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June 6, 2013

Evaluation of the HRVR FEIS response to comments submitted for the Sierra Club by Marie Caruso & Joanne Steele

Comment: Consistency with Rosendale Comprehensive Plan (RCP): The comment states that the project fails to comply with the RCP due to its impacts upon the area's significant natural resources, diminished public access, and lack of affordable housing. (Ch. IV.L., p. 282, Comment #14)

The applicant's response indicates that natural resources will be protected through state-of-the-art green practices for stormwater management, water conservation practices and a central wastewater treatment system., Leed certification, and the expansion of the conservation easement.

The problem: These measures are not sufficient to protect the area's unique biological habitats which was the basis for why it was given a high priority for protection in the RCP. The area's biological significance is well documented in the Binnewater Lakes ecological assessment which is appended to the RCP. The RCP does not envision a major development for this area; in fact, major development, in the RCP, is limited to the routes 32 and 213 corridors. The location of this development, on the face of it, does not conform to the RCP.

Because the Binnewater Lakes region was recognized on the county and state levels (NYS State Natural Heritage Program, NYS Open Space Conservation Plan, Ulster County Open Space Plan), as well as the local level, for its significant biological habitats, a number of highly respected area scientists have expressed great concerns about this development. They maintain that the scientific studies performed during the SEQRA process were not rigorous enough to assess the project's true impacts on the important ecological communities and rare species which inhabit the region.

Erik Kiviat, for instance, in his 6/2/13 review of the FEIS, concludes that "there are serious deficiencies in the environmental analysis process and the planning of the proposed resort as they relate to biological resources." His review delineates several areas, including wetlands and bat hibernacula, and their associated rare species, which are likely to suffer adverse impacts from this development.

Other scientists have voiced concerns about the sufficiency and protection of water resources associated with the project. John Keith and Paul Rubin, in their current reviews of the FEIS, question whether the water conservation measures can actually achieve the low levels indicated

in the water demand analysis, whether the wastewater and stormwater operations will be monitored carefully enough to avoid polluting the area's sensitive habitats, and how the ecology of Williams Lake and adjacent wetlands will be affected when water is drawn from the lake during times of drought.

Former Town attorney Shannon LaFrance stated, in her comments on the DEIS (p. 275) that "Article 16 of the New York State Town Law requires amendments to the Zoning Law to be consistent with the Town's Comprehensive Plan. As discussed above, the sheer scale of the project with all of its components is inconsistent with the Comprehensive Plan."

Even with its 6% reduction in size and new site design, reviews of the FEIS by highly qualified scientists indicate that the Project does not afford this property the level of protection envisioned in the RCP, and is therefore not consistent with it. Should the Town of Rosendale adopt the zoning amendments required by this project, the town could be in violation of state law.

The applicant's response also makes reference to the response to Ch. IV.B, Comment #24, pp. 67-69, which compares the proposed development to others in the region, inc. Tillson Estates in Rosendale.

The problem: This response is not germane to the question of conformance with the RCP. These other developments are not situated in regions prioritized for protection of their significant biological habitats, and even if they were, that does not justify non-conformance with Rosendale's comprehensive plan.

The applicant's response also makes reference to the response to Comment #19 in this section (pp. 287 ff) regarding the questions of affordable housing and community character.

The problem: Affordable housing is a component of the RCP because it was recognized that Rosendale residents have a need for affordable housing. Converting 12 out of 154 upscale residences to workforce housing for resort employees does little to address this need. The housing component consists mainly of homes priced 3 to 6 times higher than what most Rosendale residents can afford. The current median value of homes in the Town of Rosendale, according to the Town assessor, is \$192,000. The lowest-priced townhome at Williams Lake, per the modified fiscal impact analysis (FEIS, Appendix I), will cost over 3 times that amount.

The applicant also maintains, in this response, that the Project's residents will value sustainability, open space preservation, etc. and share many core values of Rosendale's current residents. This is pure speculation. The applicant cannot be assured of the belief systems of those who purchase their homes. For starters, most will be much wealthier than the majority of Rosendale residents.

The applicant further asserts, in this response, that the project will enhance public access.

This is not true. See discussion below on public access.

Comment: Repeated, unsubstantiated claims of enhanced public access: The comment states that the applicant fails to substantiate claims that the project will enhance public access, citing vague and/or cost-prohibitive commitments, the lack of access to Williams Lake, and speculative

comparisons between historic and projected public use. The comment also mentions that Fourth Lake, suggested by the applicant for possible use by day-pass users, is often unsuitable for swimming during the warmer months. (Ch. IV.L., p. 319, Comment #53).

