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Basher Kill Subdivision at Deer Park
Comments on Draft Scoping Document (DSD) and Draft Environmental Impact
Statement (DEIS)

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I am a biologist, ecologist, and wetlands scientist. My comments here are limited to portions of the Basher Kill Subdivision Scoping Document and Draft Environmental Impact Statement (DEIS) that discuss project impacts on native ecosystems and their flora and fauna, and to impacts on environmental conditions affecting these ecological resources. My comments pertain primarily to the Vegetation and Wildlife sections of the Draft Scoping Document (DSD) and the DEIS.

COMMENTS ON THE DRAFT SCOPING DOCUMENT (DSD)

In my judgment the DSD, though fairly thorough, is not sufficiently specific and detailed in determining the content of the DEIS. Some form of the word “discuss” appears frequently in regard to requirements of the DEIS: “a discussion of the vegetative [I think they meant ‘vegetated?’] communities,” “results [will be] discussed.” The quality, thoroughness, accuracy and relevance of the discussion are not specified or even mentioned. Environmental assessments are to be “performed by a certified professional,” but in the field of environmental assessment there is no professional certification except a graduate degree and membership in professional societies that for the most part do not require any test of professional competence.

I understand that a scoping document cannot be extremely detailed and “airtight” in terms of guaranteeing a completely thorough and accurate DEIS. To paraphrase Donald Rumsfeld, you go to SEQRA review with the Scoping Document you have. However, in SEQRA reviews in which I have participated, I have found that developers often defend flawed environmental impact statements by claiming that the scoping document did not require something, more often than not something important.

Though a lack of specifics in the DSD provides loopholes for the developer to provide substandard work and vague “discussions” of important issues and critical impacts, the DSD is rigorous enough for me to point out in the DEIS at least five indisputable failures to satisfy clearly defined Scoping requirements.

1. Most seriously, the DSD, C. VEGETATION AND WILDLIFE, 2a Existing Conditions Wildlife (p. 12), lists rare species and species groups to be described and assessed as to their likelihood of occurrence on the site, based on existing information and on-site field surveys, including bald eagle, bog turtle, timber rattlesnake, dragonflies and butterflies. Timber rattlesnake, dragonflies and butterflies are not assessed at all in the DEIS. Bald eagle is dismissed with an opinion that it “may fly over the site.” The bog turtle assessment is flawed and the conclusion that bog turtle could not occur on the site is

incorrect. There is no indication in the DEIS that any information research or onsite field surveys were conducted in regard to these animal species. This omission alone makes the DEIS incomplete. For the DEIS to be accepted, field surveys for these species and species groups must be performed at appropriate times during the 2009 growing season. This brings me to my next point.

2. In section C, 1 g. of the DSD is the requirement that “Environmental assessments are to be completed during seasonal periods when those species are active.” The entire set of field surveys for plants, animals, and habitats, were performed on a single day, September 19, 2006, late in the growing season and outside the active periods of many species of both plants and animals. For example, many migrant songbirds, including rare species, have already migrated south by early or mid-September. Many rare plant species have completely withered and disappeared by July. Many amphibians, including rare, threatened and endangered species, can be reliably detected only during the spring breeding season, when they gather in vernal pools and other wetlands to mate and lay eggs.

The choice of September 19 is especially inappropriate for two very important species: bog turtle, NYS Endangered, and timber rattlesnake, NYS Threatened (see 1, above).

State and Federal protocols for bog turtle searches require that onsite searches for turtles be performed during April and May, when turtles are easy to detect basking in the open on sedge tussocks and other sunny sites. Later in the season, bog turtles are very secretive, and tall summer growth conceals them. This would also be true on September 19. By the time summer growth dies and subsides bog turtles would be hibernating.

By September 19 any timber rattlesnakes using the Basher Kill Subdivision site in the active summer season would be off-site, concentrated near den sites in more elevated, rocky terrain. The Basher Kill Subdivision site, from the information available, does not appear to include habitat for a rattlesnake den. However, the adjacent Shawangunk ridge is noted for having rattlesnake dens. Snakes from a nearby den on the ridge might frequent the Basher Kill Subdivision site in summer when snakes reside away from the den. The description of habitats in the DEIS strongly suggest this possibility, but the lack of a rattlesnake survey, as required by the Scoping Document, leaves unanswered the question of rattlesnake residence on the site.

