaining the rural appearance and environment of the town of Philipstown" as stated in article V (Open Space Development) per §175-19A.1. The proposed one-acre lot size is comparable to the Horton Road/Horton Court/Mill Road neighborhood adjacent to the proposed project. The typical lot size in this neighborhood ranges from around an acre to multiple acres. Likewise, the creation of contiguous houses or townhomes within the development would not be compatible with the character of the rural surroundings.

In the opinion of the Project Sponsor, in endeavoring to remove units from around Ulmar Pond, Alternative D creates other adverse impacts when compared to the proposed project plans: (1) the primary access road in Alternative D is shown as completely obliterating the historic road through the property, eliminating a cultural and recreational resource; (2) the eastern cul-de-sac would push further into land proposed for conservation, greatly increasing the impact upon what is currently an undisturbed block of native forest habitat; (3) the central cul-de-sac extends much further than what is currently proposed, extending the effective adverse impact into adjacent forested habitat; and (4) the smaller lot sizes would also actually allow the units as shown to form a more formidable, less porous barrier to wildlife attempting to cross from one part of the property to the other. The Project Sponsor believes the larger lots proposed in the preferred project plans strike a better balance, clustering units on just 24% of the project site, while, especially with HOA restrictions, minimizing clearing of existing trees and promoting landscaping with native plant species, allowing significant porosity for wildlife movement to continue through developed areas.

N

Figure 3: Land Use Map

DEIS Figure 14 (corrected)



Land Uses

- HHR SITE
- Residential Single Family
- Residential Multiple Single Family Residences
- Residential Multi Family
- Residential Rural
- Residential Seasonal
- Residential Mobil Home
- Residential Vacant
- Commercial
- Commercial Vacant
- Water Supply

0 750 1,500 3,000 Feet

1 inch equals 1,500 feet

BADEY & WATSON
Surveying & Engineering, P.C.

Land Use source 2018 Town of Philipstown Final Tax Assessment Roll
map prepared by Badey & Watson, January 2018
rev March 2021

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In the Project Sponsor's preferred plan, the units would be situated from around 171 feet to 277 feet from the edge of the pond. Both stormwater and wastewater would be directed away from the pond as part of the Project Sponsor's design.. The heavy abundance of exotic and invasive species that have taken over areas surrounding the pond would be removed and replaced with native species. The pond itself would be managed, removing decaying and excessive aquatic vegetation, and possibly aerating it as well. Given all of this, the Project Sponsor believes that the condition of Ulmar Pond will be improved in the post-development condition than as it exists today.

B.1.c. Homeowners Association

Comment 2.34 (Conner): Will the HOA be managed by owners or by a management company? Will there be any restriction on whether or not a management company can be engaged?

Response 2.34: Initially the site will be managed by the development company. Upon 80% occupancy of the individual parcels, management will be transferred to the HOA. The HOA will be managed by the homeowners. Each homeowner [member] is a voting member of the association, and a representative of the holder of the Conservation Easement and Project Sponsor will be non-voting members. The HOA will have a governing Board of Directors. The Board of Directors will consist of four (4) directors [members] and one representative from the holder of the Conservation Easement and Project Sponsor. The Board of Directors may hire a management company if they so choose pursuant to Article VIII, Section 6(a)(10) of the Bylaws.

The option to use a management company for regular maintenance and upkeep is up to the discretion and approval of the HOA.

Comment 2.35 (Conner): Can the HOA board of directors change the rules/restrictions for the development related to the equestrian center? What changes would the HOA board of directors be permitted to make to the HOA in general?

Response 2.35: The Equestrian Center has been removed as an element of the proposed project.

The HOA Board of Directors can change the rules/restrictions for the development as provided for in Section 5 of the General Rules and Regulations:

Section 5. Right to Change General Rules and Regulations.

(a) Any consent or approval given under these General Rules or the Residential Design and Maintenance Rules and Regulations and Regulations may be amended, modified, added to, or repealed at any time by resolution of the Board of Directors of the Association, except as may be provided elsewhere herein. Further, any such consent or approval may, in the discretion of the Board of

Directors of the Association or the Managing Agent, if any, be conditional in nature.

(b) Further, the Board of Directors reserves the right to rescind, alter, waive or add, as to one or more or all Residential Lot Owners, occupants, lessees, guests and any other person residing in a Home located thereon, any General Rule or Regulation or any Residential Design and Maintenance Rules and Regulations at any time prescribed for the Association, when, in the reasonable judgment of the Board of Directors of the Association, the Board of Directors of the Association deems it necessary or desirable for the reputation, safety, character, security, care, appearance or interests of the Association, or the preservation of good order therein, or for the operation or maintenance of the Association or the equipment thereof, or the comfort of Residential Lot Owners, occupants or others in the Association. No rescission, alteration, waiver or addition of any rule or regulation in respect of one Residential Lot Owner or other occupant will operate as a rescission, alteration or waiver in respect of any other Residential Lot Owner or other occupant.

(c) The Board shall have the right to either increase or decrease the amount of the fines imposed on the Residential Lot Owners on an individual basis or as it applies to all Residential Lot Owners. If the Board of Directors of the Association changes the amount of the fines as it applies to all Residential Lot Owners it shall do so only after a notice has been sent to the Residential Lot Owners advising them of the change.

Furthermore, any material change to the bylaws by the Board of Directors requires from first mortgage approval of at least fifty-one (51%) percent of the votes of the mortgage holders.

Comment 2.36 (Conservation Board): Paying any subdivision's monthly maintenance charges is similar to paying taxes: every taxpayer/homeowner wants the benefits that come from spending either tax dollars or HOA maintenance charges, but those same taxpayers/homeowners are often unwilling to vote for the level of taxes/monthly charges required to fund such benefits, and will try to avoid payment of taxes/monthly charges unless there is a significant and immediate benefit to doing so, as well as a significant and immediate sanction for failure to do so. The members of the board of directors of the HOA will be asked every year to determine the annual maintenance charges to be assessed against all residents of HHR, including themselves. There could not be a more clear-cut conflict of interest.

Response 2.36: The HOA would be guided by Not-for-Profit Corporation Law, in which individual Board members have a fiduciary duty to abide by all laws as well as the governing documents of the HOA. Pursuant to the foregoing requirements, it is the Project sponsor's opinion that each Board member must act in the best interests of the HOA and its members.

Comment 2.37 (Conservation Board): As with the conflict inherent in setting and collecting maintenance charges, there will be a similar conflict with respect to use of the Conserved Land. Residents will have an understandable desire to use the Conserved Land, all of which will be private; reserved exclusively for their use; and supported by the maintenance charges that they pay. At the same time, however, the HOA board members will have a duty to conserve and protect such lands against all but minimal human use, not to mention protection against any incursion by horses. Such conflict between the natural inclination of residents and the duties of the HOA board has the potential to become irreconcilable.

Response 2.37: As noted in Response 2.36, the members of the Board of the HOA have fiduciary duties and obligations, one of which will be to ensure that the Conservation Area is utilized and maintained in accordance with the Conservation Easement that will run the land. Moreover, the Conservation Easement holder will oversee and ensure that the Conservation Easement is complied with. In addition, the Conservation Easement may be enforced by the Conservation Easement holder as well as the Town and the HOA Board. Thus there is more than one level of protection in place to ensure that the Conservation Easement is complied with in perpetuity.

The Equestrian Center has been removed as an element of the proposed project, so potential incursion by horses is no longer an issue.

Comment 2.38 (Conservation Board): Public Board Members. In order to address the structural conflict of interest inherent within the proposed HOA, the HOA should have a five-person board of directors, consisting of three members elected by residents of HHR and two public members, collectively nominated by Open Spaces Institute; Riverkeeper; Hudson Highlands Land Trust; Constitution Marsh Audubon Center and Sanctuary; Scenic Hudson; and the Philipstown Garden Club. If not all of the six entities listed in the prior sentence wish to participate in the nomination process, the remaining entities should do so. The two public members should be approved and appointed by the Town of Philipstown. Such public members shall be full voting members of the HOA, fully indemnified as are the other board members, and should be authorized to report to the holder of the Conservation Easement, the Town of Philipstown, and the CB any issues or concerns they may wish to raise with respect to HHR. The bylaws of the HOA should be modified to require that at least one public member be present at any meeting of the board in order for it to have a quorum and take any action.

An HOA does not typically have or need public members, and if this were a conventional subdivision, without an Equestrian Center, there would be no need for public members. The potential for environmental damage to Water Resources, Vegetation, and Wildlife is so great, however, and the public interest is so strongly implicated, that public members of this HOA board are critical. Public corporations in the United States routinely have independent board members, with no conflicts of interest, and so should the HOA for HHR.

Response 2.38: This development is a private residential community. It is not Town-owned or operated. Public individuals who are not members of the HOA have no standing to serve on the Board of the HOA. As noted above, the HOA will be formed pursuant to the Not-for-Profit Corporation Law, and the community is subject to the HOA governing documents as well as all Town and other applicable laws, the same as any other residence situated within the Town. In

addition, the Conservation Easement is subject to enforcement by the Conservation Easement holder as well as the Town and the Board of the HOA.

Further, the commenter states, *"if this were a conventional subdivision, without an Equestrian Center, there would be no need for public members."* As the Equestrian Center has been removed as an element of the proposed project, it would appear that this comment has been rendered moot.

Comment 2.39 (Conservation Board): Appendix J to the DEIS contains, among other documents, the General Rules and Regulations of Hudson Highland Reserve Homeowners Association (the "General Rules"). Section 1 of the General Rules contain 35 separate rules applicable to homeowners, covering issues such as the parking of cars; license plates; dogs; cats; signs; fences; gates; maintenance charges; nuisances; and a variety of other issues.

The single most important rule of the 35 rules specified is Rule (ii), which is the 35th, last, and least conspicuous of all of the rules. It states as follows: "No horses or horseback riding shall be permitted anywhere in the Community except within the Equestrian Center." While the rule is clear and in keeping with representations of the developer, the importance of it to environmental protection is such that it should have been the first of all of the rules, rather than the last. Placing this critical rule last in a long list of rules, most of which are trivial in comparison, is inappropriate. Accordingly, Rule (ii) should become the first Rule (i.e., Rule (a)), and, in order to emphasize its importance and avoid any contention by any party that they were unaware of the rule, it should be printed in capital letters, in bold-face type.

Response 2.39: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.40 (Conservation Board): In addition, Section 6 (16) of the Bylaws of the HOA allows the board of directors of the HOA to "amend, modify or repeal" any of the General Rules. Accordingly, current Rule (ii), which should become Rule (a), should include the following sentence: "This rule (a) may not be amended, modified, or repealed without written consent of the holder of the Conservation Easement and the Town of Philipstown." Likewise, Section 6 (16) of the bylaws of the HOA, which explicitly authorizes amendment, modification, or repeal of any rules, should add a statement prohibiting any amendment, modification, or repeal of current Rule (ii), without the written consent of the holder of the Conservation Easement and of the Town of Philipstown.

Response 2.40: The commenter is suggesting that the rule prohibiting horses or horseback riding anywhere in the community (there is no more Equestrian Center) should be further restricted by a rule that same may not be amended, modified or repealed without the written consent of either the Conservation Easement holder or the Town. The Project Sponsor intends to incorporate this suggestion into the bylaws.

Comment 2.41 (Conservation Board): Appendix "I" to the DEIS is the Declaration of Covenants, Restrictions, Easements, Charges and Liens (the "Declaration"), which addresses the issues suggested by its title. Contrary to the intent stated elsewhere to prohibit riding horses anywhere in HHR other than within the Equestrian Center, Article V, Section 2 (iii) of the Declaration explicitly grants an easement approving horse riding outside of the Equestrian Center: "Right-of-way for ingress and egress and/or use and enjoyment by horseback riders

who are instructors, students, patrons or invitees of the Equestrian Center, over and on the interior roadways in the Community and over and on the Historic Roadway."

That provision explicitly approves the use of horses outside of the Equestrian Center, rather than prohibiting such usage, and it significantly undermines the credibility of the developer's assurances to the contrary, Once horses are permitted to be ridden "over and on the interior roadways in the Community and over and on the Historic Roadway," it is inevitable that they will begin to be ridden everywhere throughout the Conserved Land. The Declaration must be revised to remove the proposed easement allowing horses to be ridden outside of the Equestrian Center, in conformity to the terms of the Conservation Easement. The Declaration's grant of an easement allowing horseback riding should be replaced by a prohibition, and the prohibition should be printed in capital letters and in bold-face type.

Response 2.41: Inasmuch as horseback riding in the community is to be prohibited, any reference in the HOA governing documents to an easement which would have permitted horses to be ridden in the community will be removed.

Comment 2.42 (Hammond): Lawns are mini environmental disaster. Planning Board asked for limits on clearing/lawn areas, but I see no attempt to limit lawns. Insistence on 25 one acre lots, as opposed to truly clustered housing, is not coherent with a conservation development.

Response 2.42: Each of the lots will be subjected to comprehensive development rules on both the structures and the lots, including landscaped areas. The current HOA Residential Design and Maintenance Rules and Regulations restrict the total lawn area to 2,000 square feet per one-acre lot. Additional landscaping guidelines are outlined on pages 31 and 32 of the documents.

Comment 2.43 (Hammond): Developer claims that use of pesticides and fertilizers as well as equestrian use of conserved land would be regulated by HOA, but who will enforce the HOA regulations? It is well known that many homeowners in drought-stricken environments regularly ignore lawn watering bans and that people do whatever they want in their own yards. If each household has a lawn, it seems likely that it will be irrigated, fertilized and have pesticides applied. Who will control that?

Response 2.43: The Conservation Easement provides that no pesticides or chemicals may be applied unless the Conservation Easement holder expressly consents to same prior to any such use, and same must be utilized in conformance with the manufacturer’s and legal guidelines. In terms of irrigation, the Town’s requirements, if any, must be followed by the homeowners in this development, just as residents of the Town must so abide. The Town can enforce its own laws, and the Board is empowered to enforce the HOA By-Laws, and Rules and Regulations as well.

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B.2. Conservation Area

Comment 2.44 (Butensky): The final determination as to which land has the most conservation value and should be protected from development by conservation easement shall be made by the planning board. It's not made by the developer. It's made by the planning board. That's in the law.

Response 2.44: The Town Code of the Town of Philipstown does require these decisions to be made by the Planning Board. Accordingly, the map depicting the areas of "high" and "medium" conservation value was officially adopted by resolution of the Planning Board on November 17, 2016. The Planning Board will similarly adopt the boundaries of the Conservation Area as part of the project approval.

Comment 2.45 (AKRF): The DEIS indicates that the proposed 170.8 acres of Conservation Area includes the Equestrian Center, the SSTS and Reserve SSTS areas. Such areas are essentially "developed" and not appropriate to include in the Conservation Area. Per Town Code § 175-21.A.3.a/b, uses allowed in conservation easement must "protect the conservation values identified in the conservation analysis." Conversion of forested land, with its well-documented conservation values, to an indoor/outdoor riding rings, horse boarding stalls, roadways and parking, and sub-surface septic treatment systems does not further the conservation value of the land. Note also Town Code §175-20.H.2: "Such open space may be owned by a homeowner's association...as long as it is protected from development by a conservation easement and does not result in fragmentation of the open space land in a manner that compromises its conservation value." The Equestrian Center and SSTS, and their related developed areas, do not appear compliant with this section of the Town Code.

Response 2.45: The Equestrian Center has been removed as an element of the proposed project, so it is no longer an issue. The area to be subject to the Conservation Easement has been adjusted to exclude the subsurface sanitary treatment system (SSTS) and the stormwater management practices, and was accordingly initially reduced to 159.5 acres. Since then, other changes to the proposed plan has resulted in the Conservation Area being increased to 163 acres. The Reserve SSTS will remain within the Conservation Area. As specifically provided in Town Code §175-21.A.3.b, which addresses the preservation of open space by conservation easement, *"Access roads, driveways, local utility distribution lines,* ***subsurface wastewater disposal systems****, trails, temporary structures for outdoor recreation and agricultural structures shall be permitted on preserved open space land, provided that they do not impair the conservation value of the land."* It is unlikely that the Reserve SSTS will ever be developed, but if so, it can be revegetated with native species.

Comment 2.46 (AKRF): Appendix K: Conservation Easement: Section 4.3(d) Pedestrian Trails, Utilities and Drainage Ways. This section is not restrictively defined so potential impacts to undeveloped lands are unknown. Also, Section 4.6 Clearing of Trees and Vegetation, is similarly poorly defined for conservation lands which are to remain undisturbed. By contrast, Section, 4.2 Equestrian Center, is clearly defined and appropriate: "Horses and horseback riding shall be permitted only in the 11.1 acres of the Equestrian Center, in all other areas horses of the Property and the Conservation Subdivision horseback riding shall be prohibited."

Response 2.46: The Conservation Easement clearly defines the Conservation Area and the restrictions that apply thereto. Moreover, the Town is the author of this document, and has set forth restrictions on pedestrian trails, utilities, drainage ways, and clearing of trees and vegetation. No trails or utilities are proposed within the Conservation Area. The Equestrian Center is no longer contemplated for this project.

Comment 2.47 (Conner): What is the total percentage of the lands to be placed under the conservation easement that consist of Class Ill Slopes, i.e., slopes equal to or over 35%?

What is the total percentage of the lands to be placed under the conservation easement that consist of Class II Slopes, i.e., slopes equal to or over 25%?

What is the total percentage of the lands to be placed under the conservation easement that consist of Class I Slopes, i.e., slopes equal to or over 15%?

Response 2.47: The Philipstown Town Code no longer categorizes steep slopes in three classes. It now uses just two ranges; slopes between 20 and 35% and those over 35%. Table 9 shows the area of land with steep slopes in each of the two ranges, as well as the areas where the slopes are less than 20% and thus, not considered steep by the Town Code. Each range is further divided into those within and not within in the Conservation Area.

Table 8: Slope Analysis - Summary

Slope Range	Area within Conservation Area		Area not within Conservation Area	Total Area within Range
	Acres	Percent of total	Acres	Acres
0-20	64.90	68.7%	29.53	94.43
20-35	56.41	88.4%	7.43	63.84
35+	49.42	95.3%	2.43	51.85
Total	170.73	81.3%	39.39	210.12

Comment 2.48 (Conner): What is the total percentage of the lands to be placed under the conservation easement that consist of steep terrain that is located within 50 feet of a watercourse, controlled wetland as defined in Chapter 93 or lands that are regulated by the State of New York pursuant to the Freshwater Wetlands Act (Article 24 of the New York Environmental Conservation Law)?

Response 2.48: The Conservation Area contains 163 acres. The total area of steep terrain that is located within 50 feet of a watercourse, controlled wetland as defined in Chapter 93 or within lands that are regulated by the State of New York pursuant to the Freshwater Wetlands Act (Article 24 of the New York Environmental Conservation Law) is 7.96 acres, all of which is within the Conservation Easement. The total percentage is therefore 4.9% (7.96 /163 = 0.0488).

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Comment 2.49 (Conservation Board): Certified Land Trust. In view of the critical importance of proper administration and enforcement of the Conservation Easement, only a land trust certified by the Land Trust Alliance Accreditation Commission should be accepted by the Town of Philipstown as the holder of the Conservation Easement. As indicated on its website, "The Land Trust Accreditation Commission was incorporated in April 2006 as an independent program of the Land Trust Alliance to operate an innovative program to build and recognize strong land trusts, foster public confidence in land conservation and help ensure the long-term protection of land." It is the gold standard for land trust accreditation, and the citizens of Philipstown are entitled to nothing less. If a land trust accredited by the Land Trust Accreditation Commission willing to hold the Conservation Easement cannot be found, that will be a red flag for the Town of Philipstown that something is seriously wrong with the proposed development.

Response 2.49: The Town Code places no such limitation on the chosen holder of the Conservation Easement. Specifically, the Code requires that the Conservation Easement *"shall be granted to the Town, with the approval of the Town Board, or to a qualified not-for-profit conservation organization or other governmental body acceptable to the Planning Board."* Accordingly, it is entirely possible that the Town itself, or another governmental body, will be the holder of the easement. Should a not-for-profit be considered, the substance of this comment will be considered when evaluating potential easement holders. The Project Sponsor, in consultation with the Planning Board, will select an organization with the authority to accept lands, easements and buildings for the purpose of preserving and protecting natural, scenic, forested, and open-space values of real property, and with the commitment to preserve the conservation purposes of the Property.

Comment 2.50 (Conservation Board): "Trust but Verify": Testing & Inspection for…Vegetation & Wildlife: an independent, certified wildlife and habitat management firm selected by the Town of Philipstown should inspect the Conserved Land monthly to determine the degree to which vegetation and wildlife and their habitats are being disturbed, either by construction; human activity; horses being brought onto the Conserved Land; or any other activities. Such inspections and reports should be under the same terms and schedule proposed above for water testing.

Response 2.50: As the Equestrian Center has been removed as an element of the proposed project, nothing else is proposed on the Conserved Land other than the reserve sanitary disposal field, which is unlikely to ever be needed. Likewise, no horses could be brought onto the Conserved Land. There would therefore be no need for monthly inspections. Future inspections of the Conserved Land can be conducted by both the Homeowners Association and the holder of the Conservation Easement.

Comment 2.51 (Conservation Board): Baseline Testing: in order to provide baseline data,…a full field inspection of the Conserved Lands should be undertaken within 30 days of any approval of HHR by the Planning Board and should be done monthly thereafter, in order to provide a meaningful pre-development record of…the presence or absence of wildlife. Absent such baselines, it will not be possible to fully evaluate the implications of later testing and inspection.

Response 2.51: This is an issue that is best addressed by the eventual holder of the Conservation Easement, which will be determined prior to construction.

Comment 2.52 (Conservation Board): Section 6.2 of the Conservation Easement says that the Grantee may bring an action for injunctive relief, but does not say against whom such action may be brought. This section should state clearly that any such action may be brought against the Grantor at any time until it no longer owns any lots for sale within HHR and, thereafter, against the HOA.

Section 6.3 of the Conservation Easement says that the Grantee may recover damages for violation of the terms of the Conservation Easement or injury to any of the conservation purposes that are protected by its terms but does not say against whom such damages may be recovered. This section should state clearly that damages may be recovered against the developer at any time until it no longer owns any lots for sale within HHR and, thereafter, against the HOA.

Response 2.52: Any enforcement action(s) that could be brought by the Conservation Easement holder should be brought against the HOA, as it is the HOA, by way of its Board of Directors, which is responsible for compliance with the Conservation Easement. Any such enforcement actions should not be singularly brought against the Grantor simply because it may retain ownership of one or more lots within the development. Similarly, any alleged damages for violation of the terms of the Conservation Easement should be sought against the Association and not the Grantor, as it is primarily responsible for compliance with the Conservation Easement.

Comment 2.53 (Conservation Board): Section 6.6 of the Conservation Easement deals with costs of enforcement, including both attorney's fees and any costs of restoration of the Conserved Land. It states that any of such fees and costs shall be borne by the Grantor, if the Grantee prevails in a judicial action. The Grantor, however, is an LLC, which means "Limited Liability Company." One of the purposes of an LLC is to protect the beneficial owners of the LLC from any personal liability. This means that, if the Grantee and/or the Town of Philipstown (pursuant to its third party enforcement rights under Section 6.8 of the Conservation Easement) obtain a judgment against the Grantor for violations of the Conservation Easement, the Grantor may or may not have the funds with which to pay such judgment.

In addition, Section 10.2 of the Conservation Easement explicitly disclaims personal liability for any beneficial owner, confirming that the Easement was drafted with the specific purpose and intent of limiting the ability of the Grantee and the Town of Philipstown to assert any claims against the beneficial owners, even if the Grantor is unable to pay a judgment or respond to other orders of a court. It is not acceptable for the beneficial owners to reap the profits from development of HHR and have the ability to walk away from its liabilities.

Accordingly, the beneficial owner or owners of Horton Road LLC should provide an unconditional guarantee to the Grantee and to the Town of Philipstown, covering any and all obligations of the Grantor under the Conservation Easement, including but not limited to fees, costs, expenses and damages, in the event Horton Road LLC does not pay any sums awarded pursuant to a final, non-appealable judgment against it, in whole or in part, or fails to take any action required of it under any section or provision of the Conservation Easement. Promises by any LLC, including Horton Road LLC, are illusory without either such a personal guaranty, a letter of credit, or another, functionally similar, alternative.

Response 2.53: Matters concerning the Conservation Easement are within the purview of the Town. The Conservation Easement grants the Town a Third-Party enforcement right. Moreover, the Conservation Easement provides that the HOA is responsible for all costs of enforcement against the HOA or its members (unless it is found that the HOA is not liable).

Comment 2.54 (HHLT): Section 175-21A (3)(b) of the zoning code states *"The configuration of the open space land and dwellings shall not result in fragmentation of the open space land in a manner that interferes with its proper management and protection of its conservation values."* We have already commented that the configuration of the open space cuts off one important wildlife corridor (between Clove Creek and Ulmar Pond) and constricts another (between the eastern slopes and Ulmar Pond). In addition, because of the houses wrapped around the pond and the easement land going in between the rows of houses on either side of the old road, all houses face the conservation easement, without natural or manmade barriers (such as a road). This means that an easement holder must face potential violations and encroachments from 25 different homeowners, as well as users of the equestrian facility. This layout makes easement monitoring and enforcement excessively cumbersome and adversely interferes with proper management of the conservation values.

Response 2.54: The impact of the proposed plan on wildlife corridors is addressed elsewhere in this FEIS. The preservation of the historic road benefits both the preservation of a cultural resource, as well as providing an additional north-south corridor for wildlife beyond what is provided by preserving land to the east. The concept of having every house border on to a preserved interconnected open space is a basic design tenet of clustered subdivisions that goes back nearly 100 years, as typified by the oft-studied model of Radburn, NJ, in 1929. The Project Sponsor believes that the presence of the historic road will enable easy inspection of potential violations and encroachments. In the area of Ulmar Pond, the back boundary of the individual lots bordering on the land subject to a Conservation Easement will be demarcated by a reproduction of a stone farmer's wall, similar to what is found elsewhere on the property. This will allow easy identification of any violation or encroachment, even as small as the dumping of leaves beyond the stone boundary on the conserved land.

Comment 2.55 (HHLT): Requirements for Conserved Open Space are not Met: Section 175-21A(1) of the Zoning Code states: *"The open space protected must include all the land determined pursuant to §175-20A(4) to have the most conservation value and, subject to § 175-20H, as much other land having conservation value as possible (as established by the conservation analysis and conservation findings)"*. This requirement is not met because almost all of the "potential developable land" (DEIS Figure 15) is developed, and yet much of that land is important for wildlife as noted in the Coleman 2014 letter, and as preferred habitat for NYS Species of Special Concern that use the site, as discussed in Dr. Klemens letter in Exhibit B. Furthermore, if the deficiencies in the applicant's wildlife studies around vernal pools, amphibians and reptiles are corrected, it is likely this habitat will be found in this "potential developable area" also.

Response 2.55: There is no prohibition in the Code against using the entirety of the land determined to not have the most conservation value. The entire paragraph that contains the referenced quote reads:

*"Conservation value of open space. The open space protected must include all the land determined pursuant to § **175-20A(4)** to have the most conservation value and, subject to § **175-20H**, as much other land having conservation value as possible (as established by the conservation analysis and conservation findings). Examples of lands with conservation value include view corridors along scenic roads, agricultural land, ridgelines, steep slopes, designated critical environmental areas, large areas of contiguous mature forest, wetlands, watercourses, and stream corridors. Prime and statewide important agricultural land, even if suitable for development, shall be considered land of conservation value."*

All of the areas within the project site meeting the criteria listed are being preserved with the exception of unavoidable steep slope disturbance required for the entrance road. The proposed community center and Lot 20 are shown within an area of high conservation value solely because of the identified historic structures, both of which are being preserved and adaptively reused.

The revised project plans have now also moved some development from areas of "low conservation value" in the center of the property, so now areas within all three conservation value areas are included within the proposed Conservation Area. Figure 4, provided on the following page, is a revision of DEIS Figure 15 showing the new project plans.

Comment 2.58 (Merante): While most conservation easements allow agricultural uses,
- is this not an 'industrial form of agriculture?
- is this structure allowed on preserved open space - it is a fully-developed area consisting mainly of impervious surfaces.

Is this not anathema to the spirit of a conservation subdivision and conservation easement?

Response 2.58: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.59 (Conservation Board): With respect to human usage, the Conserved Land will be closed to use by the public and will be available only for use by the homeowners in HHR. That restriction will limit the number of individuals who will be using the land, but it is not clear what uses the residents of HHR will make of the land; how such uses will be regulated; and how aggressively the HOA will enforce protective rules for the Conserved Land. Absent strict guidelines that are actually enforced, use of the Conserved Lands by HHR residents will be likely to degrade them both as a habitat for wildlife and as an "undeveloped contiguous forest." It is a certainty that the proximity of 160 acres of undeveloped land to the 25 homes that will be built will introduce a permanent population, at least some of the members of which will desire to engage in outdoor recreational activities near where they live, i.e., in the Conserved Land.

Response 2.59: Article VII Section 2 of the HHR By-Laws and Protective Covenants outlines a lump sum contribution by the developer to the HOA for the maintenance of passive recreation within the Open Space. Article XII Section 2 states that all open space management shall occur in conjunction with the holder of the Conservation Easement and the NYS Dept. of Environmental Conservation.

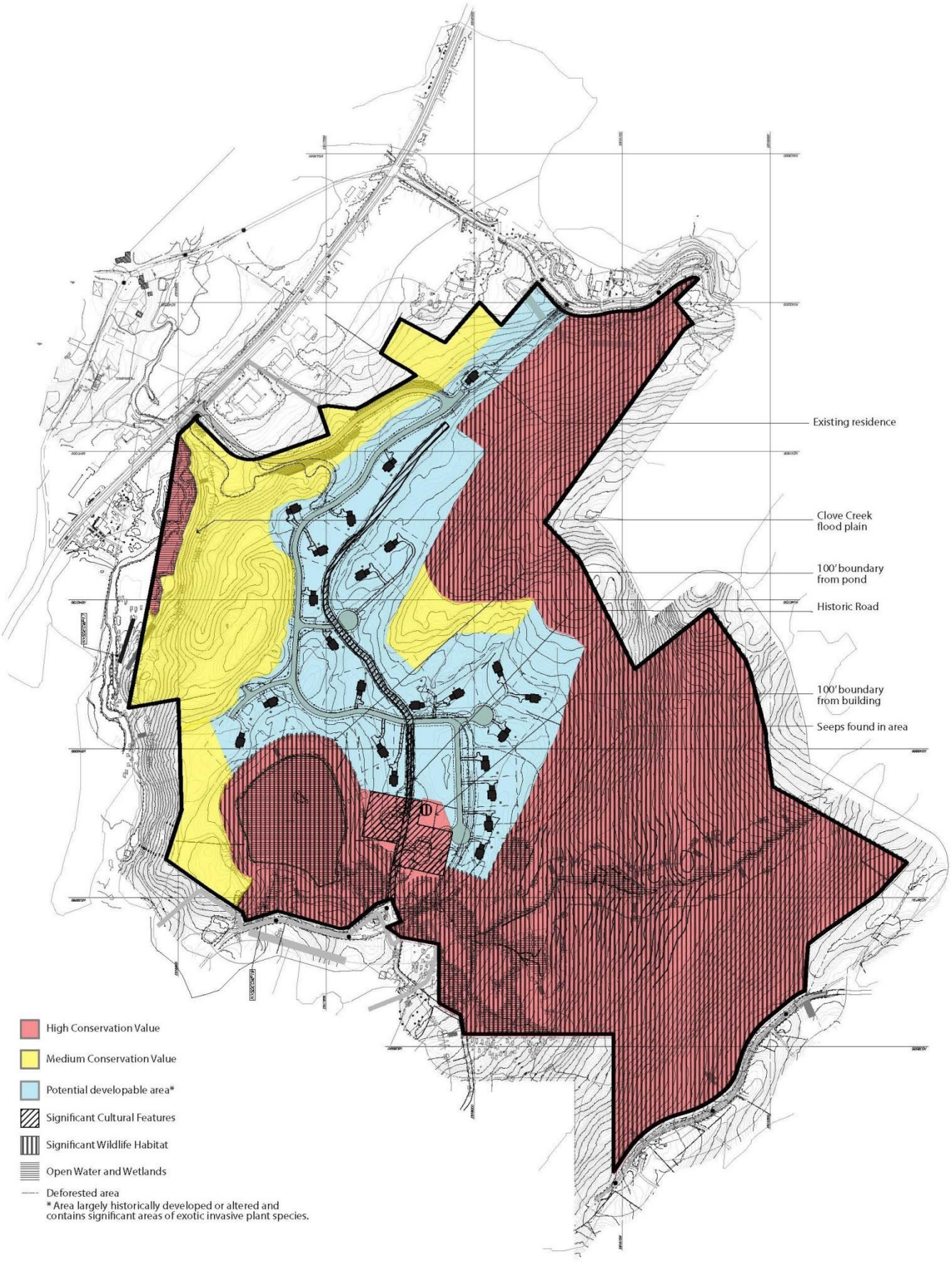

Figure 4: Conservation Values (Showing Current Layout)

Uses in the Conserved Land area will be restricted as set forth in the Conservation Easement. The Conserved Land area shall be used solely for passive and recreational uses. The term "passive recreational use" is defined as *"outdoor activities compatible with preserving natural resources, including but not limited to walking, hiking, picnicking, cross-country skiing, snowshoeing, sunbathing, fishing and bird watching. Said term shall not include any obtrusive outdoor activities that may have adverse impacts on natural or open space values including the operation of motorized vehicles or equipment, except for motor vehicles and equipment used for the routine maintenance or upkeep of the Property or for emergency purposes. The HOA will be responsible for enforcing these restrictions. The Town and the Conservation Easement holder will also have enforcement powers."*

Comment 2.60 (Conservation Board): Horses pose a danger at least as great to the Conserved Land as do humans, both because of the habitat destruction that would be caused by riding and also because of horse waste that would be left in the Conserved Land anytime that horses intrude there. The DEIS implicitly recognizes this fact by stating that riding horses anywhere within HHR other than at the Equestrian Center will be prohibited. The DEIS and its accompanying appendices contain totally inconsistent and contradictory statements, however, with respect to the issue of riding horses outside of the Equestrian Center.

Those internal contradictions make all the more important the question of who will monitor and enforce the seeming prohibition against riding horses outside of the Equestrian Center. Some or all of the members of the board of directors of the HOA will be horse owners themselves, and Philipstown is being asked to rely on them to insure that horses do not destroy the wildlife, vegetation, and habitat within the Conserved Land. Whether the HOA does so or not will determine the fate of the Conserved Land.

Response 2.60: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.61 (Conservation Board): It defies both experience and human nature to believe that residents will not wish to make full use of the Conserved Land for recreational purposes. There are no public parks or recreation areas within walking distance of HHR; while Philipstown has many such areas, residents of HHR will have to drive in order to reach any of them. The 160 acres of Conserved Land, however, will be within immediate walking distance to every house located within HHR. Indeed, access to such lands will presumably be a major selling point by the developer, so the argument that the residents either will not wish to use such lands or will do so only sparingly seems improbable. People who purchase luxury houses anywhere within the Hudson Highlands expect, depending upon their particular interests, to be able to walk; bike; jog; run; ride horses; hunt; sunbathe; engage in outdoor photography; cookout; barbeque; play ball and other sports; fish; and engage in all normal outdoor recreational pursuits. The temptation to do so in the Conserved Land will be overwhelming, notwithstanding rules purporting to limit such use.

Response 2.61: As discussed above, residents may use the Conserved Land for passive recreational uses. The HOA will be responsible for making sure residents follow the restrictions established in the Conservation Easement. Uses on the Conserved Land will be further enforced by the third-party Conservation Easement holder and the Town.

Comment 2.62 (Conservation Board): Approximately 160 acres of undeveloped Conserved Land will be included within the Conservation Easement. The DEIS identifies an extensive list of flora and fauna that can be found at the current time within the Conserved Land, and presents an optimistic view of the beneficial impact that the Conservation Easement will have upon all of such vegetation and wildlife. At the same time, the DEIS notes the risk posed to the Conserved Land by human usage:

"The introduction of human activity can have a detrimental effect on wildlife. It can displace plants and animals from their natural environment. At its worst, it can cause the extirpation of flora and fauna that are necessary to the environment. In order to preserve the environment, destruction of wildlife, especially threatened or endangered species, should be avoided." (DEIS, p. 75)

How destructive the impact of human usage of the Conserved Land will be is unknowable at the present time. The two primary variables that will determine how destructive human usage will be are those of (i) the frequency and intensity of actual human use of the Conserved Land by residents of HRR, irrespective of subdivision rules; and (ii) domesticated animal (primarily horses) use of the Conserved Land, irrespective of subdivision rules.

Response 2.62: The DEIS language cited is part of an introductory statement on how development, if not mitigated to the maximum extent practicable, can have negative effects on vegetation and wildlife. The DEIS text that follows it was the Project Sponsor's explanation of what is being proposed as part of the project to avoid those potential impacts.

In part, this includes the following:

"The applicant has addressed the possibility that its project will threaten wildlife habitat in several ways. First, it has proposed a cluster subdivision that will leave approximately 74% of the site untouched and permanently preserved. The design proposes to develop the area of the site that was previously subjected to human activity. This is the same area where much of the native plant population has been replaced by invasive species. Moreover, those areas of the site where native species thrive have been avoided…

A concern that the Hudson Highlands Reserve project would fragment the forest that exists on the property was raised early in the approval process…Its design proposes development of the forest fringe area, the land closest to Route 9, East Mountain Road North and Horton Road, where most of the existing development is located. It acquired additional land, land further from Route 9, East Mountain Road North and Horton Road. The additional area, although adjacent to East Mountain Road South, is nearer the unfragmented forest contained within Fahnestock State Park, permanently preserving more buffer for the unfragmented forest.

If the project is approved, this additional land will be permanently preserved, thus minimizing forest fragmentation. The Planning Board has reviewed the plans and supporting documents provided by the applicant as they relate to wildlife. It has considered the mitigations offered by the applicant and comments from others leading to the requirement that this environmental impact statement be prepared. As detailed in the following pages, the findings in this environmental impact statement conclude that the applicant's plans and designs address these concerns to the greatest practical extent."

As the Equestrian Center has been removed as an element of the proposed project, use of the Conserved Area by horses is no longer a concern.

Comment 2.63 (Conservation Board): Section 4.1 of the Conservation Easement is entitled "Use of Property." It is intended to describe what uses may be made of the approximately 160 acres of Conserved Land, not including the Equestrian Center. It lists eight permitted uses as being "included but not limited to." The section should provide that those eight activities are the only permitted uses, and that future permitted uses may be added upon request of the Grantor or the HOA, subject to written agreement by the Grantee and the Town of Philipstown. Such request for approval should provide the Grantee and the Town of Philipstown 90 days within which to respond. In addition, although it is garbled, the last sentence of Section 4.2 of the Conservation Easement states that horseback riding shall not be permitted outside of the Equestrian Center; that prohibition, clearly written, should be added to Section 4.1 of the Conservation Easement as well.

Response 2.63: The permitted uses in the Conservation Area are set forth in the Conservation Easement. Further, Town Code permits only certain uses in the Open Space Conservation District/Scenic Protection Overlay District. Moreover, the prohibition against horseback riding, as noted above, shall be included in the HOA documents. Equestrian activities are no longer proposed as part of this project.

Comment 2.64 (Conservation Board): The equestrian center as designed is not the form of an agricultural enterprise that is consistent with a conservation easement. The CB has significant concerns in regard to this proposed commercial operation on 11 acres. The equestrian center will comprise large areas of indoor space, with impermeable surfaces and very high livestock density. Animal, human, and vehicular traffic from both regular use and special events are of concern, as is the effective management of waste and introduced vermin. As geographically situated, the equestrian center represents a significant man-made barrier to wildlife migration and intensifies the aforementioned edge effect. An equestrian center of this size in operation 24/7, 365 days a year is not consistent with the intent of limited agricultural use provision for a conservation easement. The CB recommends a significant downsizing of the equestrian center, relocation further west/north to increase the width of the wildlife corridor, and its exclusion from the calculation of conserved lands.

Response 2.64: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.65 (HHLT): The equestrian facility 11 acres should not be included in the conserved open space because it is inconsistent with 175-21 A(3)(b) of the code. Section 175-21 A(3)(b) says “agricultural structures shall be permitted on preserved open space land, provided that they do not impair the conservation value of the land”. The equestrian facility appears to be a fully developed area and consists mainly of impervious (or close to impervious) surface. Even the turnout paddocks and outdoor arena will be developed with near impervious surface, impairing the conservation value. The remainder of the equestrian facility consists of buildings and horse trailer parking that clearly impair conservation values.

Response 2.65: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.66 (HHLT): Remove the historic road from inclusion in the conserved open space to simplify conservation easement management.

Response 2.66: The intent of including the historic road in the Conserved Area is to preserve an important cultural resource. It also provides an additional north-south corridor for wildlife movement, and a space for passive recreational activity in the form of walking. The Project Sponsor sees the inclusion of the road as a benefit to the future management of the easement.

B.3. HHR Equestrian Center Design

Comment 2.67 (Merante): Equestrian Facility (EF)
- "the growth and financial viability of the HHR EF is dependent on the development of an effective community riding/horsemanship program."
- What is the contemplated volume of traffic if the EF "will offer programs for both HOA members and the general public?"
- is the EF an "important part of the business in generating cash flow?"

Response 2.67: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.68 (HHLT): Require that the equestrian facility be closed by the town if horses are being used on the property outside of the equestrian facility in violation of the proposed conservation easement, as a requirement of site plan approval.

Response 2.68: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.69 (Warner): The study does not adequately address the effects of 25 houses on the wildlife corridors in the area. But we're most concerned with the 40-horse equestrian center. We think this pushes it way over top. And even if the houses were not too much, this would clearly be too much. We question whether it adequately addresses the effects the horses will have on the wildlife. We question whether the horses will be limited to the equestrian center or will be roaming through the other areas of the property, and what effect that will have and whether there's anything in the plan that will prohibit that from happening later.

Response 2.69: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.70 (Lowry): My wife and I live at 130 Horton Road, which puts us as direct neighbors to this development. We are not against development at all. We actually believe an intelligent and sound land management program that includes housing and, potentially, a stable -- is viable. What we are deeply concerned about is the scale of the equestrian center. And just draw your attention to the idea of a 40-horse barn with all the intended outbuildings, parking, circulation, waste removal, in the middle of what is already a beautiful environment that's about to be further protected with an easement. It would be like putting a factory or a gravel pit on

Main Street. The scale makes no sense. And we are deeply concerned that this will have a negative impact not just on our immediate environment of Clove Creek, on the nature and natural habitat that are there. And we just call you attention to the scale of this proposed equestrian center and would urge you to go and walk that land and imagine what all of that waste removal is going to look like, and how it's going to function in the scale of this barn and the horses involved.

Response 2.70: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.71 (Tabashnick): I think that if you look into some of their proposals pertaining, especially, with the equestrian center, you will see that in detail they want to set up a riding stable, a riding school, and a riding camp. They also want to focus their studies on this area of horsemanship called “dressage.” For those who don't know this, it's a very disciplined, it's a very expensive type of horse training. And it's not very well taken by most of the horse community in the U.S. Most of the horse community, as we know, are just about riding professionally. They may be training race horses or things like that. So to imply that there is a great deal of study into this means, to me, that they didn't look at the actual specifics of what they are proposing in their equestrian community. And in -- and, in fact, what would be more likely if I would suggest to delve into is that a zoning change to make this a more commercial activity rather than a residential activity would probably be more appropriate. If they wanted to go ahead and develop a commercial equestrian center, that probably would be something that would be separate from a residential.

So trying to bring these two together does not fall under the scope of what the community probably wants of a residential facility. And if we change the scale, I think that it would probably improve the acceptance.

Response 2.71: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.72 (Conservation Board): It is of critical importance that the operations of the Equestrian Center be financially successful, since management and employees of the Equestrian Center are responsible for implementing the Manure Management Plan. There are, however, no contingency plans presented anywhere in the DEIS should the income of the Equestrian Center prove inadequate to support, for example, thorough and continuous implementation of the Manure Maintenance Plan. Will Horton Road LLC backstop costs and expenses of the Equestrian Center? If so, for how long? Will the HOA provide such backstop? The importance of flawless execution of waste control and removal is such that HHR should not be approved without some contingency backstop from a responsible third party, in the event the operations of the Equestrian are less successful than projected in the DEIS.

Response 2.72: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.73 (Conservation Board): In addition, the governing documents for HHR should require that monthly, quarterly, and annual financial statements for the Equestrian Center should be provided to the board of the HOA, so that the board can confirm that operations are

generating sufficient revenue for the Equestrian Center to properly perform all of its functions, including the requirements of the Manure Management Program.

Response 2.73: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.74 (Conservation Board): In addition, a funding plan for recurring capital expenditures relating to pollution prevention at the Equestrian Center should be presented annually to the board of the HOA. For example, the DEIS states that the engineered floors of the 40 horse stalls will need to be rebuilt at least once every ten years, and perhaps more often, in order to function properly and prevent horse waste from leaching into groundwater. What will be the amount of such expenditures? What other, similar capital improvements or replacements will be required? How will such expenditures be funded?

Response 2.74: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.75 (McGinley): I wanted to comment about the Hudson Highlands Reserve project, specifically about the care and well being of the proposed 40 horses. Much was said last night about their waste but what about their overall well being? Most of these equestrian developments that are all the rage today, are built on thousands of acres of land, most of them on flat terrain, which is conducive to grazing and exercise for the horses. This site, which is wooded and on hilly terrain, has not enough flat and open acreage to be an appropriate site for proper care of 40 horses. I could see this type of project in Millbrook, or Rhinebeck, or Bedford, but not here on this site. The proposed lives of these horses, spending most of the time in their stables with food brought in from the outside, could end up becoming quite unhealthy and a form of animal abuse. I hope that this will be addressed by the applicant.

Response 2.75: The Equestrian Center has been removed as an element of the proposed project.

B.3.a. Manure/Urine Management

Comment 2.76 (AKRF): Additional information on odor control (the use of ionizers, etc.) should be incorporated into the discussion of the proposed "open walled shed" for equine waste collection/storage. The text references a maximum on-site storage period of 14 days, and odor control is a concern that has been raised, particularly during the warm summer months when usage of the equestrian center is expected to be at its peak. This storage bin does not appear to be sealed to provide any kind of odor control (based on the figure provided). The text as well as the schematic shown in Figure 24 note that this storage bin would be 40 cubic feet in size. The rationale for sizing this container, based on the maximum of 40 horses, should also be described.

Response 2.76: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.77 (AKRF): Page 70 of the DEIS indicates that the entirety of the equestrian center, including all outside riding and paddocks, would be lined with an impenetrable barrier to capture runoff/leachate. This is a considerable acreage of impermeable surface that may create a runoff attenuation (or leachate capture) issue. By reducing potential impact to groundwater this approach may unnecessarily increase the size of stormwater management facilities on site. The FEIS should provide additional information on the comparison of impacts to groundwater vs. impacts to stormwater with or without the impermeable layer proposed for installation beneath the outdoor equestrian facilities. Has the SWPPP accounted for flow volume/rate that would result from the installation of this impermeable barrier? Will runoff collected from outdoor riding/paddock areas be diverted to the non-point surface water detention basins or will it be treated with septic flows? This issue speaks to the complexities of properly managing runoff from equestrian uses. This issue must be referred to the Town Engineer.