The applicant's response indicates that public access to the rail trail will be ensured through a perpetual, written agreement, but that "day pass" access will be subject to the needs of the Project residents and resort guests." The response also states that the popular Beach Club membership was uneconomic and contributed to the closing of the resort. The response makes further reference to the responses to Comment #9 in Ch. IV.B. (p. 50), regarding the rail trail; to the preceding comment #52 in this section (p. 318); and Comment #10 in Chptr. IV.P (p. 400), regarding the potential for use of the site as public parkland, which directs one to the discussion of Alternatives, dealt with later on..

The Problem: Although a perpetual, written agreement for rail trail access is a plus for the community, that benefit alone does not make up for the diminished public access this project entails compared to the public access provided by the former resort prior to its closing. The FEIS indicates elsewhere (see pp. 399-400) that the day-pass will be modeled after those of the Mohonk Preserve and Mohonk Mountain House, which will be prohibitively expensive for most local residents (Mohonk day passes, depending on the area accessed and day of the week, range from \$12 to \$25 per person). This model is not exactly appropriate, anyway, since Mohonk does not permit access to its lake for any day-pass users. Furthermore, in various places elsewhere in the document (e.g, Chapter II.B, p. 11) the applicant states that on-site parking is not proposed for day-pass users.

Mohonk-scale prices, combined with public use being subject to the needs of residents and resort guests (as defined in the footnotes) and the lack of onsite parking, will serve as means to discourage public access, not enhance it, as the applicant claims.

Mohonk provides an affordable benefit to the community by means of membership in its preserve for a modest annual fee (\$45 to \$55 per person; up to \$40 more for biking & rock climbing), which entitles one to unlimited year-round access to Preserve lands and, usually, discounted access to the Mountain House property, parking included. But the FEIS does not indicate, anywhere, that this type of affordable access to HRVR property is being contemplated. Furthermore, since Mohonk does not allow swimming in its lake for anyone other than resort guests, it's not possible to determine just how much HRVR might see fit to charge for this privilege. The several references to the Beach Club being uneconomic would indicate that a membership model, at any rate, is not being considered.

Furthermore, the FEIS does not indicate how the maximum capacity for lake usage will be determined. As Mourka Meyendorff indicated in her DEIS comments (pp. 55-56), Beach Club memberships were limited and entailed a long waiting list. The FEIS acknowledges that there were about 450 Beach Club members when the Williams Lake resort was operating. With the greater usage contemplated by HRVR, how often will day passes actually be available to local residents? It's quite possible that no day passes at all will be available during much of the busy summer season, when the resort's 130 units may be fully occupied and many of the estimated 408 permanent residents are present.

The applicant also states, on p.13 of the FEIS, that day-passes for swimming in Williams Lake will likely be more restricted than in Fourth Lake. However, the FEIS entirely fails to address

the issue, mentioned by this commenter and others, that Fourth Lake is often unsuitable for swimming during much of the summer.

All of which further bolsters the argument that public access will diminish, not be enhanced, under the applicant's project.

In the response to Comment #52 on p. 318, and elsewhere, the applicant claims that public recreational opportunities will increase simply on the basis of public access to the rail trail. This is misleading. Passers-by on a 1 & ½ mile trail along one edge of the property is not comparable to historic uses of the entire property by hikers, cross-country skiers, ice skaters, fishermen, etc. in addition to the 450 swimmers in the beach club. All of these uses were available to the public for a modest daily fee, or even by just patronizing the resort's bar or restaurant.

If the fees to access the property are not set at an affordable level, it's unlikely that public access (outside of resort residents & guests) will even reach the estimated historic levels of 15,000 annual trips, shown in Table III.H.5 (p. 441) of the DEIS. In this case, the 15,000 to 25,000 resort trail network users (shown in addition to the rail trail users) in this chart becomes a highly inflated figure. In fact, the Morton Trails analysis (Appendix E of the DEIS), on p. 19, does not contemplate extensive use by local residents. It indicates that 80% of the trail usage, outside of the rail trail, would be "primarily by residents and guests of the resort."

In conclusion, the applicant's claim of enhanced public access is highly inflated and cannot be considered a benefit to the community. This also speaks to the project's inconsistency with respect to the Rosendale Comprehensive Plan, which lists enhancing public access to this region as one of its goals.

Comment: The DEIS fails to present a serious discussion of alternatives to the proposed Project. The comment states that the applicant failed to evaluate the site's potential as public open space or parkland, as required by the EIS Scope, and failed to fully evaluate the resort rehabilitation alternative or the conservation resort alternative. (Ch. IV.U, p. 496, Comment #10).

The FEIS response indicates that the DEIS was accepted as complete, that parkland and other alternatives were discussed in the DEIS, and that the smaller modified project ensures public access, economic benefits, and protection of natural resources. The response makes further reference to the responses to comments #12, 13, & 16 in this section, all of which say basically the same thing, except that response # 16 (p. 504) also states that the project, as modified, "can be considered a Conservation Resort."