3. Section C, 1e of the DSD calls for “a thorough survey for rare species and ecological communities.” As already shown, the word “thorough” does not apply to the rare species survey work described in the DEIS. Only a one-day general wildlife survey was conducted, no more than a general and preliminary biological reconnaissance. As noted above three species surveys required and specified by the Scoping Document were not performed.

The description of ecological communities in the DEIS is so muddled that it is hard for me to get a sense of exactly what communities are there. Names in the DEIS for onsite communities are not those in standard use. New York Natural Heritage Program

community types are referenced, but the DEIS describes on site communities in completely different type designations, apparently invented by the consultant (e.g. “Mid Successional Uplands,” “Mixed ridge-top hardwood forest”). Only two Heritage Communities – Chestnut Oak Forest and Hemlock-Northern Hardwood Forest – are referenced, as important communities off site; on-site examples of these communities, recognizable to me by their descriptions, are not called by their Heritage names in the DEIS.

Similarly, section C, 1c of the DSD requires a discussion of “vegetative communities” but does not specify that this discussion employ scientifically recognized community concepts. On-site vegetation units are described as “Areas,” with names like “Palustrine Forested Broad-leaved Deciduous Floodplain Wetlands, Intermittently Flooded.” I assume this to correspond to the New York Natural heritage Program’s “Floodplain Forest,” a more succinct designation. Some community names used in the DEIS appear to indicate two different communities. An example is “Mixed ridge-top hardwood forest, Eastern Hemlocks.” Is the same as the Heritage community, “Hemlock-Northern Hardwood Forest?” “Headwater streams and adjacent riparian habitat, wetlands and uplands” includes *at least* four vegetational communities: intermittent streams, perennial streams, some type of deciduous swamp forest, and some type of herbaceous or shrubby wetland. The DEIS provides no rationale or criteria for the selection and designation of these “Areas” other than “assorted vegetative covers” divided into “eight community types.” The result is arbitrary and confusing. The accompanying table is purported to list “vegetation types” but is actually a list of eight species.

Additionally, the DSD requires the discussion of ecological communities to include “dominant species, and age,” which it does not.

5. With regard to migrant birds, the DEIS also fails to meet Scoping requirements.

DSD C, 3a requiring the “analysis [of] the proposed lighting system and the fly paths of migrating birds” is not met, since the DEIS contains no discussion of flyways and flight levels of individual bird species or groups of birds with similar flight behavior. Without this discussion and analysis impacts of the lighting plan on birds cannot be assessed.

DSD C, 2c requiring the DEIS “describe the nesting and flyways of the American Bald Eagle” is clearly not met by the statement that “eagles may fly over the site.”

6. Section C2.3c requires a discussion of the impacts of “reduction of vegetative cover and habitat on soil erosion and food and cover for wildlife.” This discussion in the DEIS is minimal and uninformative, little more than an unsupported assurance that such impacts will be mitigated.

7. Section C2.3d requires a discussion of the impacts to state endangered, threatened and special concern species, and significant habitats on and off site. Again the presentation is sketchy, and does not support the blunt conclusion that impacts will be minimal or nonexistent.

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)

The following comments on the DEIS address not only issues related to Scoping, but also questions of scientific accuracy, rigor and professional standards. Though the DEIS does provide most of the discussions required by the DSD, the quality and utility of these discussions are practically useless. The DEIS is riddled with vague, minimal and unscientific verbiage that provides no basis for the conclusions reached about ecological issues. These conclusions are presented without supporting evidence or sound logic.

Section III.C. Vegetation, Wildlife and Ecology Assessment

Opening paragraph p III.C-1 “This chapter of the DEIS evaluates the ecological resources of the project site”. . . “to determine the health, diversity, uniqueness and abundance of the site’s natural resources.” Does it? Not in my judgment.