Response 2.77: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.78 (Farrell): I just wanted to state that it also said, “A stabled horse produces 50 to 70 pounds of manure daily.” So with 40 horses, that comes out to 2800 pounds of poop a day in our region. Again, it's a little vague on how they will handle the impact.

Response 2.78: The Equestrian Center has been removed as an element of the proposed project.

B.4. Stormwater Management Plan

Comment 2.79 (AKRF): The FEIS should confirm whether or not "storm drainage system" as listed among the common elements to be under control of the HOA includes the cisterns, retention basins, rain gardens, etc. proposed through the SWPPP or if some of those elements could occur on individually owned residential lots.

Response 2.79: The rain gardens are proposed on individually owned residential lots to capture roof runoff.

Comment 2.80 (AKRF): The FEIS should provide additional information on both the placement and maintenance of any proposed stormwater management cisterns, retention basins, rain gardens, etc., while making references to the preliminary SWPPP included as Appendix M. Will these facilities be solely within the common HOA lot (with stormwater conveyed through roadway drains/gutters) or will individual homeowners be required to construct stormwater management facilities on individual lots?

Response 2.80: The Stormwater Management System will be the responsibility of the HOA. While the rain gardens will be located on the individual residential lots, these elements are part of the system and, as such, will also be the responsibility of the HOA. Access to the lots is provided for in the Article IV, Section 3(g) of the “Declaration of Covenants, Restrictions, Easement…,” that forms Appendix I of the DEIS. The Preliminary Stormwater Pollution Prevention Plan (SWPPP) provides preliminary data, which will, of course, change because of changes to the plan resulting from the SEQRA and Subdivision Plan review process. The

elimination of the Equestrian Center has perhaps the most direct effect. However, the general sequencing of the phases will not change significantly, nor will the principles that have guided its preparation. Placement of the rain gardens on individual lots may vary from the preliminary plan depending on the design of the individual residences. The rain gardens will be installed on the individual lots when the house on that lot is constructed. The Declaration of Covenants and Restrictions provides the easement necessary should there be a need to install other stormwater management elements on the individual lots. The bottom line is that the HOA will be responsible for the entire Stormwater Management System. See additional and more technical discussion in Response to Comment 2.92.

B.5. Sewer and Water

Comment 2.81 (Gainer): Utility Design Considerations – General - While various project mapping illustrates overall site constraints, the "preliminary utility plan" does not. To allow for a detailed analysis of the utility designs and related disturbance issues, this information should be added to the plan.

Response 2.81: The overall site constraints, such as steep slopes, wetland limits and wetland buffer limits, along with the limit of disturbance line, are now shown on the Preliminary Utility Plans.

Comment 2.82 (Gainer): Sanitary Sewers - Due to the drawing's scale, the sanitary sewer layout illustrated on the plan is difficult to read. Its clarity could be improved if the sanitary improvements were highlighted in color, better labeled and a legend added for the various symbols used.

Various lots or other facilities appear to be incorrectly labeled on the sanitary profiles. For example, the facilities needed to serve lots 24 & 25 are mis-labeled on the profiles. The preliminary design information should be further reviewed and corrected wherever necessary.

The facilities showing at the rear of Lot 21 should be labeled and their purpose explained.

Response 2.82: The plans were developed at 100 scale and are difficult to read. The Utility Sheets have now been enlarged to 50 scale and utilize color for the different utility lines to assist in clarification. Additionally, the profile sheets have been reviewed and modified to ensure they correctly correspond to the plans.

The lines of Lot 23 have been reconfigured so that the common facilities (common septic tanks and sewage pump station) will be located on common property and not on Lot 23. An access driveway has also been added to the plans to facilitate occasional inspection/monitoring.

Comment 2.83 (Gainer): Fire Protection - all Fire protection measures proposed for the project should be identified, including any suction hydrants within existing water resources on the tract. Appropriate access to, and required maintenance of, such facilities should be specified in the EIS documents.

Response 2.83: The plan originally envisioned “suction hydrants” or “dry hydrants” as they are often called. Because of the difference in elevation between Ulmar Pond and most of the

proposed houses, and because of the disturbance that would have to occur within 100 feet of Ulmar Pond, the designers have suggested and the sponsor has opted to equip each of the houses with an individual sprinkler system. An individual sprinkler system does not have to wait until the fire company arrives. It will provide immediate and automatic fire suppression.

The Town Engineer has characterized the Project Sponsor's plan to sprinkler all residential housing as beneficial. It is recognized that fire departments in rural areas often seek to have suction hydrants placed in local ponds and lakes for fire-fighting purposes. As Ulmar Pond is lower than most of the lots and roadways in the planned development, installation of the equipment along the pond's edge would require construction of a roadway and related infrastructure in order to make the hydrant functional. Throughout the project's layout and design, mitigation measures have been identified to protect the pond from the potential adverse impacts of the project's development, and so disturbances in the immediate area of the pond have been avoided. However, this matter will again be referred to the North Highland Engine Company for further review. If such a suction hydrant is included in their recommendations, the potential negative effects of these disturbances on the condition of the pond will be considered and mitigated as appropriate.

Comment 2.84 (Conner): Please explain the septic system as planned. We were given to understand that there would be one central system, but the HHR website at https://www.hudsonhighlandreserve.com/news says "Domestic water will be provided by individual wellheads, while septic systems will be organized and phased to three separate septic fields."

Response 2.84: The HHR web site may have indicated three septic areas as the existing septic for the commercial building and one of the existing residences will remain in use and not go to the new common septic system. The Hudson Highlands Reserve common septic system will not have three Absorption Areas. It will have a single Primary Area for the Absorption Fields, which has been identified on the subdivision plans. It will also have a Reserve Area that will not be utilized unless there is a system failure. As the Primary Area will be professionally maintained, failure is less likely to occur and use of the Reserve Area is less likely to be required.

There are several components to the septic system. They are:

- **Collection System** – Waste from the residences leave through a pipe that connects to the collection system. A collection system is a series of pipes (sewer lines) and manholes that carry the waste by gravity to a central point. This central point in the HHR system will be located at the pumping station where, in addition to the pump station there will be a series of septic tanks. The collection system will discharge the waste into the septic tanks.
- **Septic Tanks** – Once the waste enters one of the septic tanks, the waste water will pass through baffles that trap the solids, separating them from the liquids. The solids will be retained in the tank. The solids will accumulate and will be periodically pumped out of the tank by a service provider who will remove and transport them to a treatment facility. The liquids, called effluent, will be allowed to flow out of the septic tanks and into pipes that will carry them to the pump station. It is important to note that in most residential developments, septic tanks are typically set on individual lots, with each lot having its

own tank and septic system. Septic tanks need to be pumped out on a regular schedule or they will fail and allow the solids to escape and foul (clog) the absorption fields. Because the septic tanks in the HHR system will be centrally located, they will be professionally managed and regular maintenance will be assured. Periodic maintenance eliminates a significant source of septic system failures.

- **Pump Station** – The pumping system will pump the effluent through a force main uphill to the absorption fields.
- **Absorption Fields** - There are two distinct areas set aside for the absorption fields. One is called the Primary Area. The other is called the Reserve Area. The Primary area is where the absorption system is actually installed. The Reserve Area is just that, a spare. It is an area that has been proven capable of accepting the effluent should the Primary Area ever fail. Proper maintenance of the Primary Area makes the need to use the Reserve Area uncommon.

Because the absorption area is going to service 24 houses (the original Frisenda house will retain use of its current disposal field), it is considerably larger than the absorption field for a single home. Similarly, it will receive approximately 24 times the amount of liquid that would be produced by a single home. Because the absorption fields are so large, it is necessary to make sure that the effluent is distributed throughout the system so that no one area becomes over saturated and thus non-functional. On simple smaller systems this is not a problem, the flow from one house is sufficient to "charge" the entire system. On larger single family home systems, this can be a problem, but it is overcome by storing the liquids in a tank until there is sufficient liquid to "charge" the entire system at once, letting the liquids absorb while the tank is being refilled. This is called a dose. On a large system, the same principle is applied, but on a larger scale. One way this is accomplished is by dividing the absorption area into two or more sections and charging each section individually on a rotating basis. This provides additional time for each area to absorb its dose and assures that the entire system is fully utilized. When a system is split in this manner, it has the additional advantage of being able to take one section out of service when maintenance is needed, without interruption of service. Such is the plan for Hudson Highlands Reserve, a single Absorption Area with three or more dosed sections.

Before the effluent is released into the absorption fields it will be aerated. Aeration introduces oxygen into the effluent, which allows for aerobic bacteria to become part of the treatment chain. Aerobic bacteria are more plentiful than anaerobic bacteria so the aerator improves the overall effectiveness of the treatment system. The increased bacteria population increases the system's effectiveness in breaking down (cleaning) the waste water both in the tank and when passing through the fields. Because the system is a large common septic system, the treated effluent will be sent to the fields in doses, at a set volume. Each dose will be directed to a different section of the field allowing each section to rest between doses. As the waste water is slowly released from the perforated pipes the bacteria will continue to take up the nutrients in it and it is cleaned (scrubbed) by the biomass and eventually the soil. The treated effluent recharges into the surrounding soil and becomes part of the groundwater. To ensure that the liquid does not enter the groundwater before it is clean, the Putnam County Health Department, and indeed, the State of New York have strict rules regarding the design of all septic systems that take into consideration the quality and minimum depth of the soil below the bottom of the fields.

B.6. Site Access

Comment 2.85 (Gainer): Project Access - From early on in the Board's review process, recognizing the poor geometry, limited width, and other related factors concerning the existing Town roadways bordering the site, as well as the expected traffic to be generated within the project and especially considering the transportation impacts of the equestrian center proposed, the Planning Board determined that that the project's access should only be obtained from NYS Route 9. More recently, the Town of Philipstown Highway Superintendent has expressed similar concerns and does not support any routine use of either Horton Road or East Mountain Road North for access to the proposed development.

Nevertheless, based upon limited technical supporting documentation that has apparently been submitted to their office by the applicant's consultants, the New York State Department of Transportation (NYS DOT) has advised that they do not currently support project access from NYS Route 9. It is therefore necessary that, as part of this EIS process, the applicant must conclusively establish to the satisfaction of NYS DOT that suitable mitigation/roadway improvements shall be constructed by the applicant along the Route 9 corridor so as to permit that agency to grant such access so as to avoid adverse impacts to the adjacent Town roadways.

Response 2.85: The Project Sponsor has been coordinating with NYSDOT and providing them with the information required to secure approval for the US Route 9 access. In a letter dated July 26, 2019, NYSDOT indicated that there were 5 items required to be addressed to close the permitting process for the access and advise the Project Sponsor that “coordination will be necessary” between the Department and the Project Sponsor as NYSDOT will be raising the bridge over the creek immediately south of the site and “this will affect the design of the Applicant’s driveway”.

The NYSDOT applies significant scrutiny to every application and the Hudson Highlands Reserve project will be subject to that scrutiny. The Project Sponsor continues to develop its plans and reports, including a drainage report and the sight distances that will be available to motorists. The permit will only be approved when the NYSDOT has made the Project Sponsor address potential impacts associated with the proposed intersection. For a more complete discussion, please see Responses 2.87 and 2.88.

Comment 2.86 (Gainer): Project Roadway layouts - It is recognized that a primary goal of conservation subdivisions is to preserve the rural appearance and environmental resources of the Town. Therefore, while secondary emergency access to the site represents an appropriate design consideration, this should be accomplished with the least impact to the site's identified sensitive lands. Given this, it would appear that the proposed secondary access that will extend out to Horton Road seems redundant, especially since an access already exists to this roadway which serves other residences adjacent to the project. Elimination of the project's secondary, emergency access would provide larger wildlife buffers in an area encumbered by seeps, wetlands, and stream corridors. The applicant should further review whether the existing access out to Horton Road could serve as the emergency access envisioned.

Response 2.86: The plan provides two emergency access routes. One is at the southerly end of the project, at Horton Road. The other is at the northerly end of the project at East Mountain

Road North. Both are built. Both are serviceable. Because of the north/south length of the project and the fact that the traveled ways are already constructed, the plan is to provide the extra measure of safety by keeping both routes in service as emergency access routes.

However, Mr. Gainer's observation is correct. There are two accesses that connect to Horton Road. Both cross through wetlands and both are currently serviceable. One is a portion of the historic road that currently serves as the original driveway into the Ulmar House, which will become Lot 20. This is an old roadway with little formal drainage. It passes by the existing residence that is to be razed. The other access is more recently constructed with drainage features that allow the hillside wetlands to pass beneath and reach Ulmar Pond. The Project Sponsor chose the newer access because it provides the most direct route to the proposed homes over a roadway that was built to the Open Development Roadway standards of the Town. The decision was influenced by the fact that the other access, which is to be abandoned and blocked, will not be required after the subdivision is complete. It will still provide access to the Ulmar House, but as a driveway accessed from the new internal roadway system to the north.

Comment 2.87 (McCullough - NYSDOT): We note again that there is no mention of traffic in the DEIS and the actual Traffic Impact Analysis and/or NYSDOT comments of August 2, 2018 are not included in the Appendix.

Mr. Watson's July 12, 2018 letter states that "The reason that 'Traffic' was not included in the draft scoping document is that the question was answered to the satisfaction of the Planning Board during the Conservation Analysis and EAF process. We are glad the Planning Board's concerns were answered, but what about everyone else? This is a Public document; you need to say you looked at it as part of the SEQR process and state your conclusions. Therefore, under 6 NYCRR Part 617 State Environmental Quality Review (SEQR), as an Involved Agency, we are unable to endorse the DEIS for this project.

We are wondering if the Applicant addressed any of the NYSDOT comments or the request for additional information (i.e. Drainage Report, Site Distance Matrix). I have included past letters and our comment report requesting certain items be addressed. Please address all comments prior to issuance of the Final EIS.

Response 2.87: The Scope of the DEIS is the responsibility of the Lead Agency, not the Project Sponsor. The Planning Board, as Lead Agency, adopted the scope and chose not to include traffic. This was decided after reviewing all available information, including the report that Mr. Watson transmitted to the NYS Department of Transportation (NYSDOT) with his July 12, 2018, letter. The Planning Board is aware of the scrutiny applied by the NYSDOT for any application to connect a new road or driveway directly onto a State Highway.

In its June 1, 2018, report to the Planning Board, its consultants, AKRF reported as follows: "Transportation - The EAF included a detailed Traffic Impact Study, which traffic engineers at AKRF reviewed and determined to be sufficient for the purposes of determining significance. While site design issues (e.g., grade of entrance road and turning radius of various turns) should be further reviewed during subdivision approval, AKRF feels that no significant adverse impact would result from traffic, including occasional horse trailers accessing the site."

In the instant situation, the Planning Board, after advice from its consultants concluded that the information provided by the Project Sponsor's consultant and the design standards that would be enforced by the NYSDOT would provide sufficient mitigation to any traffic impacts and need not be addressed in the DEIS.

Comment 2.88 (Conner): How does the applicant plan to resolve the access issues presented by the June 7, 2019 DOT letter from Mary McCullough?

Response 2.88: Ms. McCullough's June 7, 2019, letter was followed by her subsequent letter dated July 26, 2019, in which she enumerated 5 items that would be required to be addressed to close the permitting process for the proposed access. Ms. McCullough also advised that "coordination will be necessary" between the Department and the Project Sponsor as NYSDOT will be raising the bridge over the creek immediately south of the site and "this will affect the design of the Applicant's driveway". For a more complete discussion, please see Responses 2.85 and 2.87.

Comment 2.89 (AKRF): COMMUNITY CHARACTER Regarding this language on page 120: "...the applicant's designers made certain that Horton Road and East Mountain Road North would not be used for any routine access to the project. It is noted that access to both of these Town roads will be maintained for emergency purposes only..." - how have the applicant's designers made certain that these critical roads will not be used for routine access, and will solely be used for emergency purposes? For example, have the designers included barriers or automated gates along the periphery of those roads with access only for emergency personnel? Please include more information on how this has been made certain, and how the current plan is code-compliant with the minimum design requirements for emergency access.

Response 2.89: Section D107.1 of Appendix D of the 2020 Fire Code of New York State (Fire Code) requires that two separate and approved fire apparatus access roads be provided when a development contains 30 or more lots, unless the houses are equipped with sprinklers. Hudson Highlands Reserve is a 24-lot development. Thus, only one (1) fire apparatus access road need be provided. Moreover, each of the houses in the Hudson Highlands Reserve project will be sprinklered, and it is therefore also exempt on that basis.

The main entrance road is from Route 9. It will be called Highland Trail. It is the most desirable access point to the Town (See Comment 2.85). It meets all requirements of a fire apparatus access road with the exception of the 10% maximum grade. However, it is within authority of the Fire Official to allow a grade steeper than 10%. The Project Sponsor is seeking the Fire Official's permission to allow the 12% grade for that section of the Highland Trail between Route 9 and the residential area of the development.

There are four roads in the Hudson Highlands Reserve. They are:

1. Highlands Trail, the main road from Route 9 through the property. The road travels from Route 9 to the east to a T intersection. To the north of the intersection is the driveway for Lot 1 which continues to the emergency access road to East Mountain Road North, and to the south, the road provides access to the three other subdivision roads and eventually ends in a cul-de-sac;
2. Forest Court, a short dead-end road that runs east from Highlands Trail;

3. Ulmar Pond Drive, a short dead-end road northwest of Ulmar Pond that runs southwesterly from Highlands Trail; and
4. Reserve Road, a short dead-end road east of Ulmar Pond that runs south from Highlands Trail, and ends in a cul-de-sac for normal use and the emergency access connection that extends to Horton Road.

Highland Trail, Forest Court and Reserve Road end with a 100' diameter cul-de-sac that exceeds the 96-foot diameter specified in the *2020 Fire Code of New York State.* Ulmar Pond Drive serves just two parcels. It is configured with an alternate hammerhead turnaround that is specified in the 2020 Fire Code of New York State as a turnaround alternative to a cul-de-sac.

In addition to the main entry, the designers have proposed two emergency access roads to the site.

The first of the two separate and (to be) approved fire apparatus access roads proposed is the "Emergency Access Road" at the southern end of the parcel. It connects the end of Horton Road, a Town Road, to the cul-de-sac at the end of Reserve Road. The traveled-way of this route from Horton Road was built under the Open Development Area Regulations, a Town standard that is widely used in Philipstown. As demonstrated on the profiles in the plan set, its grade does not exceed 10% as specified in Section D103.2 of the Fire Code. The traveled-way of this road is 14 feet wide. The minimum centerline radius of this route Is 325 feet, far greater than the 75 feet specified for a private road and not expected to be an issue under Section D103.3 of the Fire Code.

Regardless that it is not required, a second emergency access route is provided at the north end of the property. This route is over the driveway from East Mountain Road North to the former Frisenda House, which will become Lot 1 in the Hudson Highlands Reserve Development. The driveway is 10 feet wide, as are many driveways in Philipstown. The overall grade of the steepest part of the driveway is 10%, but there are some portions of the driveway that are steeper. Grading will be required to bring the driveway to a maximum grade of 12 percent in those short areas. While the grade is slightly beyond the recommended maximum, it is well within standards normally applied by the Fire Official in Philipstown. The driveway grade flattens at approximately 500 feet from the center of East Mountain Road North. The minimum centerline radius of this route Is 200 feet, again far greater than the 75 feet specified for a private road and not expected to be an issue under Section D103.3 of the Fire Code.

The designers have specified that locked gates will be provided at the Horton Road and East Mountain Road North emergency entries to the site. The gates will prevent routine use of either emergency access route. As specified on the revised plan, each gate will be equipped with a "Knox Box". Essentially, a "Knox Box" is a small key safe, within which another key is stored. At Hudson Highlands Reserve, the key in the "Knox Box" will be a key to the adjacent gate. The Fire Department will be provided with a key to the "Knox Box." Should there come a time when access to the Hudson Highlands Reserve via one or the other of the emergency access routes is required, the Fire Company will be able to open the gate and gain access. Additional information regarding "Knox Boxes" is available at https://www.knoxbox.com/.

Under the proposed plans, Lot 1, or the Frisenda House, as it has been known, will no longer utilize its driveway that connects to East Mountain Road North. A new driveway will be

constructed from Highlands Trail to the end of the existing Frisenda House driveway. The grade between the two ends is relatively gentle and easily connected. To utilize the East Mountain Road North Emergency Access Route, the new and old driveway will have to be connected so that it is passable to emergency and other vehicles, and an Emergency Access Easement will be provided across Lot 1.

Comment 2.90 (Anspach): However, at this late date, what is even more revealing about the intentions of this developer, is his duplicity in addressing the required traffic study for this project. When neighbors objected to access being on the winding and narrow roads and Horton Street and East Mountain Road North, the developer was quick to claim that those roads would only be in cases of emergency, and access to the project would be directly from Route 9. Apparently, since 2014, the New York State DOT has been asking for details regarding this proposed Route 9 access. After the 2018 scoping sessions, the DOT raised a number of issues. To date, those DOT concerns have not been addressed. And to quote from their June 7th, 2019, letter to the planning board and I quote, "Therefore under 6NYCRR, part 7 -- part 617 of SEQRA as an involved agency, we are unable to endorse the DEIS for this project."

Response 2.90: As proposed, neither Horton Road nor East Mountain Road North will be utilized for primary access to the subdivision. The traffic study, assuming Route 9 access, was shared with NYSDOT early in the SEQRA process, and subsequent discussions have occurred between the Project Sponsor's engineer and NYSDOT since the issuance of their June 7, 2019 letter. The Project Sponsor's engineer has since stated that any prior confusion has been resolved.

C. Construction and Maintenance

C.1. Construction

Comment 2.91 (Gainer): Project Design considerations - Construction Standards - Although Town roadway standards specify a maximum grade of 10%, it is understood that some relief will be sought for both roadway grades and consideration of alternate roadway construction standards for access to the individual lots. While grades of up to 12% may be warranted along the entrance roadway in order to both obtain access from Route 9 and to minimize the extent of cuts and fills along its profile, all other roadways should comply with maximum grade requirements.

Response 2.91: The revised plan no longer contains proposed road grades that exceed 10%, except for the main entry road from Route 9 into the project. For the reasons stated by Mr. Gainer, a portion of the entry road is proposed to have a maximum grade of 12%. This modification of the road standard is the subject of an application for approval of Alternate Road Standards. The maximum grade of the rest of the proposed road on the revised plan is 9%.

Comment 2.92 (Gainer): Construction Sequencing/Project Phasing - Beyond an understanding of the overall project design envisioned by the applicant, it is necessary for the applicant to provide a detailed explanation of the manner that the project will be phased to assure that the construction of all required project infrastructure proceeds logically. Provided that NYS DOT ultimately authorizes the Route 9 access currently proposed, the extent of

construction envisioned (which must conform with minimum phasing requirements of 276 of NYS Town Law) should be explained. The timing of the equestrian center's construction should also be noted, as well as whether any aspects of this facility will be phased.

Response 2.92: First, it is noted that the equestrian center has been eliminated from the project design and will not factor into the construction sequence.

Because the project disturbs more than 5 acres, the limits of the common construction have been divided into 8 phases, which is depicted on the following page. It is not necessary to complete construction of each phase before moving to the next. However, no more than 5 acres may be disturbed at any one time. Following is the proposed construction sequencing. The construction sequence includes those steps indicated in Section VII of the Stormwater Pollution Prevention Plan included as Appendix M of the DEIS. The Construction Sequencing Plan is depicted on Figure 5 on the following page.

The limits of Phase 1 shown on Figure 5 capture a portion of the commercial lot that is part of the project site. The project designers show this area with grading and in greater detail on Sheet 6 of 19 of the Preliminary Plan set that is Appendix I to this FEIS. It is noted that Sheet 6 of Appendix I provides a connection through the Commercial Lot, which eliminates the need to construct Phase 5 at the onset of the project. According to the Project Sponsor, this was done so that greater control can be exercised over people entering the property. Utilizing the commercial building as a sales office will enable visitors to the project to be introduced and accompanied through the site in a safer and controlled manner.

To better illustrate the work within each of the phases, the project engineer has created two 50 scale phasing plans utilizing the site utility plans as a base. They are included in the Preliminary SWPPP rather than as part of the plan set, and will continue to be included in the Final SWPPP for the project.

CONSTRUCTION SEQUENCING

1. Pre-Construction
   a) This project has not received written approval from the MS4, Town of Philipstown or the NYSDEC to allow disturbance of more than five acres of land at any one time. Therefore, if the contractor's construction sequence requires the disturbance of more than five acres at any one time, the contractor must obtain written approval from the NYSDEC prior to disturbing more than five acres at any one time.
   b) Obtain plan approval and all other applicable permits.
   c) Mobilize construction vehicles, equipment, materials, and trailers.
   d) Stake and flag construction and work limits of disturbance for Phase 1, including right-of-way (row) edge, off-row access roads, staging areas, and no-access areas.
   e) Conduct a pre-construction conference with involved agencies at least one week prior to the start of construction. At a minimum the town engineer, town wetland inspector, project engineer, general contractor and owner must attend the meeting. The meeting is to be held on site.
   f) Mark and stake out underground and overhead utilities.

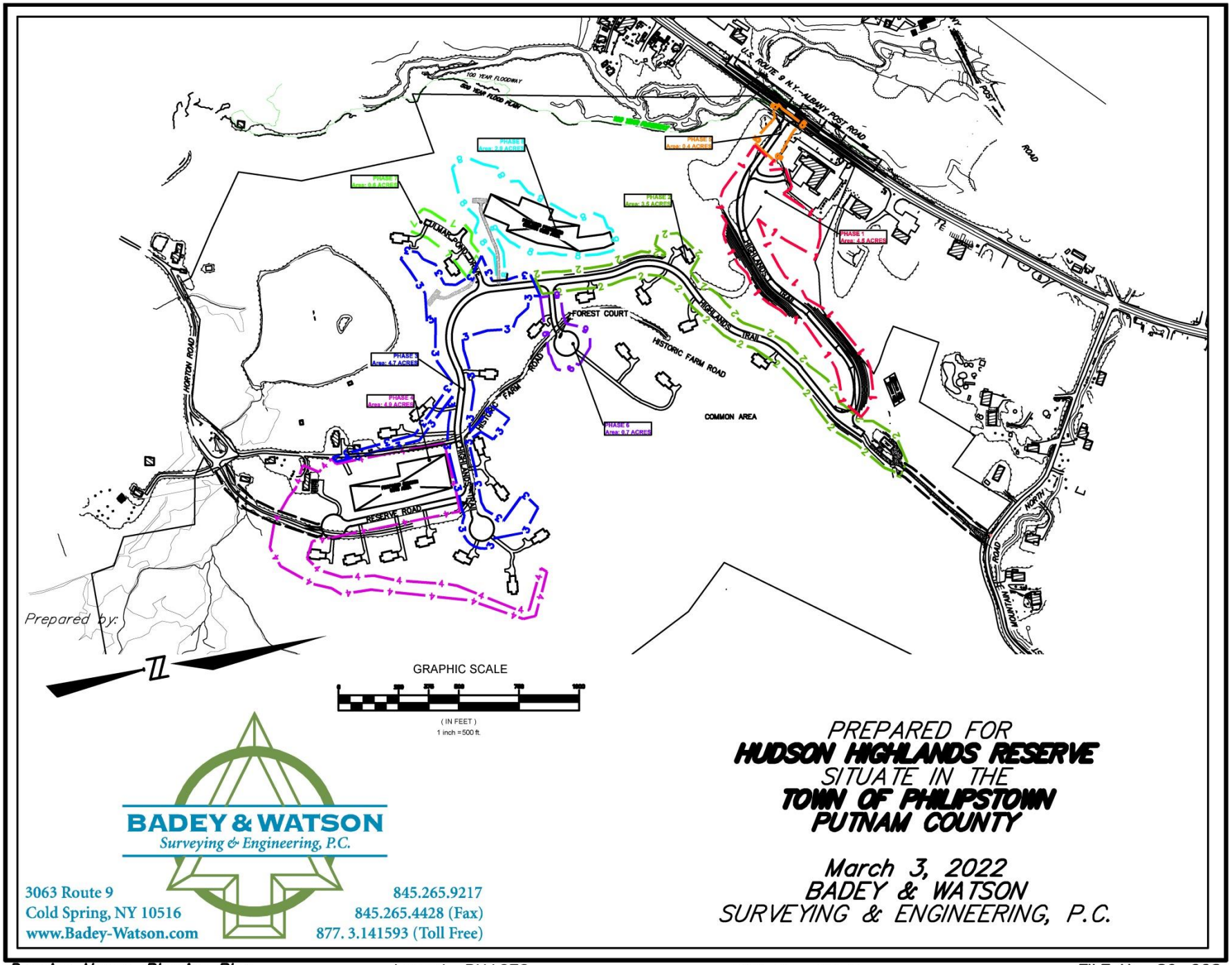

Figure 5: Construction Sequencing Plan

g) Trees must be felled between November 1 and March 31. The contractor may fell all trees within the limits of disturbance provided stumps are not removed. The trees may then be removed from site when a road has been sufficiently developed to accommodate the equipment necessary for their removal. Felling the trees without removing the stumps is not considered land disturbance.

2. Phase 1
   a) Phase 1 consists of creating an entrance to the property from the rear of the existing commercial building and constructing the Highlands Trail from station 3+00 to 15+00. The bioretention area should not be constructed until all areas that contribute runoff to it have been stabilized.
   b) Install stabilized construction entrances and all silt fences and erosion control measures.
   c) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.
   d) Grub all areas to be constructed.
   e) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
   f) Install silt fencing around the temporary topsoil stockpile location(s).
   g) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.
   h) Build access road from behind commercial building.
   i) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans).
   j) Install any underground utilities (sewer, electric, telephone, etc.), as required.
   k) Begin building Highlands Trail roadway construction including foundations, curb, subbase and base pavement sections.
   l) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.

3. Phase 2
   a) Phase 2 consists of extending Highlands Trail from station 15+00 to Forest Court. The bioretention area should not be constructed until all areas that contribute runoff to it have been stabilized.
   b) As Phase 1 is stabilized move into Phase 2 by first installing all erosion and sediment control measures for Phase 2.
   c) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
   d) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.

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e) Grub all areas to be constructed.
f) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
g) Install silt fencing around the temporary topsoil stockpile location(s).
h) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.
i) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans).
j) Install any underground utilities (sewer, electric, telephone, etc.), as required.
k) Continue building Highlands Trail roadway construction including foundations, curb or gutter, subbase and base pavement sections.
l) Begin construction of model home.
m) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.

4. Phase 3
   a) Phase 3 consists of extending Highlands Trail from Forest Court to its end just past Reserve Road and installation of the septic tanks and pump station for the common septic system. The bioretention area should not be constructed until all areas that contribute runoff to it have been stabilized.
   b) As Phase 2 is stabilized move into Phase 3 by first installing all erosion and sediment control measures for Phase 3.
   c) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
   d) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.
   e) Grub all areas to be constructed.
   f) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
   g) Install silt fencing around the temporary topsoil stockpile location(s).
   h) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.
   i) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans)
   j) Install any underground utilities (sewer, electric, telephone, etc.), as required.

k) Continue building Highlands Trail roadway construction including foundations, curb or gutter, subbase and base pavement sections.
l) Install the septic tanks and pump station for the common septic system.
m) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.

5. Phase 4
   a) Phase 4 consists of installation of a diversion swale on the hillside, construction of Reserve Road and installation of the fields for the common septic area. The bioretention area should not be constructed until all areas that contribute runoff to it have been stabilized.
   b) As Phase 3 is stabilized move into Phase 4 by first installing all erosion and sediment control measures for Phase 4.
   c) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
   d) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.
   e) Grub all areas to be constructed.
   f) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
   g) Install silt fencing around the temporary topsoil stockpile location(s).
   h) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.
   i) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans).
   j) Build the diversion swale.
   k) Build fields for the common septic area.
   l) Install any underground utilities (sewer, electric, telephone, etc.), as required.
   m) Begin building Reserve Road roadway construction including foundations, curb or gutter, subbase and base pavement sections.
   n) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.

6. Phase 5
   a) Phase 5 consists of constructing Highlands Trail from station 300 to its connection with US Route 9. The bioretention area should not be constructed until all areas that contribute runoff to it have been stabilized.
   b) As Phase 4 is stabilized move into Phase 5 by first installing all erosion and sediment control measures for Phase 5.

c) Prior to conducting any work in the NYS Route 9 right-of-way ensure all permits are in place and the NYSDOT has been notified that work is to start. If inspection of work in the right-of-way is required by the permit, ensure the inspector is on site during construction. Any improvements that may be required within the row must be completed prior to opening Highlands Trail to traffic.
d) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
e) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.
f) Grub all areas to be constructed.
g) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
h) Install silt fencing around the temporary topsoil stockpile location(s).
i) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.
j) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans).
k) Install any underground utilities (sewer, electric, telephone, etc.), as required.
l) Continue building Highlands Trail roadway construction including foundations, curb or gutter, subbase and base pavement sections.
m) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.

7. Phase 6
   a) Phase 6 consists of the construction of Forest Court.
   b) As Phase 5 is stabilized move into Phase 6 by first installing all erosion and sediment control measures for Phase 6.
   c) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
   d) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.
   e) Grub all areas to be constructed.
   f) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
   g) Install silt fencing around the temporary topsoil stockpile location(s).
   h) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.

i) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans).
j) Install any underground utilities (sewer, electric, telephone, etc.), as required.
k) Begin building Forest Court roadway construction including foundations, curb or gutter, subbase and base pavement sections.
l) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.

8. Phase 7
   a) Phase 7 consists of the construction of Ulmar Pond Drive.
   b) As Phase 6 is stabilized move into Phase 7 by first installing all erosion and sediment control measures for Phase 7.
   c) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
   d) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.
   e) Grub all areas to be constructed.
   f) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
   g) Install silt fencing around the temporary topsoil stockpile location(s).
   h) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.
   i) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans).
   j) Install any underground utilities (sewer, electric, telephone, etc.), as required.
   k) Begin building Ulmar Pond Drive roadway construction including foundations, curb or gutter, subbase and base pavement sections.
   l) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.

9. Phase 8
   a) Phase 8 consists of the construction of the fill pad for the reserve septic area.
   b) As Phase 7 is stabilized move into Phase 8 by first installing all erosion and sediment control measures for Phase 8.
   c) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
   d) Grub all areas to be constructed.

e) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
f) Install silt fencing around the temporary topsoil stockpile location(s).
g) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.
h) Build fill pad for reserve septic area.
i) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.

10. Close out
    a) Construction of individual house lots can commence during any phase of construction provided the amount of disturbance on the site at any one time does not exceed 5 acres.
    b) Final top coat of pavement will not be applied until all houses are constructed or as otherwise agreed with town engineer.
    c) The contractor shall keep records of: daily and weekly inspections of the construction site; and documentation of soil disturbances and site restoration/soil stabilization.
    d) The contractor shall keep records of inspection and record maintenance.
    e) The contractor shall keep records of final stabilization and project closeout.
    f) Complete any final grading, topsoil and establish vegetation and/or landscaping.
    g) Clean pavements and storm drain system of all accumulated sediment in conjunction with the removal of all temporary sediment and erosion control devices.
    h) Complete construction throughout the site and stabilize the exposed areas.
    i) Issue Notice of Termination (NOT).

Comment 2.93 (Gainer): Control over limits on disturbed areas within individual lots - "Limits of Disturbance" lines extend through portions of most individual lots planned within the project. The manner that these could reasonably be enforced should be explained, or otherwise it should be acknowledged that overall project disturbances will be greater than that currently outlined.

Response 2.93: The Project Sponsor's engineer developed the limit of disturbance lines in an effort to calculate a reasonable estimate of the projected area of disturbance. The lines are not meant to be restrictive or regulatory in any way. The actual limit of disturbance may differ somewhat, but the lines shown are a reasonable estimate based on topography, projected grading, and anticipated construction methods. However, as explained below, it is believed that while the actual boundaries may differ from that shown, the area of disturbance shown is an accurate estimate of what would be expected to occur with the proposed project.

The Project's goal is to develop a subdivision that is sustainable and respectful of the environment while allowing flexibility in design. It is this concept that has driven the design process.

The proposed development is clustered in the area most suitable for development and the size of the lots has been limited to around one acre. A Home Owners Association (HOA) will be established in which lot owner membership will be required. Membership requires adherence to the rules and regulations of the HOA. In addition to providing a mechanism for maintenance and repair of the common facilities, the HOA "Declaration of Covenants and Restrictions …," and "By-Laws …," (Appendices I & J of the DEIS, respectively) establish an Architectural Review Board that will have the authority to approve the site plan and building plans of an individual lot owner. As stated in the "Residential Design and Maintenance Rules and Regulations" that are part of Appendix J of the DEIS, one of their purposes is "to promote respect and sensitivity for the natural environment" (Article 1, Section 1, Page 1). Among the many rules is a limitation on the size of lawns to 2000 square feet (Article 3, Landscaping, Specific Guidelines, p. 32). It and similar rules are designed to make the proposed improvements on individual lots as compact and as respectful of the environment as possible, while allowing flexibility in design and placement of the improvements on the lot. The limit of disturbance on the plan is intended to demonstrate a realistic limit of disturbance within each lot, but it is not intended to represent the precise limit of disturbance that may result when the lot is improved. It is noted that the penalties for violation of the HOA rules are significant.

As with any house in Philipstown that would have a footprint of 3,000 square feet or greater will be subject to site plan approval by the Philipstown Planning Board. The penalties for violation of a Site Plan approved by the Planning Board are significant.

As each individual single family house site is developed, the contractor or contractors will be required to sign a Contractors Acknowledgement form for the SWPPP. The limits of disturbance for each lot will be delineated with orange construction fencing. It is anticipated that the general contractor for the site who is building the roads and infrastructure will be the Contractor of record for the SWPPP and will be responsible to ensure the site is compliant with the SWPPP. This includes the individual home sites. The project will also require weekly inspection by a qualified inspector, who also will monitor the area of disturbance to ensure that the SWPPP and plans are being followed.

In addition to the Town's requirement regarding site plan approval, every lot in the Hudson Highlands Reserve will be required to obtain site plan approval from the Architectural Review Board of the Homeowners Association regardless of the size of the home being constructed. This approval subjects the individual lot owner to inspections by the ARB, essentially inspection by his or her neighbors, until 60 days after the home is completed (See General Rules and Regulations, Section 2, paragraph (o). Anticipated limits of disturbance are routinely shown on site plans and thus are subject to inspection by the ARB. As stated above, violation of the rules carry significant penalties.

Regardless of whether the Town requires site plan approval or not, the Building Inspector has the right to, and does make inspections of buildings and sites for compliance with the Zoning Law. As a result, individual lots in the Hudson Highlands Reserve will be subject to a second layer or double the normal level of scrutiny during the construction than that of most homes in Philipstown, thus providing significant oversight, not only as the infrastructure is being built, but also as individual homes are being built.

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The applicant is also prepared to hire a 3rd party surveyor to confirm individual lot limits are complied with. An official report from said surveyor will be submitted to the HOA for record.

Comment 2.94 (AKRF): The FEIS should include a general summary of the Applicant's anticipated phasing and duration of construction for all components of the proposed project, while making references to the preliminary SWPPP included as Appendix M. It is also unclear from the text if the equestrian center would be constructed before or after the homes.

Response 2.94: Please see response to comment 2.92 for construction sequence. It is anticipated that it will take one construction season to complete the common elements of the site including the roadways, sewage collection system and common septic treatment system, post construction stormwater elements, the model home, etc. It may take several years to construct all of the home sites, which is dependent on the demand in the housing market and the number of contractors that will be constructing homes. As noted in Response 2.92, the equestrian center has been eliminated from the project.

Comment 2.95 (AKRF): The FEIS should also clearly describe the Applicant's plan for marketing and developing the residential component of the subdivision over time. Would the applicant serve as the master designer and builder for all prospective buyers, or would buyers be permitted to retain their own architect/contractor to design and build a house pursuant to prescribed design guidelines established by the Applicant/HOA?

Response 2.95: The Project Sponsor does not currently have a marketing plan in place but has had preliminary conversations with a marketing consultant to begin strategizing once Town approvals are in place.

Based on the HOA documentation, Fractal Group, LLC, will serve as the master designer and builder for all prospective buyers. However, homeowners are permitted to modify their dwellings. All modifications are subject to approval by the HOA and the Town's building department.

Comment 2.96 (AKRF): The Applicant should perform a cut and fill analysis on the latest version of the development program and include it in the FEIS.

Response 2.96: Approximately 80% of the area to be disturbed will involve cuts and fills within 10 feet of the existing grade, and more than 60% is within 5 feet of existing grade. The layout of the roads and house sites avoid the steepest slopes with the exception of the main entrance road, Highland Trail. Figure 6 (on the following page) shows four (4) levels of shading that represent the depth of cut or fill.

- RED indicates cut in excess of 10 feet in depth, this is generally limited to Highland Trail from Route 9 to approximately station 9+66.
- ORANGE indicates cut between 0 and 10 feet in depth.
- DARK GREEN indicates fill in excess of 10 feet in depth, there are several locations, the main entrance road, the intersection of Highland Trail and Ulmar Pond Drive and the proposed septic field reserve area.
- LIGHT GREEN indicated fill between 0 and 10 feet in depth.

CUT FILL VOLUME					
Number	Minimum Elevation	Maximum Elevation	Color	Volume	
1	-40.84	-10.00		24,865	CUT
2	-10.00	0.00		78,831	CUT
3	0.00	10.00		81,373	FILL
4	10.00	36.22		11,836	FILL
			NET	10,487	CUT

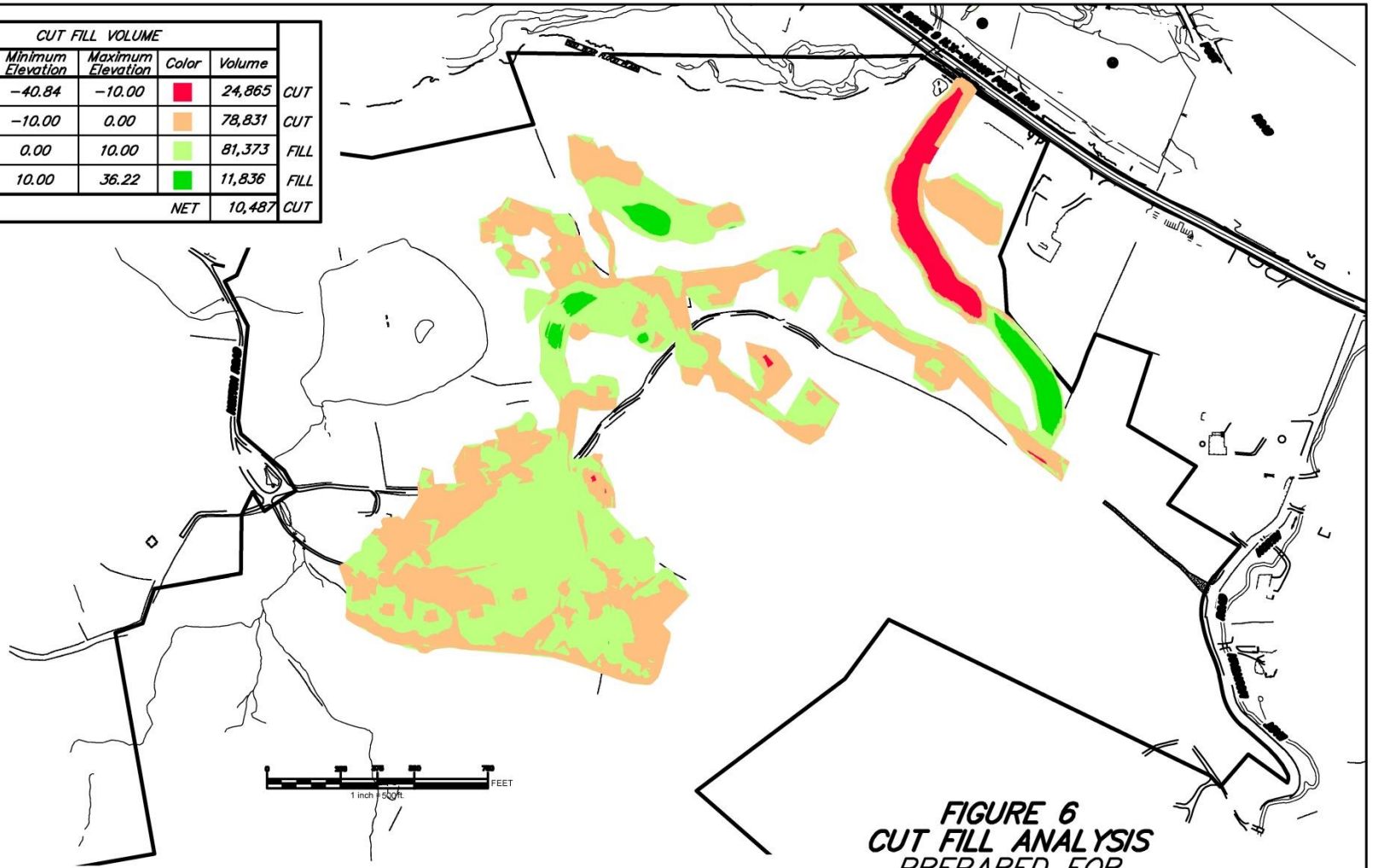

FIGURE 6
CUT FILL ANALYSIS
PREPARED FOR
HUDSON HIGHLANDS RESERVE
SITUATE IN THE
TOWN OF PHILIPSTOWN
PUTNAM COUNTY
NEW YORK
March 3, 2022

BADEY & WATSON
SURVEYING & ENGINEERING, P.C.

Prepared by:

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Drawing Name: SB21792__R16 | Layout: CUT AND FILL | W.O. No.: 21792 | FILE No. 86-228

The gross unadjusted cut for the project is 103,696 cubic yards.
The gross unadjusted fill for the project is 93,209 cubic yards.
The project anticipated an overall unadjusted net cut of 10,487 cubic yards.

C.2. Maintenance

Comment 2.97 (Gainer): It is noted that all property owners will be proportionally responsible for the expenses involved in the maintenance of all common facilities, sanitary sewer system components and the equestrian center. However, not all property owners may board horses at the facility. What accommodation, if any, will be made for such owners?

Response 2.97: The Equestrian Center has been removed as an element of the proposed project.

Comment 2.98 (Conner): How will the roads be maintained? What surfacing materials will be used?

Response 2.98: All of the roadways in the Hudson Highlands Reserve Subdivision will be privately owned rights-of-way. They will not be maintained by the Town.

The responsibility for maintenance of each roadway shall be the Project Sponsor's until eighty percent (80%) of all lots are sold. Once maintenance and operation have been turned over to the HOA, it will be responsible for the maintenance of all roads.

Main roads will be asphalt, compliant with NYS DOT specifications. Driveways/Parking Pads are required to be a permeable, locally sourced, natural material like pavers.

Comment 2.99 (Conner): Will there be storage facilities for salt/ grit/ sand etc.? If so, how will stored salt/ treated grit etc. be prevented from contaminating groundwater?

Response 2.99: There will not be any storage facilities for salt/grit/sand etc. The elimination of the equestrian center has eliminated the need for full-time maintenance staff. As a result, seasonal maintenance of the road system in the Hudson Highlands Reserve will be outsourced and any sand/grit/salt will be carried in by the plowing contractor.