The problem: Acceptance by the DEC notwithstanding, the applicant's study of alternatives, including these responses, do not meet the expectations of SEQRA. As the commenter states, the scoping document, in Section V, clearly defines the "no action" alternative as ". . .the potential designation and use of the site as permanent and publicly-accessible open space or parkland." The applicant misconstrued this to mean that the property would be left exactly as is, and thus made no analysis of the costs or benefits of conserving this property as a public park. This omission was not corrected in the FEIS.

Analyses of the resort rehabilitation alternative and the conservation resort alternative, likewise, remain inadequate and incomplete. In the DEIS, it appears that the applicant has deemed these

alternatives unacceptable solely on the basis of their lesser economic benefits and their lower return on investment. For instance, in the DEIS, on p. 631, the applicant states: "This alternative would not meet the public need as well as the Project." The DEIS goes on to justify this statement by discussing the financial viability of this alternative, but does not address the public need for such quality-of-life benefits as open space, protection of natural resources, and greater opportunities for public access to them.

Likewise, for the Conservation Resort Alternative, the DEIS, under "Effect on Public Need" (p. 640), discusses only the financial viability, but none of the other public needs a smaller project would fulfill.

Furthermore, the more detailed analyses of the site plans and monetary costs of these alternatives that would be required for an independent evaluation of their costs and benefits have never been provided.

The FEIS does not correct any of these deficiencies; in fact, in the response to Comment #16 (p. 504), it states, erroneously, that the Project can now be considered a Conservation Resort. This is not true. The present Project, though slightly reduced in size, is much larger than the Conservation Resort alternative in the DEIS, and conflicts with the definition given by the DEC, in its letter of 8/11/11, as a "redevelopment of the property as a resort and/or residential community primarily within the existing disturbed area footprint". The Conservation Resort alternative described in the DEIS disturbs about 3 acres beyond the resort's existing footprint of 31.8 acres; the Project described in the FEIS, at 66.1 acres, is more than twice the size of the existing disturbed area (see FEIS Table III.A.2, p. 33).

It appears that the applicant's treatment of these alternatives was clouded by their determination to build a project with maximum profitability. To dismiss other alternatives simply on the basis of the applicant's return on investment (ROI) does not fulfill the requirements of the Scoping document or the expectations of SEQRA. An objective analysis is needed in order to weigh the risks vs. the benefits of each. As John Keith states in his review of the FEIS, "others may have higher risk tolerance or lower ROI requirements".

The applicant's collaborations with the WVLT and the RELC, as mentioned in the FEIS on p. 502 (and elsewhere) are laudable and will be of benefit to the public. However, the assertion, made on that page, that no groups have expressed interest in a meaningful public-private partnership belies the fact that HRVR has given no indication that it would entertain any purchase offers, or enter into any collaboration that would reduce the scale and exclusivity of its project. Were HRVR willing to consider collaborating on a project that would provide better resource protection and greater opportunities for public access, that picture might change.

Conclusion:

The applicant's Project will not enhance public access to the Williams Lake property, it is not in compliance with the Town of Rosendale Comprehensive Plan, and the FEIS does not present a balanced assessment of alternatives that might be, such as public parkland. On the basis of these issues, and the potential for serious adverse environmental impacts expressed by expert consultants, the Sierra Club finds that SEQRA approval for this project should be denied.



HUDSONIA LTD

**Review of the Final Environmental Impact Statement for Hudson River
Valley Resorts with Relevance to Biodiversity (Williams Lake, Town of
Rosendale, Ulster County, New York)**

by Erik Kiviat PhD

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Prepared for the Sierra Club

2 June 2013

This report is a commentary on the Final Environmental Impact Statement (FEIS) for the proposed Hudson River Valley Resorts (HRVR) at Williams Lake, Town of Rosendale, Ulster County, New York. I focus on statements in the FEIS that respond to my comments (Kiviat 2012) on the Preliminary Final Environmental Impact Statement (PFEIS). Page references here refer to the FEIS.

As explained in my previous report (Kiviat 2012), the HRVR site is important for biodiversity because of its large size, extensive wetlands and forests, presence of a large complex of unmapped abandoned cement mine entrances, passages, and crevasses in limestone bedrock, and other features. Without detailed explicit study prior to project design, biodiversity resources (rare habitats and species) will be at risk of being lost from the site. Insufficient attention to conservation of biodiversity obviates the sustainability of a development.

Page 9. Bat hibernacula. The elimination of certain formerly proposed features (houses etc.) of the development plan is a good step for protection of bats and other biodiversity. However, there remain a number of potential impacts to the mine complex that serves as hibernacula, including blasting, changes in hydrology, and disposal of debris in crevasses. Because the mine features have not been mapped, there is no way to know how close to construction or development activity these features are, and thus no way to accurately assess the impacts of, for example, blasting or changes in groundwater hydrology.