New York Natural Heritage Program correspondence is missing from the appendices of the website pdf of DEIS. This is important. Turn to page III.C-21 Threatened and Endangered Species. “the response from the NYSDEC Natural Heritage Program . . . indicated that one important species, the Longtail Salamander (*Eurycea longicauda*), has been seen in the area.” Why only this one species?

I also queried the Natural Heritage Program, with very different results. I asked for the list of rare species (plants and animals) and ecological communities for the Town of Deerpark (exhibit A, attached). This list contains 13 animal species (10 observed in the last 25 years), 9 rare plant species (3 observed in the last 25 years), and 11 ecological communities. The developer’s inquiry to the Natural Heritage Program returned one species! What “area” was the developer referring to in the inquiry? We know it wasn’t simply the development site because the DEIS (page III.C-21) says “Two (2) Longtail Salamanders have been spotted near the swamps of Deerpark, approximately 1.5 miles from the site.”

The huge discrepancy between the results of my inquiry to Natural Heritage (22 species) and the developer’s (1 species) is astonishing, and demands an explanation. I believe the correspondence between the developer’s consultant and Natural Heritage is the only thing that can shed any light on this question. Why is this correspondence not included in the appendix with other correspondence? This should be part of the public record for this project.

Perhaps the developer inquired only about endangered, threatened and special concern species, as this is all that scoping required. But only 3 of the 13 animals bearing some rarity rank are “unlisted” (not designated as endangered, threatened or special concern by an act of the state legislature, but rare nonetheless). That still leaves 9 animal species that should have been included and assessed in the DEIS, 9 out of 10 missing! No plants were mentioned in the DEIS, and 7 of the 9 rare plants returned in response to my inquiry are

listed as endangered, threatened or special concern (2 are listed as “rare”). This means 16 out of 19 species required to have been surveyed and assessed in the DEIS – 84% – were not.

As I have found with many environmental impact statements, the potential for rare species is repeatedly downplayed in this DEIS. For example, on page III.C-21 it says “According to the Biological Diversity portion of the 2004 Orange County Open Space Plan the proposed site is in an area of zero to few incidences of rare animal species. This agrees with the response from the NYSDEC Natural Heritage Program . . . which indicated that one important species, the Longtail Salamander, has been seen in the area.” I challenged this contention in the preceding paragraph. Again on page III.C-21 the DEIS states that “the United States Fish and Wildlife Service website indicated that few listed species occur within the proposed project area.”

The problem with these statements is that a lack of rare species records for a particular area in state and federal databases does not necessarily mean there are no rare species in that area. The most common reason for lack of records is lack of surveys by biologists capable of finding and identifying rare plants and animals or their habitats. This in fact is standard language in any response to a rare species records request. Database searches and results are no substitutes for competent, thorough onsite surveys.

Although the developer’s consultant failed to perform several surveys clearly specified in the DSC, they did conduct a site reconnaissance on September 19, 2006 . I stated before that a single day in the late growing season is not sufficient for any species other than those detectable and identifiable at that time of year, and only after an initial reconnaissance has resulted in the identification of suitable onsite habitat for those species.

In this regard I refer to the Phase 1 Bog Turtle Habitat Assessment discussed on pages III.C-22 – 24. The DEIS calls September 19 “a favorable time of year for such an assessment because the substrate was not frozen and was able to be observed.” I interpret this to mean in practical survey terms that (unfrozen) soils could be sampled, and there was no snow covering the ground – that is, it was not winter.

Certainly winter is unfavorable for finding bog turtles or recognizing suitable bog turtle habitat. However, not all times of the growing season are favorable for this. It is important to note that searching for bog turtles and assessing wetlands as potential bog turtle habitat are two different tasks requiring different methods and procedures. This is clearly recognized in the requirements and guidelines for Federal Phase I and Phase 2 endangered species surveys. A Phase 1 survey is to assess wetlands as potential bog turtle habitat. If it is determined that potential bog turtle habitat is present, a Phase 2 survey – a search for bog turtles in suitable habitat – is then conducted. Even if no bog turtles are found during the Phase 2 survey, the potential habitat, with protective buffers, should be preserved. Bog turtles may be present, despite the fact that none were found, and possibly bog turtles may naturally become established via dispersal of individuals from neighboring populations.