D. Permits and Approval

Comment 2.100 (AKRF): The FEIS should specify whether or not blasting is envisioned as part of construction, particularly for the entrance road construction on steep rocky slopes. If blasting will be necessary, compliance with all requirements of the Town Code should be summarized in relation to the proposed project's activities.

Response 2.100: Based on soil boring results that can be found in Appendix I of the Preliminary Stormwater Pollution Prevention Plan, which is Appendix M of the DEIS, the areas of cut will not require blasting. Still, it cannot be said definitively that blasting will not be required. Should bedrock be encountered, there are at least two options that would be

considered before removal by blasting is necessary. First, a small relocation of the affected road or building would be evaluated. That move might be horizontal or vertical or both. Second, the excavator would try to remove the rock mechanically, through traditional excavation methods. It would only be after it is determined that neither of those two options can be employed that blasting would be required. If blasting is required, it would only be conducted by persons trained and licensed to do so. In doing so, a blaster would employ standard practices to assure that the blasting is conducted safely and with a minimum of annoyance to nearby residents. Safety measures include such things as limiting the size of the charge to the minimum necessary to accomplish the task, using blasting mats to contain the blasted rock, and protocols that assure that nearby personnel are safely away from the blast site before detonation. Blasting activities will be limited to those days of the week and times of the day when they will minimize annoyance to nearby residents.

Comment 2.101 (AKRF): The applicability of the Town of Philipstown Code's 175-36 — Steep terrain and ridgeline protection regulations, is not provided/calculated in the DEIS. This analysis is necessary to make an informed decision about the location of the overall development program with respect to steep slopes.

Response 2.101: Philipstown Code Section 175-36 – Steep Terrain and Ridge Line Protection limits development on land with slopes greater than 20% and further restricts development on lands with slopes greater than 35%. Most of the latest Hudson Highlands Reserve Plan respects the limitations imposed by the Town Code. Proposed houses are located on unconstrained land. Driveways and most of the proposed roads are located on unconstrained land or on land where the slopes are less than 35 percent. Still, there are areas on the access road from Route 9 that cross slopes that exceed 35 percent.

Access to the property from Horton Road or East Mountain Road North was not pursued because of the potential impact on the neighboring properties along those roads, especially from horse trailers and trucks supporting the Equestrian Center, which the Planning Board became aware of during its earliest site visit. In addition, the access from Horton Road would impact a wetland and stream buffer, and the access from East Mountain Road would be within the buffer of a stream on the north side of the road**.**

As explained by Mr. Gainer in his Comment 2.85, above, “From early on in the Board's review process, recognizing the poor geometry, limited width, and other related factors concerning the existing Town roadways bordering the site, as well as the expected traffic to be generated within the project and especially considering the transportation impacts of the equestrian center proposed, the Planning Board determined that the project's access should only be obtained from NYS Route 9. More recently, the Town of Philipstown Highway Superintendent has expressed similar concerns and does not support “any routine use of either Horton Road or East Mountain Road North for access to the proposed development.” The elimination of the equestrian center lessens these impacts, but it does not eliminate them.

The Planning Board has two options with regard to the anticipated disturbance of the slopes greater than 35% that will occur along the access road from Route 9. They are: (1) finding that “the proposed development would involve less land disturbance and have less overall impact on soils, vegetation, scenic views, and water resources than would development in compliance with

Subsection B(1) of this section" and granting the Special Use Permit provided for in Section 175-36B(7); or (2) requiring the Project Sponsor to obtain an area variance.

Hudson Highlands Reserve contains a protected ridge line. It is located in the extreme southeasterly portion of the property. It is well above (more than 300 feet vertically) and away from any site disturbance that will result from building the project. For this reason, no impact associated with the ridge line is anticipated.

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III. EXISTING CONDITIONS, ANTICIPATED IMPACTS AND MITIGATION

A. WATER RESOURCES

A.1. Stormwater

Comment 3A.1 (Gainer): Stormwater Design Concerns - General - The design information contained within Appendix M is far too preliminary to permit a detailed evaluation of the stormwater design or compliance with SWPPP requirements. Initially, in order to allow for any analysis of stormwater design facilities and related disturbance issues, the conceptual design information should be added to the "Preliminary Utility Plan" (once the project's constraint mapping is overlaid) so that their general sizing, function and practicality can be established.

Response 3A.1: The Preliminary SWPPP (Appendix H) and the Preliminary Utility Plan have been updated to contain a more detailed analysis of the post stormwater condition of the project. They now include sizing of the proposed stormwater practices, including grading, and a more detailed construction sequence.

Comment 3A.2 (Gainer): Stormwater Controls along project roadways - the conceptual drainage design suggests the use of dry swales with check dams along all project roadways. While this is an appropriate stormwater conveyance for lesser sloped areas, both the "entry road" and "main road" contain areas of significant grades where this would not be appropriate. Formal drainage facilities will be required in such areas. In other areas, turf- or soil-reinforcement techniques will be necessary to prevent erosive conditions. These should all be noted, so that as the project advances necessary E/C measures are followed.

Response 3A.2: The Preliminary SWPPP (Appendix H) and the Preliminary Utility Plan have been updated. They now contain a more detailed analysis of the post stormwater condition of the project, including sizing of the proposed stormwater practices, grading and a more detailed construction sequence. Roadside swales have been replaced with catch basins and pipes where steep grades make this approach more appropriate. The Erosion and Sediment Control Plan has also been updated to provide appropriate control during and after completion of construction.

Comment 3A.3 (Gainer): Stormwater controls within individual lots or common areas - It is noted that each lot is proposed to contain individual rain gardens as mitigation. It should be explained what controls and enforcement mechanisms will be established on any such required improvements to assure their long-term viability and function. Beyond these techniques, various water quality treatment measures will serve multiple residences, which will further tax the ability to control and manage these facilities.

Response 3A.3: Part of the Stormwater Pollution Prevention Plan (Appendix H) includes the installation of rain gardens. While they will not be installed as part of the basic infrastructure, they are still integral to the plan. Individual rain gardens will be installed when the home on the same lot is constructed. Installation will be approved and monitored by the HOA. To assure proper maintenance of the rain gardens, they will be maintained by the HOA in cooperation with the individual lot owners. Authority for the HOA to maintain the rain gardens on the residential lots can be found in Appendix I of the DEIS, Article IV, Section 3(q), page 11.

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Comment 3A.4 (Gainer): Calculation of impervious areas - It is noted that all outdoor paddock areas will include an impermeable barrier to address potential pollution concerns of the horses to be housed on the property. It is uncertain whether this, as well as the management and treatment of run-off from such areas, is addressed by the conceptual stormwater design incorporated into the DEIS. Additionally, the treatment of run-off from such equestrian areas from a water quality standpoint must be incorporated into the design plans.

Response 3A.4: The Equestrian Center has been removed as an element of the proposed project.

Comment 3A.5 (Conner): What will the total impervious surface coverage be once the access road is constructed for the HC lot on Route 9 that contains the office building, since that lot will remain a separate lot?

Response 3A.5: As shown in the following table, when the commercial lot is reconfigured to allow for the access road into Hudson Highlands Reserve, the proportion of impervious coverage will increase from 22.5% to 28.7%, in part because more impervious surfaces are being added to the lot in the form of pavement for the haul road, but also because the size of the lot will shrink and the amount of existing impervious surfaces will make up a greater percentage of lot coverage. The Philipstown Zoning Law allows land within the Highway Commercial Zone (HC) to have up to 60% impervious coverage.

Table 9: Route 9 Commercial Lot Coverage Analysis				
	As presently configured		As proposed	
	Square feet	Percent	Square feet	Percent
Commercial Lot	195,988	100%	168,028	100%
Pavement	29,615		33,732	
Building	11,774		11,774	
Walks	2,711		2,711	
Total Impervious	44,100	22.5%	48,217	28.7%
Total Pervious	151,888	77.4%	123,928	71.3%

Comment 3A.6 (HHLT): Impact of Impervious Surface: The DEIS states that 11.1 acres of the property consists of impervious surface (DEIS Page 51). However, the size of the equestrian facility alone is 11 acres and from the description of it, most of it appears to consist of a substrate approximating impervious surface in order to manage horse waste. Therefore it is hard to understand how only 3.5 acres of impervious surface are assigned to the equestrian facility.

More detail needs to be provided as to what is treated as impervious versus permeable in the equestrian facility.

Response 3A.6: The Equestrian Center has been removed as an element of the proposed project.

Comment 3A.7 (HHLT): Additionally, the equestrian facility's significant increase in impervious surface and forest clearing near the pond and uphill from Clove Creek, as well as potential changes in water flow due to increased water withdrawal for water supply and cleaning for 40 horses, may change surface water quality in terms of sedimentation, flow rate, and temperature. Clove Creek and the stream tributary that connects Ulmar Pond to it are considered "valuable and sensitive fisheries resources" according to NYS DEC. The impact of the commercial equestrian facility to native brook trout populations is not addressed.

Response 3A.7: The Equestrian Center has been removed as an element of the proposed project.

Comment 3A.8 (Benjamin): It's also interesting that the state of New Jersey considers such large commercial equine centers to be concentrated animal feeding operation, CAFOs. You might know, if you know anything about pigs and chickens, which are tightly regulated by the state in the hopes of preventing NPK nutrient pollution, as well as vermin and pathogen introduction into adjacent aquifers, wetlands, ponds, and/or streams.

Response 3A.8: The Equestrian Center has been removed as an element of the proposed project.

Comment 3A.9 (Conservation Board): A significant part of the DEIS relates to the Equestrian Center, primarily because the 40 horses that will be stabled there will produce approximately one million pounds per year of environmentally damaging horse waste, all of which must be contained and then trucked off-site weekly for disposal. Although not described in the DEIS, production of the one million pounds of horse waste that must be removed every year will presumably require the annual trucking into the Equestrian Center of an equivalent one million pounds of feed and straw bedding. Any failure to contain and remove the horse waste properly would risk dangerously contaminating Water Resources. In addition, riding horses on the approximately 160 acres of Conserved Land, which the DEIS says will not occur, would rapidly destroy Vegetation and Wildlife.

Response 3A.9: The Equestrian Center has been removed as an element of the proposed project.

A.2. Ulmar Pond and Clove Creek

Comment 3A.10 (AKRF): As indicated in correspondence between the Applicant and their consultants cited within the DEIS, runoff and septic discharge from development of residential and equestrian uses and land clearing raise likelihood of increased (not decreased) discharge of nutrient pollutants which could worsen eutrophic conditions in Ulmar Pond. Pond management to avoid/minimize such impacts is proposed. The Solitude letter (2.15.18) indicates that since the 2015 pond water quality sampling was a one-time sampling event, a water quality monitoring program should be initiated to begin generating a robust baseline of data to use for the effective management of the system. No subsequent water sampling of Ulmar Pond is provided in the DEIS to support the contention that the pond is frequently eutrophic for management purposes. Despite the pond's one-time phytoplankton bloom, fish sampling showed fish condition/health and species assemblage was high value for angling and aquatic

plant sampling showed good conditions, with only trace density of filamentous algae and invasive curly-leaf pond weed. Similarly, the Clove Creek macroinvertebrate sampling showed an even mix of species indicative of a generally healthy system. Protection of the pond and creek with proper site design are of utmost importance. Consideration should be given to further minimizing proposed development around Ulmar Pond to the maximum extent practicable. The incorporated letter from Allied Biological (6.29.15) says, "It's likely that if the land around the pond is developed, the impairment could intensify, which could lead to the collapse of one or more of the biological communities." We agree. Additional use of and development around the pond present the possibility that the pond will be degraded, unless clear restrictions are placed on pond use, on the density and distance of development, and on the mitigation measures (new vegetated buffers, etc.) proposed to protect it.

Response 3A.10: The statement quoted from the 2015 Allied Biological letter was made in reference to an undetermined hypothetical development around Ulmar Pond, assuming individual onsite sanitary disposal systems and no mitigation. At that point, the proposed plan had yet to be developed, and no mitigation was proposed. The 2019 letter from Solitude (the new name for Allied Biological), written by the same person, provided an assessment for the specific layout proposed in the plan submitted, with the proposed Best Management Practices (BMPs) incorporated. This assessment concluded:

"The current development plan includes several BMPs, such as a conservation easement from the edge of the pond to the closest property, a sewer system for all residences, and a proposed horse manure management system for the planned Equestrian Center on the site. The plan, as reviewed, addresses all of these potential nutrient loading sources. In several cases, these BMPs are exceeded by the sponsor. In addition, following development, the sponsor plans to engage with the Home Owners' Association (HOA) to actively manage the pond via a professional lake management firm. All of these actions are steps to protect the natural resource that is Ulmar Pond."

The letter goes on to provide more detail on the measures proposed:

"The proposed conservation easement will include a minimum 140 foot forested buffer from the pond edge to a constructed wall. This is 40 feet wider than statutory required 100 feet…This forested buffer will remain untouched during development of the land. According to the Massachusetts Buffer Manual (provided to the sponsor), a minimum 125 foot wide vegetative buffer is suitable for the interception of nutrients via run-off. This buffer will also provide pond bank stabilization and suitable wildlife habitat, and possibly a degree of sediment control. It is recommended that this forested buffer be maintained by the HOA following development. Despite the increased slopes of the surrounding land, the majority of the soils (Charlton) are well drained, and combined with the existing tree cover and minimal impervious surfaces (via homeowner development restrictions), runoff to the pond will be reduced. Imposing Covenants and Restrictions on all lots will restrict the use of fertilizers on manicured lawns. This easement and the restrictions on fertilizer will be suitable to minimize the impacts of run-off into the pond.

There will be no septic systems immediately around the pond. The proposed plan includes a central sewer system, with a requirement that all houses be connected to this system. Therefore, septic system leaching from houses will not be a source of nutrient loading to the pond.

Since this assessment was made, the proposed plans have been changed yet again to further reduce potential impacts to Ulmar Pond. Both the proposed Equestrian Center and the dry hydrant that would have drawn water from the Ulmar Pond have been eliminated.

While no further sampling was yet performed, the observed eutrophic conditions at the time of sampling were presumed, making Ulmar Pond a more potentially sensitive resource than an otherwise healthy pond. In assuming worst case conditions, no further testing is necessary for planning purposes. The proposed BMPs were developed to not only protect the pond, but to improve conditions. It is anticipated that the HOA will contract a professional lake management firm that will conduct baseline testing before a management strategy is developed.

As a condition of approval, the Property owner/HOA shall engage a firm professionally staffed by registered pesticide applicators that have New York State Department of Environmental Conservation Pesticide Permits and are trained to administer pesticide applications in aquatic environs. A management program that shall maintain water quality of Ulmar Pond by implementing the Best Management Practices will be developed in consultation with the New York State Department of Environmental Conservation and the Putnam County Soil and Water Conservation District.

Comment 3A.11 (Conservation Board): Risks to Water Resources; With respect to Water Resources, HHR poses serious risks to both groundwater and surface water contained within the area encompassed by HHR, as well as to surrounding groundwater, the watershed for Clove Creek, and the Hudson River itself. The risk results primarily, but not exclusively, from the fact that the Equestrian Center will generate approximately one million pounds of horse waste per year (DEIS, Appendix "N": September 21, 2017 report of B. Laing, Environmental Consultant for HHR; 65 lbs of estimated stall waste per horse per day x 40 horses x 365 days = 949,000 lbs. /year).

Runoff from all of such waste, including feces, urine, and soiled stall bedding material, must be prevented from leaching into the soil or being washed into streams. While HHR contemplates adoption of an extensive Manure Management Program, that program must be fully funded from operations of the Equestrian Center; executed perfectly, first by employees of the Equestrian Center, and then by a hired contractor; and rigorously followed, in perpetuity, in order to avoid substantial contamination of both groundwater and surface water.

AS A RESULT OF THE ISSUES DESCRIBED ABOVE, THE PHILIPSTOWN CONSERVATION BOARD BELIEVES THAT THE RISK POSED BY HHR TO WATER RESOURCES, INCLUDING ULMAR POND, CLOVE CREEK, AND THE HUDSON RIVER, IS VERY HIGH.

Response 3A.11: The Equestrian Center has been removed as an element of the proposed project.

Comment 3A.12 (Conservation Board): "Trust but Verify": Testing & Inspection for Water Resources… an independent, certified water-testing firm selected by the Town of Philipstown should test Ulmar Pond, representative vernal ponds, Clove Creek, and any other sites selected by it or the Town of Philipstown, at the expense of HHR, and deliver reports simultaneously to HHR and the Town of Philipstown. Such testing should be done monthly. At the option of the

Town of Philipstown, such testing may also be required after any rainstorm producing more than one inch of rain in six hours or less.

Response 3A.12: It is unclear the time period during which this testing is being suggested. No vernal pools have been found to exist on the project site. Ulmar Pond and Clove Creek will be monitored while construction is in progress nearby to ensure that erosion and sedimentation controls are effective. Monitoring for the continued management of Ulmar Pond will be required.

Comment 3A.13 (Conservation Board): Baseline Testing: in order to provide baseline data,… comprehensive water testing…should be undertaken within 30 days of any approval of HHR by the Planning Board and should be done monthly thereafter, in order to provide a meaningful pre-development record of water quality... Absent such baselines, it will not be possible to fully evaluate the implications of later testing and inspection.

Response 3A.13: See Response 3A.12. The Applicant/Project Sponsor agrees that baseline conditions for Ulmar Pond and Clove Creek should be established prior to construction, and both resources would be routinely monitored/inspected by the Town while construction is in progress nearby to ensure that erosion and sedimentation controls are effective. Following construction of the project, the HOA would retain a professional pond management firm to conduct baseline testing of Ulmar Pond before a pond management strategy is developed and implemented for the operational life of the project. Should the project be approved, as construction may not begin for many months following such approval, the request of the commenter for establishing baseline conditions at Ulmar Pond within 30 days of approval would not be necessary.

Comment 3A.14 (HHLT): Incomplete Study of Pond and Creek: In summarizing the report from Allied Biological, in Appendix C of the DEIS, commentary on Page 144 of the Conservation Analysis says *"Water quality monitoring was conducted on one date in late June for this baseline study (June 29 [2015]). We understand that this is not ideal, but the project timeline restricted us to one sampling date. A much more complete picture of the fluctuating water quality would have been obtained if sampling occurred throughout the entire growing season (typically considered May through September in the northeast). Future water quality monitoring efforts in this basin should strongly consider full season sampling efforts, of at least three sampling dates."* Despite this recommendation from four years ago (i.e. in 2015), and the Planning Board's requirement for a full environmental review including water impacts in June 2018, the DEIS does not include the water quality study recommended by Allied Biological.

Response 3A.14: See Response 3A.12. For planning purposes, the most sensitive conditions for Ulmar Pond, which were those observed at the time of sampling, were presumed. It is fully recognized that this single test is not adequate for management purposes, or for assessing potential impacts during construction. Additional monitoring will be conducted for those purposes at the times required.

Comment 3A.15 (HHLT): Severe Impact of Proximity to Water: The DEIS relies heavily on the Lathrop paper in Appendix P to justify the siting of the 25 houses spread out across the property from North to South. However, that analysis ignores another key criterion for conservation development used in the Lathrop paper, which is proximity to water resources. Here the Lathrop paper suggests that anything within 300 feet of surface waters will have a severe adverse

environmental impact (Lathrop Paper DEIS Appendix P Page 33, Fig. 2 B). This would apply to the houses around the pond.

Response 3A.15: As noted later in response 3B.54, though the Lathrop 1998 paper provided one basis of the DEIS analysis, more recent information and current technology has also been used in the analysis.

The Project Sponsor and the commenter have differing opinions on what page 33/Figure 2B of the referenced 1998 Lathrop paper concludes regarding buffers from surface waters. Specifically, the Project Sponsor does not agree with the statement that *"the Lathrop paper suggests that anything within 300 feet of surface waters **will** have a severe adverse environmental impact."* According to the Project Sponsor, the referenced Figure 2B illustrates that the ***potential*** for non-point source pollution is severe with buffers ranging from 50 to 150 meters, but the Lathrop paper continues by saying *"However, the translation of this general principle into an appropriate buffer weighting scheme (e.g., the expected impact of development with specific buffer distance) is highly problematic (Muscutt et al., 1993; Zampella et al., 1994). Further, depending on their design and implementation, storm water management systems can either enhance the role of riparian buffers or greatly negate their effectiveness by short-circuiting the natural flow of storm runoff. The site-specific field studies coupled with appropriate hydrological modeling needed to more conclusively define appropriate buffer zones was beyond the scope of this study."* Thus, guidance was considered specifically for the geographic area in which HHR resides.

The measures being proposed by the Project Sponsor are intended to enhance the effectiveness of the proposed buffer. The Project Sponsor believes these practices will mitigate adverse effects to the maximum extent practicable. HHR utilizes green construction, LEED Platinum certification and aims for zero-net energy use. The following Low Impact Development (LID) stormwater management concepts are proposed during construction:

- Riparian buffers
- Soil restoration
- Velocity dissipaters
- Dry swales

Current guidelines specific to HHR's geographic location stipulate that all development must be at least 100 feet from open water sources. As depicted on the project plans, the closest proposed home to Ulmar Pond is 171 feet from its edge – about 71 feet beyond the regulated distance. All other development will be well in excess of 200 feet from any open water. In addition, these proposed residences will send their septic waste to a common sanitary disposal field more than 400 feet from the pond. Thus, HHR is more than complying with area-specific current guidance. With the stormwater management measures proposed, proposed HOA restrictions on the use of fertilizers and pesticides, other design features that direct both stormwater and wastewater away from Ulmar Pond, and the preservation of a naturally vegetated 140-foot buffer, the potential for non-point source pollution would likely be reduced to "slight". Please also see Response to 3B.47.

Comment 3A.16 (HHLT): Require ongoing testing in Ulmar Pond and Clove Creek before, during and after construction, and on an ongoing basis, as a condition of site plan approval.

Require that the Town oversee the testing, paid for by the applicant or the Homeowners Association (HOA), and that construction and/or use of the equestrian facility be halted pending remediation, should water quality deteriorate. Require monthly testing of the pond and creek during construction. Mandate quarterly testing after construction. Require a performance bond or letter of credit for water testing costs be posted by the applicant, to be drawn upon in case of default by the HOA. Require similar testing and mitigation steps for the Clove Creek Aquifer, and especially monitoring of the common sewerage treatment system under the horse turnout paddock and the impact it has on the aquifer.

Response 3A.16: The Equestrian Center has been removed as an element of the proposed project. See Responses 3A.12 and 3A.13.

Comment 3A.17 (Audubon): Constructing an equestrian center with 40 horses on the property will likely mean eutrophication of the pond and a lowering of the dissolved oxygen available for fish. Clove Creek and its tributaries will also suffer from the degradation of water quality.

Response 3A.17: The Equestrian Center has been removed as an element of the proposed project.

Comment 3A.18 (O'Garden): I'm also concerned about -- according to the page 38, 39,… of the environmental impact statement, "The critical maintenance of the pond, stormwater management, wastewater is going to be the responsibility of a homeowners' association." So I looked this up. What is a homeowners' association? What is this actually like, a nonprofit organization. People get elected to the boards. It's generally a volunteer thing. And I'm sure that people who live in New York City and have a second home might want to get really involved in the homeowners' association. They might just want to hire a management company which plenty of people do.

Response 3A.18: As per Cooperative Policy Statement (CPS-7 issued by the Department of Law of the State of New York, a *"'Homeowners Association' ('HOA') includes, but is not limited to, developments consisting of individual homes or lots deeded in fee simple for which a Declaration of Covenants, Restrictions, Easements, and Liens or equivalent documents or restrictions contained in individual deeds or any other mechanism or covenant or local law or ordinance requires that homeowners or lot owners contribute cooperatively to the ownership and/or maintenance of property used in common…."* As noted above, the HOA is to be incorporated under the Not-for-Profit Corporation Law of the State of New York, and the Board members, who have fiduciary obligations, must comply with all HOA governing documents, Town laws, and the Conservation Easement. Although it is permissible to hire a professional management company, the Board members are always subject to their fiduciary obligations, and are bound to uphold the foregoing governing documents, laws, and Conservation Easement, etc.

A.3. Groundwater

Comment 3A.19 (HHLT): Chazen Study on Priority Parcels for Clove Creek Aquifer: In October 2018, The Chazen Companies performed an analysis for HHLT on land parcels that have the highest impact on the flow of water into the Clove Creek Aquifer. Based on soils,

slopes, land cover and amount of land directly over the Clove Creek Aquifer (CCA), the Hudson Highlands Reserve parcels are some of the most valuable for ensuring the sustainability of the CCA on both a per acre and total acreage basis. The Planning Board should carefully consider the impact on the Clove Creek Aquifer of this development, given the parcels' importance to the Aquifer. Maps and methodology from The Chazen study are attached as Exhibit D.

Response 3A.19: The original proposed layout anticipated 45.7 acres of disturbance with 164.4 acres undisturbed or more than 78% of the site. Since removing the equestrian center from the proposed project and making other plan changes, the length of the roadway has been reduced by approximately 900 linear feet and the overall increase in impervious area has been reduced by approximately 3.4 acres. The limits of disturbance have also decreased by 7.7 acres, thereby leaving about 81.9% of the 210.1 acre site undisturbed.

The Project Sponsor's engineers have had several conversations with Russell Urban-Mead, the Director of Environmental Services, from the Chazen Companies, regarding the potential impact the development of the parcels, including the installation of the common septic, 22 wells and the stormwater mitigation practices might have on the Clove Creek Aquifer. Mr. Urban-Mead pointed out that the development, including the stormwater, well and septic elements are being designed and constructed in accordance with all relevant Federal, State and Local codes, rules and regulations. The codes, rules and regulations are intended to allow for reasonable development of land while safeguarding the environment.

Water – Calculations that show the withdrawal of the 17,700 GPD demand is a small portion of the 179,641 GPD recharge rate.

Wastewater – Badey & Watson will design the common septic system in accordance with State and Local codes, rules and guidelines. The system will require not only approval by the Putnam County Department of Health, but will require a SPDES permit and review and approval by the New York State Department of Environmental Conservation.

Stormwater – Badey & Watson has developed a Preliminary Stormwater Pollution Prevention Plan (SWPPP) for the project. It provides overall calculations of the potential increase in stormwater runoff from the change in cover characteristics and possible decrease in times of concentration and calculates the Water Quality Volume (WQv) and Runoff Reduction Volume (RRv). Post construction stormwater practices are proposed in accordance with the latest version of the NYSDEC General Permit for Construction Activity that will address treatment of the Water Quality Volume (WQv), Runoff Reduction Volume (RRv) and any increase in runoff between the pre- and post- 1-, 10- and 100-year storm events. Badey & Watson will size the proposed stormwater treatment practices, rain gardens and bioretention areas in accordance with the latest New York State Stormwater Design Manual to recharge collected stormwater on site to mimic existing conditions. This will, among other things, ensure that the recharge rate of rainwater runoff on the site won't decrease after development.

Comment 3A.20 (Hammond): Proposed water usage is unclear and may be misleading. Developer proposes adding 26 wells, claiming an average use of 24,000 GPD will not affect watershed and provides annual watershed data. However, providing annual averages does not illustrate how daily water usage will affect Clove Creek, especially in the summer.

Likewise claims about the annual groundwater recharge rate of 65,568,911 gallons per year (or 179,641 GPD) do not clarify the recharge rate and water usage effects on the aquifer in the

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summer, when water supply is most critical and most in demand. The levels of our creeks and streams are already dropping in June. The water from my mother's well has changed significantly in the last 30 years.

Response 3A.20: The Equestrian Center has been removed as an element of the proposed action. Only 22 new wells are proposed, not 26. This is because wells exist for Lots 1 and 20 and for the historic barn that will be repurposed from its present use as an accessory residential structure to the community building identified on the plans. As a result, and as demonstrated in Table 2 that appears in Response 1.1 (repeated below), the expected water demand is now 17,700 gpd and includes a 15% safety factor. The actual increase that will result from the Hudson Highlands Reserve has been estimated to be 15,500 gallons including a 15% safety factor. The difference is due to the already existing demand for the three residential wells and that of the existing commercial building.

Table 2 (repeated from response 1.1)			
Change in Water Demand as a Result of Design Change			
Original Water Demand Estimate including 15% safety factor (gpd)			24,000
Source of Demand Reduction	Original Estimate (gpd)	Safety Factor (15%) (gpd)	
Equestrian Facility	4,675	701	(5,376)
Frisenda House	200	30	(230)
Lot 25	600	90	(690)
Revised Water Demand (gpd)			17,704
Revised Water Demand (gpd) Rounded			17,700

Table 3 (repeated from response 1.1)			
Original and Revised Demand as a Percent of Daily Recharge (gpd)			
	Demand	Daily Recharge	Demand as a Percent of Daily Recharge
Original Demand (gpd)	24,000	179,641	13.4%
Revised Demand (gpd)	17,700	179,641	9.8%

The use of groundwater was calculated using the standards required by the Putnam County Department of Health, the standard throughout Putnam County for new construction. Because of the use of water-saving plumbing devices, the Putnam County Department of Health has determined that the actual demand is 75 gallons per person per day.

According to the *"Town of Philipstown Groundwater Report and Planning Resource"* by The Chazen Companies, dated June 2007 (Chazen Report), the average groundwater use is between 80 and 100 gallons per person per day. This is consistent with the estimates the United States Geological Survey cited in Response 3A.22.

The 17,700 gallons per day will not completely evaporate. Most of it is returned to the groundwater through the absorption fields of the septic system. Accordingly, the net loss of

groundwater is considerably less than the 17,700 gpd anticipated daily demand resulting from the Hudson Highlands Reserve Project.

In Section 2.5 the Chazen Report indicates that of the 80-100 gallons per person per day, 20 gallons are consumed by the person as a result of "perspiration, cooking, watering plants, washing cars, and during drying by dishwashers and clothes driers." Assuming that the 20 gallons estimated by Chazen is not reduced by water-saving devices, one can estimate that of the 17,700 gallons drawn from the groundwater by the Hudson Highlands Reserve Project, 12,980 gallons per person per day will be returned to the groundwater under the site.

$$\left(\frac{17{,}700}{75}\right) * 20 = \text{ 4,720 GPD consumed by person}$$
$$\left(\frac{17{,}700}{75}\right) * 55 = \text{12,980 GPD returned to Groundwater}$$
$$\text{17,700 GPD drawn from groundwater}$$

The Chazen Report states that during the winter virtually 100% of the groundwater returned to the earth through septic systems enters the groundwater. In summer that number drops to between 30 to 50%. This is due to loss from evaporation and root transpiration (p. 12). Assuming the upper limit of the estimate is lost, loss of groundwater anticipated when Hudson Highlands Reserve is built is as follows:

Table 10: Groundwater Loss (Winter v. Summer) Gallons per Day					
	Withdrawn	Consumed	Returned	Lost	Net Loss
Winter	17,700	4,720	12,980	0	4,720
Summer	17,700	4,720	6,490	6,490	11,210

As the table above shows, the greatest loss of groundwater does occur in the summer. However, as shown in the graphic (Figure 7) that follows, rainfall and thus the water available for recharge is greatest in the summer months. The graphic shows that the highest average monthly rainfall occurs in the 30 days surrounding September 30, followed closely by the 30 days surrounding July 26 and June 5, the hottest time of the year, when the earth's surface can be dry and most ready to absorb the rain that falls onto it.

Data from Weather Spark downloaded from weathrspark.com on Febaruary 17, 2021

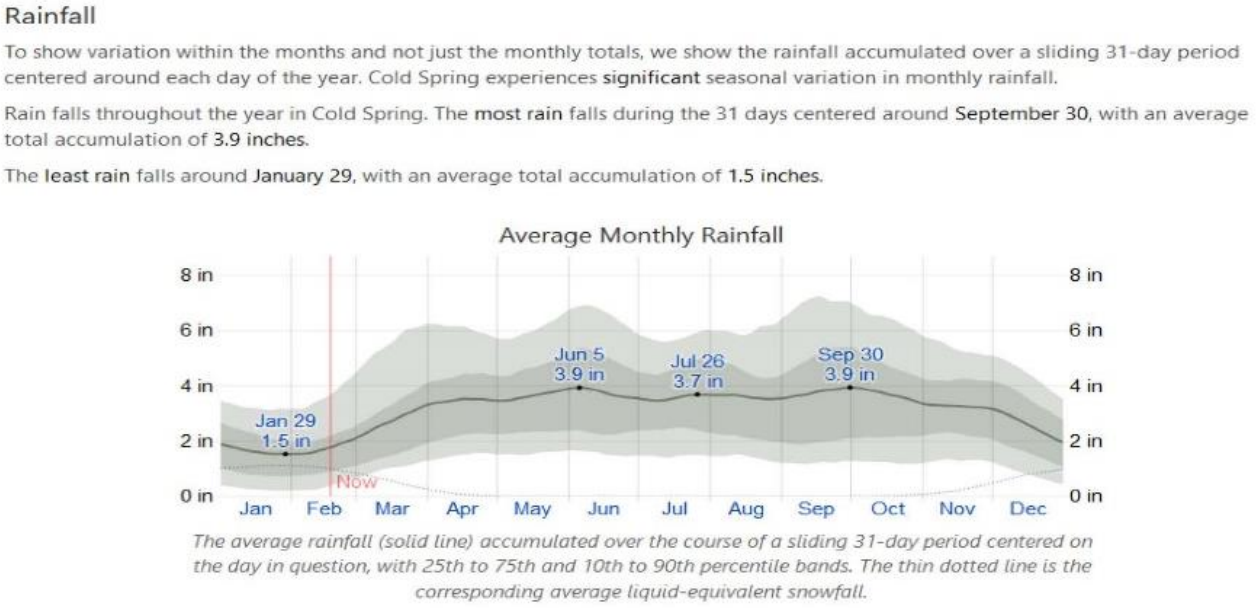

Figure 7: Average Monthly Rainfall

Section 4.2 of The Chazen Report recommends minimum lot areas for lots serviced by septic systems ranging from 1.2 to 5.4 acres per individual system. The recommended lot size depends on the Hydrologic Soil Group of the property. More than 60%, 126 acres of the site, contains soils in Hydrologic Soil Group A and B (DEIS, Table 3, p. 62). These are the groups with the two smallest recommended lot sizes. Using Group B's larger minimum lot size 1.6 acres per system, one can estimate that Hudson Highlands Reserve could support a minimum of seventy-eight (78) individual single family septic systems. The project proposes an equivalent of twenty-six (26) systems, including the 24 homes, the community building and the commercial building. The actual total number will be the two individual existing systems for the Frisenda House and the commercial building, plus a common system to serve the remaining 23 homes and the community building.

126 acres of soils in Groups A & B/1.6 acres per septic system for Group B = 76 potential systems

When compared to a conventional subdivision with an equal number of lots, the conservation subdivision results in less impervious surface due to shorter and fewer roads and driveways, and less loss of tree cover, helping slow evaporation. It is also noted that the Residential Design and Rules and Regulations, found in Appendix J of the DEIS, specifically limits the introduction of impervious surfaces and limits the total size of lawn areas on residential lots to 2,000 square feet, far less than a typical suburban residential lot.

The Chazen report goes on to state that *"The density recommendations found here do not preclude use of cluster subdivision models as recommended in many municipal zoning ordinances and Comprehensive Plans. As long as overall site density objectives are met, and with proper site design and engineering practices, the model will continue to manage groundwater nitrate concentrations while allowing clustered construction techniques."* It is important to restate that the common septic system will be professionally managed and maintained, thus assuring that possible pollution of groundwater due to the failure of individual lot owners to maintain their systems will not occur.

The elimination of the Equestrian Center, the use of water-saving devices, the professional management of a common septic system, restrictions on the development of individual lots and the permanent preservation of more than 159 acres combine to reduce groundwater use to the greatest practical extent.

Accordingly, no significant adverse impact is expected to occur to water levels in either the aquifer or Clove Creek.

Comment 3A.21 (Hammond): Dated water information. As mentioned in HHLT letter dated 11/30/17, water data cited is 12 years old. Where is the new data?

Response 3A.21: There is no new data. The Chazen Companies completed a minor update of its report in 2018. The sum of the information was contained in two changes dealing with well depth and yield, but did not include a narrative. The Project Sponsor's designers inquired locally about the report with negative results. They then inquired directly to The Chazen Companies and were told *"There is no formal report update. There was some discussion of*

some other deliverables, but they have not materialized." (Email from Russel Urban-Mead of the Chazen Companies, August 31, 2020)

Comment 3A.22 (Hammond): Data on water usage is perplexing, as I believe it is significantly less than US averages. The US national average is 400 gallons per day, and this doesn't include filling pools, watering lawns or gardens. On what assumptions were water usage based?

Response 3A.22: Water use was estimated in accordance with Putnam County Department of Health regulations. These regulations require that septic systems be designed based on water usage of 150 gallons per day (GPD) per bedroom. The regulations presume that each bedroom will accommodate 2 people. Thus, a 4-bedroom house would use 600 gallons per day.

The United States Geological Survey (https://www.usgs.gov/) estimates that the average person uses 80 to 100 gallons per day, not 400 gallons per day. Putnam County allows a 25% reduction for the use of water saving devices such as low flow toilets and shower heads. Considering this reduction, the Putnam County requirement of 150 gallons per bedroom per day is both consistent and appropriate.

Comment 3A.23 (Hammond): This may be nitpicking, but developer claims that the average recharge rate is nearly 9 times the demand, but my math says that it is only roughly 7.5 times the demand. How was this calculated? I'm not qualified to judge if this is a sufficient recharge rate, but the difference between 7.5 and 9 is nearly 20%.

Response 3A.23: The commenter is correct. The factor 9 is incorrect. It should have been 7.5. However, the revised recharge rate is 10.1 times the revised groundwater demand. This is due, in large part (5,376 GPD) to the elimination of the Equestrian Center, and to a lesser extent (230 GPD) because of the reduction of the lot count to 24 and the use of the existing Frisenda house as one of the 24 lots in Hudson Highlands Reserve. More discussion can be found in Response 1.1. The corrected formula and the new formula are as follows:

Corrected Formula	New Formula
$\frac{\text{Daily Recharge Rate } 179{,}641 \text{ GPD}}{\text{Original Daily Demand } 24{,}000 \text{ GPD}} = 7.5$	$\frac{\text{Daily Recharge Rate } 179{,}641 \text{ GPD}}{\text{Revised Demand } 17{,}700 \text{ GPD}} = 10.1$

A.4. Floodplains and Wetlands

Comment 3A.24 (AKRF): Section B.1.a (p. 80) indicates that two (2) hillside seeps were found, "both on the slope east of the cleared area". One at the north end of the cleared area (Area D on Figure 26), and a larger one at the south end. These are fragile habitats that are an important resource for water dependent wildlife. Additionally, these seeps as described have hydrophytic vegetation (Juncus, Carex, Sphagnum, Symplocarpus foetidus, Impatiens capensis, etc.) and are connected via surface flow to onsite wetlands — why were these seeps not flagged as wetland themselves? The DEIS must clarify if any portion of these two hillside seeps is located within the proposed development footprint. Both seeps must be located accurately on

map/figure (at present they are not) and, as discussed above, they must be delineated/flagged as wetland if they meet the USACE 3-parameter approach. The development footprint must be adjusted to avoid these seeps and each should be provided with an appropriate buffer. This comment was conveyed during the DEIS completeness review and remains unaddressed.

Response 3A.24: In the Project Sponsor's opinion, the seeps are of extremely limited size, and are not connected to other onsite wetlands. As discussed in the DEIS, some of the discharge may combine with runoff that flows overland (through sheet flow, not a defined perennial or intermittent channel) to a stream corridor that feeds into a forested wetland near the east side of the pond. As also identified in the DEIS, neither the seeps nor the small isolated areas of hydrophytic vegetation are directly or hydrologically connected to any of the mapped wetlands or streams. While some of this discharge may eventually reach site wetlands and watercourses through sheet flow, the seeps have no defined nexus to these wetlands and watercourses. As such, they do not meet the criteria to be flagged as federal wetlands. The wetland delineation, which does not include the seeps, was reviewed and confirmed by the Town on June 13, 2017. As no federal wetlands would be disturbed under the proposed project, coordination with the Army Corps was not required.

Both seeps are located on steep slopes far outside any proposed development footprint.

Comment 3A.25: (Gainer): Further, an "accessory bldg" for the equestrian center is shown, of unknown size and purpose. The need for the size of, and uses planned within, this building, as well as the manner its location was determined, should be explained. Placement of this structure closer to the equestrian center (possibly between the equestrian parking area and adjacent dead-end roadway), so as to reduce the overall area encumbered by the equestrian center and to increase wildlife corridors, should be considered. This is especially important since, as noted in the DEIS, seeps have been noted in this area and "...are fragile habitats that are an important resource for water dependent wildlife and vegetation". Yet, the proposed accessory building and related improvements (pavement/parking/manure enclosure/dumpster) are currently planned in proximity to the identified seeps.

Response 3A.25: The Equestrian Center has been removed as an element of the proposed project.

Comment 3A.26 (Ford): So I'm concerned with about a couple of things. One of the things I think about is, obviously, water quality. I would like to know how up-to-date the flood zone maps are.

Response 3A.26: FEMA, the Federal Emergency Management Agency, updated the flood zone maps in Philipstown in 2012. They became effective in 2013. The flood hazard limits line shown on the plans was downloaded directly from the FEMA website in a format that allowed direct import into the plan set. The limits shown on the plan are the limits provided by FEMA and not the product of the developer's designers. Figure 8 is a "Firmette," a localized Flood Insurance Rate Map, that shows the area. The map shows an effective date of March 4, 2013. No development is proposed within a flood hazard area.

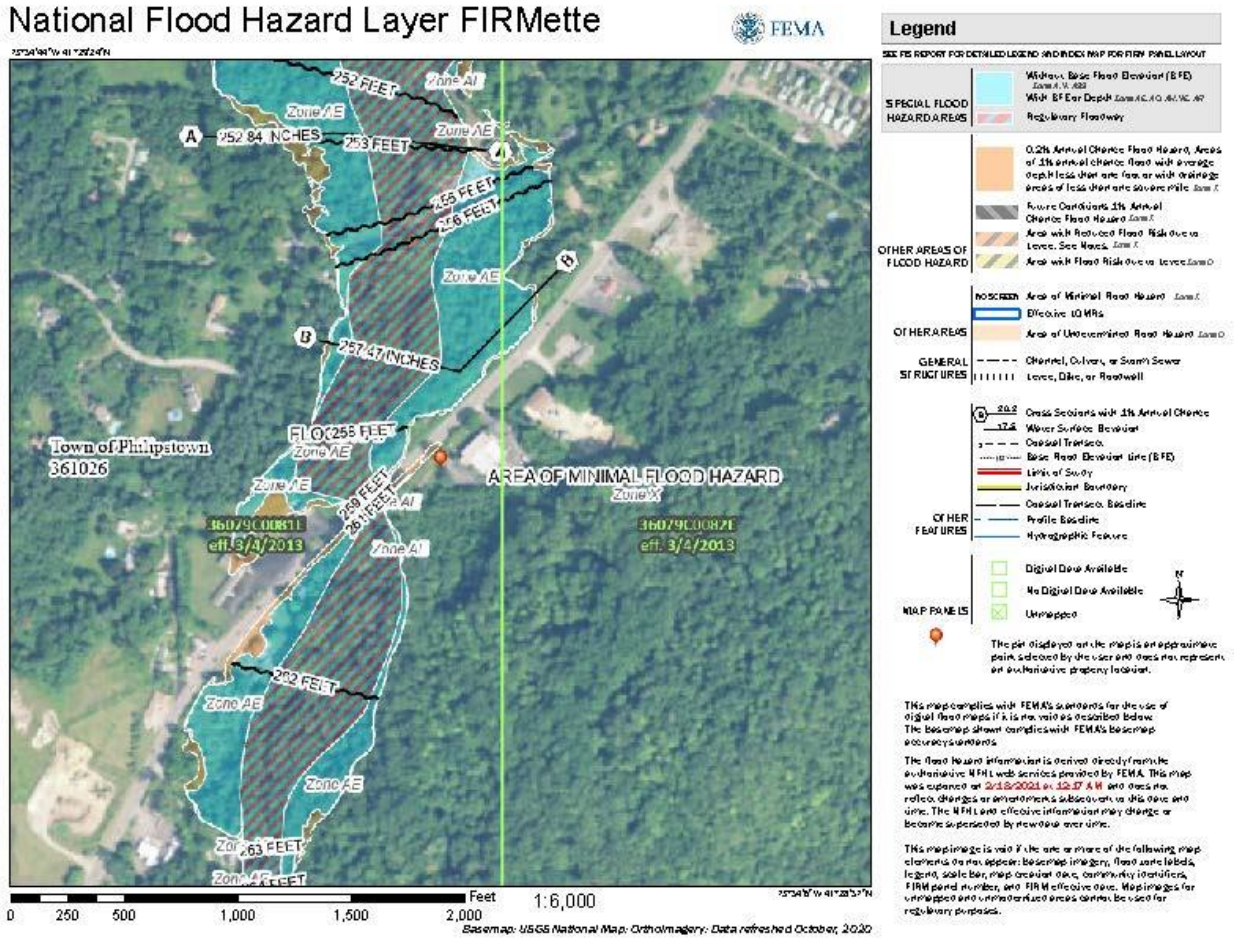

FIGURE 8: Flood Hazard Map

Comment 3A.27 (Ertl): A.3658/ S.5576 wetlands protection
A.4666/ S.5612 protects streams
These two pieces of legislation would strengthen the protection of local wetlands and streams. Current DEC protection only covers areas that encompass 12.4 acres or more. And it has to be on a DEC approved grant. New York State is the only state without such corridors for small wetlands. More than a million species are at risk. This legislation would protect smaller wetlands, rivers, streams, creeks, lakes, and wildlife. So I encourage you not to hurry this project through, but to see what the State of New York is doing to protect our small wetlands.

Response 3A.27: The proposed wetlands protection legislation cited by the commenter, which would have extended NYS protection to wetlands of one acre or more, failed to pass, with its status listed as “Recommit, Enacting Clause Stricken” on January 20, 2020. The proposed stream protection, which would add protective status to class “C” streams, also failed to pass, with its status listed as “Enacting Clause Stricken” on January 28, 2020. Even if adopted, neither would have any bearing on the proposed project. The proposed project would not cross or encroach upon any wetlands or watercourses.

B. VEGETATION AND WILDLIFE

Comment 3B.1 (AKRF): VEGETATION AND WILDLIFE The following ecological reports have been completed for the project site by the current and former property owner. Please verify that this is a comprehensive list:

a. Phase I Biodiversity and Environmental Assessment. Stephen Coleman. 11.16.09.
b. Additional Environmental Studies. Stephen Coleman. 7.1.10.
c. Response to DEC comments. Stephen Coleman. 3.24.11.
d. Additional Field Assessments. Stephen Coleman. 7.12.11.
e. Timber Rattlesnake Habitat Assessment Report. Brandon Ruhe. 8.25.14 (revised 9.11.14).
f. Wetland Delineation & Environmental Assessment Report. Stephen Coleman. 9.15.14.
g. Limnology/WQ Report. Chris Doyle (Allied Biological). 6.29.15.
h. Natural Resource Investigation. Hudson Highlands Environmental Consulting – Stephen Gross, Randy Stechert, Donald Smith. Joan Hansen. 8.12.15.
i. Regarding Ulmar Pond Lake Mgt. Chris Doyle (Solitude). 2.15.18.

Response 3B.1: The list is correct, with the addition of a vernal pool study by David Griggs of ERS Consultants, Inc., April 26, 2019, attached as Appendix D.