Page 15. Karst geology. FEIS refers to modifications of green infrastructure for stormwater treatment to protect groundwater in karst areas, and states that karst has “limited” distribution on the site. There is no map showing the distribution of karst, and no explanation whether the (unmapped) mine complex is considered part of the karst area. (Both natural karst and mined areas will be vulnerable to groundwater pollution from development activities.)

Page 16. Wastewater treatment. FEIS mentions the possibility of adding an engineered wetland treatment system to the proposed wastewater treatment system. If there is to be an engineered wetland treatment system, it should be described in detail before final approval of the FEIS, so that the public and independent experts have an opportunity to comment on design and potential environmental impacts.

Page 17. Wetlands. FEIS states that impacts to several wetlands will be eliminated by protecting 100 to 125 foot upland buffer zones around the wetlands. There is abundant information in the scientific literature documenting impacts to wetlands (e.g., effects on animals that move in and out of wetlands) from much farther than 125 feet.

Page 18. Bat hibernacula. FEIS refers to preserving the land overlying the bat hibernacula. Given that the mines have not been mapped, bats require only a tiny passage to move from one part of a mine (or karst feature) to another, and the changes in the mines that may be caused by blasting and other activities, I don't believe the applicant, the DEC, or FWS know where all the bats hibernate and where they might hibernate in the future.

Page 18. Bog turtle habitat assessment. It should be noted that according to policy of the U.S. Fish and Wildlife Service the entire wetland containing an area of potential or suitable bog turtle

habitat is considered potential bog turtle habitat, and the conservation zones described in the federal Recovery Plan apply to the entire wetland. (This is because bog turtle use of habitat within a wetland may change as vegetation and hydrology change, bog turtles may use portions of a wetland that do not conform to concepts of core habitat, and because impacts to one part of a wetland may propagate through the wetland via water.) It is likely that the 240 feet separation between the suitable bog turtle habitat identified in the Tesauro bog turtle habitat assessment report and HRVR development activity would not be sufficient to buffer impacts. Limestone terrains are especially susceptible to pollution of groundwater, and bog turtle habitats are fed by groundwater discharge. The Recovery Plan requires consideration of development impacts on groundwater discharging to potential bog turtle habitat.

The Tesauro report stated that wetland HRVR-01, which contains the suitable bog turtle habitat identified just west of Williams Lake, was apparently fed by groundwater seepage, intermittent streams, and seasonal flooding from the lakes. FEIS does not analyze how water supply withdrawal from Williams Lake, treated sewage discharge south of Williams Lake, or other alterations of surface or groundwater hydrology might affect the hydrology of the suitable bog turtle habitat. Bog turtles require vary particular hydrological and geochemical conditions and are sensitive to changes in the quantity, quality, and timing of water inflows.

Page 21. Bat foraging and roosting (summer) habitat. This page of FEIS does not address comment about the importance of protecting large trees for their potential importance to bats, and to many other organisms (e.g., flying squirrels, owls, other cavity-using birds, black rat snake, bryophytes, lichens, fungi). Although this is addressed elsewhere in the FEIS, no details are provided.

Page 25. Vegetation. The issue concerning removal of forest vegetation is that the specific areas proposed to be disturbed may be supporting rare species, even if those types of forests are abundant in the region. This has never been addressed in the EIS analyses (for example, it has never been stated where raptors nest and have their home ranges on the site, or where rare plants are on the site).

Page 27. Vernal pools. FEIS notes disturbance of more than 25% of an area within 100 feet of a particular vernal pool and cites Calhoun and Klemens. This reference recommended that no more than 25% of area be disturbed within 750 feet of a vernal pool. FEIS does not address comment that a vernal pool found to be of low value for breeding amphibians in a particular year might improve in a wetter year, or if annual precipitation continues to increase in the region, or if development causes greater surface runoff into the pool.

Page 215. Crevasses, etc. I fail to see why these crevasses, before being filled with refuse, could not be investigated for rare vascular plants, bryophytes, amphibians, reptiles, and small-footed bats. The response makes a weak case for the crevasses not serving as habitat for the small-footed bat (“do not provide summer roosting habitat...as they do not receive any direct sun exposure which this species seems to prefer”). The presence of, e.g., walking fern, indicates the likelihood of finding rarer vascular plants. Rare species are typically distributed unevenly in the potentially suitable habitats, so it is quite possible that one or more of the crevasses proposed to

be filled support a species of conservation concern that does not use crevasses elsewhere on the property.