The DEIS reports that no bog turtles were found during the Phase 1 survey. This is not surprising, given that bog turtles are seldom seen, even in places they are known to occur, in summer and autumn. According to Federal guidelines, Phase 2 bog turtle surveys (including on-site searches for turtles) should be conducted in April and May. Granted, the September survey was a Phase 1 survey, not a Phase 2 survey, but the results and conclusions of the Phase 1 survey determine whether there will be a Phase 2 survey. This is very important. The assessment at the Phase 1 stage should employ the broadest, not the narrowest, standards, in order not to dismiss areas as unsuitable that may in fact have bog turtles.

In my estimation the conclusion reached in the DEIS that the Basher Kill Subdivision site is unsuitable for bog turtle is in error. The Phase 1 survey identified two potential bog turtle areas designated Wetland A and Wetland B (page III.C-22). Wetland A is described as a mosaic of shrub swamp and emergent marsh with “shallow, mucky soils.” Four plant species are mentioned as occurring in Wetland A: broad-leaved cattail (*Typha latifolia*), gray-stemmed dogwood (*Cornus foemina*), purple loosestrife (*Lythrum salicaria*) and tussock sedge (*Carex stricta*) (page III.C-23). Groundwater, and channels associated with the Basher Kill are mentioned as sources of water (0.5 – 2 + feet deep) in Wetland A. Repeated here is the statement “No bog turtles or other reptiles were observed during the Phase 1 Habitat Assessment.” It is also stated that “No evidence of springs was observed.”

I have not visited the site, but I find it puzzling that groundwater was apparently observed, but “no evidence of springs.” Groundwater at or on the surface *is* evidence of springs. A depth of 18 to 24 or more inches is strong evidence of springs. These springs do not need to well up from underground (i.e. springing up in the level area of the wetland). Indeed the springs that feed bog turtle habitat (e.g. fens) characteristically issue from the sides or bases of seeping slopes, and often feed rivulets in the level portion of the wetland. Rivulets are channels (mentioned in the description of hydrology in Wetland A) of flowing or standing water in the wetland, and are an important indicator of potential bog turtle habitat (Kiviat and Stevens 2001). The DEIS says the herbaceous portions of wetland A had “hummock and hollow micro-topography,” another salient feature of bog turtle habitat that provides concealment and foraging habitat for bog turtles and spotted turtles (NYS Special Concern).

Wetland B is described as similar to Wetland A in vegetation and hydrology, with less depth of water (0.5 ft – 1 + ft.), but inundating “the entire area” of the wetland. Wetland B had two dominant plant species: swamp loosestrife (*Decadon* [sp?] *verticillata*) and purple loosestrife.

The developer’s Phase 1 survey concludes (page III.C-24, para. 3) that “neither Wetland A nor Wetland B display the combination of suitable hydrology, mucky soils and suitable vegetation to support a viable population of bog turtles.” This conclusion is unwarranted and simply wrong. It is in fact denied in the next few sentences of the DEIS. We learn that “Wetlands A and B are both portions of a larger palustrine forest wetland complex.”

This is followed by a dismissal of both wetlands as bog turtle habitat that uses a “Goldilocks” argument. Wetland A has good hydrology and suitable soils but the wrong vegetation. (In fact it has suitable vegetation from the description.) Wetland B has good soils but the wrong vegetation and hydrology. (In fact the hydrology as described is similar in the two wetlands.)

From this the conclusion is reached that there is no bog turtle habitat on site. But what about the “larger palustrine forest wetland complex” that includes A and B? A and B are not isolated. Turtles can move between wetlands A and B, and also use the forested wetlands. The combined characteristics of wetlands A and B do indeed indicate suitable habitat for bog turtle. Bog turtles have been shown to use different types of associated wetlands for different purposes, moving freely between these wetland areas. Bog turtles are more frequently found in large wetland complexes with a mosaic of diverse open, shrubby and forested wetlands than in isolated open herbaceous wetlands surrounded by uplands. As a whole, the wetland complex on the Basher Kill Subdivision site, as described in the DEIS, appears to be perfectly good bog turtle habitat.