Comment 3B.2 (AKRF): As discussed further below, keeping the proposed site plan to the more disturbed portions of the site where historic development and past surface disturbance occurred is appropriate. However, the proposed site plan extends beyond these areas into portions of the site with higher habitat value. This is not made clear in the DEIS and should be fully addressed in the FEIS.

Response 3B.2: The revised plans have removed proposed lots from any areas not classified as “developable” with the exception of the lot that includes the pre-existing historic home that will be renovated and sold as is. In addition, the historic barn will be adaptively reused as the HOA community center. Both structures were placed within the area classified as “high conservation value” specifically because of their cultural resource value, and to preserve these structures and reuse them.

Comment 3B.3 (AKRF): Coleman (11.16.09) identified "rocky well drained upland consistent with a Chestnut-Oak Forest and Oak-Tulip Forest... also exhibits species representative of the Appalachian Oak-Hickory Forest also described by Reschke 1990." However, presence of these NYSDEC-designated ecological community types onsite is discounted in the DEIS.

Response 3B.3: See Response 3B.15. Neither an Oak-Tulip Forest nor a Chestnut Oak Forest was identified on site during the site inventory performed in the summer of 2015. There were fragments of an Oak-Tulip Forest. In perhaps the largest area that may have been part of an Oak-Tulip community located east of the current Horton Road entrance into the site, the tulip trees were harvested around a decade ago. It is possible that these trees were still present at the time that Coleman did his inventory. When the site was inventoried, this area supported young successional growth. Fragments of the Oak-Hickory Forest were noted and included in the forested areas shown on the vegetation map, Figure 11.

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Comment 3B.4 (AKRF): Coleman (9.15.14) identified "a plateau area just northwest of the pond consists of rolling, elongated ridge....species composition similar to an Appalachian Oak-Pine forest (Reschke 1990) which is dominated by white pine, black cherry, black oak, red maple, sugar maple, red oak and Christmas fern." This habitat type is not listed in the DEIS.

Response 3B.4: The plateau area is vegetated with a diverse community of trees that represents the Appalachian Oak-Pine Forest (see Response 3B.15, Figure 11). However, greater interspersion of tree varieties from adjacent tree communities has resulted in changes to the community. There are some small groupings of white pines and red cedars on the plateau, with maples and oaks comprising the dominant species in the Oak-Pine Forest community. White Pines and red cedars observed were being shaded out by the surrounding deciduous tree species.

Comment 3B.5 (AKRF): Coleman (11.16.09) finds Acidic Talus Slope ecological community type onsite, located "at the southeast end of the study area at the constriction point before entering the eastern portion of the lot (Parcel "A")". This community is not mapped/described in the DEIS.

Response 3B.5: Acidic Talus Slope ecological community was not identified anywhere within the project site. The presence of such a community was noted by herpetologist Randy Stechert, which he identified as potential copperhead denning habitat, as being just offsite on land identified as belonging now or formerly to Brucato. A photo of the talus slope and a location map are provided as Figures 9 and 9A on this and the following page.

Figure 9: Talus Slope (Offsite)

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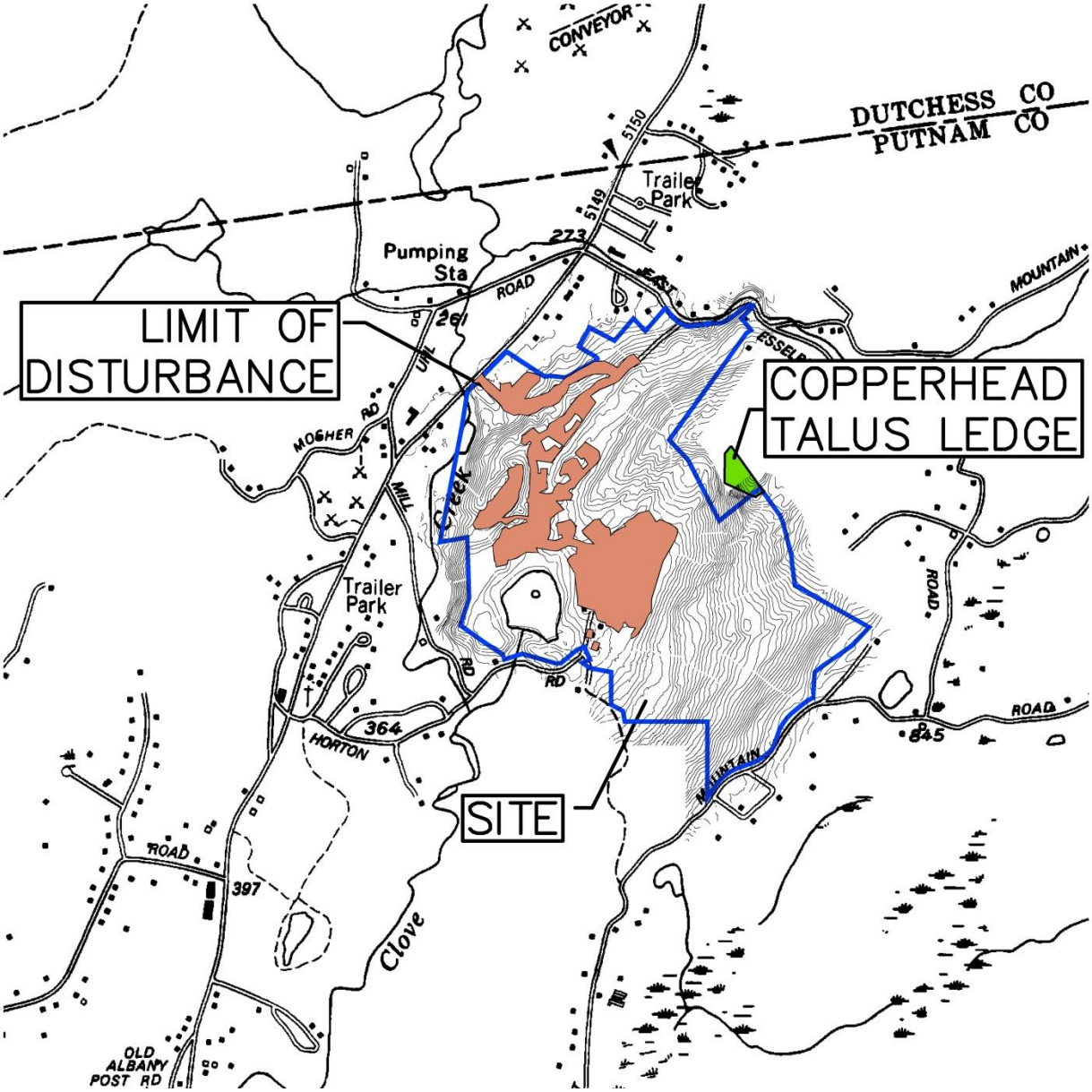

Figure 9A: Location of Talus Slope

B.1. Vegetation Impacts and Mitigation

Comment 3B.6 (AKRF): Based on information presented in the DEIS and appendices, AKRF is in agreement with the general findings of the Conservation Analysis, namely that the higher value conservation land consists of the less-disturbed forested lands within the more steeply sloped, eastern regions of the site and the lands proximal to Clove Creek and Ulmar Pond in the western and south-central portions of the project site. Retaining the eastern forested areas undeveloped in a conservation easement will help preserve the large contiguous forested lands extending east/south offsite which are of particular ecological and conservation value to the

Hudson Highlands region. Protecting the wetlands on the southern portions of the site and providing large undisturbed buffers adjacent to Clove Creek and the Ulmar Pond will benefit water quality and preserve plant/animal diversity. However, we feel that more must be done to achieve a site plan that adequately accomplishes these goals.

Response 3B.6: The following additional mitigative measures are proposed:

- **Non-native invasive species**: Means will be taken to eradicate barberry (*Berberis thunbergii*), and control Japanese stiltgrass (*Microstegium vimineum)* and garlic mustard (*Alliaria officinalis*) as is practicable. The process for eradicating barberry is typically a two-year process and it is highly effective. While it is unlikely that stiltgrass or garlic mustard can be eradicated, measures will be taken to minimize the areas where it grows and contain its spread.
- **Improve water quality and enhance wildlife habitat at Ulmar Pond**: Native emergent wetland plants and nectaring plants will be installed along sections of the shoreline not accessible to the public and within the buffer zone. Specifically, plants will be chosen that would trap sediments, take up nutrients and provide habitat for amphibians and foraging habitat for herons and other water dependent species, e.g. waterfowl, herptiles. Features, such as logs can be placed in shallow water to provide habitat for turtles and salamanders. Upslope of the shoreline, a border of grasses and plants will be created to provide a food source for some passerine species and nectaring plants for bees, butterflies, and hummingbirds.
- **Landscape for Wildlife**: To partially remediate the loss of forest habitat, the use of landscape plantings will be limited to native trees and shrubs that are deer resistant and that would benefit resident and migratory wildlife. Where appropriate, a shrub edge may be planted at the perimeter of the forested areas that border new housing to create a transition zone between forests and homes and help to replace the shrub habitat that is important to the birds and small mammal species recorded on site. Wildlife helps to sustain existing plant communities by increasing vegetational diversity resulting in increased wildlife diversity.

Comment 3B.7 (AKRF): The general picture of onsite habitats is clear. As described in the DEIS (p.79), "deciduous forests occur on more than 90 percent of the property" and (p.80) "...exotic species were found... surrounding the eastern access road...from Horton Road...and near Ulmar Pond. Portions of the property further removed from these areas...were occupied by native species generally absent of exotic species." Studies completed for the site by the current and previous property owners confirm this, indicating that the forest overstory on the majority of site is comprised of native species (oak, hickory, maple, tulip poplar) and that the understory is primarily native as well, with such species as maple-leaved viburnum, witch hazel, striped maple, low-bush blueberry, Christmas fern, etc. Where non-native species occur, these are typically Japanese barberry and garlic mustard at lower elevations. Despite this general picture, the extent of the non-native species colonizations on the site, and their adverse effects on habitat value cannot be measured from the information provided due to the sometimes conflicting record of information from past studies and due to internal discrepancies of habitat character/composition in the DEIS. The reason this is important to clarify is due to the frequent characterizations of onsite habitat as being low value due to non-native species colonization which is cited as minimizing the effects of the proposed development. For example: "The layout avoids those areas that are least disturbed and occupied by a community of native plant

species..." and "those areas infested with exotic plant species can be developed with the least environmental impact." (p.94); "The highest incidence of prior disturbance on the project site occurred within the areas now proposed for development, which had been historically subject to human occupation. Moreover, the proposed area of development has already been heavily impacted by the intrusion of invasive species." (p.96); "The proposed development has been placed within the portion of the project site closest to Route 9 and neighboring residential development. This area is already considered especially impacted by its proximity to these features, as well as due to existing site disturbances including occupied structures, roadways, cleared areas, and vegetated areas that are heavily compromised by exotic invasive species." (p.103). Descriptions in the DEIS, and in the past ecological reports that accompany the DEIS, do not fully support these characterizations.

Response 3B.7: The Project Sponsor believes that the latest description and statements provided in the DEIS are correct. Some changes may have occurred since earlier inventories, both through human activity and natural processes. The area that is densely vegetated with barberry is located north of the pond and is within the current plans for proposed site development. The area is of low value because it has compromised habitat value. The shrubs form a dense community that is almost impenetrable. During wildlife inventories, birds were not observed in the area, nor were there signs of mammals. However, NYSDEC notes that small rodents/mice frequently nest in the safety of the shrubs. A high concentration of other invasive/exotic species was found throughout the other areas proposed for development as well.

Changes in the plant communities have occurred in the recent past. The species composition of specific forest types is affected over time by natural occurrences and human disturbance. In nature, trees reach senescence or are affected by insects or disease, or loss due to storms. The openings created by loss of the overstory are often invaded by non-native invasive species as well as native plant species. On site, human activity resulted in the loss of an area of tulip trees that were harvested. Development along Route 9 has also created intrusion into the adjoining forested areas. Changes in the make-up of plant communities will result in changes in the wildlife species utilizing the site. The Conservation Area that will set aside 163 acres of forested land will protect a high percentage of the natural, undisturbed areas. Although construction will not be totally limited to low value habitat, it presents the opportunity to partially mitigate the loss of forested land and the pond by improving onsite habitat diversity with the use of native shrubs and trees at the edge of forested habitats bordering development and improving water quality in Ulmar Pond and thereby improving habitat for water dependent species.

Comment 3B.8 (AKRF): Non-native species such as Japanese barberry (Berberis thunbergii) and Japanese stiltgrass (Microstegium vimineum) occur frequently in forested habitats of the Hudson Valley. Their adverse effects on habitat value are typically minor unless they crowd out large expanses of other vegetation in all strata, which does not appear to be the case at the project site. In sum, the frequent focus in the DEIS on the adverse effects of non-native plant species appears over emphasized. The Town could consider enlisting the services of an independent ecological consultant to verify the ecological community types onsite, particularly within the footprint of proposed disturbance. In this way, the conflicting record of habitat value can be reconciled and project impacts properly gauged.

Response 3B.8: Currently, non-native invasive species, i.e., Japanese barberry and Japanese stiltgrass, are fairly localized in previously disturbed areas of the property. As noted above, growth is dense in some areas. As presented in the DEIS, the Project Sponsor acknowledges that development and fragmentation of forested habitats in the Hudson Highlands region have impacted these native habitats with the introduction and spread of exotic and invasive species. Before these species can "crowd out" native vegetation, they must first establish a foot hold and then continue to spread. Their mere introduction into areas of native vegetation is immediately an impact. With this in mind, the Project Sponsor indicates that the proposed development has been placed within areas that have been impacted with invasive species. This is not to say that these areas do not provide wildlife habitat. However, the fact that invasive species are already present within proposed development areas lessens the impact from what may occur if development was proposed within habitats that are more exclusively occupied by native vegetation.

Second, the development of already infected areas provides an opportunity for eradication. When developing areas with invasive species, a more concerted effort can be made to eradicate those species within the development area and replace with native plantings. Measures will also be taken to prevent their spread as soils are disturbed and moved by construction equipment. It is particularly important to prevent these species from invading the native plant communities, especially on the upper elevations which are largely undisturbed forested lands. Prior to any site construction, barberry shrubs will be eradicated and areas of Japanese stiltgrass will be controlled with proper treatment. Methods for treating the invasive species are detailed in the referenced web sites.

See: NYS Invasive Species Information: http://nyis.info/invasive_species/japanese-stiltgrass/, https://update-techline.squarespace.com/articles/2017/managing-japanese-barberry-in-natural-areas

Comment 3B.9 (AKRF): The 8.12.15 vegetation survey says the project site examined ranged in elevation from 360 to 500 feet at the property boundaries — but the site elevation reaches 800 feet. Please verify that the survey examined the entire site or if just a portion the project site was assessed.

Response 3B.9: This statement comes from the Conservation Analysis in DEIS Appendix C, and reads "more than 500 feet", not 500 feet, which would be technically correct. Nevertheless, it should have more accurately read "more than 800 feet." This error was corrected in the DEIS, where there are several references to "more than 800 feet" and "890 feet" to describe the highest elevation at the property line, as well as in discussions of floral and faunal conditions that exist at higher elevations within the project site. All proposed disturbance, however, would occur below 500 feet, and all areas within these higher elevations will be preserved in their existing condition.

Comment 3B.10 (AKRF): The DEIS (p.106) suggests that planting of native species in home landscaping will counterbalance the project's habitat disturbance and habitat fragmentation effects. In truth, roads/lawns create disturbance that facilitates the spread of invasive species even if native ornamentals are required by HOA guidelines. Such measures, if judiciously enforced for the life of a project, can only hope to minimize the spread of invasive species.

Response 3B.10: The DEIS (p.106) states that the loss of habitat (existing forest lands) can be "*partially remediated"* following construction by landscaping with trees and shrubs native to the area. The use of native species will help to restore and diversify habitat and attract wildlife and minimize impacts to forest edges adjoining the developed lots. In addition, the simple prohibition against using exotic/invasive species in landscaping will minimize the likelihood that such species may be introduced into natural areas of native vegetation. It is not possible to completely offset the impacts caused by development, but minimizing impacts with the installation of native species and creating a HOA and enforcing their guidelines can minimize impacts to the environment and help to avoid future environmental impacts. Further, as described above, a concerted effort will also be made to remove existing populations of invasive species within development areas.

Comment 3B.11 (AKRF): The site plan footprint (limit-of-disturbance) presented in the DEIS is larger than the plan presented in December 2016 immediately after completion of the approved conservation analysis, notably at: the location of three stormwater detention basins flanking the entrance road within Oak and Tulip Poplar-Hemlock-Hickory-Oak habitat types (Figure 26); at the first turn of the loop drive within Oak and Sugar Maple-Black Birch-Tulip Poplar-Hickory-Oak forest; at the emergency access road traversing the oak community in the northern portion of the site, and; at the Equestrian parking and new cul-de-sac for three residences at the easternmost portion of the site plan within Tulip Poplar-Sugar Maple-Oak and Sugar Maple-Black Birch-Tulip Poplar-Hickory-Oak forest. These changes are moving the site plan in the direction of greater ecological impacts, not reduced impacts.

Response 3B.11: The post construction stormwater mitigation practices had not previously been presented within the areas of disturbance prior to December 2016. To be in compliance with the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-20-001, the project will need properly selected and sized post construction stormwater practices. The practices will treat the water quality volume, recharge the runoff reduction volume, and mitigate any potential increase in runoff from the project site. The stormwater practice areas will be planted with a variety of native plants, shrubs and trees and provide habitat to a variety of wildlife.

The areas where the stormwater practices will be located have been removed from the Conservation Area. They are now included in the HOA area that will not be subject to the Conservation Easement. This was done because practices will need periodic inspection and maintenance, which will be conducted by contract through the HOA.

The overall disturbance anticipated to occur under the revised plan has been reduced by 7.6 acres, from 45.7 acres to 38.1 acres (see Figure 10 on following page). This was accomplished, in large part, by shortening the road system and eliminating the equestrian center.

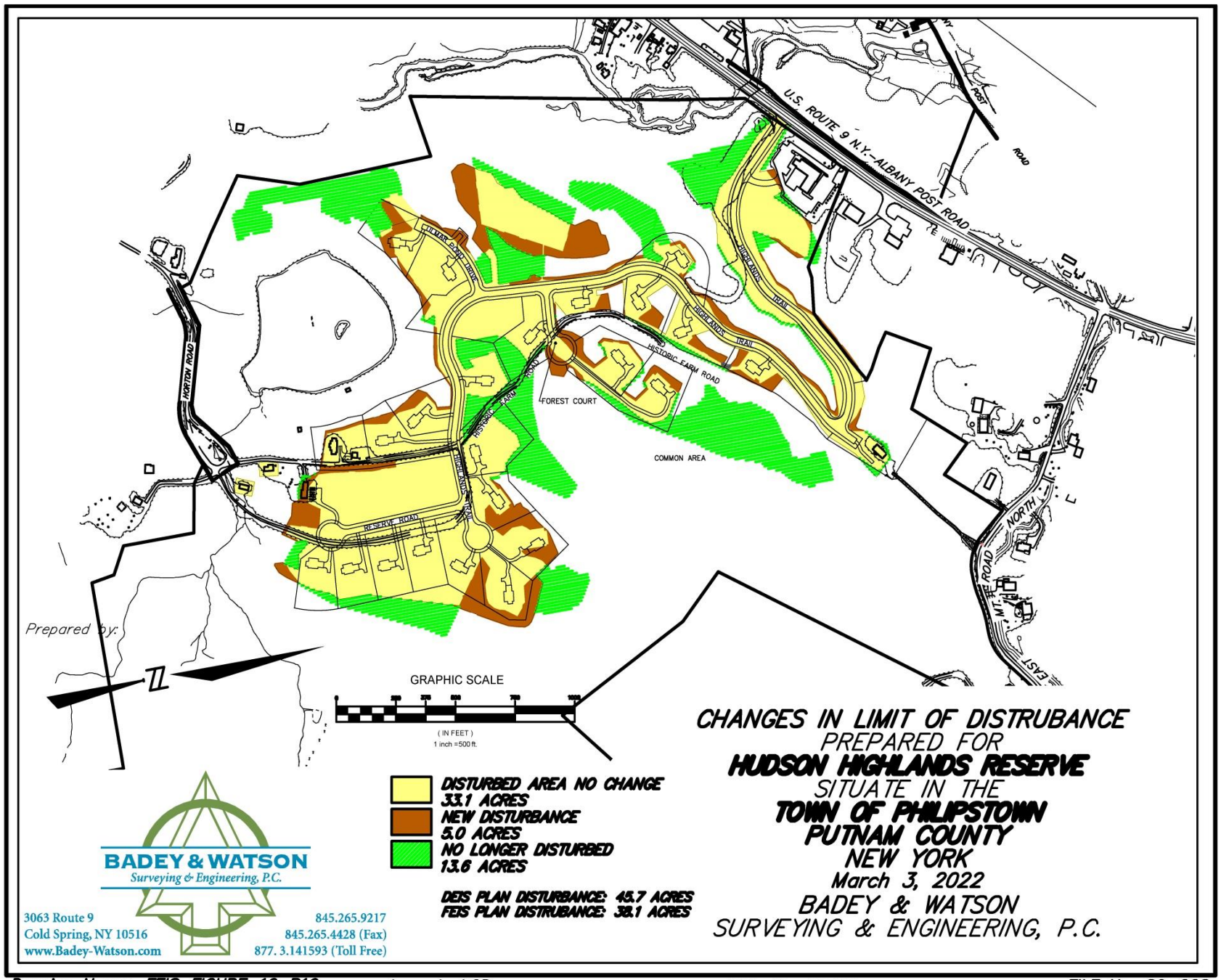

FIGURE 10: Changes in Limit of Disturbance

Comment 3B.12 (AKRF): Some figures (e.g. Fig 19) show the limit-of-disturbance (LOD) line including the SSTS Reserve Area, several do not (Figure 30). Some appropriately show the LOD including the proposed residential lot-lines as the boundary of potential disturbance (Fig 30), others do not (Fig. 19, Fig. 20, Fig. 33). The LOD must include the outermost grade lines and the entirety of the residential lots to account for potential future disturbance. Despite the best intentions of HOA Declarations, individual homeowners may clear to their lot lines in the future to the detriment of the intent of the Conservation Subdivision. No portion of the residential lots is within the proposed Conservation Easement area (Fig. 17) so their future development is a potential reality. In order for the lead agency to measure the potential adverse environmental effects of the development, the FEIS must make clear and consistent how much acreage will be disturbed/preserved at the outset of development plus what additional lands could be disturbed in the future due to the reserve SSTS and future homeowner clearing, in graphical and table form.

Response 3B.12: The figures have been revisited to correct any inconsistencies and address changes in the plan that resulted from the SEQRA process. They are attached as Appendix C.

The commenter states that: *"Despite the best intentions of HOA Declarations, individual homeowners may clear to their lot lines in the future to the detriment of the intent of the Conservation Subdivision."* The designers have provided space on each of the residential lots for development of individual home use and a limited amount of infrastructure, such as a driveway, patio, utility lines, stormwater management structures and a well, to support the use and enjoyment of the homes. In general, this was accomplished by first identifying a logical location for a house considering such things as accessibility, grade, setbacks and the location of other houses. Next, a driveway route was identified considering items such as access from the road, grades, and drainage. Finally, an estimate of what outside space a lot owner might want to use was added. These were estimates made with an understanding that each home on each lot would be the subject of a detailed individual site assessment and design before any actual construction would be undertaken. Moreover, an inspection of the anticipated disturbance is generous, particularly on Lots 1 and 20, which are already improved with single family residences and are unlikely to experience any substantial disturbance. The following table shows the total area of each lot and the anticipated disturbance within the lot in both area and as a percent of the lot.

As the table demonstrates, the designers have anticipated that an average of 67.9 percent, and as much as 100%, of the area of the residential lots might be disturbed. The Project Sponsor considered that the lots will not have individual septic systems, which normally contributes substantially to the disturbance on an individual lot.

The sponsor has elected not to provide building envelopes within each individual lot. This is to allow each of the lots flexibility in the design process. Instead, the sponsor has developed enforceable rules and regulations and penalties that will be imposed on each of the lots to assure that the goals of the Conservation Subdivision are respected.

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Table 11: Residential Lot Areas and Anticipated Disturbance			
Lot Number	Lot Area	Anticipated Disturbance	
	Square Feet	Square Feet	Percent of Lot Area
1	129,773	23,043	17.8%
2	38,399	24,507	63.8%
3	40,744	26,605	65.3%
4	44,855	18,951	42.2%
5	37,672	27,192	72.2%
6	30,937	20,886	67.5%
7	53,221	35,110	66.0%
8	72,190	41,415	57.4%
9	44,275	26,638	60.2%
10	51,400	30,833	60.0%
11	51,798	39,974	77.2%
12	41,463	32,488	78.4%
13	52,332	44,805	85.6%
14	43,993	40,231	91.4%
15	42,496	40,953	96.4%
16	40,500	40,500	100.0%
17	40,500	40,140	99.1%
18	40,462	35,215	87.0%
19	37,580	23,729	63.1%
20	57,637	46,160	80.1%
21	41,931	37,163	88.6%
22	43,397	28,914	66.6%
23	40,133	39,391	98.2%
24	45,233	24,372	53.9%
Total	1,162,921	789,215	67.9%

As indicated in Appendix I of the DEIS, The Declaration of Covenants and Restrictions at Article VIII, Section 1, page 20 provides that an Architectural Review Board (ARB) must be established by the HOA. The HOA's ARB will be responsible for the establishment and administration of the "Residential Design and Maintenance Rules and Regulations" to be established by the sponsor. These rules and the "General Rules and Regulations" found in Appendix J of the DEIS are binding on the individual lot owners. "Article I, Section 1" of the "General Rules and Regulations" states, among its purposes, the rules and regulations are to establish and "promote respect and sensitivity for the natural environment" and to "Suggest strategies for sustainability and energy efficiency". The General Rules and Regulations lists 62 areas where it controls specific activities on the residential lots. Perhaps most relevant among them is the control of tree removal.

Lot owners intending to build a new home or make any changes to their residential lot must submit their plans to review and approval of the HOA's ARB. This is in addition to any regulations that may be imposed by the Town of Philipstown under its planning and zoning laws.

Comment 3B.13 (Hammond): Conservation findings recommended that invasive barberry and stilt grass be removed but no plan for removal is mentioned in the DEIS. This may seem small but addressing it would be evidence of good faith.

Response 3B.13: See Response 3B-8. Prior to any site construction, barberry shrubs will be eradicated and areas of Japanese stiltgrass will be controlled with proper treatment. Methods for treating the invasive species are detailed in the referenced web sites.

See: NYS Invasive Species Information: http://nyis.info/invasive_species/japanese-stiltgrass/, https://update-techline.squarespace.com/articles/2017/managing-japanese-barberry-in-natural-areas

B.2. Wildlife Impacts and Mitigations

Comment 3B.14 (AKRF): Ecological analyses should include a vernal pool study conducted during the appropriate season (March/April). If a vernal pool(s) is present, protection of forested buffers should be provided, in accordance with MCA Technical Paper Series: No. 5. Conservation Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States. (Klemens and Calhoun, 2002). This issue had been raised by the Planning Board and others during the completeness review.

Response 3B.14: A vernal pool investigation was conducted by ERS Consultants, Inc. Surveys of the property were conducted on April 6, 2019 (6.0 hours), April 13, 2019 (5.5 hours), April 18, 2019 (5.5 hours) and April 23, 2019 (5.0 hours). This is in line with the recommendations of the New York State Department of Environmental Conservation (NYSDEC), which states on their web page that "April is generally a good month to visit vernal pools in New York". During the field survey of the entire subject site, no vernal pools were observed. This study is consistent with previous studies conducted in the subject site. Those reports include the Wetland Delineation and Environmental Assessment – Initial Report by Stephen W. Coleman Environmental Consulting (2014) and the Wetland Delineation and Environmental Assessment – Supplemental Report by Hudson Highlands Environmental Consulting (2015). Additionally, no endangered, threatened or species of concern were observed. No egg masses were observed within the subject property. During the same time period, egg masses were observed on two sites on adjacent properties north and east of the subject site. The vernal pool report is attached as Appendix D.

Comment 3B.15 (AKRF): There is no detailed description of each ecological community (habitat cover type) corresponding to the communities shown in Figure 26 in the DEIS. Instead, there is a general description of the forest communities at page 79 describing the overall site. In order to gauge habitat impacts from the proposed project, the vegetation cover types shown in Figure 26 must be reconciled with:

a. The previously demarcated "potential development area" mapped by the conservation analysis completed for the site;
b. The previous habitat descriptions of the site provided by ecological consultants (Coleman, Ruhe, Hansen); and,

c. The sometimes low habitat-value descriptions due to non-native species colonization provided in the DEIS chapter. While the descriptions provided under "vegetation associated with seeps" and "vegetation along stream corridors" (p.80) are helpful and specific, the vegetation description under "upland deciduous forest community" (p. 77 and 79) does not clearly indicate how/if it corresponds to the habitats shown in Figure 26: Vegetation Associations.

Response 3B.15: During the site inventory by Hansen, twelve plant communities were identified. Most of the land is forested with specific species of trees comprising each community. The most common tree species identified were sugar maple, hickory, and oak. These species were identified either in association with each other or singularly in most of the communities. The area covered by each community is mapped on Figure 11 (DEIS Figure 26) on the following page, and a detailed description of each community follows in paragraphs A-L.

A - Sugar Maple-Black Birch-Tulip Poplar-Hickory-Oak Community – 32.9ac
The trees in this community create a dense forest over a large portion of the western section of the property. Sugar maple (Acer saccharum) is the dominant species followed by species of hickory (Carya sp.) and oak (Quercus sp.), tulip poplar (Lireodendron tulipifera), and black birch (Betula lenta). Japanese barberry (Berberis thunbergii) and Japanese stiltgrass (Microstegium vimineum) was common in the understory in the southernmost section north of Ulmar Pond.

B -Black Walnut-Maple Community – 0.65ac
In the southeast corner of the property, there is a small community of black walnut (Juglans nigra) trees growing in a wet swale. The mature trees are producing nuts and because of the various ages of the trees, there is obviously recruitment. Red maples (Acer rubrum) are interspersed among the walnut trees.

C – Oak Community-31.75ac
A variety of oaks grow within this community including white (Quercus alba), red (Quercus rubra), pin (Quercus palustris), and chestnut oaks (Quercus prinus). The Oak Communities exist in three main areas that extend from southwest to northeast in the western section of the property. Chestnut oak grows more frequently at the higher elevations and pin oak was more common in moister soils. Both red and white oaks were seen growing on dry soils.

D – Early Successional Field, Tulip Poplar, Hemlock, Oak Community – 4.8ac
The field habitat is located at the base of the escarpment in a south-central section of the property. It extends along the escarpment as a narrow band. The area was formerly forested by tulip poplar that was logged in the recent past. Early successional growth consisting mainly of young oaks and tulip poplars and herbaceous plants, primarily species of goldenrod *(Solidago sp.)*, aster *(Symphyotrichum racemosum)*, and grass species that included Japanese stiltgrass now cover the area. Bordering the field are young-aged tulip poplar, hemlock *(Tsuga canadensis)*, and oak species.

E – Chinese Chestnut Tree Community-0.46ac
On an old homestead located in the southwest section of the property, there is a small grove of mature Chinese chestnut *(Castanea mollissima)* trees that are producing nuts. The trees grow near an old chicken coop. Beneath the trees, the understory is interspersed with shrubs, woody vines, and grasses.

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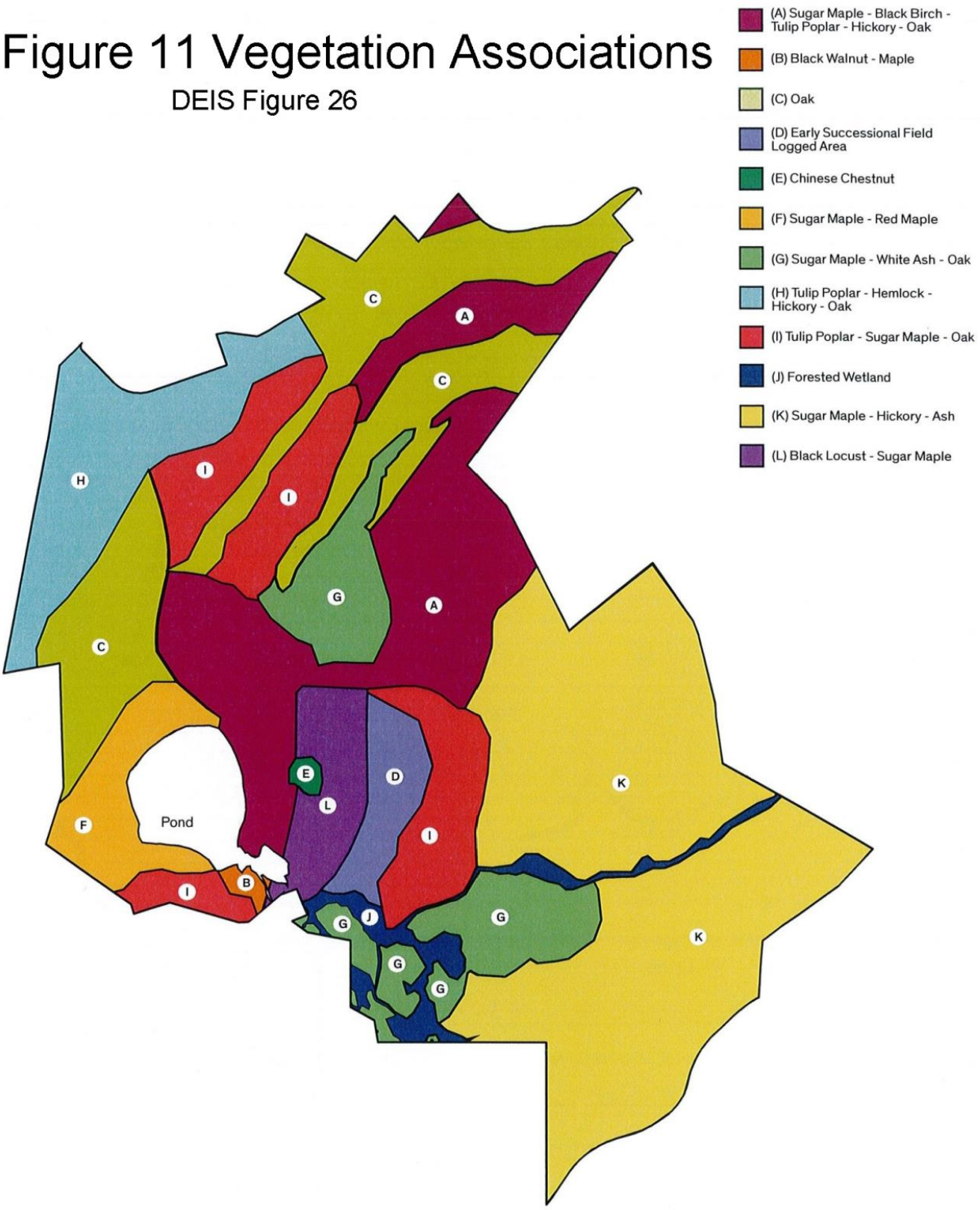
Figure 11 Vegetation Associations

DEIS Figure 26



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F – Sugar Maple-Red Maple Community – 6.34ac
Maples are the dominant tree in the area west of the pond. Sugar and red maples form a wide, forested, band that extends from the south to the north end of Ulmar Pond. Red maples are more common in the moister soils along the pond shoreline where there is interspersion of wetland trees, shrubs, and herbaceous plants.

G –Sugar Maple-White Ash-Oak Community -16.9ac
The Sugar Maple-White Ash-Oak Community is located northeast of Ulmar Pond in the center of the property. The understory was dominated by low-bush blueberry (Vaccinium angustifolium), maple-leaved viburnum (Viburnum acerifolium), ferns, and grasses.

H –Tulip Poplar-Hemlock-Hickory-Oak Community –1.5ac
This community is located at the northern end of the property at the top of an escarpment. Large, mature trees were found throughout the community. Additionally, two less common perennials, blue cohosh (Caulophyllum thalictoroides) and black cohosh (Actaea racemosa) were identified in the understory along with species of ferns and grasses which were growing in small, sunny openings in the tree canopy.

I – Tulip Poplar, Oak, Sugar Maple Community -20.5ac
In the northwest section of the site, there are two linear forested areas of tulip poplar, oak, sugar maple communities extending from southwest to northeast. Because of the shading effect of the dense canopy, the understory was sparsely vegetated with shade tolerant plants.

J – Forested Wetland Community – 5.9
The wetland community was located along the braided creek and drainageways in the southern section of the property. Trees growing in the wet soils included red maple, black birch, shagbark hickory *(Carya ovata)*, and American Hornbeam *(Carpinus caroliniana)*. The sparsely vegetated understory consisted of several species of shrubs that included maple-leaved viburnum, spicebush *(Lindera benzoin)*, and witch hazel *(Hamamelis virginiana)*. Trout lily *(Erythronium americanum)*, fern species and grasses also grow in the wet soils.

K – Sugar Maple-Hickory-White Ash Community – 58.8ac
The Sugar Maple-Hickory-White Ash Community covers most of the landscape in the eastern section of the property. The tree species grow at all elevations and form a dense canopy which creates habitat for shade-tolerant plants. Growing in the shaded, sparsely vegetated understory were low-bush blueberry, maple-leaved viburnum, and species of ferns and grasses.

L – Black Locust-Sugar Maple Community – 6.2ac
The Black Locust-Sugar Maple Community is a small, linear area located in the south-central section of the property north of Ulmar Pond. Black locust trees *(Robinia pseudoacacia)* are native to the Midwest and have spread to the east coast. They typically become established in areas where soils have been disturbed and spread rapidly. Because they are in an area that was previously disturbed, it was likely they were introduced and became established in the Sugar Maple Community. It is not a tree that is desirable to have in the matrix of trees that are native to the Hudson Valley.

Comment 3B.16 (AKRF): Although there is some disagreement between the studies completed to date on the project site regarding the potential presence of the timber rattlesnake (Crotalus horridus), studies presented by Coleman/Ruhe and the Conservation Findings (Appendix B, p.5) indicate that at minimum the site may provide summer foraging habitat for this species. Considering the varied record, the lead agency will find it difficult make its own determination on the proposed project's potential effects to this NYS "threatened" species. Therefore, the Applicant should implement the Mitigation Recommendations of NYSDEC's "Guidelines for Reviewing Projects for Potential Impacts to the Timber Rattlesnake" for the protection of timber rattlesnakes during construction of the proposed project.

Response 3B.16: The most recent timber rattlesnake assessment for the project site was conducted by Richard “Randy” Stechert. Mr. Stechert serves as a frequent consultant to the NYSDEC on timber rattlesnakes, and is personally responsible for having located approximately 81% of the known timber rattlesnake dens recorded by the NYSDEC across the state. He is arguably the top rattlesnake expert in New York State, and is highly familiar with the location of rattlesnake dens in the vicinity of the project site, as well as their habits and range. According to Mr. Stechert, while possible, the odds of any rattlesnake utilizing the property is extremely low, estimating it to be on the order of “a single male timber rattlesnake foraging on the property about once every ten years.” Given there is the chance for timber rattlesnake use of the project site, the Project Sponsor will implement mitigation recommendations of NYSDEC's “Guidelines for Reviewing Projects for Potential Impacts to the Timber Rattlesnake” for the protection of timber rattlesnakes during construction should it be required by the Department. Following approval, the Project Sponsor will initiate coordination with the NYSDEC to determine if the Department will require that the protection measures be implemented. All correspondence and communication with the NYSDEC will be shared with the Town.

Comment 3B.17 (AKRF): The DEIS at p. 87 (B.1.b.iii) does not provide the USFWS summer roosting season tree removal restriction dates for the federally "endangered" Indiana bat (Myotis sodalis), which is April 1 to September 31, depending on distance to hibernaculum. (USFWS NY Field Office, Indiana Bat Project Review Fact Sheet).

Response 3B.17: Tree clearing will be limited to the period starting on November 1 to March 31 in accordance with the tree clearing window for the Northern Long Eared Bat. This also falls within the tree clearing window for the Indiana Bat, which runs from October 1 to March 31.

Comment 3B.18 (AKRF): Regarding forest interior-nesting birds, this ecological function would be adversely affected by the proposed project and should be termed an unavoidable adverse impact. The suggestion that such impacts can be "remediated...by landscaping with trees and shrubs native to the area..." (p.106) is not accurate.

Response 3B.18: The DEIS on p. 106 states that *“(t)here are at least 15 species of birds that were recorded on site that could potentially be affected by the project primarily as a result of loss of woodland habitat,”* and these species include both interior forest species, as well as common species such as turkey and crow. It later states that forest impacts can be “*partially remediated following construction by landscaping with trees and shrubs native to the area that will provide nesting habitat and a food source.”* The DEIS does not state that this will eliminate the impact, nor fully remediate the impact. This is accurately noted as a measure that would provide partial remediation for the identified impact, and that can and should be taken.

The elimination of habitat will be an unavoidable environmental impact as a result of construction, but it is unlikely to have a significant adverse impact to preserved forested areas where more wildlife was observed. According to Conroy, DEIS, p. 106, the forest interior will not be fragmented but there will be some habitat perforation and impact at the forest edge. Without significant adverse impacts to the forest interior, and construction limited to the forest edge, forest-interior wildlife would not be significantly adversely affected. Installing native vegetation in the landscape on each lot would benefit wildlife and aid in restoring and increasing the area of shrub habitat that currently exists.

Comment 3B.19 (AKRF): Insufficient analysis is provided regarding adverse impacts, and potential impact avoidance measures, to the State-protected or rare wildlife species identified or expected to occur onsite based on available habitat. These include northern copperhead snake, eastern hognose snake, eastern worm snake, eastern box turtle, wood turtle, and red shouldered hawk. For example, eastern hognose and worm snakes are found in old field habitat — however, it appears the majority of this habitat is to be developed. True cluster development to preserve specific habitat areas, and measures to preserve existing upland-wetland linkages are among those that should be further examined in the FEIS in reference to these species.

Response 3B.19: Copperheads certainly occur on the site, but are not protected species. Hognose and eastern worm snakes, which are species of special concern, have not been documented, but are assumed to occur on the project site. They utilize diverse habitats, of which old field habitat is just a part. There is no specific habitat which could be targeted to be preserved for either of these species. Old field habitat is not prevalent on the project site, and is essentially limited to areas previously disturbed for an earlier proposed use of the site. These disturbed areas are ideal locations to place new development. It is the Project Sponsor's opinion that the currently proposed layout represents a clustered development, because it will set aside 77.6% of the project site as an undisturbed open space through a conservation easement. This open space includes all wetlands and all watercourses, as well as large areas of adjacent upland. The habitat types being set aside, inclusive of the most important upland-wetland linkages, will be beneficial to all of the species listed in the comment. Further discussion regarding the potential impact on salamanders and wood turtle can be found in Response 3B.22. Red-shouldered hawks are addressed in Responses 3B.23, 3B.30, and 3B.61. Discussion regarding box turtles can be found in Responses 3B.23 and 3B.31.

Comment 3B.20 (AKRF): At pg. 106: "Constricting light and sound disturbance has also been shown to lessen the impact of development." Aside from citing the existing site topography, no specific measures proposed by the Applicant to minimize lighting/sound are discussed.

Response 3B.20: The individual homes and the community building that will be constructed within Hudson Highlands Reserve will require outdoor lighting. It is acknowledged that uncontrolled, lighting can be an annoyance to neighbors and passersby, and it could contribute to the destruction of the relatively dark sky enjoyed in the area. The HOA and its members will be governed by the "General Rules and Regulations of the Hudson Highlands Reserve Homeowners Association" and the "Residential Design and Maintenance Rules and Regulations", contained therein. The "General Rules and Regulations…" are included as Appendix J of the DEIS. Page 33 of the "Residential Design…Regulations" offers guidance and rules that are designed to reduce the negative effects of outdoor lighting. These regulations

include limitations on brightness and color, and specify that “Exterior lights must be shielded to reduce light pollution and glare.” The regulations also specify how lights should be mounted and directed to minimize glare onto neighboring properties. While there is no specific reference to lighting being “night sky compliant,” the sponsor will introduce the requirement into the HOA rules when they are modified to respond to the changes effected by the SEQRA process.

Noise, as opposed to sound, is an annoyance to people and considered a nuisance. Among the General Rules of the HOA is rule “e” found in Section 1 at page 1. It states that *“No nuisances shall be allowed upon the Properties nor shall any use or practice be allowed which is a source of annoyance to residents or which interferes with the peaceful possession and proper use of the property by its residents.”* Such regulation is clearly applicable to objectionable noise.

All Homeowners must be Members of the HOA and subscribe to its rules and regulations. As discussed more thoroughly in Response 3B.12, the HOA has enforcement powers and the powers to penalize members that do not abide by the rules.

Any negative noise or light impacts associated with the Equestrian Center will not occur because the Equestrian Center is no longer an element of the project.

The Town of Philipstown Town Code section 175-40.C on noise must be adhered to both during construction and by the homeowner when the project is complete.

Comment 3B.21 (Conservation Board): Two Critical Wildlife Corridors Should be Widened. Two of the most critical wildlife corridors within HHR are, as currently proposed, either unacceptably constricted and/or blocked. Modern wildlife science has established that wildlife does not naturally use narrow, slot-like corridors, particularly when the corridors are adjacent to human settlement or commercial livestock. Two critical proposed HHR corridors should be opened and/or widened. The first corridor runs between Clove Creek and Ulmar Pond. The five houses on the West Side of Ulmar Pond should be moved to other developable land, in order to open that corridor. Likewise, the Equestrian Center, as proposed, impinges significantly on the corridor from the eastern side of HHR to Ulmar Pond, particularly given the presence of 40 horses within it. The Equestrian Center should be reconfigured so as to widen that corridor materially.

Response 3B.21: The primary wildlife corridor between Clove Creek and Ulmar Pond is the connecting watercourse that drains Ulmar Pond to the Clove Creek. The watercourse, pond, and surrounding wetlands will be preserved in their entirety. The number of homes on the west side of Ulmar Pond has been reduced to two in the revised proposed plan to further limit potential impacts to wildlife movement. In the Applicant’s opinion any impacts that may remain would not be significant. Figure 12 depicts the history of revisions made to the homes proposed in the vicinity of Ulmar Pond, which have greatly increased the amount of area available for wildlife movement.

