



Founded in 1795

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Dear Kenneth Kovalchik and Members of the Town of Guilderland Planning Board:

I write to comment on the Draft Environmental Impact Statement (DEIS 2019) for the proposed development of Sites 1, 2, and 3 in the Town of Guilderland adjacent to the Albany Pine Bush Preserve. On the basis of my more than 20 years of experience as an ecologist including as a professor at Union College and my direct and ongoing scientific research of the Pine Bush ecosystem, I conclude that the proposed development sites have the potential to support significant ecosystem services including habitat for pitch pine and scrub oak, hosting wild blue lupines, and supporting the endangered Karner blue butterflies.

The DEIS describes the existing vegetation closed-canopy of mixed pine and hardwood species that is typical of other successional forest within areas of Albany Pine Bush Preserve (APB) from which low-intensity fires have been suppressed for decades. As part of my ongoing work to understand the dynamics of the APB ecosystem, I have surveyed extensive forested areas within the Preserve that closely resemble the species composition described in the DEIS (Corbin et al. 2016). Indeed, such secondary succession forests were far more abundant in the Preserve at the time it was established in 1988. Today, the area of habitat that supports pine barren habitat including wild blue lupines and the federally endangered Karner blue butterfly has greatly expanded from what existed 20 years ago as a result of active tree removal and prescribed fire (APB Management Plan 2017). I see no reason that similar restoration protocols could not be applied to the proposed development sites to create more conditions suitable for Karner blue butterflies.

The DEIS describes well-drained sandy and sandy-loam soils that are typical of the Albany Pine Bush Preserve including Colonie and Elnora soil types. These soils create appropriate hydrological conditions that, when combined with occasional fires, gives rise to the unique conditions found in Pine Barrens. Though more mesic species including northern hardwood (e.g. maples and aspens) and southern hardwood (e.g. black locust) trees are able to establish when fire is suppressed for long periods of time, *the conditions that support pine barren vegetation including pitch pines, scrub oaks, and lupines and associated animals including endangered species and species of special concern can be restored.* The existence of the unique soils of the proposed development area mean is the key determinant of restoration potential, not present-day vegetation composition. Nothing noted in the DEIS suggests that restoration of this site is not possible, including past use as a pig farm and the deposition of mesic tree leaves.

The APB Preserve Commission has cleared extensive forest from hundreds of acres of Preserve lands since 1989 (APB Management Plan, 2017). After removing the trees, cover vegetation including wild blue lupines are replanted, and new plants including pitch pine and scrub oaks

colonize ; when fuel builds up to a sufficient volume, prescribed fire is used to further the ecological recovery of pine barren habitat. In 2015-2019, I conducted vegetation and soil surveys of sites at various stages of restoration at APB, including present-day forests, remnant pine barren habitat, and former forests that had been restored. *My research demonstrates that active management efforts to sites very much like the proposed development areas succeed in greatly expanding ecosystem function including providing habitat for indicator species such as pitch pines, scrub oaks, wild blue lupine, and the Karner blue butterfly.*

Forested areas very much like the proposed development site are capable of supporting native pine barren species including pitch pine, scrub oak, wild blue lupine, and little bluestem individuals. Closed-canopy forests on well-drained soils can be feasibly removed, and target species replanted while appropriate plants and animals return through natural processes. Within the scale of a few years, the sites are excellent examples of “successional sandplain grasslands” that support a variety of pine barren species. These efforts have increased by several times the area of Karner blue butterfly habitat, and their population, numbering under 1000 only 10 years ago, is now over 15,000 individuals per year (APB Management Plan, 2017). Over time, species composition and habitat conditions improve naturally, with minimal ongoing management besides prescribed fire.

Based on my research, the DEIS is factually incorrect when it states (p.31) that, “...converting of (sic) this site to Pine Bush habitat would be very challenging, if not impossible given the enormous costs involved in creating what amounts to new ecological conditions, as no qualities of the natural state remain.” The qualities of the natural state – namely, the well-drained sandy and sandy-loam soils described above – definitively do remain in place at the site as described by the DEIS. As long as the site is not developed, as proposed, for commercial or large-scale residential use, the potential remains to apply exactly the same restoration tools as have been used at the adjacent APB Preserve.

The DEIS is also factually incorrect when it states (p. 18) that “no significant impacts are anticipated” because “the site is currently disturbed and lacks any characteristics of the Albany Pine Bush habitats...” This statement ignores the documentation of at least 44 plant, 36 bird, 91 invertebrate, one frog, and four mammal species at the site (DEIS 2019). These species provide ecosystem services including pollination, pest control, carbon storage, and water retention that benefits nearby residents and the APB ecosystem itself. These services and benefits are a function of the *existing* habitat conditions, to say nothing of the potential services if the site is restored as other forested sites within the Preserve have been restored.

The Albany Pine Bush Preserve is a relatively small remnant of what was once a much larger ecosystem. Its small area, combined with the significant fragmentation that such urban corridors as the NY State Thruway and other roads, commercial and residential neighborhoods, and Crossgates Mall have caused, make it a very threatened habitat. We are fortunate that the potential exists to expand the area of habitat that can support the unique plants and animals of the Pine Bush Preserve. Yet, we can only protect that potential if we preserve even small parcels of land that have remained free of impervious surfaces. *The DEIS incorrectly writes off the woodlot as having no value, either in its present “green” state, or as a potential future site for restoration back to pine barren habitat.*

The United Nations has declared a biodiversity crisis, a crisis that is driven primarily by habitat destruction (UN IPBES 2019). Conserving biodiversity does not happen passively, and it is not only the responsibility of people in and around, for example, the Amazon rainforests. Conserving biodiversity is an *active choice*, often at the scale of tens of acres such as the proposed development in Guilderland. What is left of the Albany Pine Bush – small and fragmented as it is – exists because it was not developed in decades past. We must be grateful for those active choices made in decades past to preserve open space. But if we are to leave a healthy planet for future generations, then we too must actively preserve even small parcels of undeveloped land such as proposed sites 1, 2, and 3. They may seem like insignificant patches of forest, but really this is the scale where conservation is truly meaningful. They have ecological value in their present state, plus the potential to grow the footprint of the Albany Pine Bush Preserve.

In summary, in my professional opinion as a professional scientist with ongoing research to understand the ecology of the Albany Pine Bush, the development of the three Guilderland sites would have significant environmental impacts that will be experienced by current and future residents.

Sincerely,



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cc: Christopher Walker
Save the Pine Bush

Cited Resources:

- Albany Pine Bush Preserve Management Plan (2017). 2017 Update. Albany Pine Bush Preserve Commission.
- Corbin, J., S. Sandoval B. Fitzgerald, and K. Peterson (2016). An invasive tree's soil nitrogen legacy declines with time-since-restoration and with prescribed fire. Ecological Society of America Annual Meeting.
- IPBES (2019). Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science- Policy Platform on Biodiversity and Ecosystem Services. Available at: www.ipbes.net.