Recently I spoke to a colleague who attended a conference on the bog turtle in New York. A number of researchers at the conference reported finding bog turtles in habitats different from those described in federal and state guidelines for bog turtle habitat assessments. These habitats included deciduous and mixed hardwood swamps, and shrub swamps, habitats reported in the DEIS as being present on the Basher Kill Subdivision site.

Why does the DEIS reach such a negative conclusion regarding the potential occurrence of bog turtle? Could it be that this was the desired conclusion? This would not surprise me. In any case it’s poor science, poor logic, and entirely incorrect, even assuming that the analysis of hydrology, soils and vegetation was valid. It is not. Wetland A by itself meets the criteria for bog turtle potential because contrary to the DEIS, it does have the right vegetation – sedges, and cattails. It also has invasive purple loosestrife, but the DEIS does not say how much. In many former known bog turtle sites purple loosestrife has eliminated or severely reduced sedges and grasses, which are used by the turtles for nesting and basking. Purple loosestrife has been successfully eliminated or reduced to non-problematic levels by the introduction of beetles as biological control agent. The possibility of introducing these loosestrife-eating beetles to improve wetland habitat for bog turtles and other native animals is not discussed in the DEIS.

Another species requiring Phase 1 and Phase 2 site surveys is the Federally Endangered Indiana bat. There is no mention of a phase 1 Indiana bat survey in the DEIS, but there is a brief discussion of Indiana bat on page III.C-28 (under “4. Mitigation” starting on page III.C-27) which states that “the species was not observed on the site.” This is another example of dereliction on the part of the developer. Indiana bat – in fact any kind of bat – is not likely to be casually observed in a one-day reconnaissance. There appears to have been no Phase 1 Indiana bat survey – that is, no habitat assessment, and no survey to locate summer roosting trees used by bats. There was certainly no Phase 2 assessment to actually detect bats. The Phase 2 bat survey uses special methods and equipment: capture

and identification of night-flying bats in mist nets, and electronic detection and analysis of bat calls. As mitigation, having no clue as to whether Indian bat occurs on the site, “the applicant agrees to limit tree cutting to appropriate times of the year to minimize impacts.” This is mitigation? With no information whatsoever, the developer could unknowingly cut down all the trees in a summer roosting area used by Indiana bats.

In addition to demonstrating a failure to provide a complete and accurate account of existing ecological information, the DEIS also relies too much on these historic records of rare and endangered species, and too little on site assessment. If habitat for a rare species exists on a site, the species might occur there despite the lack of records of extant or historic occurrences. It is important that habitats on site be well documented, and assessed for all species that might potentially occur, including those for which there are no known local or regional occurrences. These potential species can be identified with reference to on-site habitats if, and only if, those habitats are well documented and well described according to accepted scientific standards. This is not true of this DEIS.

An example is Bald eagle. In the DEIS the potential for bald eagle is assessed only on the basis of existing nesting records, of which there are none on the site. But does site have nesting potential for bald eagle? Is there nesting potential for other rare bird species? The DEIS does not tell us, and the work needed to answer this question was not done. A good example of a habitat not assessed for rare species is the floodplain forest along the Basha Kill. Floodplain forest has potential for rare plants such as beak grass, false hop sedge, Davis sedge and other rare plants, as well as animals such as river otter and wood turtle.

These are not the only critical comments I am able to make in regard to this DEIS. There are many smaller errors, omissions and confusing statements that I might point out, all supporting my conclusion that this DEIS fails to meet the standards of Scoping, and fails to meet minimum generally accepted standards of scientific accuracy and thoroughness for environmental impact statements.

The Basher Kill Subdivision DEIS must be revised to meet the “hard look” at environmental issues required by the State Environmental Quality Review Act (SEQRA). It is the responsibility of the Planning Board and Town Board of Deerpark to make sure the Final Environmental Impact Statement for this project is thorough and accurate. The developer must be instructed to redress the omissions of the DEIS with the ecological studies required by the DSC, and by established SEQRA standards. Poorly researched and scientifically inaccurate or useless discussions and analyses must be re-researched and brought up to scientific standards.