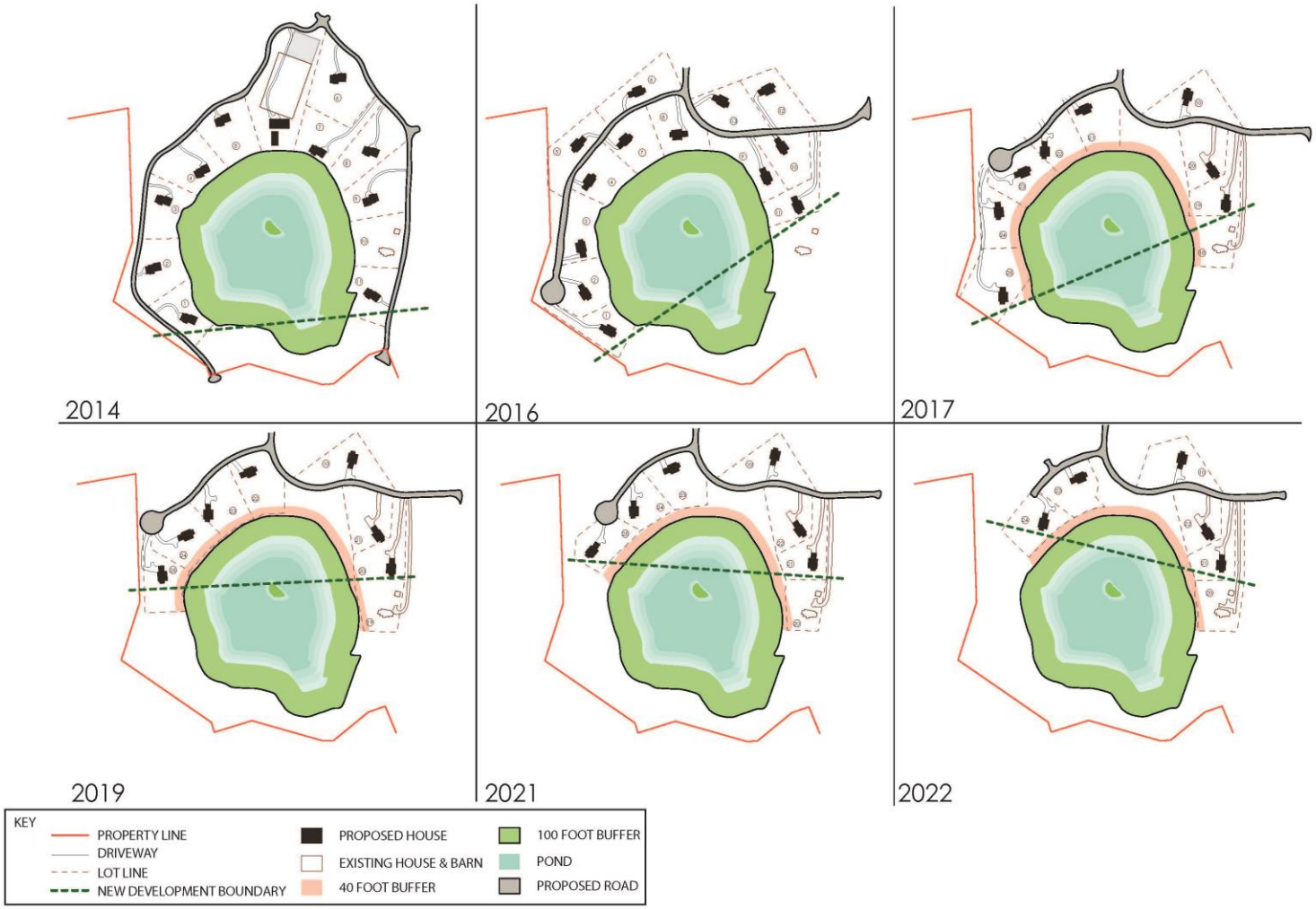

Figure 12 Plan Revisions Around Ulmar Pond

The Equestrian Center has been removed as an element of the proposed project. Homes are now proposed in the area previously proposed for the Equestrian Center, but have been placed to allow a corridor surrounding the preserved watercourse/wetland system draining to Ulmar Pond. The stream, wetlands, and wetlands buffer in this area were not proposed to be disturbed under the previous versions of the proposed project. This is also the case with the proposed layout presented in this FEIS. Compared with the plan in the DEIS, there is an increase in separation between the wetlands buffer and a corresponding widening of the wildlife corridor being preserved. The following table compares the distances from the wetland buffer, to the nearest proposed pavement, bio-area and building in the vicinity of the end of Reserve Road.

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Table 13			
Design Version	Distance Between Wetland Buffer and Nearest Proposed		
	Pavement	Bio Area	Building
With Equestrian Center	45 feet.	40 feet	135 feet
Without Equestrian Center	165 feet	92 feet	145 feet

Comment 3B.22 (Schuster): The Philipstown community should KNOW whether or not vernal-pond-requiring species of state-level conservation concern like the marbled and spotted salamander, and other wetland-requiring threatened species like the wood turtle, are on site. The DEIS as it stands does not present appropriate surveys to draw conclusions on this.

Response 3B.22: These species are all likely found on the project site, despite not having been observed and the documented absence of vernal pools with the site boundaries. These species are not obligated to vernal pools for their life cycle, and have been known to use other features, including roadside ditches and wetlands. Vernal pools do exist offsite that would also support the life cycle requirements of these species. The most valuable habitat onsite for these species, including all the wetlands and watercourses, large adjacent areas of upland, and Ulmar Pond, are being preserved as permanent open space.

Comment 3B.23 (HHLT): Insufficient Mitigation of Significant Impacts: Significant impacts to NY Species of Special Concern, such as the observed red-shouldered hawk and eastern box turtle are identified but, for the eastern box turtle, the only mitigation action proposed is to move turtles elsewhere if they are discovered on site during construction. Relocation of eastern box turtles is harmful to the species, and is associated with high mortality. In the case of the red-shouldered hawk, the sole mitigation action proposed is to protect the upland 50+ acre forested parcel, despite the DEIS stating that "Nesting almost always occurs near water, such as a swamp, river or pond." Similarly, potential impacts to wood thrush, a Species of Greatest Conservation Need, were inadequately addressed.

Response 3B.23: The red-shouldered hawk that was observed during three of the four site visits during the period from May 6th to August 1st, was observed soaring above forested lands east of the existing extension of Horton Road, an area designated as an area of High Conservation Value in Figure 4. A nest site was not confirmed during the site survey, and it is extremely likely that the hawk uses the project site for foraging, but is nesting offsite. The wood thrush was heard on May 26, 2015, in the wooded area north-northwest of the pond, an area partially proposed for development and partially designated as having Medium Conservation Value. Its presence in this area does not equate to this area being used for nesting. The preferred nesting habitat consists of late-successional, upland mesic forests with a moderate to dense shrub layer in areas with running water, moist ground, and high understory cover. As noted on DEIS page 97, the area proposed as conservation land will permanently preserve this type of habitat on the project site, inclusive of the area where the red-shouldered hawk was

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observed. Preserving this existing habitat is the most effective possible mitigation. Suitable nesting habitat for both these species is available nearby on both privately-held and public lands, but especially within the protected Fahnestock State Park and Hudson Highlands State Park. The preserved open space at Hudson Highlands Reserve will protect habitat used by both bird species present on the project site.

The commenter is correct regarding the potential success of relocating box turtles. The elimination of wildlife habitat is an unavoidable impact of any development that takes place on raw land, and there may be some loss of population. However, the only evidence of box turtles found during onsite surveys was in an upland area immediately adjacent to a watercourse in the upper elevations of the land proposed for preservation. Setting aside this land therefore represents the permanent preservation of known box turtle habitat, and is the best possible mitigation for potential impacts to box turtles.

Comment 3B.24 (HHLT): Insufficient Mitigation of Significant Impacts: Four NY "Species of Special Concern" are mentioned in the DEIS, including two that were observed on the property – eastern box turtle and red shouldered hawk. The DEIS stated: "It is therefore critical that the proposed project preserves this portion of the property, and as much as possible of other forested portions of the site as contiguous habitat, including measures to preserve wildlife corridors throughout the site." (DEIS Page 99). However, no specific mitigation steps for the impact of the fully developed area on their habitat or these corridors were offered other than mention of the conservation easement on the upland slopes (DEIS Page 99) and mitigation incidental to steps taken to protect bat habitat.

Response 3B.24: See Response 3.23 for discussion of the red-shouldered hawk. The proposed Conservation Easement includes all onsite wetlands, all watercourses, Ulmar Pond, all floodplain, and upland areas surrounding these features beyond legally required buffers. While some areas crossed by wildlife will obviously be unavoidably developed, the most valuable identifiable wildlife corridor follows the braided stream wetland system crossing the property from its eastern border, through Ulmar Pond, and then along the Ulmar Pond outlet to the Clove Creek. This stream and wetland system has been preserved in its entirety, along with an upland buffer on either side. This level of protection and land preservation constitutes highly effective, specific mitigation steps not typically found in development proposals, including many other cluster proposals that often include wetland and stream crossings.

Comment 3B.25 (HHLT): Necessary Wildlife Corridors are Blocked: One of the major conclusions in the Steven Coleman letter dated September 2014 in DEIS Appendix C is the necessity to protect the wildlife corridor between Clove Creek and Ulmar Pond. However, this is overlooked in the Site Plan design by placing five (5) houses and a road along the west side of Ulmar Pond, thereby blocking this corridor, and creating a potentially significant impact to amphibians and reptiles without any compensatory mitigation.

Response 3B.25: The September 2014 Coleman letter discusses the importance of maintaining wildlife corridors to Ulmar Pond, however, it does not identify a corridor along the west side of the pond. The letter makes reference to the "Creek wetlands", a name he applies to the braided wetland system east of Ulmar Pond, not Clove Creek, where he advises consideration in designing the project layout to maintain a wildlife corridor between the wetlands and the pond; *"The location of the proposed development (houses around the pond, road*

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networks and equestrian facilities may interfere with some of the movement patterns of wood turtles and other reptile and amphibian species that may travel between the Creek wetlands and the adjacent pond to the southwest, and also make the site less attractive to forest interior bird species… Provisions should be made as part of the subdivision layout to accommodate the ability of wildlife species to move freely throughout the site." The proposed project design developed since 2014 follows this guidance, preserving all of the "Creek" wetlands – Ulmar Pond system, which makes up the core of the wildlife corridor**.**. Some of the changes made after Mr. Coleman's recommendations included moving the equestrian center away from Clove Creek, redesigning the road layout to allow more north-south movement, purchasing the large 50-acre property to the east in order to preserve it and more wildlife corridors, and purchasing the commercial lot on Route 9 in order to move the entrance road farther away from Clove Creek. As also suggested by Mr. Coleman, a low stone boundary wall will be installed to demarcate the 140-foot buffer around Ulmar Pond.

Mr. Coleman then goes on to mention the Clove Creek in a separate sentence; *"This is especially important to allow movement corridors between the adjacent Clove Creek wetlands and the pond in the southern portion of the parcel, and also maintaining a south to north connection along the eastern side of the parcel."* As noted, however, no mention is made of the houses around Ulmar Pond, or a corridor over the steep slope from the pond's western side. In the Project Sponsor's opinion, the steep slope (approximately 76%) between the Clove Creek and Ulmar Pond does not constitute a wildlife corridor. Local wildlife corridors typically consist of vegetated landscape features such as creeks, gullies, wetlands and ridgelines, and contain habitat elements that support the species that would utilize them. They do not generally cross areas with a 76% slope, which may be considered a barrier to wildlife movement. For instance, scientists working on creating a preserved wildlife corridor between Yellowstone National Park and the Canadian Yukon ("Y2Y") found that animals avoided areas in excess of 25% slope, such that choosing areas with less than 25% slope became a design criterion for the corridor. The slope in question is nearly three times as steep as this criterion.

The existing wildlife corridor between Ulmar Pond and the Clove Creek, which is the stream and wetland system connecting these features, will be maintained. While it is not accurate to state that wildlife would never be found utilizing the area on the 76% slope, it can be concluded that this slope would not constitute a preferred route of passage for wildlife between the two features. To further reduce potential impacts, the number of proposed houses cited by HHLT has been reduced in this area from five to three. These will be situated with substantial spacing between them, such that, in the Project Sponsor's opinion, the movement of any wildlife that does occur in that area will not be significantly impeded. The current design also includes a much shorter cul-de-sac for these homes that, with low vehicular use, would provide little barrier to wildlife movement. The roadways in this area will also be built without curbs that might otherwise have provided a barrier to small wildlife such as amphibians. These additional modifications to the Project and the preservation of the stream/wetland wildlife corridor between Ulmar Pond and Clove Creek have been implemented to reduce impacts to wildlife movement in the area to the maximum extent practicable. In the Project Sponsor's opinion, any impacts that may remain would not be significant.

The houses along Reserve Road were sited on the east side of the road, and the common septic on the west side. This was to take advantage of the positive soil test obtained for the septic system on the west side of the road. The project engineer investigated the possibility of

"swapping" these locations, but determined the east side was unsuitable for a subsurface disposal system due to the proximity to seeps on the adjacent slope. Additionally, the project engineer concluded that previous roadway construction activity on the east side of the road has compacted the soils, also making them unsuitable for this use in that location.

Comment 3B.26 (HHLT): Limited Discussion of Impact of Equestrian Facility on Wildlife: The impact of the proposed 40-horse facility on wildlife habitat is not adequately addressed, especially its impact on the corridor between the eastern slopes of the property and Ulmar Pond.

Response 3B.26: The Equestrian Center has been removed as an element of the proposed project.

Comment 3B.27 (HHLT): Proposed Remedies to Analysis Deficiencies and Mitigation of Impacts: In order to complete the analysis of significant impacts identified in the Determination of Significance by the Planning Board, and to mitigate identified impacts, we recommend these 8 actions:

Reconfigure the equestrian facility to move the horse trailer parking area, in order to widen the wildlife corridor from the eastern slopes of the property to the pond.

Response 3B.27: The Equestrian Center has been removed as an element of the proposed project. Homes are now proposed in this area of the project site, and as described in Response 3B.21, have been placed to allow for a sufficiently wide wildlife corridor adjacent to the stream and wetland system on the eastern slopes of the property. These are homes that were originally proposed elsewhere on the project site, and their relocation here has opened up more areas that can be preserved in their existing state. This includes removing two homes from around Ulmar Pond to increase access for wildlife.

Comment 3B.28 (HHLT): The DEIS also omits the presence of salamanders living on site (DEIS Page 92). However, the Conservation Analysis (Appendix C CD Page 237) clearly documents the presence of two species of salamander found by herpetologist Brandon Ruhe in his June and July 2014 site visits. Thus, it is apparent that amphibians have not been properly studied on the site. The presence of salamanders is not acknowledged in the body of the DEIS (despite the data that supports it in the Conservation Analysis in Appendix C), indicating that their habitat protection has not been considered.

Response 3B.28: The presence of salamanders is acknowledged in Appendix C of the DEIS. Both species observed in 2014, Northern Two-lined Salamander (Eurycea bislineata) and Eastern Redbacked Salamander (Plethodon cinereus), are common species not requiring special consideration. The presence of other less common species, while not observed, has been presumed, and was considered in designing the layout and choosing the land to be set aside under permanent preservation. All wetlands, watercourses, Ulmar Pond, and large amounts of adjacent upland will be preserved as suitable habitat to support these species.

Comment 3B.29 (HHLT): Lack of Study for Presence of Box and Wood Turtles: The "potential developable area" of the site is heavily developed in the proposed site plan (DEIS Figure 15). While much effort has been expended in studying Timber Rattlesnake presence on the site,

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very little has been expended on the extent of the presence of Eastern Box and Wood turtles (in addition to the absence of amphibian studies) who would prefer such habitat, and are both listed as species of Special Concern in New York State. The letter from Dr. Klemens in Exhibit B states: "[…] nor efforts to ascertain the use of the so-termed "medium conservation value" central portion of the site for wood and box turtles. Such open and disturbed areas are actually very valuable for ecotonal species including both these turtles as well as a variety of snakes."

Response 3B.29: The presence of box turtles was identified in the DEIS. The presence of wood turtles is presumed. While the Project Sponsor agrees that the area proposed for development could potentially be utilized by these turtles, it is not uniquely suitable as turtle habitat. The only evidence of box turtles on the project site was found in the upper elevations of the area proposed to be preserved, distant from the area proposed for development. See Response 3B.18 for further discussion. Further, with the exception of the steep slope area that must be crossed by the entrance road, none of the "medium conservation value" area will be disturbed by the proposed project.

Comment 3B.30 (HHLT): The DEIS also mentions on Page 107, the following about the red-shouldered hawk:

"The New York populations have steadily declined, and the primary causes are loss of habitat, logging, agriculture, and suburban development. The raptor usually nests high in the crotch of a tree and commonly in relatively large tracts of moist woodlands almost always near open water or wetlands. These raptors tend to be secretive and avoid inhabited areas. Therefore, site development could discourage the hawk from nesting and foraging on the site."

Based on this language in the DEIS, current nest sites are likely to be near the pond area, which is ringed by residential properties in the proposed site plan. Other than stating that limiting tree removal to sometime prior to mid-May or after mid-August will "minimize any potential impact on a nesting red-shouldered hawk, should a nest be present" (DEIS Page 99), no sufficient actions to mitigate the impact of the houses ringing the pond are given in the DEIS.

Response 3B.30: See Response to Comment 3B.18. It is possible that the red-shouldered hawk may nest in the less fragmented forests east of the site. There is the probability that it hunts the open field habitats and lowlands near the pond. An individual was observed during multiple site investigations over the less fragmented forested areas in the eastern portion of the project site that is proposed for permanent preservation. The pond and a minimum of 140 feet around it, as well as bordering areas to the south and east, will also be permanently preserved, and remain available as habitat. The proposed construction window, which is designed to minimize impacts on potential bat populations, may minimize impacts to potential red-shouldered hawks that may use the project site.

Comment 3B.31 (HHLT): Eastern box turtles prefer bottomland forest over hillsides and ridges and evidence of them has been found on site near the wetlands (DEIS Page 89). Since they are likely to favor the "potential developable area" portion of the site (shown on DEIS Page 15) that is almost fully developed, versus the upland steep slopes, we would expect to see mitigation steps included in the DEIS to protect their habitat. However, the only mitigation proposed is to relocate them away from their preferred habitat if they are found onsite during construction (DEIS Page 99). Relocation of Eastern Box Turtles has been proven to result in increased

mortality. (See Bridget M. Donaldson, Arthur C. Echternacht "Aquatic Habitat Use Relative to Home Range and Seasonal Movement of Eastern Box Turtles (Terrapene carolina carolina: Emydidae) in Eastern Tennessee," Journal of Herpetology, 39(2), 278-284, (1 June 2005))

Box turtles have a strong sense of home range and are likely to return to the area from where they have been removed. Also, a mosaic of open field, forest and wet areas are important for the box turtle, yet no mitigation is considered for the box turtle's long-term reduced access to the pond and its fringing wetlands, nor for the loss of the open field and edge habitat proposed for development.

Response 3B.31: The commenter is correct regarding the potential mortality associated with relocating box turtles. The carapace of a box turtle was found on an upland hillside adjacent to a watercourse that was surveyed during a wetland delineation, within the area proposed to be preserved under a Conservation Easement. Ulmar Pond has no fringing wetlands. In the Project Sponsor's opinion, wildlife access to Ulmar Pondwill not be reduced as existing access to the pond will be preserved through the establishment of a 140-foot buffer on the northern side of the pond, and all of the area to the south, which includes the stream entering and draining Ulmar Pond. The entirety of this area will be part of the land protected under a Conservation Easement. The only wetlands near the pond are associated with the watercourse feeding Ulmar Pond, and the watercourse draining Ulmar Pond, which will also be preserved under the same Conservation Easement. The watercourse next to which the turtle carapace was found is the same watercourse that eventually feeds into Ulmar Pond, but at a considerable distance downhill. The access between the two points is completely preserved under the Conservation Easement.

The elimination of wildlife habitat is an unavoidable impact of any development that takes place on raw land, and given the wide ranging use of a variety of habitat types by box turtles, some portion of its habitat may indeed be unavoidably eliminated as a result of the proposed project. However, setting aside the areas noted under a Conservation Easement constitutes the permanent preservation of known box turtle habitat, and, in the Project Sponsor's opinion, mitigates to the maximum extent possible practicable potential impacts to box turtles.

Comment 3B.32 (HHLT): No mitigation actions were identified for the two additional Species of Special Concern that were identified as having "suspected" presence on the property---eastern hognose snake and eastern worm snake---aside from protection of the 50+ acre forested parcel. Eastern hognose snakes feed primarily on toads (Source: University of Florida Herpetology Department, https://www.floridamuseum.ufl.edu/herpetology/fl-snakes/list/heterodonplatirhinos/). The American toad, which was observed on the property, breeds in "the shallow waters of ponds, ditches, lakes, marshes, and wet meadows" according to NY DEC Frogs & Toads of New York State fact sheet. Disturbance of the pond on site may reduce the eastern hognose snakes' primary food source.

As with eastern box turtles, relocation would not be a viable mitigation action for this species, as it is associated with heightened mortality and reduced ecological fitness. (Plummer, Michael V., and Nathan E. Mills. "Spatial Ecology and Survivorship of Resident and Translocated Hognose Snakes (Heterodon Platirhinos)." Journal of Herpetology, vol. 34, no. 4, 2000, pp. 565–575. JSTOR, www.jstor.org/stable/1565272.).

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Response 3B.32: Hognose and eastern worm snakes utilize diverse habitats. There is no specific habitat that could be targeted to be preserved for either of these species. It is assumed the loss of any habitat as a result of the proposed project may constitute loss of habitat for these species. The 163-acre open space proposed to be preserved under a Conservation Easement includes Ulmar Pond, Clove Creek, all wetlands and all watercourses, as well as the adjacent upland. The habitat types being set aside, inclusive of the most important upland-wetland linkages, in the Project Sponsor's opinion, mitigates to the maximum extent practicable the potential impacts to these species and toads as their food source.

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Comment 3B.33 (HHLT): Also, potential impacts to wood thrush, a Species of Greatest Conservation Need, were not adequately addressed. The wood thrush management guidelines cited in Appendix Q recommend giving "special consideration to sites with features that naturally maintain vertical layering and horizontal patchiness, such as hillsides, streams, and wooded wetlands." Wood thrush access to the stream and wetlands on the property are not adequately addressed, and would be essentially blocked by the proposed development. The proposed development does not adequately match the cited Figure 7 of an ideal conservation subdivision, but rather creates excessive forest edge with its current design.

Response 3B.33: Several species of birds were heard or observed in the forested area north-northwest of the pond where there is moderate canopy/vertical layering and a patchy shrub understory (See Wildlife Observation Table). A wood thrush was heard on May 26, 2015. It is possible that the bird was nesting on site as surveys were conducted during the nesting period, but no nest site was observed. The primary difference between the proposed plan and DEIS Figure 31 (not Figure 7) is that the presence of excessively steep slopes adjacent to Route 9 prevents the placement of proposed development closer to the highway than as shown. The proposed layout therefore executes the recommendations represented in Figure 31 to the greatest extent possible given the existing site constraints. The proposed plan as stated in the DEIS to landscape each developed site with native shrubs and trees would minimize habitat impact not only for the wood thrush but also for other species known to nest in this type of habitat. In fact, Peterson (1975) noted that the wood thrush is nesting more frequently in close proximity to housing located in wooded areas, and Bull (1997) concurs that the wood thrush has been documented nesting in localities where there are stands of shade trees and shrubbery. Installing native shrubs in the landscape would create a transition zone from forest to landscaped lots that would increase biodiversity.

Comment 3B.34 (HHLT): Necessary Wildlife Corridors are Blocked: In 2014 Steven Coleman, a wetlands scientist and ecologist, recommended two important wildlife corridors be protected on the property, as documented in the Conservation Analysis (see Appendix C, CD), Page 7:

"Mr. Coleman recommends that corridors be maintained between the pond and upland to facilitate movement of wildlife through the property. He also recommends that corridors be left open to allow migration between the pond and Clove Creek."

And in his September 2014 letter on Page 232 of the Conservation Analysis:

"The location of the proposed development (houses around the pond, road networks and equestrian facilities) may interfere with some of the movement patterns of wood turtles and other reptile and amphibian species that may travel between the Creek wetlands and the

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adjacent pond to the southwest, and also make the site less attractive to forest interior bird species. In particular, the east-west and south-north movement throughout the subject parcel may be restricted from the proposed layout. Provisions should be made as part of the subdivision layout to accommodate the ability of wildlife species to move freely throughout the site.

This is especially important to allow movement corridors between the adjacent Clove Creek wetlands and the pond in the southern portion of the parcel, and also maintaining a south to north connection along the eastern side of the parcel."

The corridors recommended by Mr. Coleman will be blocked or constricted in the proposed site plan. The corridor between Clove Creek and Ulmar Pond is blocked by the houses and road ringing the western side of the pond. The corridor between Ulmar Pond and the upland habitat to the east is significantly constricted by the expansive footprint of the Equestrian Facility.

Shortly after his September 2014 report, Mr. Coleman appeared to no longer be engaged on this project, but his recommendations remain a crucial mitigation finding documented in the DEIS but not reflected in the current Site Plan.

The environmental consultant hired after Mr. Coleman, Mr. Steven *(sic)* Gross, discounted this wildlife corridor in a letter to the Planning Board dated March 16, 2017 saying that *"The pathway suggested in the HHLT letter would involve crossing a prohibitively steep 76% slope, and does not represent a wildlife corridor deserving of any protective measures."*...We note that documentation of the inability of amphibians and reptiles to traverse steep slopes does not appear to be included in the DEIS, and therefore the Coleman recommendation for changes to the site plan to preserve wildlife corridors does not appear to be contradicted in the DEIS.

Response 3B.34: The Project Sponsor asserts that care was taken in preserving wildlife habitat and wildlife corridors when designing the proposed project, including, as noted in Response 3B.25, taking Mr. Coleman's recommendations into account. Mr. Coleman was working with a preliminary layout that looks very different from the currently proposed preferred plan, and significant changes have been made. The equestrian center cited by Mr. Coleman was originally proposed to be located on the western side of the project site, in much closer proximity to Clove Creek. The equestrian center was then relocated further to the east, away from Clove Creek. Since Mr. Coleman's assessment, additional land was purchased to the east for the purpose of preserving forested land as undisturbed wildlife habitat, and providing an area for north-south movement of wildlife. The proposed residential portion of the project was previously primarily centered on a spine road located in the same alignment as the historic road through the property. Since then, the historic road, which is unpaved and vegetated with shrubs and herbaceous plants, has been placed within the proposed conservation lands, preserving not only a valuable cultural resource, but also an additional north-south wildlife connection. There was considerable bird activity recorded in the area adjacent to the historic road.

In addition, the area south and southeast of Ulmar Pond will be left in its natural state, preserving pre-existing established wildlife corridors between the pond and Clove Creek along stream corridors to the south and west, and to the braided stream/wetland system and uplands to the east. In the collective opinion of the wildlife and natural resource experts who contributed to the FEIS, while amphibians and reptiles may negotiate steep slopes, it is unlikely that wildlife,

including turtles and amphibians, would climb 120 feet of elevational difference (about equivalent to a 12-story building) on a steep 76% slope (the maximum grade allowed by Town Code for a road is 10%) as a "preferred" pathway, and this would therefore not represent a wildlife corridor needing protection. (See Response 3B.25.) The proposed plan also preserves a minimum of 140 feet around the pond in its natural state as critical wildlife habitat, and involves no stream crossings and no disturbance of wetlands or regulated wetland buffers.

Comment 3B.35 (HHLT): Limited Discussion of Impact of Equestrian Facility on Wildlife: The DEIS Final Scope called for a description of the impacts on wildlife, "including from the equestrian center." (Final Scope adopted July 19, 2018 Section V.B.2.) Thus, the DEIS should have included a discussion of impacts on wildlife movement between the eastern slopes and Ulmar Pond as alluded to in the Coleman 2014 letter mentioned above (Conservation Analysis Page 232). However, the main discussion of the impact of the equestrian facility in this section of the DEIS is simply the rationale for it as a permissible use, rather than its impact on wildlife movement corridors and how that will be mitigated (DEIS Section IV.B.2.b.1 at Page 101).

Response 3B.35: See Response 3B.29. The Equestrian Center has been removed as an element of the proposed project.

Comment 3B.36 (Klemens): Compounding the difficulty of reviewing this file are that there have been many studies conducted on the site by different consultants, and the subject site has been enlarged in this process to add additional parcels of land to meet various set-aside and access requirements. This has resulted in an apparently uneven study of the entire six-parcel site, and indeed some of the studies are in conflict with one another. Nowhere is there a summary of efforts expended in biological inventory, the researcher's hours, and the seasonality of the studies. It is well known that by missing certain seasonal activity windows, species can be overlooked. While documenting a species "presence" is quite straightforward, documenting a species "absence" is far more labor intensive. If one reviews the Federal (USFWS) Bog Turtle Recovery Plan that I wrote for the USFWS in 2001, you will note that we attempted to standardize efforts required to demonstrate an "absence" that included strict standards for person-effort per acre, number of visits, seasonal timing, and weather conditions for such studies. I bring this up only to illustrate the difficulties of concluding species absence with confidence absent a structured study that optimizes the potential for species detection by gearing sampling to coincide with the correct seasonal activity windows for the target species and provides for repeated sampling to conclude an absence.

The mere generation of piles of paper, much of it repeated in the Conservation Analysis and Environmental Assessment volumes, does not necessarily equate to due diligence on the site. What has occurred here is that studies were added in a step-wise process as additional parcels were incorporated, and by that very process has resulted in a record that is both uneven in study effort, but more seriously deficient and at times in conflict with previous studies.

Response 3B.36: The most recent (2015) inventory was conducted by Joan M. Hansen and Donald J. Smith on the entirety of the property, and was intended to stand alone, not to complement or add to previous inventories, with the exception of the herpetological survey by Richard "Randy" Stechert, which was also conducted on the entirety of the property that same year. As stated in the DEIS, wildlife observations and vegetation inventories were conducted during four site visits during a three-month period, May through July of 2015. The inventories

were conducted during the mid-to-late period of song bird breeding coinciding with the late spring and early summer growing season. The objectives for conducting the inventories during this period were to observe nesting and migratory species utilizing the site at a time when the growing season was well underway. The results of this inventory confirm observations in previous studies by others without conflict.

While no vernal pools were observed during these multiple inventories, one additional study of the entire parcel was conducted in the early Spring of 2019 specifically to settle the question of the presence or absence of vernal pools on the project site. This study, conducted by David Griggs, confirmed the absence of vernal pools on the property, and is attached as Appendix D. Details of this study are discussed elsewhere in these responses.

Comment 3B.37 (Klemens): We are provided with summaries of the work by Hudson Highlands Environmental Consulting (August 12, 2015) which is a practice I have termed "corporatized science" where the individual consultants reports are not submitted, but a summary created by a project manager. While these managers may be scientifically credentialed, what other scientists really need to be able to review the reports are the actual field data and reports of the sub-consultants, not summaries. What I would need to see are those primary data to assess whether or not sufficient effort has been expended on all six parcels to adequately assess the biodiversity. These individuals who conducted the field work need to be present at a public hearing so they can be cross-examined by interested parties. For example, Coleman subcontracted the timber rattlesnake surveys to Brandon M. Ruhe, a highly qualified herpetologist. What would be very useful to know is the species of amphibians and reptiles he found during the considerable time he spent on site. I have worked with Mr. Ruhe in the past, and I know that he keeps copious notes concerning any species of amphibian or reptile he encounters in the course of his field work. My concerns over "corporatized science" are not restricted to this project. If you examine recent public hearing transcripts of the Connecticut Siting Council (where I am a gubernatorial appointee) you will see that there have been several recent cases where I have requested that hearings be continued to allow the Council to hear direct testimony from the individuals conducting the research, not summaries crafted to fit regulatory frameworks by project managers.

Response 3B.37: Nothing was summarized. All the data collected and analysis prepared by Gross, Hansen, Smith, and Stechert were included in their entirety in the Conservation Analysis and the DEIS. It is the belief of HHEC that all available materials from previous studies by Coleman and Ruhe have also been provided in the appendices of the DEIS. No additional data is in the possession of the Project Sponsor.

SEQR related public hearings in New York State are intended to provide the public an opportunity to present their comments and concerns related to a proposed action and to allow the lead agency, project sponsor and those in attendance the ability to receive the public's input. Experts may be in attendance to listen so that they can respond to expressed concerns and questions in writing subsequent to the hearing, but do not provide any kind of immediate responses or testimony, and are not subject to "cross examination".

Comment 3B.38 (Klemens): My professional expertise is that of an academically-trained conservation biologist/ecologist. My research background is in herpetology, the study of amphibians and reptiles. These two groups of vertebrates make up a high percentage of

endangered, threatened, special concern, and declining species when compared to other organisms. This is in part to various constraints that are amplified by development, including poor dispersal abilities, specific habitat requirements, and in some species, primarily turtles and venomous snakes, low reproductive output. As such, these organisms are ideal to evaluate the conservation effectiveness, or lack thereof, of a proposed development. Several different individuals with herpetological expertise conducted studies on the site. But these studies in part contradict one another especially as it pertains to conservation outcomes.

Coleman calls for a large east-west corridor to be left between Clove Creek (a known habitat for the wood turtle, *Glyptemys insculpata*) and Ulmar Pond, but subsequent testimony in the record (via letters and verbal comments from the applicant's environmental consultant) states that the slope is too steep to allow passage from Clove Creek east to the project site and the need for this broad corridor is dismissed. This is complete nonsense as wood and snapping turtles have been observed climbing over chain link fencing. While not able to climb over vertical fencing like wood and snapping turtles because of their high domed shells (which have a different center of gravity than the dorsally compressed snapping and wood turtles), box turtles clamber up and down very steep talus slopes at West Rock Ridge (New Haven/Hamden CT). As far as amphibians and snakes are concerned, they navigate up and down slopes without difficulty.

Response 3B.38: In the 2013 "2013 Bulletin No. 41: Trap Rock Ridges of Connecticut: Natural History and Land Use" published by the Connecticut College Arboretum, Klemens' work at West Rock is cited:

"At West Rock in New Haven, box turtles were observed crawling through talus at the edges of steep cliffs. Some of the turtles showed damage to their outer shells, presumably incurred from falls down the escarpments (Klemens, 1993)."

It is the Project Sponsor's understanding that this citation describes box turtles crawling through talus at the edges of steep cliffs. Rather than providing evidence that "box turtles clamber up and down very steep talus slopes," the citation suggests that the turtles have difficulty with negotiating the slopes, noting evidence of falls experienced by the turtles. It is the Project Sponsor's opinion that under the noted conditions in the citation, it is possible that the turtles may find benefits from crawling into and through the spaces in talus, such as shelter from predators or use the talus slope for other factors that might not directly apply to the HHR project site. As surrounding conditions at the two sites may differ significantly, the use of the talus slope may not necessarily show preference for a 76% slope as a corridor, vs. following the more shallow grade of a stream bed that connects the Clove Creek to Ulmar Pond.

The Project Sponsor's consultants did not conclude that *"the slope is too steep to allow passage from Clove Creek east to the project site."* The Project Sponsor's position regarding wildlife use of the 76% slope is best stated in Response 3B.25 which reads, *"While it is not accurate to state that wildlife would never be found utilizing the area on the 76% slope, it can be concluded that this slope would not constitute a preferred route of passage for wildlife between the two features."*

With a conservation subdivision, the objective is to allow development to occur while avoiding environmental constraints and preserving important environmental features and wildlife habitat. One of the goals is to preserve identifiable wildlife corridors, not every place wildlife may utilize

or cross. The commenter states that *"wood and snapping turtles have been observed climbing over chain link fencing."* This statement does not provide any context, such as what conditions existed on either side of the fence, whether the fence was newly installed, if it had been placed in a known active turtle migration route, and whether there was any alternative route. Under normal circumstances, it is extremely doubtful that turtles would *prefer* a route with a chain link fence, and neither would the turtles *prefer* a route with a 76% slope.

The Project designers have taken measures to ensure that the stream/wetland corridor feeding into Ulmar Pond from the eastern slopes and the stream/wetland corridor exiting Ulmar Pond that leads to the Clove Creek, thereby preserving a corridor as recommended by Coleman. The Project Sponsor does not believes it is necessary to avoid placing homes to the west of Ulmar Pond above the 76% west-facing slope, as this would not be a preferred wildlife corridor. It is acknowledged that wildlife may continue to utilize the forested slope in any manner as they do currently. Should an amphibian or reptile climb the slope from Clove Creek, passage between the proposed homes to Ulmar Pond is possible.

Comment 3B.39 (Klemens): One of the most troubling inconsistencies in the report is the statement that there are no vernal pools on the site, yet, a vernal pool indicator species, the wood frog, *Rana sylvatica*, was observed on the site on May 22, 2015. This means that somewhere, either on or off the site, a stand-alone depressional vernal pool or a vernal pool imbedded within a larger wetland (=cryptic vernal pool) exists. In 2015, the first field herpetological field visit to occurred on May 6th. This was far too late in the season to document calling wood frogs, or even detect their egg masses. This type of field work needed to occur in March through early April. Testimony provided by the Hudson Highlands Land Trust called for up to 500-foot buffers for amphibians and reptiles. Actually, in the case of vernal pools, the critical terrestrial habitat required to sustain 95% of the vernal pool amphibian population extends 750 feet from the pool's high-water mark. While some development can be accommodated in the area between 100-750 feet from a vernal pool, it must be done in a manner consistent with the standards outlined in Calhoun and Klemens (2002) which is the "industry standard" for developments within vernal pool sheds and can be found on the Army Corps of Engineers website.

Response 3B.39: A vernal pool investigation was conducted by ERS Consultants on April 6, April 13, April 18, and April 23, 2019. No vernal pools were observed anywhere on the project site. No egg masses were observed within the subject property. During the same time period, however, egg masses were observed on two sites a few miles north and east of the subject site, which confirms that this was the proper breeding period to find egg masses. Other areas both on and off the project site, including the braided stream/wetland system, the NYSDEC regulated wetlands, and even Ulmar Pond itself, could have provided suitable habitat for the propagation of wood frogs. These are the likely sources of wood frogs observed on the project site. As noted in the vernal pool report, "several obligate species, such as spotted salamanders and wood frogs, breed in other wetland areas such as roadside ditches and small ponds (Calhoun & Klemens 2002)."

Comment 3B.40 (Klemens): Identification and mapping of vernal pool areas on and off the site is an essential missing component of the Conservation Analysis. Some potential areas that may have vernal pool functions include floodplain depressions along Clove Creek, shallow fringing areas of Ulmar Pond that are essentially free of predatory fish, or as-of-yet undetected vernal

pools in the forests, on or off site. Once pools are mapped, then the impact of the proposed layout and its consistency with Calhoun and Klemens (2002) can be determined. While there appears to have been considerable focus on the presence of timber rattlesnakes on the site, there seems to have been no concerted efforts to evaluate vernal pool activity in March and April, nor efforts to ascertain the use of the so-termed "medium conservation value" central portion of the site for wood and box turtles. Such open and disturbed areas are actually very valuable for ecotonal species including both these turtles as well as a variety of snakes.

Response 3B.40: No vernal pools were observed during multiple floral and faunal inventories of the project site. One additional study of the entire parcel was conducted in April of 2019 specifically to determine the presence or absence of vernal pools on the project site. This study, conducted by David Griggs of ERS Consultants, confirmed the absence of vernal pools on the property, including within the areas suggested by the commenter, and is attached as Appendix D. Details of this study are discussed elsewhere in these responses. While not considered vernal pools, and though not observed during site investigations, suitable breeding habitat for vernal pool species may be provided within areas of the braided stream/wetland system, the NYSDEC wetlands on and offsite, and fringe areas of Ulmar Pond. None of these will be disturbed.

Comment 3B.41 (Klemens): The Conservation Analysis and the DEIS relies upon the studies and documents that I reviewed last October. No additional studies or analyses address the issues and deficiencies that I detailed in my memorandum of October 10, 2018 to the HHLT, which is appended as Exhibit B in their submission. My academic and professional qualifications are appended as Exhibit A of HHLT's comment letter. The deficiencies that I detailed last October still remain outstanding, unresolved, and are very relevant to your evaluation of the completeness of the DEIS and its accompanying Conservation Analysis in Appendix C.

Absent addressing these issues, in my professional opinion the DEIS and its accompanying Conservation Analysis should be deemed to be incomplete by the Philipstown Planning Board and the Applicant should be directed by the Board to conduct the necessary studies and analyses to address these deficiencies.

Response 3B.41: As noted in the previous response, an additional vernal pool study was conducted in April of 2019, and is attached as Appendix D. It is the opinion of the Project Sponsor that the other floral and faunal studies conducted on the property are commensurate with the requirements of SEQRA, and are sufficient for lead agency review in reasonably determining the potential adverse impact of the proposed project. There will always be additional scientific studies that can be conducted on any property, but may not provide any additional analytic direction to the lead agency. As stated in SEQR at 6 NYCRR Section 617.9(b)(1), *"An EIS must assemble relevant and material facts upon which an agency's decision is to be made. It must analyze the significant adverse impacts and evaluate all reasonable alternatives. EISs must be analytical and not encyclopedic."* This language is mirrored in the fourth edition of The SEQR Handbook, dated 2020, which states on page 98, *"EISs should be analytical, concise, and not encyclopedic. Lead agencies are looking for quality analyses, clear writing, and comprehensive information. EISs should not contain more detail than is necessary to address the nature and magnitude of the proposed action and the significance of its potential impacts."*

Comment 3B.42 (Audubon): In the DEIS, "Wildlife Sightings" and "Existing Conditions" are included with four field date visits on May 6 & 26, July 9 and August 1, 2015. Four field visits is simply too short a time span to conduct meaningful monitoring of birds. The absence of breeding bird surveys and counts for birds to determine they are not nesting have been omitted, or not done. Bird species breed at different times during the year. Owls breed in winter, Hawks and Eagles breed in Spring through the Summer months and it takes vigorous monitoring and surveying to find their nest sites. Migrating warbler species and forest birds that breed here during the late Spring and Summer would also have been largely missed by the short visit dates.

Response 3B.42: As noted in the previous response, EISs are not intended to be encyclopedic. The SEQR Handbook as revised in 2020 states, "*EISs should be analytical, concise, and not encyclopedic. Lead agencies are looking for quality analyses, clear writing and comprehensive information. EISs should not contain more detail than is necessary to address the nature and magnitude of the proposed action and the significance of its potential impacts."*

In regard to wildlife and wildlife habitat, the Scoping Document required:

"a) Describe existing conditions of vegetation associations and wildlife habitat, including extent of forest fragmentation.
b) Describe presence or absence of protected species"

The Project Sponsor believes that the analysis provided in the DEIS satisfies the requirements of the Scoping Document. There was no requirement to conduct breeding bird surveys or to locate nests. In addition, the design of the proposed conservation subdivision minimizes the removal of trees, and sets aside and preserves undisturbed the most valuable wildlife habitat to continue to support the existing bird population that currently uses the area to be protected. As such, no significant impact is anticipated on the noted bird species.

Comment 3B.43 (Audubon): Forest bird species have been a special concern to Audubon as their numbers have been dropping. Loss of habitat, fragmentation of forest habitat, as well as climate change are causing these species to decline. Any additional stressors can spell real trouble for these species.

Response 3B.43: See response to Comment 3B.18.

Climate change, forest fragmentation, increased use of pesticides and in many areas an increasing deer population, have had serious impacts on both bird life and plant communities. As has been stated, 163 acres of forested land will be set aside with a Conservation Easement. Within the area of disturbance, the removal of vegetation will be somewhat mitigated by installing native trees and shrubs. It is anticipated that the additional native trees and shrubs will provide food and habitat for native year-round and migratory bird species, increase the areal coverage of native vegetation, and may increase the diversity of the local plant communities.

Planting healthy native trees and shrubs may increase the amount and quality of understory by adding healthy native individuals in areas that, prior to the development, were home to invasive species. Replacing invasive species with natives will increase the coverage of local plant communities. The additional native plantings will likely interbreed with any standing individuals

of the same species infusing the resultant population with genes from other populations increasing the available gene pool.

Plant species diversity consists of two components – richness and evenness. (Discussions of plant species diversity are available in *Ecology and Field Biology* by Smith and Smith (2000) or *Ecology from Individuals to Ecosystems* by Begon, Townsend and Harper (2021) or *Ecology* by Krebs (2008).) Richness is the number of species present in a given area while evenness is a measure of how evenly distributed a species is within that community. If the number of individuals in each species is more similar, it is said to have greater evenness. There are several commonly used diversity indexes which quantitatively measure the number of different species and how evenly the individuals are distributed among the species. Generally, areas with more species and greater evenness have higher diversity indices. By planting additional native trees and shrubs the diversity could increase in several ways. If the additional plants are species that are not now present on the property the species richness would increase; if the additional plants increase the relative abundance of low abundance species, the evenness would increase. This is a way that plant diversity would increase. As plant diversity increases, habitat diversity increases as plants provide habitat, for birds and their prey species in particular.

Invasive and non-native plants can be sinks for native insects, for example if the insects lay eggs on plants which cannot sustain their offspring. Sunny et al. (2015) describe some native insect and invasive plant interactions in their paper whose figure 1 is reproduced below.

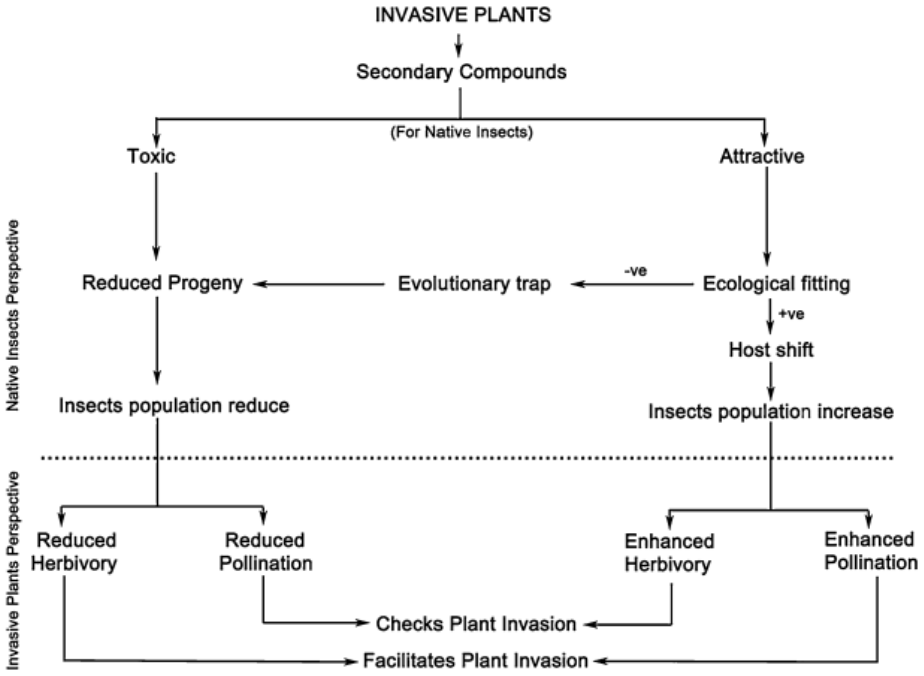

Fig. 1 Diagram illustrating interactions between native insects and invasive plants from both native insects perspective and invasive plants perspective (+ve indicates positive performance and −ve indicates negative performance of native *insects* on invasive plants, *dotted line* separates native *insects* perspective and invasive plants perspective for easy understanding)

By increasing the native plant cover and reducing invasive plant cover, there will be more habitat for native insects. Many native insects are a food source for year-round and migratory

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bird species that use the forests of New York. Therefore, a positive change in insect populations that would benefit birds is expected.

Additionally, the Project Sponsor expects that by establishing a HOA to enforce guidelines to manage/oversee environmental conditions, site biodiversity after project construction would be maintained.

Comment 3B.44 (Audubon): The Warblers migrate thousands of miles back north to their breeding grounds in the Hudson Valley from South and Central America, Mexico and southern U.S. They do this because the long daylight hours provide them with the time needed to feed and raise their young nestlings. The Hudson Valley and the Hudson River act as migration corridors for birds that stop here to breed, and those that stop to feed up, before continuing up to the northern boreal forests. The plant community in our town supports the insects that these birds need to sustain them on their migrations.