Page 216. Indiana bats dispersing from the site after hibernation. While I understand the expense and challenge of radiotracking species that undergo long migrations, the numbers of bats radiotracked from the Williams Lake hibernacula is miniscule. No statistical analysis can ensure that they represent the entire hibernating population. Moreover, if I read the FEIS correctly, only females were radiotracked, and their movements do not necessarily represent activities of the males. (In Michigan, for example, “Male Indiana bats are dispersed throughout the range in the summer, roosting individually or in small groups, but may favor areas near hibernaculum” [<http://www.fws.gov/midwest/Endangered/section7/s7process/mammals/inba/inbaMlifehist.html>].) Finally, at least the known summering area in southern Dutchess County is undergoing land use change (proposed residential development) that may cause the summering Indiana bats to move. Currently observed patterns of animal and plant distribution are not static, and good biological conservation must accommodate change that is likely to occur in the future.

Page 237. Vernal pools. The FEIS ignores important points I made in my 2012 commentary on the PFEIS, including that swamp cottonwood does occur inland in Dutchess and Ulster counties, that the apparently rare snail *Physa vernalis* has been found in hard water (high pH) as well as soft water (low pH) habitats, and that vernal pools that dry early in an average year may support successful amphibian reproduction in a wet year or in the future when increased rainfall or altered surface runoff may lengthen the pool’s hydroperiod.

The clam shrimp *Cyzicus (Caenestheriella) gynecia*, although an unlisted species, is globally rare and *de facto* endangered. This species has been found near enough to Rosendale (Saugerties, Staatsburg, Hyde Park) that any clam shrimp should be identified to species by an expert so that any previously undetected occurrences of this species can be conserved aggressively. This concern is dismissed in the FEIS.

Page 254. Rare plants, cave invertebrates. FEIS, and previous documents, dance around the issue of rare plants. It remains clear (see Kiviat 2012) that applicant did not perform an adequate rare plant survey. The number of egregious errors in the plant list admitted in the FEIS call into question the accuracy of the entire plant survey and list. The species accumulation curve does not show that the survey was adequate for sedges and other difficult obscure groups, because it is obvious from the plant list that sedges, grasses, and rushes (for example) were not being searched for. The EIS documents do not show where purple milkweed was found nor do they characterize the population. Cave and groundwater invertebrates are important for conservation and should be surveyed on the site; this can be done during the warm season when hibernating bats are not in the mines (despite FEIS statements that the hibernacula will not be disturbed, there are potential subsurface impacts from blasting and changes to surface water and groundwater hydrology that could be caused by development of the site).

Page 256. Timber rattlesnake. I continue to think that a dedicated survey for this species should be conducted by an experienced rattlesnake field worker. One cannot depend on finding this species (where it occurs) during surveys for bats and plants. I have conducted field work

extensively for more than 40 years in areas of the Hudson Valley where there are timber rattlesnake populations and I have only seen this species when naturalists experienced at finding it took me to den areas under the appropriate conditions. There may well be dens on the HRVR site or closer than the known den five miles distant; I am aware of multiple situations where timber rattlesnake dens were found in previously unknown locations when naturalists or biologists experienced with this species searched for dens. A survey for snakes and dens should be repeated for two or three years because small populations may be difficult to locate.

Page 257. Raptors. Evidently no dedicated survey was conducted for nesting raptors. Conservation of raptors and their habitats will be ineffective without knowing where the birds are nesting and the extent of their breeding territories.

Page 261. Forest edge and interior habitat. Clearing of forest or alteration of forest structure, even in small areas, may matter if a rare species is using that area.

Page 263. Nonnative weeds. As with the issue of mosquito control, if a weed management plan is not articulated at this stage (EIS) it may never be created and implemented. Inasmuch as the applicant has said virtually nothing about the locations and abundances of either nonnative weeds or rare native plants in the EIS documents, it seems likely that the matter of protecting rare native plants or other native organisms of conservation concern from weeds has not been thought through and there is no guarantee that appropriate actions will be taken.

Trenching. If clay barriers are installed along trenches upslope of wetlands, the barriers may prevent shallow groundwater or vadose water from reaching the wetland and thus may affect wetland hydrology.

Blasting. The EIS documents assert that blasting will not cause subsurface harm to biodiversity. But my concerns about the potential instability of geological faults and mine structures have not really been addressed. I recommend that blasting be eliminated from the resort construction plan. There is no necessity to excavate basements, and it should be possible to install underground utilities without blasting. The stakes are simply too high.

No page number. My comments (Kiviat 2012) about a stand of the regionally-rare native plant eastern prickly-pear just offsite have not been addressed. Nor has my suggestion of including purple martin nesting structures in mitigation for the development.