Response 3B.44: See Response 3B.43.

Comment 3B.45 (Audubon): There is no mention of audio monitoring for the presence of bat species so this component of wildlife sightings is missing as well.

Response 3B.45: Presence of Indiana and northern long-eared bat is presumed. The time window prescribed by the NYSDEC for the removal of trees will be observed to ensure roost trees will not be removed during periods of potential occupation. Tree clearing will be limited to the period starting on November 1 to March 31, the tree clearing window for Northern Long Eared Bats, in accordance with these guidelines. This also falls within the tree clearing window for the Indiana Bat, which runs from October 1 to March 31.

Comment 3B.46 (Audubon): There is also no mention of monitoring for New England Cottontails which are known to breed on the ridge. They are also on the NY State "Species of Special Concern" list.

Response 3B.46: Locally, the “ridge” refers to a feature immediately east of the project site. A small portion of what is considered the ridge may occupy part of the project site immediately adjacent to East Mountain Road South in the area that is being preserved under a Conservation Easement. There is no evidence of a population of New England Cottontails, breeding or otherwise, anywhere on the project site, including within the proposed Conservation Easement Area. None were observed on the site during any inventories. New England Cottontails are listed as a species of “Special Concern” in New York State. While the project site is within the area generally designated as containing “Rare Plants and Animals” on the NYSDEC Environmental Resource Mapper, it is *not* included within the more specific area designated as “Known Important Areas for Rare Terrestrial Animals” on the NYSDEC Hudson Valley Natural Resource Mapper. As seen in Figures 12A and 12B on pages 123 and 124, no part of the HHR property is occupied by a Significant Natural Community as designated on the NYSDEC Environmental Resource Mapper, but portions of the property are within a buffer, or the “vicinity of a Significant Natural Community”, including the proposed conserved area near the ridge (https://gisservices.dec.ny.gov/gis/erm/). The US Fish and Wildlife IPaC mapper suggests that the protected Northern Long Eared and Indiana Bats utilize the property, as well as bog turtles (although it is known that bog turtles are not present). New England Cottontails are not listed as

a potential protected species on the property. NYS Natural Heritage Program was also contacted, and noted that the closest occurrence of New England Cottontails is about one mile from the project site.

New England Cottontails are very difficult to identify in the field. Currently, NYSDEC is conducting a New England Cottontail Survey which requests rabbit hunters in Wildlife Management Units in sections of southeastern counties, including Putnam County, to submit harvested rabbit skulls to the DEC. The skulls will be used for identification to help determine the distribution of the New England Cottontail. NYSDEC can be contacted for information about a survey. Reference: https://www.dec.ny.gov/animals/67017.html

Comment 3B.47 (Audubon): The project has been designed with houses forming a half circle around the pond which means that wildlife use will be limited or become non-existent. Building houses near the pond means that lawns, ornamental shrubs and decorative plantings will replace the native plant species that form a pond community that supports pond species. Chemicals used to support the lawns and ornamentals will find its way into the pond and disrupt the natural processes of ponds and the wildlife they support. Has the Town studied the wetland delineation infield?

Response 3B.47: The wetland delineation was reviewed and confirmed by the Town on June 13, 2017. The delineation of NYSDEC-regulated wetlands on and adjacent to the project site was reviewed and confirmed by the NYSDEC on March 25, 2016. As no federal wetlands would be disturbed under the proposed project, coordination with the Army Corps was not required. A 140-foot buffer of existing natural vegetation will be maintained undisturbed, providing important wildlife habitat. As previously noted, those areas around the pond that serve to receive and discharge flow, and provide for wildlife corridors, will also be preserved in their natural state. As shown on the current plans, the homes themselves will be situated between 171 and 277 feet from the edge of the pond, and at an elevation of between 30 and 50 feet above the pond. Given all these factors, the Project Sponsor's consultants believe that wildlife use of the pond can be expected to continue unabated. The DEIS, (pgs. 38-39), presents management and conservation plans for the site, which will provide further protection to the pond. Buyers will be required to join the Homeowners Association and adhere to the rules of the association concerning maintenance of the proposed Conservation Area, as well as restrictions on the use of pesticides and herbicides.

Comment 3B.48 (Imrey): I live at 62 Horton Road. I've been there for 18 years. I would like to ask my question first since I might run out of time, and I'll describe the reasons later. I would like to understand whether or not it's possible to have a proper set of accountability and responsibility for any type of environmental project going forward in Philipstown. And the reason I'm asking is that Glasbury Court was put into my neighborhood in 2009 with a lot of opposition from our area. Neighbors collected together to oppose it, and it's been put in as a conservation. However, when I first got to my home in 2001, I couldn't even step into Clove Creek without being nibbled by trout. There were turtles everywhere. There were bats in the sky at night. There were so many night noises that we would be woken up. And I have to say it's sad to report that the natural habitat in my home, 62 Horton Road, right across the street from this development, is so depleted in the last 18 years.

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I've been calling the Department of Environmental Conservation to ask for somebody to come and make a report. I've gotten a permit to stock my stream with trout, because I'm so disturbed at how few there are. I would like to ask the planning commission to please do a follow-up report for Glasbury Court on the environmental impact that's been done in our area already. I'm downstream. I'm really worried about this -- this project for the same reasons that we can't really necessary measure. Glasbury Court was supposed to be fine. Turns out, it might not be fine. So I'd like to ask the planning board to, please, consider a rigorous accountability for any agreed proposal for the properties.

Response 3B.48: At 90 residential units on 80 acres (1.125 units/acre), Glasbury Court is nearly ten times the density proposed for Hudson Highlands Reserve's 24 residential units on 210 acres (0.11 units/acre). It is a vastly more intensive development project, and undoubtedly resulted in a far greater environmental impact than would occur with the proposed project. However, it is difficult to directly link the observed changes to any one cause, or a particular development. The reduction of the bat population in the time period described, for instance, is not due to the development of Glasbury Court, but due to the emergence of White Nose Syndrome, a fungus that has wiped out more than 90% of local populations of some bat species. The reduction of the trout and turtle populations, likewise, may be the result of global warming, rather than any particular development project.

Going forward, more innovative development designs are needed to preserve large blocks of wildlife habitat and corridors, retain trees to shade and keep cool water bodies and streams supporting fish and amphibians, and provide sufficient treatment for runoff and wastewater. This cluster proposal has been designed with all of that in mind. The environment should be a critical component of any development plan. It is the best way to permit development while conserving as much land as possible in a natural state in order to minimize adverse environmental impacts.

Comment 3B.49 (Ford): I also think about how the horses will impact the wildlife. Are they going to be scared off?

Response 3B.49: The Equestrian Center has been removed as an element of the proposed project.

Comment 3B.50 (Chester): Ulmar Pond: It appears there is going to be some wall around the pond, animals have been coming to this pond for years. If this was a conservation subdivision, why aren't those animals being protected? The area around the houses, including the backyards that back up to the pond, will that be all green fertilized grass as in Glassbury Court?

Response 3B.50: The proposed "wall" referenced in the DEIS is a low marker defining the boundary between the proposed residential properties and the buffer surrounding Ulmar Pond. As described on page 42 of the DEIS, *"The residential property line in this area will be demarcated by a low stone boundary marker using indigenous fieldstone, similar to 'farmer's walls' already found elsewhere on the property. Homeowners will be prohibited from utilizing the neighboring preserved open space beyond the boundary marker for any purposes other than passive recreation. This prohibition includes the deposition of grass clippings and brush."* As with the "farmer's walls", the wall will be less than 2 feet high and about 3 feet wide at the base with occasional barways (spaces). It will not be mortared. The wall is not intended keep

small animals from entering the residential lots or taking advantage of the voids in the wall, and, in the Project Sponsor's opinion, is not anticipated to impede wildlife movement or result in significant change in wildlife access to Ulmar Pond. It is intended to make certain that homeowners are aware of the location of their property lines and that the area on the pond side of the wall is to be respected and protected. In the area where homes, roads, and other development is proposed outside of the 140 foot buffer around the pond, the existing natural habitat will be altered and in some areas eliminated.

The Project Sponsor intends to limit tree removal to the greatest extent possible, and build the homes in a natural setting. HOA rules will limit each home to a maximum of 2,000 square feet of lawn. The use of fertilizer will also be strictly limited by rules adopted by the HOA.

Comment 3B.51 (Tashjian): I am a 19 year full-time resident of Philipstown, I live on Esselborne Road. I want to voice additional concerns regarding this development and the impact it will have on my life and the many woodland birds and mammals that also call it home.

Just this morning I identified a wild bird that I hear presently outside my window. It is called a Wood Thrush. It has the most beautiful flute-like call you can imagine. As I sat this morning with my cup of tea, I was able to finally see this bird singing! They are illusive and hard to spot, but their beautiful song will remain with you. This beautiful bird is a threatened species due to loss of habitat. When tracts of forests are broken up, birds like the Wood Thrush suffer.

The proposed development project would harm this beautiful bird that is already a threatened species. It breaks my heart to think that harm might come its way.

Response 3B.51: While populations have declined, the wood thrush is not an endangered or threatened species. A wood thrush was heard on the project site during a wildlife inventory conducted on May 26, 2015. It is possible that the bird was nesting on site since surveys were conducted during the nesting period, however, no nest site was observed. The proposed plan would add landscaping with native shrubs and trees that would minimize habitat impact, not only for the wood thrush but also for other species known to nest in this type of habitat. In fact, Peterson (1975) noted that the wood thrush is nesting more frequently in close proximity to housing located in wooded areas, and Bull (1997) concurs that the wood thrush has been documented nesting in localities where there are stands of shade trees and shrubbery. Installing native shrubs in the landscape would create a transition zone from forest to landscaped lots that would increase biodiversity.

Comment 3B.52 (Hammond): The HHR continues to insist that leaving a proper wildlife corridor or building true clustered housing - as is recommended by sound conservation subdivision planning - wouldn't work for their bottom line. It makes much of leaving a 130-foot buffer between building lots and the pond, which is more than legally required, when the gold standard is 100 METERS, almost 3 times the amount of space proposed by HHR (328 feet.)

Response 3B.52: The proposed plan is a clustered layout and preserves large areas that currently function as wildlife corridors. The current plan for HHR has been modified to propose 24 residential lots with houses, 22 of which would be new construction and 2 of which have existing homes, and no equestrian center. The homes will be clustered on the western and southern areas of the property. The eastern side of the property will be preserved in its entirety,

as will also interconnected large segments in the northern, southern, and western portions. These preserved areas will provide several opportunities for wildlife corridors, including to and from Ulmar Pond. As the largest preserved area is on the eastern side of the property, wildlife coming from or moving toward Fahnestock State Park will be especially well-served. HHR has also removed two proposed homes from the southern side of Ulmar Pond leaving a natural connection between preserved areas that did not exist under the original plans.

The bulk of the proposed conservation area is on the east side of the property furthest from Albany Post Road (Route 9). The planned housing is concentrated on the west side of the property. As noted in the DEIS:

The concept of unfragmented forests is one that has gained more and more attention in recent years. Unfragmented forests are very large tracts of land, typically thousands of acres, that are far removed (>1000 meters) from roadways and developed edges, and are dominated by native plants and capable of supporting interior forest wildlife species. Technically, none of the project site, which is surrounded on all sides by roadway, qualifies as truly unfragmented forest. However, that portion of the on-site forest farthest to the east, which is dominated by native vegetation and lies closest to unfragmented forest in Fahnestock State Park, does provide some of the functions associated with unfragmented forests, and its preservation will enhance and protect the functions of the unfragmented forest in Fahnestock. The portion of the project site closest to Route 9 and neighboring residential development is already considered especially impacted, both by its proximity to these features, as well as by existing site disturbances including occupied structures, roadways, cleared areas, and vegetated areas that are heavily compromised by exotic invasive species.

The second part of the comment addresses the building lots near the pond. As noted above, there are currently five proposed residences surrounding the pond and one existing structure. There will be three proposed residences to the northwest of Ulmar pond on Ulmar Pond Drive and two proposed residences on the east side of the pond where there is also one existing residence.

It should be noted that the plan has been for HHR to improve the ecological state of the pond through management. The pond currently has frequent large algal blooms. Algal blooms are an ecological problem for several reasons. The live or dead algal cells may suffocate fish by clogging or irritating the gills. The algal blooms can disrupt water clarity, stunting or killing bottom plants. When algal cells die, they decay. The decay process uses oxygen which can lower the oxygen levels in the water leading to the distress or death of oxygen-dependent creatures including fish. This rapid depletion of oxygen is called eutrophication. Additionally, some algae known to be common in the Hudson Valley are toxic for at least part of their life cycle. This includes a blue-green algae (Anabaena sp.) identified during sampling of Ulmar Pond. Some harmful algal blooms (HABs) of toxic algae have the potential to release a fast-acting nerve toxin that is dangerous to fish, waterfowl, and mammals. Other toxins target the liver inducing nausea, vomiting, or acute liver failure. Freshwater algal blooms most commonly occur in still waters with excess nutrients such as phosphorus and nitrogen which would normally limit aquatic plant growth. Phosphorus and nitrogen are present in high amounts in fertilizer and also in septic systems.

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HHR plans to improve the state of the pond in several ways. There is currently a house with a septic system on the banks of the pond. That septic system will be abandoned. HHR's plan is to have all homes in the development share a common sanitary disposal system which will be at least 400 feet from the pond. This movement of the disposal of effluent at the pond's edge to a point farther away will benefit the pond by eliminating any groundwater nutrient flow from the current septic system to the pond. HHR also has a plan for pond management which would be continued by the HOA including using algaecides to treat the pond. Some protozoa, bacteria, fungi, and amphibians can also be used for biological control of some algae species. Management will increase the health of the pond. Other proven methods that will be employed to decrease nutrient loading include maintaining or restoring native plants around shorelines. Native wetland plants filter water and absorb nutrients. These plants will also serve to control erosion that can carry nutrient-rich soil into water bodies. The distance of a structure to water is not as important to the water quality as the quality of the buffer between the structures and the water body.

As noted in the DEIS, the lots surrounding the pond will not be introducing effluent into the ground immediately surrounding the pond as their sewage will be transported by a central sewerage system to a common disposal field that is removed from the pond. The use of pesticides and fertilizers will be strictly limited and enforced by the HOA. There will be a low stone boundary wall at the rear of the property line of the homes located above the pond to demarcate the edge of a 140-foot preserved buffer of existing, well-established natural vegetation, all of which will provide filtration and treatment. The closest proposed home will be approximately 200 feet from the pond, with the others being as much as 285 feet away.

Comment 3B.53 (Hammond): Preservation of bat roosting sites. The argument that bats move from tree to tree on a nightly basis and thus taking down trees in which they may roost will have no effect on bat population makes no sense. If you take down trees, there will be an effect, regardless of whether it is the colony's only roosting site, or one of several.

Response 3B.53: The threat to Northern Long Eared bat populations is not associated with the reduction of summer habitat. As stated by the USFWS, *""Northern long-eared bat summer habitat is not limited or in short supply and summer habitat loss is not a range-wide threat to the species."* When the Indiana bat was placed on the endangered species list, the primary threat was human intervention and manipulation of the caves used for the winter hibernacula. According to the US Fish and Wildlife Service, the primary threat today is white nose syndrome, a fungal infection that has resulted in an approximately 72% reduction in the species population. The guidelines regarding tree removal are intended to avoid direct impacts to bats that may be present in summer roost trees as they are being removed. This is why the guidelines limit tree removal to the time period that bats would be in winter hibernation. Tree clearing will be limited to the period between November 1 and March 31 in accordance with the guidelines to avoid impacts to Northern Long Eared Bats. This also falls within the tree clearing window for Indiana Bat, which runs from October 1 to March 31.

B.3.Forest Fragmentation Impacts

Comment 3B.54 (AKRF): Forest fragmentation is too narrowly defined in the DEIS. (p.94-99). Considering the project site alone, which is the only scale of analysis presented in the DEIS, the

proposed site plan does not bifurcate the project site itself but instead reduces it in size by developing its western and central portions, leaving the easternmost parcel undeveloped.

While this would not fully divide the project site into two or more non-contiguous fragments (the DEIS's definition of fragmentation) it substantially reduces the amount of closed-canopy forest on the project site and furthers habitat fragmentation at the local and regional scales. We encourage the applicant to look more broadly at the definition of forest fragmentation, at the parcel-scale, site-scale, local-scale and regional-scale, and its adverse effects. The project site is part of a larger comparatively contiguous closed canopy forest that spans the boundaries of the site.

Response 3B.54: The Project Sponsor believes that the analysis in the DEIS was completed appropriately on a landscape scale. The proposed development of the property would reduce the closed-canopy forest on the project site resulting in habitat loss. With this development, there will be an increase in edge habitat on the property over the current condition with no development. This edge habitat will extend farther from Route 9 after the development than before the development. Potential impacts associated with increased edge habitat include the potential for increased mammalian and avian predators (Smith and Smith, 2001). Refer to Response 3B.55 for additional information on predation.

How the addition of edge habitat was minimized by the development plan is addressed below. Sharon Collinge, in her book “Ecology of Fragmented Landscapes” gives a thorough and scientifically accepted description of differences between habitat loss and fragmentation. Both loss and fragmentation processes of landscape habitat change generally have negative effects on overall landscapes for wildlife and native plants. The mechanisms are often different and thus scientists make a distinction between fragmentation and loss. Some species are more responsive to spatial configuration than others. Some species thrive in edge habitat while others avoid edge habitat. The definition of edge varies with species.

Based on input through the SEQR process, the proposed project design presented in the DEIS was refined to minimize the adverse impacts of development and maximize beneficial measures such as the improvement in the quality of Ulmar Pond, and the removal of invasive species and planting native species. Given the concerns raised during the review of the DEIS, the Project Sponsor further refined the project design to reduce the extent of development, the associated limit of disturbance, the number and location of structures, and the area of impervious surfaces.. Out of the total 210.1 acre property, 38.1 acres will be disturbed during the construction of the project; 33.9 acres will be disturbed outside of the Conservation Area and 4.2 acres will be disturbed within the Conservation Area. This disturbance in the Conservation Area is necessary to fill the reserve common septic area and to build retaining walls along the entrance road and minor grading along the road system.

The completed project will be covered with approximately 7.7 acres of impervious surface. Of this, about one acre is pre-existing, most of which can be attributed to the existing commercial building and parking lot. Approximately 6.7 acres (3.2% of the property) of new impervious surfaces will be created as a result of the proposed project, all of it outside the proposed conservation area. This is a 3.4 acre (30.6%) reduction in impervious surfaces from the 11.1 acres in the DEIS Plan. The other 30.4 acres that are disturbed will be converted from natural

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vegetation to landscaping, roadside meadows, or post construction stormwater practices such as bioretention areas or dry swales.

Much of the forest canopy will remain intact. As noted in the HOA regulations, *"Trees are an integral part of the overall image and character of Hudson Highlands Reserve and must be protected. Trees located on Residential Lots, open lands, and other natural areas may not be disturbed or removed without prior specific approval for each tree. Trees identified and tagged to be significant (trees that are 18 inches diameter at breast height (dbh) or larger) will remain."* Further, the landscaping will be comprised of plants native to the area which should provide habitat for native fauna.

Nearly 78 percent of the property (163 acres out of 210.1 acres) will be preserved in a natural state through a Conservation Easement. Of the 47.1 acres not contained within the conservation area, 31.9 acres will constitute the 24 residential lots and the existing commercial parcel. The remaining 15.2 acres include the rights-of-way, stormwater practices and the primary common sanitary disposal field. The conserved areas are connected with each other within the HHR property, as well as through the Clove Creek streambed, floodplain, and riparian area on the edge of the property.

The houses are clustered on the western portion of the property, and on the previously disturbed areas in the southern portion of the property at the end of Horton Road. In addition to ecologically significant areas that are preserved, the historic road was selected for preservation due to its cultural significance. Most of the previously proposed cul-de-sac and homes in the center of the property have been removed, reducing the level of forest perforation that was associated with the DEIS plan (see Response 3B.71 for additional information on forest perforation). The preservation of this road will also provide a north-south corridor for wildlife use. The remainder of the preserved area is the most ecologically intact and has the least invasive species, or is the most sensitive to erosion if disturbed because of steep slopes.

The Project Sponsor believes that the landscape scale at which the fragmentation risk was analyzed is appropriate. Scientists concur that if land is to be developed, choosing areas closest to existing development and, in particular, closest to busy roads which already fragment the landscape will have the least detrimental effect on most flora and fauna. While habitat area will be unavoidably reduced, on a landscape scale, the portions of the HHR property which would be converted from habitat to impervious or landscaped surfaces have low to mid fragmentation risk. Interior species are unlikely to be using these portions of the property due to their proximity to roads and adjacent development.

As all of the various parcels are now under the same ownership, and all parcels will be combined under one homeowners covenant and managed in the same manner, it is the Project Sponsor's opinion that the there is no longer the need for assessment at the parcel scale.

Comment 3B.55 (AKRF): The project site is part of the Hudson Highlands ecotone, comprised of substantially contiguous blocks of forest through which local roads, trails, and scattered development occurs. With development, the project site becomes a smaller "fragment" in this regional forest. With each development/encroachment/reduction of the blocks that make up this regional forest, the potential spread of invasive plants and animals increases in the remaining (unaffected) forested land. This is true for the proposed project, by bringing development closer

to the eastern portions of the site the remaining forested land will be reduced in size and what is left will be unbuffered to the west. The remaining forested land will not serve the same ecosystem services to the same extent that it does at present, including the likelihood that this remaining forest will provide viable habitat for increasingly rare plants/animals that require larger tracts of land to thrive. To the contrary, the DEIS suggests that development of the western half of the site will have minimal effects on the remaining forest. The proposed development will expand the area of indirect impacts (nest parasitism, pet predation, invasive plant colonization, light and noise impacts, etc.) that the DEIS indicates occurs on portions of the western-half of the site by Route 9 at present, further eastwards into less-disturbed forest. Suggestions in the DEIS that adverse effects to the 90% closed-canopy forest that occupies the site will be minimal are unsupported — at p. 104: "New development on land adjacent or close to existing development has very limited impact as the habitat of these areas is already significantly impacted by existing adjacent or nearby development." And at p. 96: "In addition, the forested area proposed for development is already impacted by the "fragmenting effect" of the noise from nearby Route 9, which has been found by researchers to extend anywhere from 250 meters to 1000 meters due to road noise." These statements are inaccurate. The applicant cannot contend that only portions of the site reduced in value due to proximity to Route 9 and historic homesteads will be affected and yet ignore the spread of "compromised" habitat that will result from the proposed new development. The DEIS concedes this point elsewhere, at page 96: "The proposed development will have the impact of extending the fragmenting effect farther in the direction of the unfragmented forest." We agree with this statement.

Response 3B.55: Though development decreases natural areas unless constructing on already developed property, the Project Sponsor believes that HHR has designed the project specifically to minimize both direct and indirect impacts to the natural environment.

- Nest parasitism is often increased along forest edges where a forest canopy meets an open area and where new development introduces pets into an area. The design of HHR strives to maintain a forest canopy over as much of the disturbed area as possible. The forest canopy will be maintained by keeping the largest trees standing. “Edge effect may increase species diversity, but it can also create ecological problems. Edges, especially abrupt ones, attract mammalian and avian predators.” (Smith and Smith, 2001) The edge introduced by the HHR development will not be abrupt. However since some nest parasitism is related to a lack of forest canopy, keeping the canopy trees (the largest ones), may mitigate some of the otherwise possible increase in nest parasitism. It is possible that nest parasitism will increase even with the maintenance of the canopy to the extent possible.
- A main source of invasive plants is deliberate planting of these species in yards and gardens. Beaury et al. (2021 https://doi.org/10.1002/fee.2392) discuss in Frontiers in Ecology and the Environment how the sale of ornamental plants is a primary pathway of invasive plant introduction; 61% of 1285 plant species identified as invasive remain available through the plant trade. The chance of invasive plant colonization should not rise with the HHR development as HHR stipulates that in the landscaping process only native plants will be used and the HOA will also stipulate that only native plants will be allowed on the homeowners and common property. HHR will also remove invasive plants in the site development process. Though inadvertent introduction of invasives is possible if invasive seeds are brought to the property during construction, HHR is taking care to minimize this possibility, such as specifying the use of strawbales over haybales,

which, in the Project Sponsor's opinion, will reduce the potential spread of invasive species. The percent of invasive plant cover is expected to decline with the invasive species management measures documented in Response 3B.8.

- HHR has attempted to minimize any light and noise impacts of development by restricting lighting to downward-directed exterior lighting sources of low lumen intensity and by using high quality insulation and windows to keep inside noise inside. Homeowners may spend time outside generating temporary noise, which is unavoidable and in the Project Sponsor's opinion, would not be significant. In addition to any stipulations on noise enforced by the HOA, the Town's noise ordinance would be enforceable by the Town.

Pet predation can impact native species, predation by felines being the most prevalent. An article in Nature Communications (Loss et al. 2013) states the results of a systematic review and quantitative estimate of the mortality caused by cats in the United States. The authors estimate "that free-ranging domestic cats kill 1.3-4.0 billion birds and 6.3-22.3 billion mammals annually. Un-owned cats, as opposed to owned pets, cause the majority of this mortality. Our findings suggest that free-ranging cats cause substantially greater wildlife mortality than previously thought and are likely the single greatest source of anthropogenic mortality for US birds and mammals." "Projects to manage free-ranging cats, such as Trap-Neuter-Return colonies, are potentially harmful to wildlife populations, but are implemented across the United States without widespread public knowledge, consideration of scientific evidence or the environmental review processes typically required for actions with harmful environmental consequences" (Loss et al., 2013). While it is hoped that homeowners will comply with the Humane Society's suggestion of keeping cats indoors unless on a leash, it is possible that future residents of the Proposed Project would bring a pet cat(s), which, if allowed outside without a leash, is likely to result in an increase in predation of bird and mammals in the area. The Project Sponsor notes that cats from neighboring properties would continue to cause predation, as the HHR property is surrounded on all sides by residential and commercial development. This may be best addressed by the Town of Philipstown or Putnam County regulation directing all cats to be kept indoors or leashed. As cats travel, any regulation regarding cat movement would need to cover a larger geographic area than just the HHR property, otherwise cats from neighboring properties would continue to cause predation, as the HHR property is surrounded on all sides by residential and commercial development.

As noted above, however, it is unavoidable that any development in a natural environment will compromise wildlife habitat. HHR will decrease habitat. HHR will increase the impervious surface of the property by approximately 6.7 acres (3.2% of the property) and convert an additional 30.4 acres (14.5% of the property) from natural vegetation to landscaping, roadside meadows, or post construction stormwater practices. The landscaping will use native plants.

Importantly, with the development of HHR comes the permanent conservation of 163 acres of the highest value forested area of the property (77.6% of the total property). Without the HHR development, those areas would all be open to future development; with the HHR development, those areas will be conserved in perpetuity.

It is acknowledged that with each development/encroachment/reduction of the blocks that make up this regional forest, the potential spread of invasive plants and animals increases in the remaining (unaffected) forested land. To help offset these impacts, through a Conservation

Easement, the proposed project will permanently arrest the possibility of any further development in this block of forest, which includes approximately 50 acres that was purchased by the Project Sponsor specifically for the purpose of preserving it.

Comment 3B.56 (AKRF): To illustrate the importance of scale to the question of forest fragmentation: Of the six tax parcels that comprise the project site, the proposed site plan largely develops or bifurcates five of them, with only the final parcel acquired by the project sponsor remaining undeveloped, lot #17.-1-76.111. Thus, considered at the "parcel scale", the proposed site plan causes substantial fragmentation. At the local scale, considering the project site's relationship to immediately adjacent parcels, surrounding land is largely forested with only local roads and scattered low-density development to the north and east. The proposed project will widen the suburban land use cover type along Route 9 substantially, furthering the reduction in the block of local-scale largely contiguous forest that extends from the project site eastwards into these adjacent forested lands, including Fahnestock State Park. Finally, at the regional scale, the proposed project will reduce the finite acreage of undeveloped forested habitat that comprises the Hudson Highlands ecozone. The DEIS focuses on fragmentation at the project-site scale, but must also consider the bigger picture. This is not to say that the project site must remain undeveloped. Rather, the lead agency must consider these adverse effects from forest fragmentation which have not been presented fully/at all appropriate scales in the DEIS.

Response 3B.56: The parcel scale analysis is addressed in Response 3B.54, and is based on all parcels held by the Project Sponsor as a single parcel; individual "tax parcels" that comprise the property are not considered separately. Four of the six parcels are a re-assemblage of much of the Ulmar Farm, which was whole as recently as 1985.

At a local level, the commenter asserts that *"(t)he proposed project will widen the suburban land use cover type along Route 9 substantially, furthering the reduction in the block of local-scale largely contiguous forest that extends from the project site eastwards into these adjacent forested lands, including Fahnestock State Park."* The proposed project will add low-density development (22 new residences clustered together on a 210 acre parcel) but, in the Project Sponsor's opinion, this does not constitute a substantial increase in suburban land use given the surrounding land is currently fragmented by roads and development. While the proposed project will increase this level of existing fragmentation, the type and scale considered is consistent with existing development along Route 9. The east side of route 9 to the south of the project site includes a dense suburban development, Glassbury Court at Cold Spring, and a less dense suburban area off Horton Road. To the north of the property is a suburban area off East Mountain Road North. Adjacent residential uses on both Horton Road and East Mountain Road extend out approximately the same distance from route 9 as what is proposed by the Project Sponsor. Several commercial properties including several retail stores, a Concrete Products center and a Landscape Material sales business are along the east side of Route 9 adjacent to the property. Along the West side of route 9 there is a motel, an auto services facility, other retail and residential structures as well as a sand or gravel storage area.

Thus, while the proposed action will introduce development into a natural environment, the Project Sponsor believes it will not widen the residential land use type beyond what exists immediately to the south and north of the project site. Rather, it will fill in and continue a similar type of land use and at a similar distance from the east side of route 9.

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Regarding the proposition that "local-scale largely contiguous forest extends from the project site eastwards into these adjacent forested lands, including Fahnestock State Park," there are multiple roads and developed areas with houses and other buildings between the subject property and Fahnestock State Park. East Mountain Road South, Esselborne Road, and Philangeli Forest Road are between the Hudson Highlands property and the main portion of Fahnestock State Park. While Philangeli Forest Road appears to have only one house with a clearing on it, Esselborne has development on both sides of the road with homes, driveways, and clearings stretching over 500 feet from the road itself. Other roads branch off Esselborne with development. East Mountain Road South is surrounded by homes with clearings as well. Horton Road, the closest road to the HHR property and bordering the property, already has numerous homes and structures. As such, this area between the HHR property and Fahnestock State Park, while it does provide valuable wildlife habitat, should be considered fragmented forest when compared to the unfragmented areas within Fahnestock.

It is also acknowledged that Route 9 has had moderately high traffic volume since before 1995. It is the Project Sponsor's opinion that the traffic volume is high enough to cause wildlife mortality and/or repel wildlife. The Project Sponsor also believes that species or individuals that are not tolerant of proximity to human occupation would likely be repelled by either the road or the adjacent and surrounding development and human occupation (https://www.fhwa.dot.gov/clas/ctip/wildlife_crossing_structures/ch_2.aspx). (A good introduction to the effects of roads on wildlife is available in the book *Road Ecology: Science and Solutions*, 2003. Many of the authors have since published many papers with updated information.)

HHR has been designed to cluster its 22 new houses, all of which are relatively close to Route 9 and Horton Road, while permanently preserving the eastern portion of the property closest to Fahnestock State Park. While the development of the HHR will decrease the forest habitat on the property, it should be noted that the area between HHR and Fahnestock is currently occupied by buildings and roads, and the area on which the new houses will be built is therefore today utilized primarily by wildlife species tolerant of proximity to human occupation. By completing HHR, the entire eastern portion of the property will be conserved in perpetuity meaning that the most ecologically sensitive area will be preserved. Without the HHR development, the eastern portion of the property would be at risk from development.

On a regional scale, HHR is located in a generally forested region of the Hudson Highlands of New York State. Development near the major roads is least likely to cause further damage to the forests of the region. More damaging would be to develop within any unfragmented forest or away from current roads and current development. To the extent that regional and landscape scale overlap, the issue is addressed in 3B.54.

With the development of HHR comes the permanent conservation of 163 acres of the highest value forested area of the property (77.6% of the total property). The Project Sponsor notes that, without the HHR development, those areas would all be open to future development; with the HHR development, those areas will be conserved in perpetuity.

Comment 3B.57 (AKRF): Related to the issue of forest fragmentation is its relationship to surrounding forest community types. As discussed in the DEIS, the project site is located

adjacent to two NYNHP-mapped/designated "Significant Natural Communities (SNC)", specifically a "high quality occurrence" of the "Appalachian Oak-Hickory Forest" community and the "Chestnut Oak Forest" community. Clearly, based on species descriptions provided in the DEIS these two ecological community types occur within the project site itself. Despite the fact that these community types are described as intermixed with other plant assemblages, the argument can clearly be made that the project site contributes to the "matrix" of forest that surrounds the NHP-mapped Appalachian Oak-Hickory Forest and Chestnut-Oak Forest.

Response 3B.57: While the entry road and the preserve part of the HHR property are in the vicinity of a Significant Natural Community as designated on the NYSDEC Environmental Resource Mapper, many and perhaps all of the homes are outside of the vicinity of a Significant Natural Community (https://gisservices.dec.ny.gov/gis/erm/). If any of the homes are inside the vicinity they are in a portion of the buffer associated with a Natural Community across Route 9. Below is a graphic (Figure 13A) taken directly from the website referenced above, showing the relevant Significant Natural Communities near the HHR property, followed by a blowup (Figure 13B) of the buffer around these Significant Natural Communities (the vicinity of the Significant Natural Communities) that extends onto the HHR property.

As noted in other responses, Route 9 creates a barrier for many species. The Vegetation Associations of the property are mapped in Figure 11 and discussed in response 3B.15. Please see that response for a list of the oaks on the property. The property on which HHR will be built is a part of the forest matrix that is between preserved areas such as Fahnestock State Park and Hudson Highlands State Park. It has been shown that the preservation of higher quality forest fragments does improve connections between larger preserved areas and decreases fragmentation effects. To minimize impact to the matrix forest, HHR proposes to preserve 77.6% of the onsite existing forest in its current state under a conservation easement. On the remaining 22.4%, the proposed design and HOA rules seek to preserve as many trees and forest canopy as possible. The HOA regulations state *"Trees are an integral part of the overall image and character of Hudson Highlands Reserve and must be protected. Trees located on Residential Lots, open lands, and other natural areas may not be disturbed or removed without prior specific approval for each tree. Trees identified and tagged to be significant (trees that are 18 inches diameter at breast height (dbh) or larger) will remain."* The regulations remind homeowners of the significance of "significant trees" 44 times in the HOA rules and regulations.

Importantly, as has been stated, with the development of HHR comes the permanent conservation of 163 acres of the highest value forested area of the property (77.6% of the total property). Much of the area conserved is within the "vicinity of a Significant Natural Community" otherwise designated as a "Natural Communities Near This Location." (Environmental Resource Mapper ny.gov) The Project Sponsor notes that, without the HHR development, those areas would all be open to future development; with the HHR development, those areas will be conserved in perpetuity.

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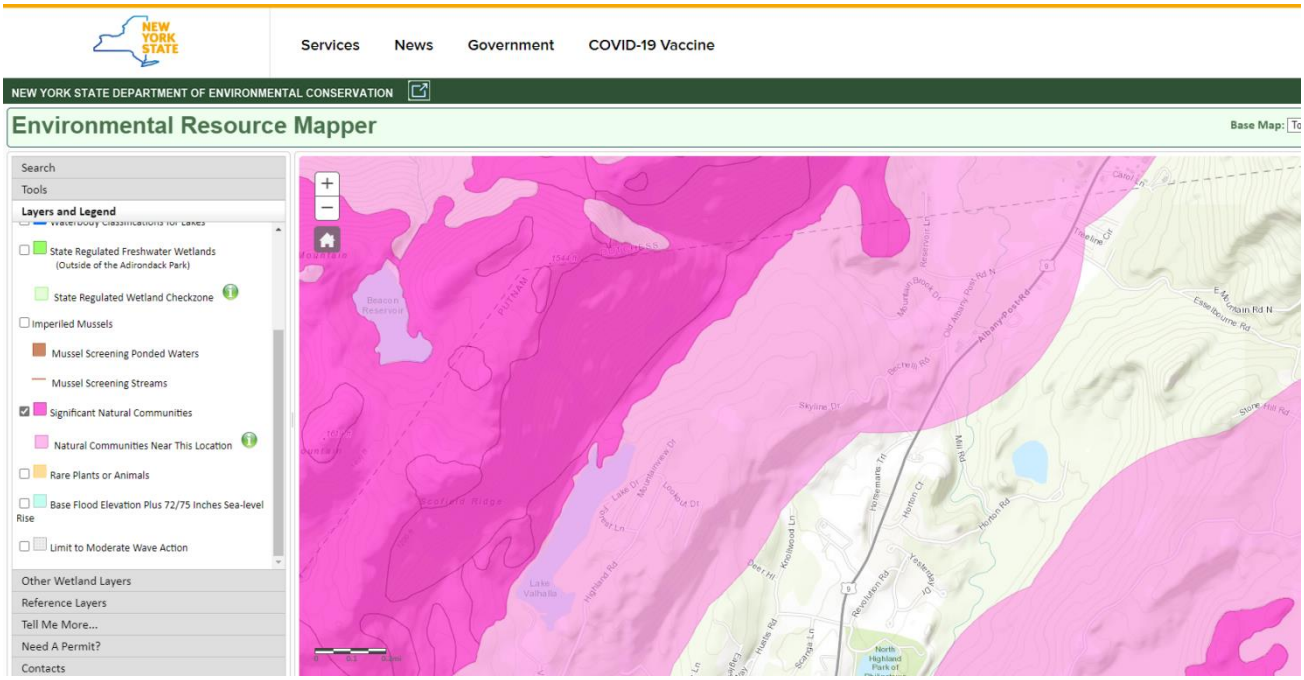

Figure 13A: Significant Natural Communities

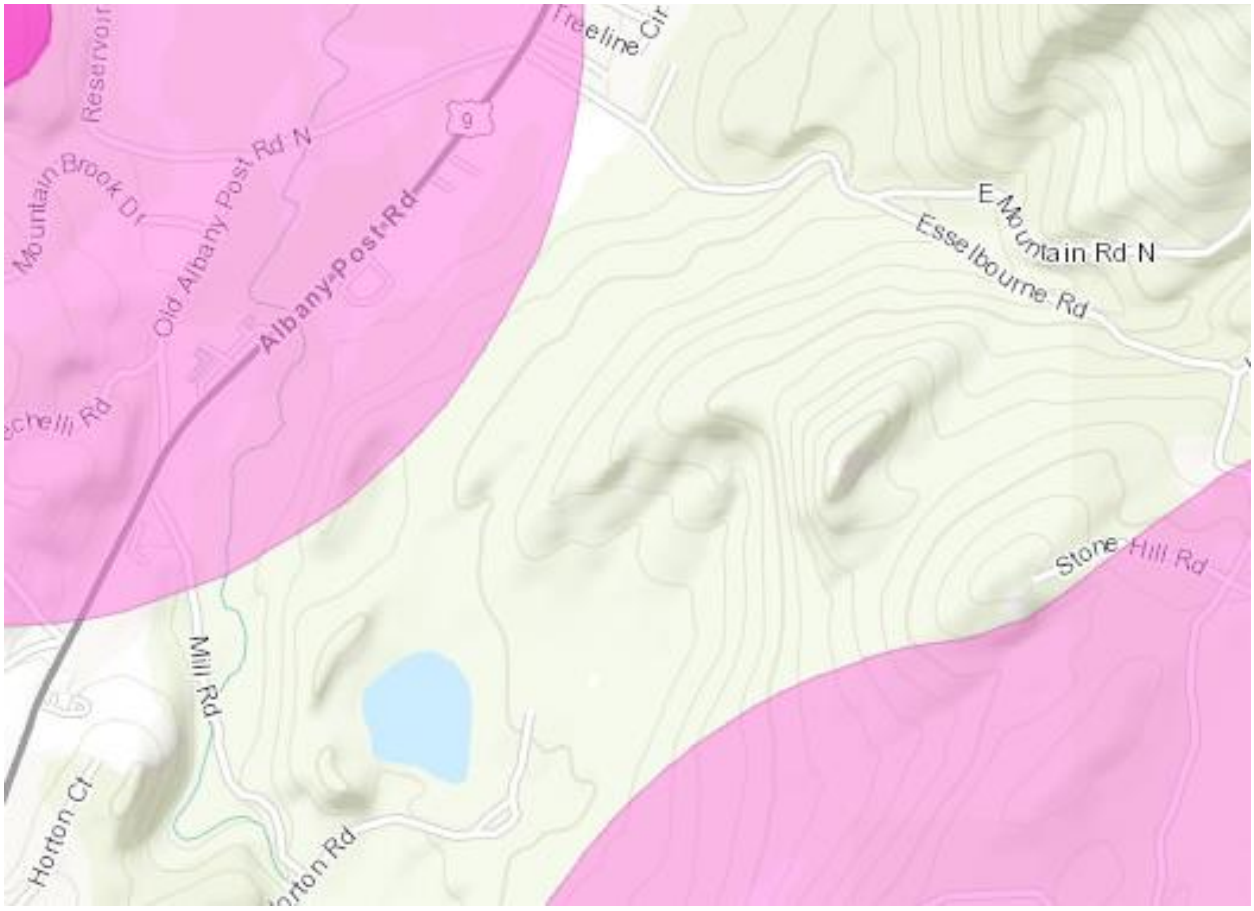

Figure 13B: Significant Natural Communities (Blowup)

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Comment 3B.58 (AKRF): The NYSDEC Hudson Valley Natural Resource Mapper maps the project site itself as part of the following two forest habitat designations: "Matrix Forest Block" and as part of the most critical "Large Forests: Globally Significant (>15,000 acres)":

> a. Matrix Forest Blocks: Matrix forests represent the largest, most intact forests in the northeastern United States, whose size and natural condition allow for the maintenance of ecological processes, forest communities, and populations of forest-interior species. Conserving large, high quality forests and connections between them will allow plants and animals to move north and higher in elevation as the climate warms. (Publisher: The Nature Conservancy Eastern Conservation Science and the New York Natural Heritage Program. Publication Year: 2006).
>
> b. Large Forests: The Hudson Valley is largely forested, but forest patches differ in relative ecological significance based on size, connectedness to other forest patches, and other factors such as invasive species and deer browse. In general, larger forests provide greater ecological value than smaller, fragmented patches, and many wildlife species depend on intact forests of at least 200 acres with little or no human development. Smaller forests may nevertheless provide important habitat values and stormwater-related benefits. (Publication: This layer was created from 2010 land cover data developed for the National Oceanic and Atmospheric Administration's Coastal Change Analysis Program. 2015).
>
> c. The project site's connection to these Matrix and Large forest NYS-mapped designations is also evident when examining aerial photos contained in the DEIS and larger-scale aerial imagery. However, at p.94, the DEIS states: "Approximately 16 acres of forest with an oak-hickory association will be disturbed as part of the proposed project, but this forest should not be considered as part of the Appalachian oak-hickory matrix forest. Contrary to being a **matrix** forest, this particular forest type was observed on the property in smaller, fragmented communities." This statement does not appear to be accurate, based on review of the NYSDEC-mapping of the matrix forest and aerial imagery.

Response 3B.58: The NYSDEC Hudson Valley Natural Resource Mapper is a useful tool, but some things about the property as portrayed in the resource mapper should be noted. The mapper notes that *"This tool is intended for general information and planning purposes and does not indicate the extent of DEC regulatory authority. It contains data compiled from numerous sources and may not be complete or accurate."* The NYSDEC Hudson Valley Natural Resource Mapper calculates "core forest" by buffering roads, so that anything at least 100 meters from the boundary with non-forested areas is designated "core forest" regardless of the quality of the forest or the quality of the area between the designated "core" and the road. Part of the HHR property is designated core forest for the simple reason that it is more than 100 meters from the road which is non-forested.

Recently, the New York State Department of Environmental Conservation – Division of Water sponsored the Hudson Valley Forest patch update and Assessment, the objective of which was to delineate road-less forest patches throughout New York State and to assess the condition of those patches within the Hudson River Estuary Watershed. The resulting forest condition index

is portrayed in the NYSDEC Hudson Valley Natural Resource Mapper. The HHR site forest condition is designated in the lower middle group (5th from the top out of 8), 60% to 80%. The specific designated condition for the patch is 69.2%. The forest patch per the Mapper includes also the residential areas along Horton Road and to the west of East Mountain Road South, the development along Yesterday Drive including the cul-de-sac, the edge of North Highland Park, the cul-de-sac of Stephanie Lane, Walmer Lane, Parks Boulevard, Hy Vue Terrace, Downey Lane, Stone Hill Road, south side of Esselbourne Road and up to Albany Post road. The fact that this designated "forest patch" includes those areas of development seems to indicate that houses will not preclude the area from still being designated a forest patch by the NYSDEC Hudson Valley Natural Resource Mapper. It is instructive to note that this forest patch is the lowest "forest condition index" of the surrounding area, 69.2%. For example, the parcels to the north along Route 9 just north of Esselbourne Road are designated as condition 91.7%. The parcel to the East of Esselbourne road is 80.3%. The area on the other side (east side) of E Mountain Road South is 98.6% condition. Furthermore, the conserved side of the property is the side nearest to the higher forest condition areas as designated by the NYSDEC Hudson Valley Natural Resource Mapper.

The NYSDEC Hudson Valley Natural Resource Mapper maps the project site itself as part of the "Matrix Forest Block." "Matrix Forest Block" is defined by New York State as large contiguous area whose size and natural condition allow for the maintenance of ecological processes, viable occurrences of matrix forest communities, embedded large and small patch communities, and embedded species populations. However, the "Matrix Forest Block" as mapped by the NYSDEC Hudson Valley Natural Resource Mapper includes a great deal of developed area and is fragmented, not contiguous. For example, the Matrix Forest Block containing the HHR property also includes route 9, all the development along route 9, the areas of Cold Spring north of Main Street and Cedar Street, the east edge of Beacon including the area off Old Town Road, the development around Oscawana Lake, and other developed areas. The fact that areas are in the Matrix Forest Block of the NYSDEC Hudson Valley Natural Resource Mapper does not mean that these areas are undeveloped, all forest, or important forest, but rather that they fall into a wider area of largely forest. The HHR property would still be relatively undeveloped compared to many other areas within the "Matrix Forest Block" as defined in the NYSDEC Hudson Valley Natural Resource Mapper if developed as planned at this time with 22 new homes in addition to two existing homes and one existing commercial structure on Route 9.

As evidenced on maps, the HHR property is surrounded on all sides by roads and by varying degrees of development.

As of March 24, 2021, there is no "Large Forests: Globally Significant (>15,000 acres)" designation on the NYSDEC Hudson Valley Natural Resource Mapper maps. A Google search resulted in "No results found for "Large Forests: Globally Significant" (>15,000 acres). We are not aware of what designation the commenter is referencing. https://gisservices.dec.ny.gov/gis/hvnrm/

Importantly, with the development of HHR comes the permanent conservation of 163 acres of the highest value forested area of the property (77.6% of the total property). The Project Sponsor notes that, without the HHR development, those areas would all be open to future development; with the HHR development, those areas will be conserved in perpetuity.

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Comment 3B.59 (HHLT): The key conclusions about fragmentation in the DEIS are drawn from the 1998 Lathrop paper. In the 20 years since this paper was published, the science of conservation biology as it pertains to habitat fragmentation and connectivity has evolved tremendously, and this updated science should be used as the basis for decision-making. Up-to-date science more fully accounts for the entire suite of impacts that result from the placement of development into natural areas. In addition, the conclusions drawn from the Lathrop paper focus on only one of five criteria for conservation development – proximity to existing human infrastructure (or "habitat fragmentation potential"). The DEIS does not factor in the other four criteria, including proximity to water resources, where development in close proximity (such as houses wrapped around a pond) has severe adverse impacts, according to the Lathrop Paper.

Response 3B.59: The analysis on landscape fragmentation or perforation shows that the creation of HHR will cause 6.7 acres of direct habitat loss (from added impervious surfaces) and the conversion of an additional 30.4 acres from existing vegetative surfaces to landscaping (with native plants), may increase habitat degradation, and that concentrating the disturbed areas close to the already established medium to high-volume road (U.S. Route 9) will minimize the degradation or disturbance to the forest on the property as a whole.

The 1998 Lathrop paper was used in drawing key conclusions about fragmentation or perforation in the DEIS, as the commenter notes. This particular analysis was used as a starting point because the analysis had been completed on Sterling Forest, which is in the same region as HHR, and the analysis has been accepted by various New York governing bodies as reasonable. Subsequent research in conservation biology was, however, also taken into account. Please see Appendix G for a partial list of references used directly or as background for the analysis. Though the science has evolved tremendously as the commenter points out, the results of the Lathrop 1998 paper are still valid. In particular, the points in question, that areas close to heavily used roads are far less valuable as conservation areas than those in the interior of a forest and that the effects of roads and developments extends into the edge of the forest, still hold. There has been refinement of mapping methodology, which Lathrop and other scientists have worked on, and which the Project Sponsor's analysts follow closely.

It is now known that roads have four main ecological effects on animal populations and these effects become apparent after increasing time lags: habitat loss (noticed most immediately), reduced habitat quality, wildlife mortality, and reduced connectivity (typically noticed after a fairly significant time lag) (Foreman et al. 2003). On a macro scale, Route 9 is the largest contributor of road ecological effects on the HHR property. Route 9 and its associated development presently separates the HHR property from Hudson Highlands State Park. Likewise, the other roads which cut the HHR property off from Fahnestock State Park, such as East Mountain Road South, Esselborne Road, and Philangeli Forest Road between the HHR property and Fahnestock State Park already affect the HHR property. The combined effect of these roads is that the HHR property is considered to be a fragmented forest, and species that prefer interior, undisturbed forest are unlikely to regularly use or reside in the HHR property.

The five parameters used in the cartographic modeling analysis of the environmental costs or constraints that development posed as laid out in Lathrop and Bognar, 1998 are:

1. Development limitations due to soil conditions/steep slopes/flooding
2. Non-point source pollution potential due to proximity to water/wetlands
3. Habitat fragmentation potential due to distance from existing roads and development
4. Sensitive wildlife habitat areas
5. Visibility from nearby hiking trails

The analysis was completed in order to prioritize lands for either acquisition and preservation, or development. In the design of HHR, similar parameters were used to determine which areas are least harmful to develop, and which areas should be preserved in order to give the most benefit to wildlife. HHR based decisions on the advice of its hired professional experts, who took into account more recent research since 1998 and site specific characteristics. It would be difficult and is unnecessary to give a complete list of the hundreds or thousands of peer reviewed articles and books that the Project Sponsor's experts have read or published. A partial list of references, one of which was co-authored by one of the Project Sponsor's experts and Richard Lathrop, that have contributed to this analysis is attached as Appendix G. For background in understanding fragmentation ecology, a good ecology textbook is recommended and has been studied and used as a basis for teaching by some of the Project Sponsor's experts. Some examples are *Ecology and Field Biology* by Smith and Smith (2000) or *Ecology from Individuals to Ecosystems* by Begon, Townsend and Harper (2021) or *Ecology* by Krebs (2008). *The Princeton Guide to Ecology* edited by Simon A. Levin (2009) also contains some relevant sections (Ecological Dynamics in Fragmented Landscapes is one such section). For information on the impact of fragmentation on birds, Bregman et al. (2014) is a reference.

All five parameters have been addressed in the DEIS. The first parameter, which recommends avoiding development limitations due to soil conditions/steep slopes/flooding is addressed in the DEIS IV A 1c. This analysis led to the preservation of the Clove Creek Flood Plain, the steep slope adjacent to the floodplain, the steep slope on the eastern side of the property, and the steep slope along route 9 with the exception of the entrance road from Route 9. The second parameter, non-point source pollution potential due to proximity to water/wetlands, has been addressed in IV A2, and was used in in establishing wider buffers and making other modifications to the project plans (including the decision not to use Ulmar Pond as a source for water for firefighting). The third parameter, habitat fragmentation potential due to distance from existing roads and development, has been addressed in IV B1c and IV B2c, and was used in locating the elements of the proposed project, and in making some of the most recent revisions to the project plans. The fourth parameter, sensitive wildlife habitat areas, has been addressed in IV B1a and IV B1b, and was used in locating the elements of the proposed project. The visibility issues have been addressed in IV D1b.

Comment 3B.60 (HHLT): The main source of information on fragmentation cited in the DEIS is the Lathrop 1998 paper about Sterling Forest. This paper is now 20 years old and in the intervening two decades both mapping technology and the science of analyzing the effects of fragmentation and perforation has progressed significantly, and these more up-to-date approaches should be used to create a site design that fully protects natural resources. Fragmentation is a multifaceted issue that includes many aspects e.g. sound, light and chemical pollution, in addition to loss of contiguous forest and habitat/forest perforation. A forest may be effectively fragmented without visually appearing to be so, and simple straight line pathways are now no longer understood to factor in the full set of obstacles in movement across the

landscape (Beier, Paul. 2018). A rule of thumb for widths of conservation corridors: Width of Conservation Corridors. Conservation Biology. 10.1111/cobi.13256.).

Also, fragmentation is now defined, in part, by functional loss within the ecosystem: whether wildlife continue to have the ability to access different habitats for their different needs that they seek during daily, seasonal, annual, or lifecycle-based migrations.

Response 3B.60: As noted in Response 3B.59, though the Lathrop 1998 paper provided the outline of the DEIS analysis, more recent information has been used in the analysis and current technology was used. Please see Response 3B.59 for a discussion of the background and recent research of the analysts.

Updated technology which allowed for a more nuanced analysis with more variables was used in the analysis of HHR compared to the Sterling Forest analysis of 1998. Specifically, a newer version of ArcGIS was used in the analysis. The newer version contains many upgrades which can be reviewed on the ESRI website (esri.com). Specifically important to the analysis, the newer ArcGIS software includes the "3D Analyst" and the "Spatial Analyst" extensions which make it easier to add multiple buffers and to easily look at roads of multiple traffic categories and analyze them separately. Clipping and buffering are much simpler and more powerful in the new technology. The Lathrop paper indicates that Arc/Info (6.1), Geographic Resources Analysis Support System (GRASS version 4.1) and ERDAS Imagine (8.0) software packages were used to support the GIS analysis. ArcGIS 10.3 was used in the Sponsor's analysis.

As noted in other responses (see 3B.71), the impact of the proposed project is technically perforation rather than fragmentation. The Project Sponsor has designed HHR with the intent to minimize effects of the perforation. For example, Figure 31 of the DEIS shows how clustering development near existing roads minimizes forest fragmentation, as well as effects of perforation, (adapted from Gaertner et al. 2007). Section B2a of the DEIS discusses the impact on habitat for interior forest species and specifics on how HHR will minimize negative impacts. It is noted that HHR was designed consistent with the principles recommended in the 2017 publication "Guidelines for managing wood thrush and scarlet tanager habitat in the Northeast and Mid-Atlantic regions" (Lambert, J. D., B. Leonardi, G. Winant, C. Harding, and L.Reitsma. As only limited areas of lawn will be introduced, damp leaf litter will be maintained in non-lawn areas. Damp leaf litter maintains a supply of invertebrate prey for the scarlet tanager and wood thrush as well as other insectivorous bird species. The publication notes that "wood thrushes and scarlet tanagers consistently reach their highest breeding densities in mature to old forests that are dominated by hardwoods and contain a mix of large and small trees. The layered vertical structure may result from canopy openings created by forest management or natural disturbances." The Project Sponsor will keep most mature trees and the loss of some may result in canopy openings. The Project Sponsor will conserve 163 acres of forest, the majority of which is on the portion of the property farthest from the road consistent with the recommended practice in the 2017 publication to conserve habitat blocks >250 acres in landscapes with >65-80% forest cover. The conservation area of HHR is a majority portion of the needed >250 acre conservation area which can be added to by neighboring land owners. The 2017 publication also recommends clustering new construction near existing roads and making use of previously disturbed land, as the Project Sponsor does. See DEIS Figure 31, which is taken directly from Lambert et al, (2017).

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Other methods of minimization of negative impacts are noted in section IV B2b and IV B2c of the DEIS. There is currently no site design that fully protects all natural resources, but HHR uses best practices to minimize any negative effects.

The commenter has mentioned sound, light, and chemical pollution as risks. Given the high level of sound pollution emanating from Route 9, potential sound pollution from construction activities is minimized by locating proposed development in the portion of the property as near to route 9 as site conditions permit. Long term sound pollution is minimized by the insulating qualities of the homes that will contain most noise from future occupants (See Response 3B.55 for discussion on sound). The HOA Residential Design, Maintenance Rules and Regulations (p.31) limits potential chemical pollution. Residential Lot Owners must only use chemical-free organic fertilizer with preference for compost or manures. Chemical fertilizers and pesticides are prohibited from use. Chemical fertilizers disrupt soil chemistry which can harm local flora; furthermore, chemical fertilizers flow into surface and ground water, affecting the water supply. Light pollution will be minimized by restricting lighting to downward-directed exterior lighting sources of low lumen intensity.

Beier 2018 deals with the macro scale. The focus of the article is setting a rule of thumb for corridor width that a corridor should be at least 2km wide except at unavoidable bottlenecks such as highway crossing structures. The article also notes that edge effects from artificial night lighting, noise, chemical pollution, nest predation, nest parasitism, invasive species and other disturbances are biologically significant at distance of up to 300m. The end of the article mentions that for smaller habitat blocks a narrower corridor may be appropriate and that a corridor longer than 80km may need to include one or more large habitat patches. It is the Project Sponsor's opinion that the macro scale of the discussion and the focus on 2km wide corridors in the article does not directly apply to the proposed project.

Comment 3B.61 (HHLT): The Lathrop Paper also specifically mentions the sensitivity of three wildlife species in a nearby area of the Highlands region (Sterling Forest), one of which is found on the property: red-shouldered hawk. It specifically sites the red-shouldered hawk's need for both "forested wetlands and adjacent upland forest" (p. 34), underscoring again the need for species' access to different habitats, like both water and forests.

Response 3B.61: As mentioned in DEIS IV.B.1.b.ii., a red-shouldered hawk (*Buteo lineatus*) was seen on May 26, 2015 and heard on July 9, 2015. Although a search was made in the area where the raptor was seen and heard, no nest site was found. It is possible that the raptor may have nested or was hunting in the vicinity of the property (p. 86 of DEIS). It is agreed that the red-shouldered hawk needs both forested wetlands and adjacent upland forest. The HHR will be preserving all wetlands on the property and a significant amount of upland forest habitat in perpetuity that will benefit species including the red-shouldered hawk. The protected wetlands are directly connected with the forested uplands on the property.

Red-shouldered hawks are sensitive to disturbance and typically nest in remote areas of contiguous forest, though nests have been documented near developed areas. The hawks often move through the Highlands on the fall and spring migrations. Red-shouldered hawks typically prefer mature wet woods such as hardwood swamps and riparian forests. Nesting territories are typically remote and contain standing water. They typically avoid areas of human habitation, steep uplands, dry slopes, open water, areas with limited conifers, and areas with too

many or too few forest openings. The birds may forage on the edge of their territory which may be less remote. Red-shouldered hawks in areas like the Highlands tend to nest in large mature trees. In non-breeding season, red-shouldered hawks are less restrictive in their habitat use. Red-shouldered hawks prey upon frogs, snakes, lizards, insects, salamanders, spiders, crayfish, snails, beetles, grasshoppers, small turtles as well as birds and mammals (Beans and Niles, 2003). The disturbance of 38.1 acres of existing habitat will reduce the amount of habitat available to red-shouldered hawks, although some of this will be revegetated with native plant species. The introduction of human habitation further into the forest will also make the project site less attractive for use by this sensitive species. The health of Ulmar Pond is expected to improve with the management provided when HHR is built and may increase prey availability for the red-shouldered hawk. Off-road vehicles, which have been observed being used on the property by trespassers, often contribute to nest failures. With the management of the area under the Conservation Easement and the occupation of the property by new homeowners under a HOA, off-road vehicles will be prohibited and the prohibition enforced by the HOA, which will also benefit the red-shouldered hawk. As a whole, it is believed that the preservation of the Clove Creek floodplain as well as the upland forest on the eastern side of the property more removed from busy Route 9 will contribute to the maintained health of the red-shouldered hawk population.

Comment 3B.62 (HHLT): Further, the Lathrop study states that its methodology is not meant for specific development siting, but rather it is a landscape overview. Lathrop Paper DEIS Appendix P Page 35 (or Page 11 of the PDF file) says: "this analysis was not designed to assess specific site suitability (i.e., for individual building placement)."

Response 3B.62: The Lathrop paper, Page 35, says *"Due to the limited spatial resolution of the underlying data, this analysis was not designed to assess specific site suitability (i.e., for individual building placement) but to provide a general overview of potential sensitivity and conversely, suitability of areas for development."* Similar, but updated methodologies with higher spatial resolution of underlying data were used to assess HHR. An example of the updated methodology is that the relatively more heavily used roads in the Sterling Forest study were assessed to have an impact that extended a significant distance into the adjacent forest, while in the forest fragmentation analysis for HHR, the less heavily used existing and proposed roads were modeled with a smaller depth of impact consistent with current road ecology research, while maintaining the larger depth of impact close to the more heavily used Route 9. (For an overview of the impact of roads on wildlife, please see *Road Ecology* by Forman et al. (2003) and for more detail, other articles by these same authors.) Accordingly, the habitat value of the forested areas close to Route 9 were determined to be already significantly impacted, while areas closer to Horton Road and East Mountain Road were less so. Further, a large amount of site-specific detailed information such as the vegetation and wildlife currently using the HHR property (see DEIS sections IV A and B for more details on site-specific information) along with recent guidelines (see Responses 3B.59 and 3.60) was used to determine the most environmentally advantageous areas within the HHR property on which to locate buildings and roads. The end product is that some of the proposed residences will be located on previously disturbed areas near the end of Horton Road, while others are on the closest area to Route 9 that topographic conditions allow.

Specifically, in the Forest Fragmentation Potential and Preservation Potential Review, the consultants for the Project Sponsor used the National Land Cover Database for the coterminous

United States 2011 with updates as of 2014. For simplicity, multiple categories were reclassified into five categories:

Class Short Description	Reclassified as
11 Open Water	1 Open Water
12 Perennial Ice/Snow	NA
21 Developed, Open Space	2 Developed
22 Developed, Low Intensity	2 Developed
23 Developed, Medium Intensity	2 Developed
24 Developed, High Intensity	2 Developed
31 Barren Land (Rock/Sand/Clay)	3 Barren
41 Deciduous Forest	4 Forest
42 Evergreen Forest	4 Forest
43 Mixed Forest	4 Forest
51 Dwarf Scrub	5 Other Non-Forest
52 Shrub/Scrub	5 Other Non-Forest
71 Grassland/Herbaceous	5 Other Non-Forest
81 Pasture/Hay	5 Other Non-Forest
82 Cultivated Crops	5 Other Non-Forest
90 Woody Wetlands	4 Forest
95 Emergent Herbaceous Wetlands	5 Other Non-Forest

The analysis by the Project Sponsor used the measures of distance from the Lathrop and Bognar paper to analyze the major roads as those amounts are currently still relevant. In the updated methodology, the Project Sponsor's analysis uses higher spatial resolution and thus is able to use a measure of 100 meter Euclidian Distance from minor dirt, dead-end dirt, or unused roads as the measure of fragmentation potential.

Comment 3B.63 (HHLT): The methodology in the Lathrop paper creates a composite model of five (5) criteria to assess development constraints (listed on p.32 in Table 1). The applicant applies only one (1) of these criteria – proximity to existing infrastructure (or "habitat fragmentation potential") -- and does not factor in criteria such as proximity of development to water resources. Using just one criterion would not qualify as using the same methodology. In particular, one of the excluded criteria is proximity to water resources, and if that were included, the houses around the pond would likely have been found to have a severe adverse environmental impact, based on the Lathrop paper model.

Response 3B.63: All 5 criteria in the Lathrop paper are addressed in the DEIS as discussed in FEIS Response 3B.59.

Specifically, the criterion about non-point source pollution potential, which assesses impact on downstream water quality, is mentioned in the Lathrop paper on 2.1.2. The paper notes that it is problematic to use any particular buffer size as *"storm water management systems can either enhance the role of riparian buffers or greatly negate their effectiveness by short-circuiting the natural flow of storm runoff. The site-specific field studies, coupled with appropriate hydrological modeling needed to more conclusively define appropriate buffer zones, were beyond the scope of this study."* HHR proposes best practices to minimize non-point source pollution and the

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plans are to improve the water quality of the pond through management, thereby minimizing the need for a wider buffer. The minimum proposed buffer around Ulmar Pond is 140 feet. The structures in proximity of water resource are discussed in depth in Response 3B-52. HHR has made some modifications to the proposed plan. For example, some previously planned houses around Ulmar Pond have been moved away from the pond. Now there are only five new proposed residences overlooking Ulmar Pond. As depicted on the current plans, the homes are situated from 171 feet to 277 feet from the pond edge, and with property lines at 140 feet from the pond's edge. These buffers are far in excess of the 100-foot buffer required by Town Code. Existing established riparian vegetation will be preserved and enhanced to act as a filter, which is a recommendation of many ecologists and governmental environmental conservation departments to improve water quality including the USDA (https://www.nrcs.usda.gov/wps/portal/nrcs/detail/?cid=nrcs143_014206#functions) and the NYSDEC (https://www.dec.ny.gov/chemical/106345.html). There will be no onsite subsurface sanitary disposal systems within 400 feet of the pond or any other surface water leaving a large buffer for any water filtering through the ground.

Comment 3B.64 (HHLT): The environmental suitability assessment for Sterling Forest (that was addressed in the Lathrop paper) was a starting point for understanding the site constraints. The Lathrop paper authors explicitly describe other considerations that were also important but not captured by the spatial assessment, including the need to cluster the development, which has not happened in this site plan due to the spreading of the houses and equestrian facility throughout the entire developable area of the site (Lathrop Paper DEIS Appendix P Page 35, 37 or PDF pages 11, 13).

Response 3B.64: The equestrian facility has been eliminated as an element of the project plans. Clustering development was mentioned in the Lathrop paper, and in the time since the paper's publication, has continued to be a guiding consideration in determining how to conserve land. The modified project plan concentrates development on 22.4% of the land while setting aside 77.6% in its current natural state. The Town of Philipstown, NY (11/27/2018) Chapter 175, Article V, section 19 Zoning - Open space development options states *"the Town encourages conservation subdivisions as an alternative to conventional subdivisions. In conservation subdivisions, units are clustered or sited on those portions of a property most suitable for development, while leaving substantial portions as undeveloped open space. Conservation subdivisions may include a variety of lot sizes, ranging from large farm or estate lots to small hamlet-size lots. Conservation subdivision results in the preservation of contiguous open space and important environmental resources, while allowing compact development, more walkable neighborhoods, and more flexibility than conventional subdivisions."*

HHR clusters the homes on the developable land and previously disturbed areas closest to Route 9 and Horton Road, while preserving wetlands and steep slopes as encouraged by a conservation subdivision. The modified project plans also have relocated some of the proposed residential units, leaving more developable land in its natural state. Much of the proposed development is situated on a previously cleared area, and adjacent to previously and currently inhabited areas. A large contiguous block of the eastern portion of the property is permanently preserved in an undisturbed state. In addition, the area around Ulmar pond and the steep slope area contiguous to the wetland along Clove creek are preserved.

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Comment 3B.65 (Klemens): The Philipstown code desires to encourage conservation subdivisions recognizing the incredible natural resources that occur within the Town. In particular, the code calls for protected open space in a Conservation Subdivision that "*shall not result in fragmentation of the open space land in a manner that interferes with its proper management and protection of its conservation values*". But like all well intentioned regulations, it is how the theory and intent of the law plays out on the land. The primary flaw I recognize in this current approach is that, by its very evaluative nature, it has become a driver of habitat fragmentation. While it assesses areas of high and medium conservation value, the end result is protecting the high conservation value areas and intensively developing the "medium conservation value" areas as stated in the AKRF letter of July 12, 2017 (page 3) that: *Part 3 should recognize that the proposed layout of the subdivision will disturb a significant part of the property identified to have "medium conservation value" and will necessitate the removal of mature, valuable vegetation in these areas.* This effectively means that the "medium conservation value" area is being intensively developed with 25 residences and a 40-horse stable. This effectively means that any wildlife movement through the site will be significantly compromised (save those species commensal with humans) and that the "high conservation value" areas will lose important connections both within the site and to the larger ecosystem. It is also important to take note as stated in the code in Section 175-21 (A) (1) that *"The open space protected must include all the land determined pursuant to § 175-20A (4) to have the most conservation value and, subject to § 175-20H, as much other land having conservation value as possible.*"

Response 3B.65: It is the Project Sponsor's opinion that, by allowing any level of development, it can be argued the Philipstown code may become a driver of habitat loss and potentially fragmentation, if lands that are not already considered fragmented are involved. While such an impact from normal growth and development is unavoidable, the provisions provided in the Philipstown code are sound, progressive measures designed to mitigate this impact.

Development of forested wildlife habitat will unavoidably result in destruction of some of that habitat. In concert with the provisions of the Philipstown code, the design of HHR intends to preserve much of the habitat in a way such that the majority of the preserved area is in a large contiguous block. A large block of contiguous preserved area is on the eastern side of the property and is connected to other existing naturally vegetated areas. There is a portion of the preserved area that protects the historic road and another large block consisting of the Clove Creek wetland and adjacent steeply-sloped upland forest. All the preserved areas are connected to all other preserved areas within the project site. In addition, the Clove Creek wetland is connected off the property along Clove Creek to the area around Ulmar Pond. The high conservation areas are conserved as are portions of the developable area.

As seen in Figure 4, the revised project plans concentrate the proposed development almost completely within the area of low conservation value. Only the proposed entrance road that crosses an area of steep slopes will fall within an area of medium conservation value.

Comment 3B.66 (Klemens): In *Pathways* (2017) I outline three scales of consideration when assessing the appropriateness of a conservation design. The first is the macro-scale, looking at how the site lies within the larger ecosystem which has been characterized in the Conservation Analysis. However, there are two additional scales that are not properly considered. The meso-scale examines the placement of the built environment as it impacts, or protects, the through

site connection for the dispersal and maintenance of biodiversity. The proposed development eliminates connections through the “medium conservation value” area by an intensification of use that is incongruent with long-term sustainable protection. The “medium conservation value” area that has become in fact an ecological throw-away, despite the fact that conservation design standards state that not only should one protect the slopes and wetlands but also provide meaningful (functional) connectivity through the developable areas of the site to sustain the entire ecosystem.

The concept of meaningful connectivity stems from the abuse of the corridor approach to connectivity. While certain species follow defined dispersal routes, the majority of species disperse across the landscape akin to sheet flow of water across a field. Therefore, in order to maintain habitat porosity to allow the movement of wildlife through a development site requires leaving broad areas within the “medium conservation value” area intact to connect the Clove Creek floodplain and the surrounding forest slopes. The current design, filling up most of the “medium conservation value” area with development and hardscape, in the manner proposed, will irretrievably sever the connectivity between Clove Creek and the forested slopes. In the March 13, 2018 responses to public comments on Page 8 (Comment 1.12) Hammond states correctly that “conservation subdivisions include the developer setting aside valuable, *developable* land, which may be rewarded with additional building density. ”More of the “medium conservation value” area needs to be protected, in a manner that protects connectivity, and that could possibly be rewarded with density bonuses elsewhere on the site.

Response 3B.66: The commenter requests that the environmental review address the meso-scale that examines the placement of the built environment as it impacts, or protects, the through site connection for the dispersal and maintenance of biodiversity. To address the concern expressed that “the proposed development eliminates connections through the ‘medium conservation value’ area” and in particular, that “the current design…will irretrievably sever the connectivity between Clove Creek and the forested slopes,” refer to Figure 4, which shows that, with the exception of the entrance road, none of the medium conservation value area will be impacted by the proposed project. All of the development and disturbance is instead on the most developable blue-shaded “Low Conservation Value” area. Only the proposed entrance road is within the yellow-shaded “Medium Conservation Value”. Small portions of proposed lots 11 and 4, though not within the building envelope, are also within the medium conservation value habitat area. As noted, the entrance road to the property also cuts through the medium conservation value area.

In the opinion of the Project Sponsor, it is therefore incorrect that the medium conservation value area has become “an ecological throw-away” and is being developed, or that the development of what is actually low conservation value area creates “a hardscape” across the central low-lying portion of the site. As currently proposed, the majority (80%) of the developed area (30.4 acres out of the 38.1 acres of existing vegetation in the area slated for removal) will be landscaped with native plants, including the trees left on site. The tree canopy will continue to exist and the understory will either be left undisturbed or replanted with native species on the landscaped portion. In the opinion of the Project Sponsor, it is likely that many wildlife species will continue to move through this area. The roads and driveways will create hardscape and those species particularly affected by micro-scale barriers are addressed in Response 3B.68. There will be approximately 6.7 acres of new impervious surfaces (3.2% of the HHR property). The HHR property is surrounded on all sides by roads and development. On a macro-scale

assessment, the HHR property is a better place to develop than an area more remote from a major road.

The proposed project will not "sever the connectivity between Clove Creek and the forested slopes." To minimize impacts to the connection between Clove Creek and the forested slopes, the high conservation value Clove Creek floodplain and bordering medium conservation value steep slope above it, are not proposed for development. The revised plan has also removed two homes from the south end of Ulmar Pond, further preserving an undeveloped natural connection between the pond and the Clove Creek floodplain across the steep slope, both on and off site. More importantly, the Clove Creek floodplain is connected directly to Ulmar Pond via the creek that outflows from the pond. Many aquatic and semi-aquatic species will preferentially follow the riparian corridor in order to move from the Clove Creek floodplain up to Ulmar pond and from there move into upland areas. Much of this is off of the HHR property, but wildlife do not recognize ownership boundaries without barriers, and the border of the HHR property will not be fenced. The unpaved historic road that currently cuts between Ulmar pond and the conservation area to the east of the pond will cease to be used south of the early nineteenth century barn, which will enhance connectivity from Ulmar Pond to the eastern preserved areas through upland habitat.

Project development has been proposed to be concentrated in the area with historic human disturbance and high percentage of exotic invasive species.

In further response to the comment on the meso-scale analysis of through site connections for wildlife populations, it is unavoidable that development will harm those areas on which actual construction occurs. However, the perpetual preservation of 163 acres of the 210.1 acre property will provide substantial undisturbed habitat that allows for wildlife movement across the project site.

Comment 3B.67 (Klemens): Finally, Response 1.18 on Page 12 of the response document mistakenly interprets the development as perforation, not fragmentation. Perforation maintains connections to adjacent habitats. The current development configuration for the reasons I have stated previously is not perforation, but fragmentation. It essentially creates a hardscape "wall" across the central low-lying portion of the site.

Response 3B.67: As indicated on Figure 1, all preserved areas will be connected to each other and to adjacent habitats, which is why, in the opinion of the Project Sponsor, the impact from the proposed project would be considered perforation. (Please see Response 3B.71 for a discussion on perforation vs. fragmentation.) In addition, the road system, which will serve the proposed 24 homes, will experience relatively light usage, and as such, is not expected to pose a significant barrier to wildlife crossing the project site. Some species, such as salamanders, may have more difficulty than others crossing roadways. However, the traditional pathways of highest use by these species (watercourses, wetlands, and their buffers) have been preserved with no new road crossings. Preserving traditional pathways of highest wildlife use is an example of an ecofriendly best practice. Low or no curbs will provide ease of movement. Please also see Response 3B.68 for more details on curbs. The types of curbs used is another example of an ecofriendly best practice. With ecofriendly best practices, most species will not be blocked by the road. There will be forest canopy throughout most of the project site,

including within developed areas. Using only downward facing lighting and high levels of insulation are other examples of ecofriendly best practices.

To avoid creation of "a hardscape" across the central low-lying portion of the site, the majority of that particular area 30.4 acres out of the 38.1 acres of existing vegetation slated for removal) will be landscaped with native plants including the trees left on site. Using only native plants in landscaping is an example of an ecofriendly best practice. The tree canopy will continue to exist and the understory will either be left undisturbed or replanted with native species on the landscaped portion. Thus, the Project Sponsor expects that many wildlife species will continue to move through this area. There will be about 6.7 acres of new impervious surfaces (~3.2% of the HHR property). It should be noted that the HHR property is surrounded on all sides by roads and development. On a macro-scale assessment, the HHR property is a better place to develop than an area more remote from a major road.

See Response 3B.54 regarding how the forest canopy will be maintained to the greatest extent possible. See Response 3B.67 and 3B.71 for a discussion of perforation vs. fragmentation.

Comment 3B.68 (Klemens): Finally, the micro-scale needs to be considered. This is very much part of the site plan design, but recognizes a host of impediments to wildlife movement created by hardscape. Ecological traps (designs that capture and kills small wildlife) such as curbs, catch basins, drains, hydrodynamic separators all need to be evaluated in terms of how they impede wildlife movement. In-ground swimming pools, which are stated as discretionary but possible on the house sites, can have a major impact on migrating wildlife. There are mitigation strategies to avoid this including wildlife-excluders incorporated into pool fencing. In short, apart from placing the site into a larger regional conservation context, the conservation analysis and design applied at the meso and micro levels fail to protect the ecological integrity of the site, and are reasonably likely to cause unreasonable and lasting significant impacts to the natural resources on and off the site.

Response 3B.68: The commenter asserts that the micro-scale needs have not been considered sufficiently in the DEIS when assessing the appropriateness of a conservation design.

HHR utilizes green construction, LEED Platinum certification and aims for zero-net energy use. The following Low Impact Development (LID) stormwater management concepts will be used in construction of HHR:

- Riparian buffers
- Soil restoration
- Velocity dissipaters
- Dry swales

The proposed road system will involve no new wetland or stream crossings. The emergency road access road that connects the end of Reserve Road to Horton Road, crossing over a braided stream/wetland system, already exists. It is a gravel road built several years ago by a previous owner. It was built under the Open Development Area roadway standards, which is used extensively throughout Philipstown. The road is built with little grading beyond that

necessary to shape the road. There are no curbs. Because this roadway will only be used for emergency services, it will be used very infrequently. Because it will be used infrequently, there is little, if any threat of animal/amphibian mortality and requiring crossing tunnels is not necessary in this area.

The remainder of the road system, except for the entry road from Route 9 is designed in accordance with the Town Road standards, without curbs. If the entry road from Route 9 is constructed, the applicant will be required to substitute “cape cod” or mountable curbs instead of the standard curbs in this area. The need to provide crossing tunnels along Highland Trail is apparent in the vicinity of station 2+50, 11+00 and 20+00. The applicant will be required to show crossings at these stations on their final plans.

The HOA Residential Design and Maintenance Rules and Regulations prohibit exterior swimming pools (both in-ground and above ground). Any pools must be enclosed within a structure that is part of or attached to the residence. There will therefore be no threat to wildlife from pools. Catch basins will discharge to daylight bioretention areas, level spreaders, or velocity dissipaters. Any small wildlife that may inadvertently fall into a catch basin/storm drainage system would have an available exit to return to a natural habitat. Hydrodynamic separators are not being proposed as part of this project.

As can be seen in the DEIS (p. 66), the state of Ulmar Pond will be improved to the benefit of wildlife.

See Response 3B.54 regarding how the forest canopy will be maintained to the greatest extent possible.

See Response 3B.67 and 3B.71 for a discussion of perforation vs. fragmentation.

Comment 3B.69 (Audubon): We have learned over the past decades that fragmentation of forests result in increased invasive plants and decreased native plants. Many non-profits in this Town have supported the 'green corridor'' concept that allows wildlife species to migrate and survive unhindered by buildings, roads and other developments. Putnam Highlands Audubon, Constitution Marsh Audubon, Hudson Highlands Land Trust, Scenic Hudson and New York State Parks have all worked together for many decades to preserve lands in our community that form a "green corridor° and promote survival of our native flora and fauna.

Response 3B.69: The work done by Putnam Highlands Audubon, Constitution Marsh Audubon, Hudson Highlands Land Trust, Scenic Hudson, and New York State Parks to preserve lands for a “green corridor” and promote survival of native flora and fauna is to be applauded. Land preservation is accomplished through an array of methods including fee-simple purchase, donations, purchase of easements, and encouraging developers to set aside undisturbed land in their design. It is the intent of the Project Sponsor to constructively assist in this work by permanently preserving 163 acres in perpetuity. While this preserved land is not directly contiguous to other preserved land, it is in close proximity to Fahnestock State Park, and can serve to provide important habitat that supports the wildlife habitat function of Fahnestock. As it is also adjacent to other undeveloped parcels, the preservation of this land also serves to provide the future opportunity for these lands to be preserved and connected as

part of a greenway, even potentially eventually connecting to Fahnestock, and as such, can serve as part of a green corridor that is not open to future development.

Comment 3B.70 (Scenic Hudson): The area surrounding the proposed Hudson Highlands Reserve project site is widely known for its value to biodiversity and the natural beauty of the Hudson Valley. The site is within the NYSDEC Hudson River Estuary Program's Hudson Highlands Significant Biodiversity Area. Likewise, The Nature Conservancy recognizes the value of the large, continuous forests in this area with their Hudson Highlands Forest Block designation.

Any losses of habitat on this site are a loss to some of the largest and most intact areas of forest habitat in the Hudson Valley. Further, developments must conserve habitat corridors to allow wildlife (including threatened and endangered wildlife known to occur in the area) to move between habitat types on and off the project site, including travel between wooded uplands, Ulmar Pond, and Clove Creek. The applicant's preferred alternative, particularly when proposed under the guise of a conservation subdivision, does not conserve these corridors and, moreover, fragments the site.

For the reasons above, a more concerted effort should be made to cluster the development. Minimizing its footprint and including strong mitigation measures are critical to minimizing the development's negative impacts on this notable forest and biodiversity.

Response 3B.70: **T**he Hudson River Estuary Wildlife and Habitat Conservation Framework notes that the entire Hudson River Estuary corridor is a significant biodiversity area. Figure 3 in this document maps the areas, but not in detail. It appears that there is no differentiation between the HHR property designation and the surrounding developed area. The Nature Conservancy often identifies land with high conservation potential for use in its strategic planning. The Nature Conservancy may have identified a Hudson Highlands Forest Block, though no map or description of the designation came up in a search on the Nature Conservancy website.

The proposed project is a conservation subdivision, meeting and exceeding what is required under the Town Code. About 77.6**%** of the project site will be permanently preserved, and the project has been designed to avoid environmental constraints. The proposed plan preserves the portions of the property with the highest potential wildlife habitat value and wildlife corridors, as well as cultural resources. All site wetlands and watercourses will be preserved completely undisturbed. The Clove Creek floodplain and the adjacent uplands will be preserved. The Clove Creek Floodplain is connected via a tributary to Ulmar Pond, which constitutes the primary wildlife corridor between the two. Recent revisions to the project plan increased the amount of land preserved in a natural state and expanded areas for wildlife movement.

See the Introduction on pages 1 through 4 for a discussion of the revised design of the proposed project, and the reduction of the footprint (area of disturbance) from the DEIS plan to the FEIS plan.

Comment 3B.71 (Gordon): Perhaps, someone could explain the section in the draft environmental impact statement of Sections B.2.C entitled, Forest Fragmentation Impacts. It concludes -- it's concluding sentence states, quote, There will be no true fragmentation though

there will be some habitat perforation. The use of the adjectives "true" and "some" seem to be quite telling, sounds a bit like being a little pregnant.

Response 3B.71: DEIS Section B.2.C states “There will be no true fragmentation, though there will be some habitat perforation.” To clarify this statement, Sharon Collinge, in her book “Ecology of Fragmented Landscapes” gives a thorough and scientifically accepted description of differences between habitat loss and fragmentation, as well a description and figures describing loss, fragmentation, and perforation. Perforation refers to a reduction in habitat in specific locations while all the remaining surrounding habitat is connected. Fragmentation is a reduction in habitat where segments of the remaining habitat are not connected to each other. Both Foreman (1995) and Collinge (2009), who have published and continue to publish extensive research on habitat reduction and fragmentation, are very precise in their use of these terms. Perforation is often seen as a phase of habitat loss leading to fragmentation. First there is shrinkage or perforation, then perhaps followed by bisection or fragmentation. Where the matrix of the forest is preserved, however, such as through a conservation easement, the impact would be limited to perforation without leading to fragmentation. These are all types of habitat loss with different spatial configurations. Some researchers, reporters, and writers of news or texts for the general public are not as precise as the main practitioners and use fragmentation as a shortcut term for all of these types or phases of habitat loss. The literature contains both uses. Habitat perforation, bisection and fragmentation almost always involve habitat loss. Both loss and fragmentation processes of landscape habitat change generally have adverse effects on overall landscapes for wildlife and native plants. The mechanisms are often different, and thus scientists make a distinction between fragmentation and loss. Some species are more responsive to spatial configuration than others. There can be and often is an increase in edge habitat with perforation. The proposed project will cause some elimination of the existing forest and habitat loss. As all preserved areas will remain interconnected, the proposed area of disturbance would be considered a perforation into the forest with an increase of edge habitat. This impact will be mitigated by the permanent preservation of 163 acres under a Conservation Easement, the elimination of some areas of invasive vegetation, and the replanting of disturbed areas and residential landscaping with native species.

Comment 3B.72 (Hammond): Recommendations were made to minimize impact on increasing fragmentation of forest by defining a specified building envelope on each lot, prohibiting the removal of vegetation outside this envelope during construction. I see no evidence of this recommendation being proposed by developer.

Response 3B.72: The Project Sponsor has developed a modular building system that can be semi customizable while fitting into the 2,500 – 3,000 square foot range and suggested locations on each lot that will minimize impact to the surrounding vegetation and the extent of perforation (see Responses 3B.67 and 3B.71 for a discussion of perforation/fragmentation). Any subsequent modifications to the lot are at the homeowners’ discretion, subject to HOA and local building department approval.

The largest concern expressed regarding fragmentation or perforation was along Ulmar Pond, the area from which lots have been withdrawn on the revised plan. This reduction in lots will reduce the level of perforation in an area of specific concern and further allow wildlife migration across and around the pond.

Restricting development to a specific building envelope on each of the lots will do little or nothing to avoid perforation. It is the clustering itself and locating the development as close as possible to Route 9 and existing areas of development that has a mitigative effect. Developing nearer to Route 9 keeps the development away from the undisturbed forest to the east and southeast of the property and minimizes perforation impacts. Because the lots are clustered, building envelopes would be close to each other and will have little or no positive value with regard to perforation. The designers estimated that on average, 36.3 percent of the area within the residential lots will remain undeveloped and have elected to not use building envelopes in order to maximize design possibilities. Lots are not permitted to be clear cut and covered with lawn. Rather, approximately 36.3 percent of the residential lot area will remain undisturbed as a result of the restrictive rules imposed by the HOA. For additional discussion regarding development on the residential lots, please see Response 3B.12.

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C. ZONING AND LAND USE

Comment 3C.1 (AKRF): ZONING AND LAND USE Figure 20 from the Water Resources section of the DEIS shows the boundaries of the Clove Creek Aquifer and Regional Aquifer subdistricts of the Town's Aquifer Overlay District in relation to the project site and proposed limits of disturbance, but they are not shown as overlays on the zoning map (Figure 8) nor are they discussed in the text on existing zoning conditions on page 108 — only the Open Space Overlay is mentioned. The FEIS should describe the applicability of the aquifer overlays on the proposed project and how the project will comply (i.e. the requirements of Town Code section 175-16 and the special permit approval necessary).

Response 3C.1: The limits of the Clove Creek Aquifer and the Regional Aquifer have been added to the Constraints Map of the plan set and to Figure 8 of the DEIS. The revised DEIS Figure 8 is provided as FEIS Figure 14 on the following page.

The existing zoning conditions on page 108 should have identified the Town's Aquifer Overlay districts as including the lands of the Hudson Highlands Reserve. The below table provides a breakdown of the Hudson Highlands Reserve lands by Aquifer District.

Table 14: Hudson Highlands Reserve – Lands within Aquifer Overlay District	
District	Area (Acres)
Regional Aquifer (RA)	167.6
Clove Creek Aquifer (CCA)	42.5
Total	210.1

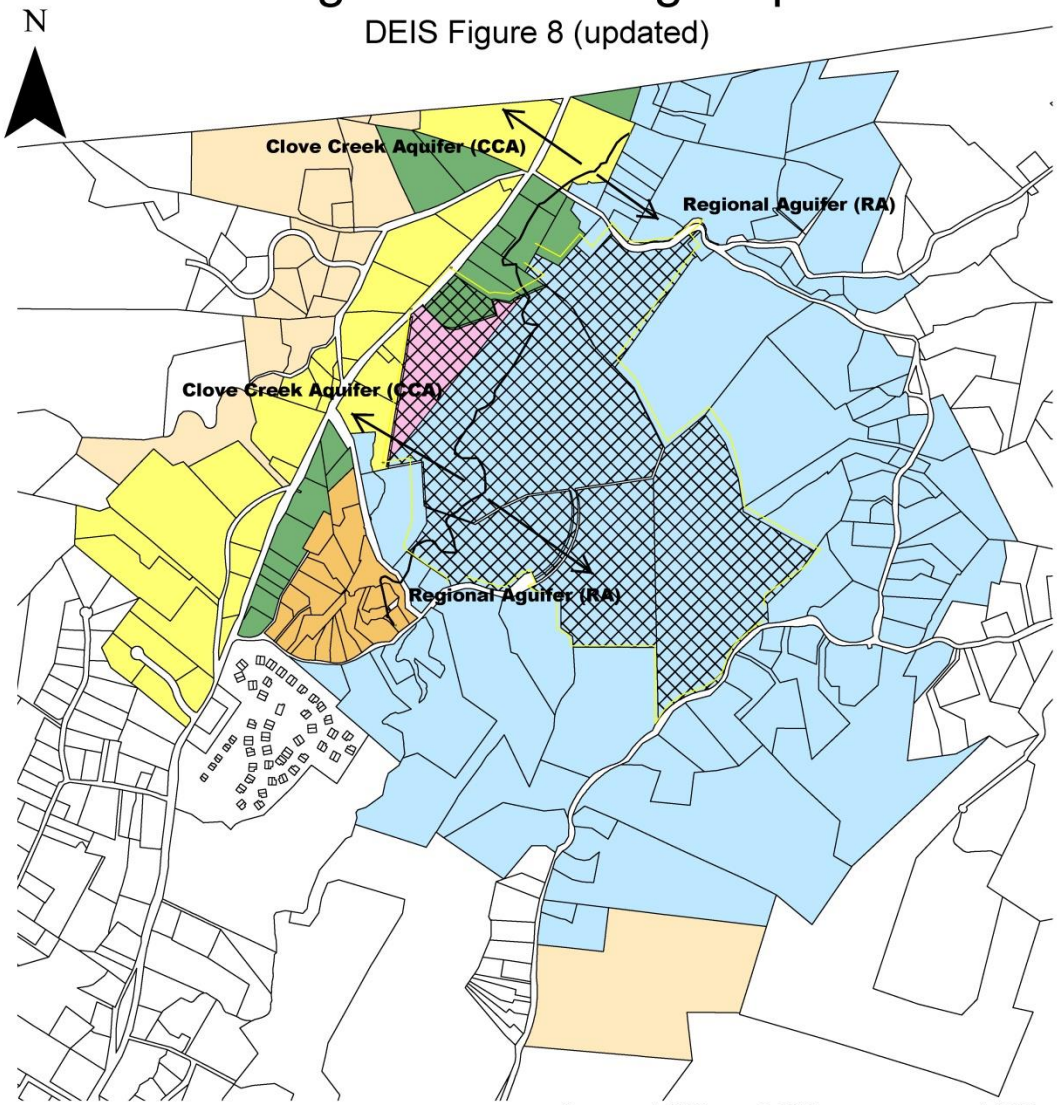
Section 175-16E prohibits certain uses and requires Special Use Permits for others. The Hudson Highlands Reserve project does not specifically include any of the prohibited uses. However, it is possible that one of the owners of the homes to be constructed with the Hudson Highlands Reserve would seek approval to install underground fuel tank(s) that have a cumulative capacity of 1,100 gallons or greater. This is prohibited throughout the town and will be so noted in the *"Residential Design and Maintenance Rules and Regulations"* that are included as Appendix J in the DEIS. This notation, the plan review by the HOA, and the Code Enforcement Officer of the Town of Philipstown, in combination, will assure that this prohibition will not be violated.

As originally proposed, arguably, the equestrian center may have been viewed as "Storing" manure (Section 175-16E (3)l). As originally proposed, the manure was being "collected" for routine removal from the Hudson Highlands Reserve. Because the equestrian center will not be built, there will be no storage of manure and therefore a Special Use Permit is not required.

Similarly, because the equestrian center will not be built, there will be no reason for a large staff and equipment to plow snow. Snow removal will be contracted out and there will be no storage of road salt within the Hudson Highlands Reserve property. Accordingly, a Special Use Permit is not required.

Figure 14 Zoning Map

DEIS Figure 8 (updated)



0 1,000 2,000 4,000 Feet

1 inch equals 1,500 feet

ZONING DISTRICT

- HHR SITE
- HC
- M
- OC
- RC
- RR
- SR

BADEY & WATSON
Surveying & Engineering, P.C.

Land Use source 2018 Town of Philipstown Final Tax Assessment Roll map prepared by Badey & Watson, January 2018
rev March 2021

Comment 3C.2 (AKRF): The two paragraphs on the top of page 112 include repetitive language when referring to the 11.1 acre area of the project site proposed for rezoning from M to RR and subsequently planned for conservation purposes. If this language will be used in the FEIS, please consolidate the language into one paragraph as follows:

"The 11.1 acres of this property is categorized as having a high or medium conservation value, with 2.0 acres categorized as having a high conservation value and 9.1 acres categorized as having a medium conservation value. This land is adjacent to Clove Creek and fronts Route 9 and contains steep slopes, wetlands, and significant water ecology, making it unsuited for most uses permitted in the M district. Rezoning the 11.1 acres from M to RR will allow the Applicant to designate this portion of the property, except for the area needed to accommodate the road that is necessary to access the developed areas of the Reserve, as open space and preserve it under a conservation easement. This action will allow the property to be compatible with the surrounding area and future development."