Conclusions

Overall, there are serious deficiencies in the environmental analysis process and the planning of the proposed resort as they relate to biological resources. This is crucial because of the large size of the site, its limestone geology, environments of surrounding areas, the reported rare biota on and near the site (e.g., Indiana bat, northern cricket frog, purple milkweed), the presence of plants (e.g., walking fern, shrubby cinquefoil) that indicate the likelihood of occurrence of rarer species, and the intensive nature of the proposed development (as well as the pace of land use change and other impacts on biodiversity in the region). Previous land uses (mining, resort) do not obviate the likelihood of rare species occurrences, nor the need to survey and conserve rare

species that do occur. All the rare species and their habitats need to be identified and adequately surveyed (including bats, raptors, forest interior songbirds, reptiles, amphibians, vascular plants, and bryophytes). Then a spatial analysis needs to be performed and shared with the public. This analysis, when combined with engineering and other non-biological considerations, should be used to redesign the layout of the development as well as the conservation and management of rare species and their habitats. Until this is done, any development proposal for the HRVR site will be largely arbitrary with regard to biological conservation. It is not enough to protect bat hibernacula and build LEED certified green buildings. HRVR could provide an important example of ecologically planned development but the current proposal is clearly not that. Without protecting rare species and their habitats, no development can be considered green or sustainable.

References Cited

Kiviat, E. 2012. Review of the Preliminary Final Environmental Impact Statement for Hudson River Valley Resorts with Relevance to Biodiversity (Williams Lake, Town of Rosendale, Ulster County, New York). Prepared for the Sierra Club. Hudsonia, Annandale, New York. 10 p.

May 23, 2013

**To: Rebecca Crist
New York State Department of Environmental Conservation**

From: John Keith

Subject: Evaluation of the HRVR FEIS response to comments made by John Keith/Sierra Club.

Below are my comments on the above subject. Note that the page numbers cited are the pages on the FEIS Document.

***Comment:** POA has incentives to skimp on storm water infrastructure maintenance (pg 113, Comment 5).*

The basic response is that proper maintenance and operation of the proposed storm water will be assured by enforceable provisions in the Storm Water Pollution Prevention Plan (SWPPP), presumably enforceable by the NYSDEC, Ulster County and/or the town of Rosendale. The requirement for a SWPPP was well known, but only partially addresses the comment. The problem is that provisions of the SWPPP are enforceable, for the most part, only after there has been some deficiency or lapse in the maintenance or operation of storm water management infrastructure. By the time problems are discovered by enforcement agents (particularly in this time of government austerity), considerable environmental damage could already have been done. What is needed is a pro-active approach to assure proper maintenance and operation.

Even with a good SWPPP, the persons responsible for operation and maintenance, which responsibility is to be vested in the Property Owner's Association (POA) have strong incentives to skimp. After all, the costs are borne by the property owners, who are likely to be very concerned about the immediate impact on their pocketbooks, but may be much less concerned about more subtle and future impacts on the environment from poor storm water management. A suggestion to address this issue of incentive incompatibility is:

- an independent, qualified agent, such as a responsible environmental consultant, to establish an appropriate budget for proper operation and maintenance
- have the Town of Rosendale review and approve this budget, after which it becomes a requirement for the POA, such that they must levy fees to raise the money
- have a qualified third party consultant oversee the operation and maintenance.

The issue of incompatible incentives and the above proposed solution approach is also applicable to operation and maintenance of the planned wastewater treatment plant for HRVR.

***Comment:** Concern that planned multiple uses of the proposed storm water lagoon are incompatible – i.e. wetland restoration, storm water management, and aesthetic pond. (Page 120, Comment 9)*

The concerns raised have been appropriately responded to in the FEIS. The plan was changed to eliminate the pond's function for wetland restoration, provides a good depth

for the pond to assure that it will be aesthetically pleasing even in dry weather, and will have freeboard in the pond walls to allow for retention of additional storm water.

Comment: *The water demand analysis in the HRVR DEIS seems low – 82,683 gpd average at full build-out versus 127,020 gpd estimated by J. Keith. HRVR’s estimate is based assuming extensive water conservation measures, such as low flow fixtures, use of grey water systems and more, but there is no calculation or explanation showing how HRVR came to the conclusion that, based on these measures, HRVR can reduce its demand by 20%. (pg 143 and 144, comments 5 and 6)*

Other commenters also stated that the water demand in the DEIS seemed low and presented their own estimates: NYSDEC – 104,035 gpd; NYSDOH – 93,000 gpd; Ulster County – 91,500 gpd. In response, HRVR raised their estimated average use at full build out to 91,968 gpd, with a maximum use of 183,936 gpd. The higher average number is more realistic and in line with government agency estimates, although it may still be low. To achieve this low rate at maximum build-out, extensive water conservation measures must be implemented and maintained. The FEIS still does not clarify the extent of water reductions (from “conventional” water use numbers) that conservation measures will achieve. Presumably, water conservation measures will be stipulated in government approvals and construction covenants; this should be made clear. Note that the FEIS statement that “*only water saving fixtures are available for sale in this country and only water saving fixtures can legally be installed*” on page 147 of the FEIS is disingenuous, as what legally counts as “water saving fixtures” is often not the modern low-flow fixtures apparently contemplated in the water demand estimate, which fixtures often use much less water than the legal requirement. Such disingenuous statements detract from the confidence that the low water use estimate in the FEIS will be achieved.

Maintaining the low water use proposed could be a challenge as time progresses, as property owners (homeowners) have an incentive to use less expensive plumbing fixtures, which often have higher flows, and to plant lawns and gardens that will require irrigation (the FEIS assumes and stipulates no irrigation using potable water supplies.) Similar concerns relate to the HRVR resort and its associated restaurants, spa, etc. – an incentive to become lax about water conservation and to add plantings that require irrigation. An enforceable mechanism to assure water conservation measures is needed, including at least an annual comprehensive inspection or water use and conservation measures by a qualified, independent agent.

The revised maximum use number is much higher and more realistic.

Comment: *HRVR states that there will be no lawn or garden irrigation, so their demand estimates assume no irrigation (Page 145, Comment 7)*

The FEIS response is that “the Applicant will not have large expanses of lawn, as typical of a conventional subdivision.” The FEIS thus admits that there will be some need for irrigation of plantings. This is a change from the DEIS, where no irrigation is stipulated. The amount of water to be used in the apparently small lawns or gardens expected (excluding plantings that do not require watering) is not presented. If, as implied in other statements in the FEIS, the irrigation water will come from gray water uses or storm water harvesting, then there would be no meaningful increase on potable water supplies and Williams Lake withdrawals. HRVR should either clearly stipulate that essentially all irrigation water (except for initial planting irrigation) will come from grey water systems

and rainwater harvesting, or add some amount for irrigation to the 91,968 gpd average water demand discussed above.

There is no significant issue with irrigation for initial planting development, which is, as the FEIS states, a short term watering and rarely occurs during droughts.

Comment: *Skepticism is expressed about HRVR's claim that Williams Lake has a continuous lake discharge (Page 162, Comment 31).*

The applicant admits on page 151 of the FEIS that during dry weather the level of Williams Lake drops and the outflow can stop completely. Essentially, this response supports J. Keith's comments.

Comment: *Concern raised about the viability of Williams Lake to provide water supply over the long term at full build. Based on J. Keith estimate of 127,000 gpd use, the lake must be capable of providing 88 gpm on average and have additional flow to assure an outflow and support of downstream wetlands. The key period is during extended dry weather. If there is no net outflow from the Lake in dry weather, the lake level could drop by a foot over a 100-day drought. This could significantly impact the life in and around the lake. (Page 163, Comment 32)*

The FEIS response reiterates that there is sufficient inflow into Williams Lake through rainfall and runoff from the 779-acre drainage basin to support the proposed HRVR development. Based on the 91,968 gpd average water use discussed above, this would require 64 gpm of average flow (compared to J. Keith estimate of 88 gpm), plus a surplus to allow for long stretches of drier weather and to support the downstream wetlands. The FEIS gives a brief demonstration on page 151 as to why the Lake can support the water supply: "In 2010 this area received approximately 48 inches of rainfall (the lowest in the past 5 years). Assuming 48 inches of precipitation – 20 inches of evapotranspiration (and a 43 acre Lake area) = 28 inches which equates to 91,000 gallons/day or approximately 63 gpm." This calculation, which is reasonable, only accounts for rain falling directly on the Lake; additional input can certainly be expected from the 779 acre drainage basin addition. Even a 1 inch runoff from this area over the course of a year (a conservative 2% runoff factor) would be sufficient to add over 40 gpm to the average annual flow. The conclusion is that on average there should be sufficient water input to Williams Lake to support the proposed withdrawal (neglecting the significant issue of whether water in the drainage area is drained to subsurface Karst formations or mines rather than Williams Lake, which is the subject of other comments and responses.)

The real issue is whether Williams Lake can support the proposed withdrawal during prolonged droughts or below average rainfall periods. The FEIS admits that there are times when there is no outflow from the Lake and thus that there will be times when the Lake is effectively serving as a large storage tank. Clearly, there have been extended drought periods in the Hudson Valley in the past, lasting 6 months or more. With climate change, while the Hudson Valley likely will receive similar or more rain on average than in the past, there will also likely be greater swings in weather patterns, resulting in the continued chance for severe droughts. Of course, as in any area experiencing drought, HRVR would take water conservation measures should a drought occur. In view of the capacity in Williams Lake, the development could probably muddle through until rains

returned. However, the FEIS should at least acknowledge the risk of droughts and significant water declines in Williams Lake during droughts, and comment on the possible resulting ecological impact on life in the Lake and the downstream wetlands. Certainly the impact of a drought on the Lake aquatic life and downstream wetlands will be greater with the HRVR development than without it.