Response 3C.2: This repetition is the equivalent of a typo, caused by moving a paragraph from another part of the document with the intent of streamlining the two paragraphs into one paragraph as suggested by the commenter, but then neglecting to do so. The paragraph suggested by the commenter is accurate, and obviously an improvement over the "typo" in the DEIS. Unfortunately, while the mistake is annoying, the DEIS can't be changed at this point. There is, at least, no contradiction inherent between the two paragraphs.

Comment 3C.3 (HHLT): Land Use and Zoning (Section IV.C of DEIS) Requirement for Contiguous Open Space and Wildlife Corridors is Not Met: Section 175-19B of the Zoning Code states: *"Conservation subdivision results in the preservation of contiguous open space and important environmental resources […]".* Section175-20H (2) states that the required open space must be *"protected from development by a conservation easement and does not result in fragmentation of the open space land in a manner that compromises its conservation value."* However, the applicant's proposed conserved open space is cut in two distinct pieces by the houses that line the western side of the pond. This fragments habitat for amphibians and reptiles as noted in the Coleman September 2014 letter included in the Conservation Analysis (Appendix C CD Pages 7 and 232). Furthermore, the layout of the equestrian facility constricts the corridor from the steep slopes on the east side of the property to Ulmar Pond.

Response 3C.3: The Project Sponsor believes the current design provides interconnections among all conserved areas of the project site. The newly revised plans reduce the number of homes around Ulmar Pond, which according to the Project Sponsor, expands this connection further. The equestrian center has been removed as an element of the proposed project.

Comment 3C.4 (Ewen): Forty horses is a lot of horses. Now, according to the zoning regulations of the town of Philipstown, each horse requires an acre. If you own a horse, you have to have it parked on an acre. And I'm -- it's not 40 acres and a mule. I want to know if there's 40 acres set aside for the 40 horses who will poop and pee. And that's a lot of consideration those of us who are going to live nearby.

Response 3C.4: The Equestrian Center has been removed as an element of the proposed project.

Comment 3C.5 (Prentice): So amongst the things that the comprehensive plan says about open space development, I'm going to read from Chapter 3, Section R, capital letter R, 2.4. "Allow open space (cluster) development, with safeguards to ensure that such developments do not lead to more development than would otherwise occur and that they preserve open space that the town wishes to protect." Just going to repeat one of the clauses, "With safeguards to ensure that such developments do not lead to more development than would otherwise occur." Now, I don't understand as much about this application as you do, but my interpretation is that because we are in the open space overlay, then the applicant was doing -- they were doing a conventional application would have the opportunity to build houses. This plan calls for 25 houses and calls for a commercial equestrian center capable of housing 40 horses.

Response 3C.5: The quoted clause was not adopted into the Zoning Code, and therefore has no regulatory bearing. As noted in the DEIS and elsewhere in the FEIS, the proposed lot count was developed by the Project Sponsor and the Town's consultants in conformance with the requirements for a conservation subdivision as outlined in the Zoning Code. The Equestrian Center has been removed as an element of the proposed project.

Comment 3C.6 (Hammond): The rebuttal to almost all concerns or requests is the repetition that the HHR is preserving 170.8 acres of land with higher conservation value and therefore whatever negative environmental effect generated is acceptable. I disagree. This land was already preserved from development by current regulation. Stubbornly insisting that that is enough value to get away with doing whatever one wants is not a valid argument.

Response 3C.6: The area of the project site proposed for conservation is not prohibited from development by current regulation. As the Project Sponsor has noted, approval was granted for another home to be built within a portion of the proposed conservation area. Some of the area, but not all, falls under wetlands and steep slope regulations, but these regulations still allow development through a permit process. The Project Sponsor's intent is to permanently prevent development of 163 acres of this privately held land through a Conservation Easement.

D. COMMUNITY CHARACTER

D.1. Surrounding Development

Comment 3D.1 (Rogoff): Now, there are plans for commercial events and classes and manure machinery on their website. I reviewed their website, and it states, quote, the essential attraction as to the development is the equestrian facility. We have determined the equestrian center, clubhouse, have paddocks to compose the amenities package for the development including a separate building, housing a second indoor arena and spectator area.

It now appears that they represent that this development will not use community roads, schools, and other resources such as our water, our light, our wildlife, our air. It does not make sense that people will pay millions of dollars not to use our community resources. Their representations appears to be green wash.

Response 3D.1: The Equestrian Center has been removed as an element of the proposed project. The 22 new homes will add a minimal amount of additional traffic onto local roadways, and if the homes end up being occupied year round, and all send their children to public schools, the impact from 22 new homes would again be negligible. Water supply will be derived from wells onsite, and the aquifer recharge that occurs within the bounds of the project site far exceeds the demand that would exist.

Comment 3D.2 (Wendel): I moved here for the hiking and the beauty of this area which is so famous, historically. And, frankly, I moved from 114th Street in New York City, and I think this area is well-known for its unbelievable beauty, for the hiking opportunities. Look at all the young people getting off the train every weekend in Cold Spring and Garrison for the hiking. And I would like to say that this -- to call this spot, this subdivision a conservation subdivision is extremely unfair to that new generation of hikers and nature lovers. And it sends the wrong message to people like my 28-year old daughter and her boyfriend who love this area for its beauty and its historic properties. And, I think, in addition to being extremely important for -- to have the first conservation subdivision truly be a conservation subdivision, with the qualities that Michelle Smith discussed in her prospective in the PCNR. It's also important to remember that, ultimately, it will greatly reduce housing price and the value of properties in this area to have this type of subdivision and to turn this area into a suburban community when it has such unique properties that are so important to the housing values and property values here. And to its fame and its prominence, historically. And I beg that consideration to be made in this process.

Response 3D.2: The proposed project is not on public land, and would not take away any land that could be enjoyed by hikers and nature lovers. By placing a Conservation Easement on a large piece of forested land, it opens up that land not previously available for the enjoyment of hikers and nature lovers who would live within the proposed subdivision, and potentially for others in the future. It is the Project Sponsor's opinion that the anticipated value of the proposed homes will be greater than those in surrounding neighborhoods, and if anything, could enhance the value of nearby homes, not reduce them.

Comment 3D.3 (Majeski): Have we thought about the mental health of the people of this community? The noise, the traffic, the anger, that this will bring upon the people within that area? You really have to think about the mental health of what people will feel, the stress on the

road there constantly, and the sound of chainsaws every day drilling, all of that noise, I really take that into consideration. And there is a reason that all these people pointed out several things here. The law. The law is in place to protect land, and what you're here. Those laws were written for reasons.

Response 3D.3: The proposed project is being reviewed in accordance with all applicable local, state, and federal laws. The Project Sponsor would be required to adhere to all applicable regulations related to construction in the Town Code.

Comment 3D.4 (Kantor): After reading most of the documentation available through the town hall and listening to the many criticisms leveled by diverse parties at the hearing, it is difficult to imagine a worse development proposal. Unlike Glassbury, which transformed a run- down quarry into a bright, attractive and socially useful addition to the Highlands, the HHR plan has few redeeming features. As specified in the planning materials, this development proposes to transform a pristine and ecologically important area of the highlands into a hideous commercial and residential enclave. The HHR will bring into a delicate ecological environment a large polluting commercial horse-riding business that is harmful to wildlife that will stand out as an anomalous scar in an otherwise green and pleasant setting. A wide variety of critics have pointed out the enormous increase in traffic that will result from this development, as well as the substantial pollution of land and water in our neighborhood by a large concentration of horses feeding and excreting.

The residential parts of this development are also questionable. Unlike Glassbury, which has added significantly to the area's housing stock with more than 90 homes dedicated to underserved residents (seniors and civil servants), the HHR proposes 25 homes aimed at the luxury market and part time residents seeking weekend retreats. The ill-conceived housing plan has been judged to choke off access by valued wildlife to critical ponds and waterways, while only leaving less valuable (to wildlife) landscape on surrounding slopes. Although the area should be open to weekenders, it should not be at the price of accommodating a large quasi commercial development that has so many negative consequences for the environment.

Response 3D.4: The Equestrian Center has been removed as an element of the proposed project. Homes are now proposed in the area previously proposed for the Equestrian Center, but have been placed to allow a corridor surrounding the preserved watercourse/wetland system draining to Ulmar Pond.

The bulk of the area proposed to fall under a Conservation Easement has been officially characterized as having high conservation value, and includes Ulmar Pond, Clove Creek, all wetlands, all watercourses, and all the floodplain within the project site. It contains the highest value native vegetation associations, the highest value wildlife habitat, and the highest value wildlife corridors.

As depicted on the project plans, the closest proposed home to Ulmar Pond is 171 feet from its edge – about 71 feet beyond the regulated distance of 100 feet. All other development will be well in excess of 200 feet from any open water. The primary wildlife corridor between Clove Creek and Ulmar Pond is the connecting watercourse that drains Ulmar Pond to the Clove Creek, which will be untouched.

D.2. Aesthetic or Visual Resources

Comment 3D.5 (Osborn, NY/NJ Trail Conference): I work for the New York New Jersey Trail Conference. We work to protect trails from erosion and trails -- protect them from overuse and improper use, and protect them from various other threats.

Have you ever been to the top of a mountain and seen a beautiful view, a beautiful view that features a single blemish in the middle of nature? The Hudson Highlands Reserve project site is directly east of one of the most popular parts of the state. The Hudson Highlands State Park includes the number one most popular day hike in North America, Break Neck Ridge. From the top of the ridge there is an amazing view to the east over rolling hills, over all of Fahnestock Park. There's nothing but green hills as far as you can see. There is some development along the Route 9 corridor, but it is all concentrated right along the road. All the hillsides above are completely undisturbed. The view is spectacular. You cannot tell where Fahnestock Park begins or ends.

The proposed development would be seen from that viewpoint and every other viewpoint along the Fishkill Ridge and Scofield Ridge. There are a total of 11 viewpoints. All of them look directly east across the green hills. The proposed development would be the only blemish or scar in every one of those 11 viewpoints. The houses will be clearly visible from the trails. The equestrian facility will take up far less of the view than the houses, but at 160,000 square feet, it is the same size as a Walmart Super Store which is 170,000 square feet. The proposed development will damage the views and damage the trail experience. We, at the trail conference, created a view shed analysis, and the data clearly shows that the development will not be hidden at all. I ask that a genuine view shed analysis be ordered.

Response 3D.5: The impact of the view from Scofield Ridge is discussed on page 135 of the DEIS, and depicted graphically in DEIS Figure 36. The existing conditions assessment in the DEIS found that no views to the proposed subdivision would be provided from Fahnestock State Park. In addition, a supplemental visual assessment from Scofield Ridge was conducted by the Project engineer in April 2021 and included as FEIS Appendix E. It is anticipated that only the entrance road from Route 9 will be visible from Scofield Ridge. To challenge the DEIS analysis, the commenter provides an analysis that is provided as a “before and after” set of graphics on the following page (Figure 15).

The “before” picture is a photo taken from the Fishkill Ridge Trail. It accurately depicts the existing view, which includes the developed landscape along Route 9. It also shows what appears to be unbroken forest from that point through to Fahnestock Park. The commenter states that “all the hillsides above are completely undisturbed.” This statement is, however, not true. Within this view are a multitude of homes, including those on East Mountain Road North, East Mountain Road South, Esselborne Road, Babbling Brook Lane, High Road, Stone Hill Road, Crest Road, Horton Road, Mill Road, and more. Due to topographic conditions and forest cover, none of these roads, nor the many homes located on them, are visible in this view. Possibly more importantly, three extant homes and an historic barn that currently stand on the project site are also hidden in this existing view from the trail. Not even Ulmar Pond is visible.

Figure 15: NY/NJ Trail Conference View Graphic

To the contrary, the “after” picture incorrectly depicts a proposed road system and structures drawn as if they are floating on the treetops, with no regard for topography or forest cover. Even though none of the existing roadways listed above are currently visible from the trail, this analysis suggests that every bit of the new roadway system would be seen. Each structure is also depicted as being seen from the foundation to the roof. The historic barn and the home that are being preserved, which are completely invisible in the “before” picture, are depicted in the “after” picture as now also being seen from foundation to roof. Obviously, this depiction is incorrect, and serves to illustrate the unreliability of this analysis.

In contrast, the visual impact analysis in the DEIS correctly takes into account lines of sight, topographic conditions, and tree cover, and analyzes the impact not only from Scofield Ridge (on the Fishkill Ridge Trail), but also from 12 separate points of view located in surrounding neighborhoods and roads. The proposed design seeks to preserve as many trees as possible on the lots surrounding the proposed residential units. The height of the proposed homes will be approximately 30 feet, well below the height of these trees and the surrounding preserved forest. The Equestrian Center has been removed as an element of the proposed project, and is no longer a factor in regard to visual impacts. As noted in the DEIS, construction of the entrance road will remove trees from the west-facing slope bordering Route 9, which will result in an unavoidable impact that will be visible from both Route 9 and Scofield Ridge, but this impact is minimized by its close proximity to other development along Route 9 that have already impacted this same viewshed. It is anticipated that other than the entrance road, the project will result in no adverse visual impacts.

Comment 3D.6 (HHLT): Community Character (Section IV.D of DEIS): The proposed site plan is one of a sprawling subdivision spread across the developable area of the property, and placing the undevelopable areas in a conservation easement. The DEIS does not include a visual analysis or simulation from Scofield Ridge or Fahnestock State Park as required in V.D.b.1 of the Final Scope. Rather, there only is a site-line *(sic)* illustration from Scofield Ridge. While DEIS Appendix T promises a viewshed analysis of nine scenic points along Scofield Ridge, those pages are missing from Appendix T and do not seem to be elsewhere in the DEIS. In any case, the viewshed document in Appendix T is from 2011 for a proposed soil mine and not for the proposed Conservation Subdivision. There is also no viewshed analysis from Fahnestock State Park, even though this area is specifically flagged in the Philipstown Natural Resources and Open Space Plan as being visible from trails in Fahnestock.

Response 3D.6: The sight-line illustration from Scofield Ridge is an accepted method of depicting a visual impact analysis. Figure M-1 in Appendix T graphically summarizes the viewshed impact within 5 miles. The additional figures are attached to this FEIS as Appendix E. These figures are somewhat misleading, however, in that they depict the potential area that may be visible from the studied vantage points, even if that involves only the top of trees. These graphics do not suggest in any way that a structure with trees preserved around it will be visible from these same points. The visual impact of the soil mine, which would have completely removed all the vegetation from the slope facing Route 9 and left a broad scar, would have been much more noticeable due to the nature of soil mining than the visual impact created by the proposed project. This analysis serves to illustrate the potential impact that could occur under an alternative use that is allowed under the current zoning.

The only portion of the project site potentially visible from Fahnestock State Park is the eastern portion of the property that would be preserved under the Conservation Easement. The proximity of this portion of the property to Fahnestock was one of the key reasons why this area is proposed to be preserved. Due to intervening topography, the area proposed for development cannot be seen from Fahnestock.

The characterization of the proposed project as "a sprawling subdivision spread across the developable area of the property" doesn't take into account the context of the surrounding preserved land. Any land development is going to directly adversely impact the immediate portion of the land being developed. The point of clustering development, however, is to limit the impact to a portion of the property and preserving the rest. In this case, only 38.1 acres, or 18.1% of the property, are proposed to be disturbed, and 163 acres, or 77.6% of the property will be permanently preserved in a natural state.

Comment 3D.7 (HHLT): The Final Scope called for a visual analysis of the subdivision from both Scofield Ridge in Hudson Highlands State Park and from Fahnestock State Park (Final Scope V.D.1.b.). No such visual analysis is provided in the DEIS. Rather, DEIS Page 136 shows a site-line illustration between Scofield Ridge and the proposed development, but does not show what the development would look like from Scofield Ridge – i.e. a visual simulation. Appendix T includes an old visual study for a soil mine from 2011, but nothing specific to this Conservation Subdivision. The visual study in Appendix T references Exhibits M4 – M12 with the viewshed analysis for nine viewpoints on hiking trails along Scofield Ridge, but those pages are not included in Appendix T of the DEIS (only Exhibit M1 is included). Therefore, the DEIS does not appear to include any viewshed analysis or visual simulations along Scofield Ridge. Even if it did include the old analysis from the mining project, it would not be suitable to reflect the visual impact of the Conservation Subdivision.

Response 3D.7: The DEIS Scoping Document adopted by the Planning Board provided an outline for assessing visual impacts as follows:

1. Existing Conditions
a. Identify existing pattern and scale of development surrounding the site and within 1/4 mile of the site.
b. Identify any aesthetic or visual resources on the site and within 1/4 mile of the site, including views from Scofield Ridge and Fahnestock State Park.

2. Anticipated Impacts
a. Potential conflicts with neighboring pattern and scale of development.
b. Potential aesthetic, visual, or other impacts related to the proposed location of homes and size of the proposed equestrian center.

Rather than calling for *"a visual analysis of the subdivision from both Scofield Ridge in Hudson Highlands State Park and from Fahnestock State Park,"* the Scoping Document requires under an "Existing Condition" the identification of "any" aesthetic or visual resources on the site or within 1/4 mile of the site, including as may be seen from Scofield Ridge and Fahnestock State Park. The discussion of these existing conditions is provided as required in the DEIS, including the view from Scofield Ridge. No such views exist from Fahnestock State Park, and accordingly, none were identified in the DEIS.

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The Project Sponsor believes the assessment of Anticipated Impacts does not, contrary to the statement in Comment 3D.7, require a specific type of visual impact analysis from Scofield Ridge, Fahnestock State Park, or any other point. Neither does it require any analysis from a point if no view from that point is identified. As the potential for a visual impact was identified in the existing condition, an analysis of the visual impact from Scofield Ridge was provided in the DEIS. Contrarily, as no existing condition view from Fahnestock was identified, likewise, no impact assessment was necessary.

The Scoping Document is silent on the form in which the visual impact assessment was to be presented, and as such, a "visual simulation" from Scofield Ridge was not required. The sight-line cross-section provided is a long accepted method of presenting this type of analysis.

Comment 3D.8 (HHLT): Furthermore, no visual analysis from Fahnestock State Park is included, even though the Philipstown Natural Resource and Open Space Plan specifically calls out visual impact of this area as one reason why it was identified in the Open Space Inventory, as Area 17: East Mountain (Natural Resource and Open Space Plan Page 9). The rationale for including the area proposed for Hudson Highlands Reserve in the town's Open Space Inventory reads as follows: *"Within the Clove Creek watershed, this area includes residential parcels accessed from East Mountain Rd North and South, Esselborne Rd, and Horton Rd. The ridge is visible from Route 9 and from trails in Clarence Fahnestock State Park."* (Open Space Index Page 4.)

Response 3D.8: The quote provided from the Open Space Inventory does not suggest that the entirety of the East Mountain area is visible from the trails in Fahnestock State Park, but rather that "the ridge" is visible. While "the ridge" is not defined or described, this phrase likely refers to the higher elevations above 800 feet, which is contained within the eastern portion of the property that would be placed under a Conservation Easement. Any proposed development on the property would be below an elevation of 500 feet, with some under 400 feet, and located on the downslope side of "the ridge" away from Fahnestock State Park. The views from Fahnestock would therefore be unaffected and, in fact, protected as a result of the proposed project.

Comment 3D.9 (Scenic Hudson): The draft environmental impact statement (DEIS) does not take into account visual impact from Scofield Ridge, asserting that views from these trails are unimportant and described as "distant views...and...seasonally available to all but the hardiest of hikers who might visit the ridge in the winter." This is not the case. The Wilkinson trail is mapped and maintained by the NY-NJ Trail Conference and Scofield Ridge is increasingly popular amongst hikers, even during leaf off conditions late fall through the spring.

Response 3D.9: The impact of the view from Scofield Ridge is discussed on page 135, and depicted graphically in Figure 36. In addition, a supplemental visual assessment from Scofield Ridge was conducted by the Project engineer in April 2021 and included as FEIS Appendix E. It is anticipated that only the entrance road from Route 9 will be visible from Scofield Ridge.

Comment 3D.10 (AKRF): Page 135: Similar to how other viewpoints are presented graphically in this section of the DEIS, a panoramic photograph depicting the view of the project site from Scofield Ridge should be incorporated into the FEIS to accompany the plan and profile section diagram already included in DEIS Figure 36. The text included in the third paragraph of page

135 is not fully supported by the plan and profile section drawing, and inclusion of a panoramic photograph of this viewpoint would provide further context for the lead agency to draw conclusions. This issue has also been raised as a concern during the public hearing.

Response 3D.10: Badey & Watson dispatched a field crew to the top of Scofield Ridge to photograph Route 9 and Hudson Highland Reserve (HHR) site. Badey & Watson also utilized Google Earth by projecting the proposed roads, the proposed and existing houses and driveways, the outer property line and the limit of disturbance onto the Google Earth Images. Care was taken to assure that the HHR data was inserted at its correct geographic location to help visualize the potential impacts that construction of the subdivision might have on the views from hiking the trails on Scofield Ridge. Two camera locations were selected because they presented wide panoramic views that included the HHR project area. The camera positions are labeled HHR camera location N and HHR camera location S, on Appendix E, which also Thalle Industries, a rock quarry, to the north, to Glassbury Court, a 90 +/- unit residential development, to the south of the proposed HHR Conservation Subdivision.

From the images found in Appendix E, it can be determined that, although there will be portions of the proposed entrance road and portions of some of the proposed houses visible from Scofield Ridge, the majority of the disturbance will be shielded from view by the topography of HHR and the trees that are to remain between Route 9 and the construction within HHR.

It is noted that the quarry at Thalle and the soil mine Century Aggregate, to the North, and Glassbury Court, to the South, dominate the Route 9 Corridor. The mountains further East are dappled with existing houses. As the graphics show, most of the roads and houses to be constructed in the HHR Conservation Subdivision will be hidden from view due to the topography of the site and the location of the development within the site. The small glimpses of houses or roofs will do little to change the overall characteristic of the viewshed.

In order to mitigate potential visual impacts of HHR when viewed from points to the west, including Scofield Ridge, the project sponsor will require that the following measures be taken.

a. Selective tree cutting on residential lots to accommodate the placement of homes in a forested setting (no clear cutting will be permitted);
b. Planting of new trees along the Route 9 access road to provide screening; and
c. Use of natural colors/earth tones for building materials including siding and roofing.

Comment 3D.11 (Chester): It sounds like all the buildable land, (I am not sure 45 acres?) is going to be a “clear cut” all the trees will be cut down. I’m assuming that all around the houses and horse area, ALL the trees will be removed. Since this is an HOA, I don’t believe that any of the owners can plant trees and NEVER will there be a tree canopy to hide the subdivision from the vista points.

Response 3D.11: The area of potential disturbance has been reduced from 45 acres to 38.1 acres. Except for what may be necessary within the proposed road rights-of-way and the septic system areas, clear cutting will not occur on site. The Project Sponsor has represented that trees will be cut selectively on residential lots with the intention of nestling the proposed homes within a forested setting. The Project Sponsor’s current schematic designs for the new homes do not exceed three (3) stories above grade. Based on standard design and construction practices for a single family home the roof line will be between thirty-six (36) and forty (40) feet

above grade. The Project Sponsor has provided HOA regulations requiring that site plans for all construction be approved by its Architectural Review Board. Approval of the project will be conditioned upon these regulations being adopted and adherence to them being a condition of ownership. While the rules discourage the planting of non-native species, they fully allow the planting of native trees and plants. The Equestrian Center has been removed as an element of the proposed project and therefore there is no longer a need to clear cut for the large equestrian center building, paddocks and parking field. Philipstown's Zoning Code requires site plan approval for any residential building with a footprint that exceeds 3,000 square feet. These requirements regulate landscaping and will serve to further prevent any clear cutting on private lots. Philipstown Zoning also limits the height of buildings to 40 feet or 3 stories. The forest, which contains many trees that exceed this height, will also serve to screen the project from view.

Comment 3D.12 (Rauch): Nowhere does the Applicant show concern for the impact that the proposed equestrian facility will have on scenic views from parklands controlled by New York State. Much of the land in those parks was donated to the State by citizens who believed that its scenic beauty would be zealously protected for future generations to enjoy. The Applicant has taken no measures to assess the impact that his "conservation subdivision" would have on that enjoyment. Surely, visual simulation, including balloon tests, should be required to demonstrate what damage to the scenic value of the protected land would ensure from construction of the equestrian facility.

Response 3D.12: The Equestrian Center has been removed as an element of the proposed project.

IV. ALTERNATIVES

Comment 4.1 (AKRF): The proposed site plan resembles large-lot residential and should be further reduced in footprint to constitute a true cluster subdivision. With a community septic system, as is proposed, it appears that significantly more centralization/consolidation, i.e. more cluster, could be achieved than is proposed at present. Such consolidation will undoubtedly improve habitat preservation in-line with the identified conservation values of the land as explored in the Conservation Assessment and DEIS. The proposed Alternative D, Cluster Subdivision with 1/2 acre lots, offers some benefit by preserving more of the terrestrial-aquatic habitat linkages by eliminating houses around Ulmar Pond and eliminating one of the two drives off Horton Road, but does not substantially reduce impacts to the onsite habitat overall and adds a longer cul-de-sac extending northeastwards. A cluster layout alternative more protective of onsite habitat is warranted.

Response 4.1: The Project Sponsor believes that HHR meets the provisions of the Town Code, which a large variety of lot sizes. The minimum lot size in the Rural Residential (RR) District is 3 acres, and 5 acres within the Open Space Conservation Overlay District (OSO). Reducing the proposed lot size to one acre (below the minimum required in the RR zone and OSO overlay) while setting aside 163 acres, or 77.6**%** of the project site for conservation is what the Project Sponsor is proposing to meet the Town Code's definition of a conservation subdivision. Reducing the lot size further from one acre would adversely lower the value of each residential unit and seriously threaten the financial viability of the project, and there is no requirement in the Zoning Code to do so. As the Equestrian Center has now been removed as an element of the proposed action, the proposed layout has become more consolidated, and further increased the preservation of undisturbed habitat over what had been previously proposed.

Comment 4.2 (AKRF): The following components of the proposed site plan should be reconsidered to reduce the site plan's ecological impacts:

a. Emergency access roads to north connecting with East Mountain Road and two roadways to south connecting with Horton Road appear redundant, and fragment the oak-dominated uplands from the more mesic, lowland forest and wetlands/streams to the south/west. Removing two of these roadways, most critically the southern drives that sever the connection between upland and wetland, is advised to retain critical movement of animals between aquatic and terrestrial habitats.

b. Onsite roadways need animal crossing tunnels (box culverts) especially at stream/wetland crossings to facilitate movement of animals from uplands to downslope wetlands. Similarly, such features as Cape Cod Curbing to reduce reptile/amphibian mortality is advised.

c. Lots 24, 25, 18, and 19 should be moved/removed/consolidated to preserve connectivity between Ulmar Pond and surrounding upland habitat.

d. Lots 13, 14, 15, 16, and 17 should be moved/removed/consolidated to protect less-disturbed, oak-dominated forest and reduce forest fragmentation.

e. Lots 9 and 10 should be moved/removed/consolidated to protect oak-dominated rocky spine exhibiting potential timber rattlesnake and/or copperhead foraging habitat identified by Coleman.

f. The Equestrian Center and its parking/amenities should be moved more centrally (northwestwards) to widen the habitat corridor between upland and wetlands (and Ulmar Pond)

Response 4.2: a. The two roadways connecting to Horton Road are pre-existing. There are no plans to improve them as part of this project. Otherwise, they will remain as is. The roadway that is part of the historic road will be permanently blocked. The other roadway will have a locked gate with a Knox Box containing a key available to emergency service providers to serve as an emergency access. The roadway connecting to East Mountain Road North is also pre-existing as a driveway that served a residential structure that is still standing. It is also part of the historic road. It will likewise remain unimproved, except for some regrading to get the emergency access below a 12% grade, and will have a locked gate and Knox Box with key available to emergency service providers to serve as an emergency access. As neither would be used except in the case of an emergency, there would be no impact on wildlife.

b. The project does not involve any new stream or wetland crossings. The emergency road access road that connects the end of Reserve Road to Horton Road, crossing over a braided stream/wetland system, already exists. It is a gravel road built several years ago by a previous owner. It was built under the Open Development Area roadway standards, which is used extensively throughout Philipstown. The road is built with little grading beyond that necessary to shape the road. There are no curbs. Because this roadway will only be used for emergency services, it will be used very infrequently. Because it will be used infrequently, there is little, if any threat of animal/amphibian mortality and requiring crossing tunnels is not necessary in this area. The remainder of the road system, except for the entry road from Route 9 is designed in accordance with the Town Road standards, without curbs. If the entry road from Route 9 is constructed, the applicant will be required to substitute “cape cod” or mountable curbs instead of the standard curbs in this area. The need to provide crossing tunnels along Highland Trail is apparent in the vicinity of station 2+50, 11+00 and 20+00. The applicant will be required to show crossings at these stations on their final plans.

c. The revised plan eliminates previously proposed lots #23, 24 and 25 as shown in the DEIS layout. Lot #18 is a pre-existing historic house and cannot be removed. There is no benefit to removing lot #19. Access to 100% of Ulmar Pond will be maintained through the preservation of a 140-foot buffer. Residential units will be developed around the northern half of the pond behind the buffer. No development will be placed at all around the southern half on the pond. The greatest degree of wildlife connectivity to Ulmar Pond will occur via the watercourse/wetland inflow into the pond and via the outflow, both of which will be fully preserved.

d. With the elimination of the Equestrian Center, the cul-de-sac serving previously proposed lots #15, 16, and 17 has been significantly shortened, and proposed lot #16 has been eliminated.

e. As documented by herpetologist Randy Stechert, the potential use of the property by timber rattlesnakes for foraging is nearly nonexistent. The location of the talus slope copperhead habitat suggested by Coleman was nowhere near previously proposed lots #9 and 10. The only identified talus slope is located offsite (see Response 3B.5), and the species itself has no protective status. In the revised plan, however, previously proposed lot #10 has been relocated due to its encroachment into the area characterized as having high conservation value, and

proposed lots #8 and #9 have also been relocated. The cul-de-sac in this area has also been greatly shortened, opening up an additional area for preservation under the Conservation Easement.

f. The Equestrian Center has been removed as an element of the proposed action, but proposed homes have now been moved into this area. The stream, wetlands, and wetlands buffer in this area were not proposed to be disturbed under any version of the proposed project. Likewise, they will not be disturbed if the most recent version of the proposed plan is approved. The shortening of Reserve Road, shown on the most recent plan and discussed in Response 4.2b above, resulted in moving the project elements further from the wetlands buffer line. The result is an increase in separation between the wetlands buffer and a corresponding widening of the wildlife corridor being preserved. The following table compares the distances from the wetland buffer, to the nearest proposed pavement, bio-area and building in the vicinity of the end of Reserve Road with the proposed plan contained in the DEIS.

Table 13

Design Version	Distance Between Wetland Buffer and Nearest Proposed		
	Pavement	Bio Area	Building
With Equestrian Center	45 feet.	40 feet	135 feet
Without Equestrian Center	165 feet	92 feet	145 feet

Comment 4.3 (AKRF): ALTERNATIVES Similar to the conclusive statements in terms of project viability for Alternatives A, C, D, and E, Alternative B should include a conclusive statement on whether this alternative is economically viable or not and what the environmental impacts would be. A few sentences would suffice, however this comparison is crucial for readers when evaluating the different alternatives and their impacts in comparison with each other.

Response 4.3: A conventional subdivision would produce larger lots with odd shapes and difficult access. This increases development costs. Longer roads will be required in order to access all lots. At the same time, this would demand longer utility runs which will increase overall costs.

Revenues would also be decreased as the property values would be negatively affected. A significant portion of the development's value hinges on the notion that parcels within a conservation subdivision with environmentally responsible design guidelines hold more monetary value than parcels within conventional subdivisions. As the sales from a conventional subdivision are also typically limited to undeveloped lots rather than homes, the prospective buyers will also need to build their own driveways (which would be longer than with a clustered subdivision), pay for the installation of infrastructure and utilities to the street, and install their own septic systems. These requirements will depress the price of the land, and limit the potential profitability of the project. Finally, the reduction of the lot count to 19 greatly reduces the potential economic viability of the project. The Project Sponsor's current financial

projections show, given expenditures to date and expected expenditures, that 24 lots will allow only for a nominal profit.

The increased development costs, reduced projected revenue, and reduction to 19 lots will make the project financially infeasible. This alternative also does not meet the objectives of the Project Sponsor, a consideration recognized in the SEQRA regulations (see 6 NYCRR Section 617.9).

Comment 4.4 (AKRF): In Alternative D, the applicant states that, "the lot size would be reduced from around one acre to one-half acre...the area of disturbance would be reduced to 42.8 acres from 45.7 acres, thereby reducing the overall environmental impact from the project by just 2.9 acres...the amount of impervious surfaces would also be reduced to approximately 8.6 acres, or just about 2.5 acres less than the current proposal." There is barely a difference between the Alternative D cluster subdivision, with smaller lots and relocation of homes, and the proposed plan. The definition of a cluster development, as stated in Town Code Section 175-11, is a development that "clusters in nodes surrounded by open space and, where practical, in the traditional compact pattern found in the Town's hamlets." Clustering is intended to help create smaller, more compact development in areas away from environmental constraints, and is a planning technique often used to preserve open space. Here, the clustering only shows a 2.9-acre reduction in environmental impact and a 2.5-acre reduction in impervious surfaces, both of which should reflect larger reductions. AKRF does not agree that Alternative D qualifies as a cluster subdivision, as it does not show the elements of proper clustering to qualify. The Applicant should create a proper cluster subdivision that reflects the principles of 'clustering' and a larger preservation of open space.

Response 4.4: It is not surprising that there is little difference between Alternative D and the previously proposed preferred plan as this compares one cluster plan to another. Both were designed, as the commenter states, to avoid environmental constraints and to preserve open space. While there would be some gains by reducing lot size, certain factors, such as the size of the proposed units and the long entrance road won't change. Most of the gain comes from a relatively minor reduction in roadway.

Both cluster layouts meet any "proper" definition of clustering, including, most importantly, that as dictated by the Zoning Code, which as stated by the commenter "clusters in nodes surrounded by open space and, where practical, in the traditional compact pattern found in the Town's hamlets." According to Wikipedia, the hamlets in the Town of Philipstown include Continental Village, Forsonville, Garrison, Glenclyffe, Graymoor, Manitou, North Highland, and South Highland. Of these, Glenclyffe and Graymoor are primarily institutional in nature and not true hamlets. The average lot size in Continental Village is far less than what is proposed for the project. The average lot size in North Highland is generally right around one acre, precisely as proposed for Hudson Highland Reserve. The average lot size in the hamlets of Forsonville, Garrison, Manitou, and South Highland are all much larger, typically multiple acres per home, and therefore greater than what is proposed. Therefore, only the Continental Village hamlet has smaller lot sizes than what is proposed for this project, which would be far more compact than the majority of the hamlets in Philipstown.

Not included in the list of hamlets is the Horton Road/Horton Court/Mill Road neighborhood adjacent to the proposed project. The typical lot size in this neighborhood ranges from around

an acre to multiple acres. The proposed lot size is therefore also completely compatible with the adjoining neighborhood.

Comment 4.5 (AKRF): Alternative D assumes the loss of potential value of homes. How are the projections of potential loss of value percentages derived? The FEIS should provide calculations or a basis for the projections. The Applicant states that, "based on the projected asking prices for the lots around Ulmar Pond and those elsewhere in the proposed subdivision, it is estimated by the Project Sponsor that the impact on the potential value of the homes removed from around Ulmar Pond would be a loss of about 65%. Based on the asking price the Project Sponsor would place on a half-acre lot compared to the one-acre lots, the loss of potential value for the other homes is projected to be about 40%." Other than stating that the Project Sponsor estimates these numbers, the text has not provided calculations or a basis for the projections for these values. Please provide the calculations, and research behind these projections in an Appendix and reference them within the text.

Response 4.5: Since the time of this hearing, the Project Sponsor has updated their comp numbers to reflect the current sales market in the area. Based on the recent COVID-19 health crisis, home prices have fluctuated greatly. The premium between waterfront properties and non-waterfront properties has decreased as the demand for housing stock has driven overall prices higher. However, a difference still remains. The Project Sponsor plans to price the six parcels around the pond approximately 40% higher than the other parcels, and believes the potential loss of the units around the pond would remain a significant financial impact to the project. A comp sheet to support this price differential is provided as Appendix F.

Comment 4.6 (AKRF): Alternatives B, D, and E require a fiscal analysis for the residential development, similar to what has been provided for the equestrian facility in Alternatives C and E. It is important for readers to know how much projected revenue will be generated from these different alternatives given the varying scenarios with and without the equestrian facility. Please provide the fiscal analysis for each alternative in an Appendix and reference these findings within the FEIS.

Response 4.6: A fiscal analysis as suggested is not required. The Project Sponsor refers to the Scoping Document that provides the following description for the alternatives analysis:

"SEQR mandates that environmental impact statements analyze a reasonable range of alternatives to the action that are feasible, considering the objectives and capabilities of the project sponsor. Those analyses must include a description of the impacts (adverse, beneficial, long and short term, cumulative) created by the alternatives, as well as their probability and significance in comparison to the proposed action. The alternatives should be analyzed qualitatively, except where project impacts can be compared in quantitative analyses."

The analysis provided for alternatives need not focus on issues not required for study by the Scoping Document for the proposed project. The Scoping Document does not require any kind of fiscal analysis at all. The alternatives analysis provided in the DEIS, however, went beyond the requirement to address the fiscal impact of the project on taxes. The commenter is requesting that the analysis go even further, and provide a detailed assessment of the relative profitability of the residential alternatives. An analysis of the relative profitability of the residential portion of the proposed project or the alternatives is not required by the Scoping

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Document in any way. As a smaller Equestrian Center had been a significant topic of discussion, the Project Sponsor took a serious look at the economic viability of a smaller equestrian center to see if that was a reasonable alternative to consider. As a detailed study was prepared and was therefore available, it was decided to provide it in the DEIS in the interest of transparency, even though there was no requirement to do so. It should be again noted here that the Equestrian Center is no longer included as an element of the proposed project.

Comment 4.7 (Conner): In several places in the DEIS, the applicant refers to "commercial taxes generated by the equestrian center".
Please explain specifically what commercial and other tax revenue would be generated by the equestrian center.

Response 4.7: The Equestrian Center has been removed as an element of the proposed action.

Comment 4.8 (HHLT): We believe a site plan can be constructed so that all of the five (5) houses on the western side of the pond can be relocated away from the pond, where most of the other houses are, while still maintaining 1-acre size lots. We engaged LandVest, Inc. to draft a conceptual plan of how 24 houses could all be located away from the pond on 1-acre lots and this configuration is shown in Exhibit E. We note that they relied only on publicly available information and did not visit the site. In addition, we think the equestrian facility can be reconfigured to move the trailer parking, in order to facilitate a wider corridor between the eastern slopes and the pond.

Response 4.8: The LandVest layout ignores the Conservation Values map that was adopted by the Planning Board, and proposes an additional cul-de-sac and homes in areas of medium and high conservation value, including highly constrained areas of excessively steep slopes. Under the requirements in the Zoning Code for Conservation Subdivisions, this layout is not viable.

Comment 4.9 (HHLT): Remove the five houses on the West Side of Ulmar Pond and relocate them to be clustered with others to the northwest side of the property. This will preserve the wildlife corridor between Clove Creek and Ulmar Pond, place the conservation easement on contiguous protected land, and help mitigate impacts on NY Species of Special Concern.

Response 4.9: The wildlife corridor between Clove Creek and Ulmar Pond is coincident with the outlet from Ulmar Pond that eventually discharges to Clove Creek. The houses on the west side of Ulmar Pond do not impact this wildlife corridor, and their removal will do nothing to mitigate impacts on any NY Species of Special Concern. Nevertheless, the number of proposed new homes around the western side of Ulmar Pond has been reduced from five to two in the newly revised plans. This will allow a better unbroken connection between different parts of the proposed Conserved Land subject to a Conservation Easement within the property boundaries.

Comment 4.10 (HHLT): While the DEIS says that moving a house away from the pond reduces its value by 65% (DEIS Page 145), the freeing up of most of the pond area for common passive recreational use by all residents will likely increase the value of all houses in the subdivision significantly, potentially offsetting this impact.

Response 4.10: As proposed, the entirety of Ulmar Pond, with no less than a 140-foot buffer around it, will be included within the Conserved Land. This land, including Ulmar Pond, will be owned by the HOA and will be available for passive recreational use by all residents. Moving houses further away from Ulmar Pond will not change these circumstances in any way. Nevertheless, the number of proposed new homes around Ulmar Pond has been reduced from seven to four in the newly revised plans.

Comment 4.11 (Scenic Hudson): As proposed, the applicant's preferred alternative, Alternative E, is inconsistent with provisions in Philipstown's conservation subdivision zoning code. Further, it would result in significant environmental impacts with respect to biodiversity and habitat connectivity, water quality and aquifer protection, and adverse visual impact from the Wilkinson Trail on Scofield Ridge. It is crucial that these impacts and inconsistencies are taken into consideration when making a decision.

Response 4.11: The preferred plan at the time of the DEIS was a residential subdivision with an equestrian center. As the size of the equestrian center was a concern of the Lead Agency and the public throughout the SEQRA process, Alternative E was included as part of the adopted DEIS Scope that reduced the size of the equestrian center. Alternative E was not the Project Sponsor's preferred plan. As the DEIS concluded that the preferred plan would not have resulted in significant adverse impacts with respect to diversity and habitat connectivity, water quality, aquifer protection, visual impact from Scofield Ridge, the same would apply to the very similar Alternative E. The revised plans now being submitted, which removes the Equestrian Center in its entirety, relocates homes from the west and south sides of Ulmar Pond, shortens three of the proposed subdivision roads, and relocates proposed homes from the center of the property, will further reduce any potential for adverse impacts.

Comment 4.12 (Scenic Hudson): Scenic Hudson disagrees with the applicant's assertion (page 141) that removing the five homes from the pond's west side and reducing impervious area (by 2.5 acres) and disturbed area (by 2.9 acres) is inconsequential. Any removal and reduction of impervious and disturbed area is consequential, and consequently decreases the perimeter of the development. This results in a smaller amount of lower-quality edge habitat that would drive away species that rely on large areas of contiguous forest.

Response 4.12: See Response 4.11. Changes in the revised plans being submitted reduces the number of proposed homes around the western side of Ulmar Pond from five to two. The revised plans reduce the amount of impervious surfaces by approximately 3.4 acres, and the area of disturbance by 7.6 acres. The DEIS does not make an assertion that the reduction of impervious surfaces and disturbed area is "inconsequential". The revised project plans, however, achieve an even greater reduction. The Project Sponsor has also concluded that the potential revenue would be impacted to the point that the project would become unprofitable. In that the success of the project would enable the permanent preservation of 163 acres of mostly high conservation land, including wetlands, watercourses, floodplain, and Ulmar Pond, the failure of the project would therefore have its own environmental impact in that this land would not be permanently preserved.

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V. ADVERSE ENVIRONMENTAL IMPACTS THAT CANNOT BE AVOIDED

Comment 5.1 (AKRF): According to Chapter 5 Section C.35 of the SEQR Handbook, "certain adverse environmental impacts can be expected to occur regardless of the mitigation measures employed; for example, there is typically permanent loss of vegetation when building a new facility and any related parking. Because such unavoidable impacts must be factored into final agency decision making, the SEQR regulations provide that an EIS must contain an identification and assessment of impacts that cannot be avoided or adequately mitigated. The discussion of unavoidable impacts must meet the same substantive requirements as all other discussions of impacts and alternatives." For example, the applicant should note a permanent loss of 11.1 acres of existing vegetation, instead of 'removal of 45.7 acres of existing vegetation of which 34.6 acres would be replaced with lawn and landscaping.' The applicant should review the bullets listed in the DEIS, and include just those from each section of the DEIS where impacts are unavoidable and where the proposed mitigation will be unable to offset the unavoidable impacts. In addition, the FEIS should specify which adverse environmental impacts cannot be avoided in the short-term versus long-term. This comment was previously included as part of AKRF's completeness review memo and has not yet been addressed.

Response 5.1: During the completeness review, the commenter provided a comment that read *"The pDEIS needs to specify which adverse environmental impacts cannot be avoided in the short-term versus long-term."* This comment was addressed in drafting the DEIS by classifying impacts as "temporary" or "permanent", and was found at that time by the commenter, working on behalf of the Town, to be an acceptable response. The remainder of this comment was not provided at that time.

The wording in the example given is an accurate expression of an adverse impact that cannot be avoided. Considering the layout as originally proposed, it was calculated that 45.7 acres of existing vegetation would be removed. Under the revised plans, that number has been reduced to 38.1 acres, of which 30.4 acres would be replaced with new native vegetation. The Project Sponsor acknowledges that the 30.4 acres of landscaped vegetation is not an equal substitute for the natural vegetation that would be removed, and as such noted within the DEIS that this represents an alteration/degradation of this amount of vegetation as wildlife habitat, which is also a permanent unavoidable impact.

The Project Sponsor believes the remainder of the bulleted list from the DEIS represents an accurate summary of the unavoidable adverse impacts that would result from the proposed project. However, since the site plan has changed between the DEIS and FEIS, so have some of the quantified figures from the list. The current list of unavoidable impacts is summarized as follows:

- Temporary disturbance of on-site soils during the course of development.
- The introduction of an additional 6.7 acres of impervious surfaces and alteration of stormwater runoff.
- The permanent loss of 6.7 acres, and the alteration/degradation of 30.4 acres, of existing wildlife habitat.
- Creation of an access from Route 9 and permanent generation of additional traffic.
- A permanent increase of approximately 17,700 GPD of groundwater withdrawal.

- The generation of a similar amount of wastewater to a common onsite sewage disposal system.
- The permanent foreclosure of an opportunity for the extraction of sand and gravel resources.

Comment 5.2 (AKRF): The FEIS should separate the adverse environmental impacts in bullet points into topics or categories and expanded upon why they are unavoidable. This comment was previously included as part of AKRF's completeness memo and has not yet been addressed.

Response 5.2: See Response 5.1 for the bulleted list. This is a more expanded discussion:

Any development of a naturally vegetated property will have adverse impacts that cannot be avoided. Some of these are short-term impacts that would occur primarily during the construction phases. There are, however, other adverse impacts that would have permanent or long-term environmental effects. Most of these are an unavoidable consequence of the site development process.

As a mostly undeveloped vegetated property, development will require the removal of existing vegetation. Of a projected 38.1 acres of vegetation removal, approximately 30.4 acres would be replaced with lawn and landscaping. The remaining 7.7 acres would be replaced with impervious surfaces such as roadways, driveways, and structures, which will increase the amount and rate of stormwater runoff prior to stormwater management controls. This also translates to the permanent loss of 6.7 acres, and the alteration/degradation of 30.4 acres, of existing wildlife habitat. The project will require the temporary disturbance of on-site soils during the course of development. The 6.7 acres of new impervious surfaces will represent a permanent disturbance of those soils.

The project will require the creation of an access from Route 9 and permanent generation of additional traffic.

The project will also create a permanent demand of approximately 17,700 GPD of groundwater withdrawal from onsite resources, as well as the generation of a similar amount of wastewater to a common onsite sewage disposal system.

Development of the property will preclude the future use of the property for any other purpose, especially through the imposition of a permanent Conservation Easement, including the permanent foreclosure of an opportunity for the extraction of sand and gravel resources as was previously proposed for this property.

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