Comment: *Location of the wastewater treatment plant (WWTP) discharge should be below the Binnewater Road intersection. Treatment standards and discharge limits are appropriate, but there needs to be pro-active measures to assure to warn and manage upsets, such as continuous monitoring, alarms and diversion systems, and measures to assure proper WWTP operations, such as qualified, independent operators and financial assurance mechanisms. (Page 171, Comment 6)*

The response largely accepts the comments and makes the changes recommended. The location of the discharge has been moved. Monitoring, alarms and a detention/diversion system are promised. Also, a third party operating engineer and financial safeguards are promised. These are very positive responses, although the specifics for these items are not discussed and would be useful to evaluate the adequacy of the planned measures. However, the specific measures to be taken presumably would be addressed in the SPDES permit and WWTP operating license, which comes later in the development process.

Comment: *Concern raised about the impact of WWTP effluent on wetlands, which should also take into account the concern previously raised (see comment of page 151) about reduced flow from Williams Lake impacting downstream wetlands. (Page 231, Comment 33)*

The FEIS response says that the WWTP effluent, being of drinking water quality will not impact the wetlands and will actually dilute and decrease the impact of harmful pollutants running off from Binnewater Road. Providing the stringent wastewater limits for the WWTP are consistently met, the risk to wetlands from the discharge is likely minimal. The key concern is the impact should there be WWTP upsets or failure to meet the limits, which is addressed in the comment above. The impact on the wetlands from reduced flow from Williams Lake is not addressed anywhere.

Comment: *Mitigation recommended for the intersections of Binnewater Road at Sawdust Ave, Binnewater Road and Route 213, and Keator Ave and Route 213. Concern expressed about sight lines at Binnewater Road and Sawdust Ave intersection. (Page 355, Comment 19)*

The FEIS response basically says that no mitigation is necessary, and that an all-way stop at Binnewater Road and Sawdust Ave has addressed sight line issues. While the traffic numbers may suggest that the deterioration at these intersections will be acceptable without improvement, there still will be deterioration. One would hope that HRVR would support measures to prevent deterioration. More than stop signs should address the sight line issue. A particular concern is bicyclists in the area, a concern which may increase due to the rail trail construction; poor sight lines coupled with no or limited shoulders put cyclists in danger. Stop signs, while good, do not resolve the concern once cyclists are a short distance from the intersection.

Comment: *Allow public access to current conservation easement and Fourth Lake*

without fees, especially as use (aside from the Rail Trail) is likely to be light and there would be no impact on residents. (Page 403, Comment 13)

The FEIS response promises public access to the trails of the easement area and to swimming in Fourth Lake. This is good. However, the possibility of fees is included, similar to the Mohonk Preserve and Mohonk Mountain House (or for that matter, state parks.) This may be understandable if there are significant maintenance and operational costs to maintain trails, pay lifeguards, etc. However, if the costs are minimal, fees are not justifiable and should not be charged. At any rate, fees should be kept modest, as opposed to, say, the high \$20/car at Mohonk Mountain House. High fees are in practice a means to discourage or prevent public access, making disingenuous statements claiming that public access is accommodated and is a public good arising from the project.

Comment: *The connection to the Rail Trail should be definitely included in the development plan, not just be a 'potential.'* (page 404, Comment 11)

In various places in the FEIS, a commitment to build the rail trail connection is made. This is good. Unfortunately, day use fees are also proposed. This will actively discourage cyclists from using the connection, as cyclists are used to free access to roads and trails. Note that this area does not have the same scenic appeal as the fee-charging Shawangunk Ridge areas (Mohonk Mountain House, Mohonk Preserve, Minnewaska State Park, Sam's Point Preserve) with their views and very extensive hiking and cycling path network. Cyclists, or most hikers, are unlikely to pay fees for access to the HRVR conservation area, especially if the fee is more than a few dollars. A day use fee may well serve as a way to eliminate significant public use while claiming that public access is allowed and is one of the development benefits.

Comment: *Alternative analysis incomplete. Specifically the "Conservation Resort" alternative is not fully addressed. (Page 504, Comment 18)*

The comment by J. Keith expressed the view that the Conservation Resort was included in the DEIS as the minimally economically feasible development. The FEIS response basically agrees with this position but then goes on to say it is not economically feasible, an apparent conflicting view. It appears the alternative was never a serious alternative and is a red herring. A true analysis of economically feasible alternatives should be done. The implied position that the proposed development is the only economically feasible alternative, or has been reduced to the economically feasible minimum needs substantiation. What the FEIS appears to say is that the proposed development, as reduced from the original plan, is the minimum economically acceptable alternative *to this developer in view of the developer's risk tolerance and return on investment (ROI) objectives*. This is quite different to any economically feasible alternative, as others may have higher risk tolerance or lower ROI requirements.