MANAGEMENT PLAN

CULBERTSON (BLOCK 8, LOT 5.01)
TOWNSHIP OF HARDING

HARDING OPEN SPACE TRUST

APRIL 16, 2024

Block 8, Lot 5.01

Setting/Historic land use/current land use

The 5.35-acre subject property is located at 140 Blue Mill Road in Harding Township, Morris County, New Jersey. The majority of the property is an open field with a mix of grasses and herbaceous species. A linear plot of woodland, between 50 to 60 feet in width, forms the border with Margetts field. Margetts Field, an open space municipal property, abuts the western border. Residential properties form the north, south and eastern borders. There are several well-used bridle trails that run north-south within the forested western edge of the property and northeasterly-southwesterly along the north/northeast edge of the property. Various connections among the trails are found throughout the property. Narrow woodlands form a boundary between the preserved property and other residential properties on the north and south sides. The field adjoins the lawn of the neighboring residential property along the eastern side.

The bridle trail has been preserved through a trail easement granted to the Harding Land Trust in 2015 by the Estate of Grace K. Culbertson, Deceased. The trail traverses between the edge of Margett's field forest that encompasses the boundary between Lot 5.11 and 5.01 and 5.11 and 5.02. Frequent equestrian use is evident and the path consists of a single track with several low fences.

Geology and Soils

The subject property is situated within the New Jersey Piedmont Physiographic Province, where it is underlain by sandstone, siltstone, mudstone, and fine-medium grained calcareous silt stone associated with the Towaco Formation (NJDEP, GeoWeb).

Historical data indicate that since the 1930's this property was primarily used for hay and possibly pastureland. The surrounding landscape was formerly agricultural, consisting of row crops and hayfields. Due to the valuable soil types, this property is considered Prime Farmland, by the State Agricultural Development Committee (SADC). According to the the USDA Web Soil Survey, 92.3% of the subject property consists of Penn Channery Silt Loam (PeoB, 3-8% slope). According to the Morris County Farmland Preservation Plan (2021) PeoB is rated as a Land Capability Class II soil. These Capability Classes are categorized on a scale of 1 through 8, with 1 having few limitations to restrict the use and 8 having the most restrictive limitations.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. State Agriculture Development Committee (SADC) Prime Farmland Soils include all those soils in the Land Capability Class I and selected soils from USDA Land Capability Class II. USDA Class I soils have slight limitations that restrict their use. Class II soils have moderate limitations that reduce the choice of plants or require moderate limitations that reduce the choice of plants or require moderate conservation practices. The criteria for prime farmland designation include: an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few to no rocks. The water supply is dependable and of adequate quality, and the soil is permeable to both water and air.

The minor percentage of soils consist of 5.2% Penn Channery Silt Loam (PeoC 8-15% slope) and 2.5% as Reaville Deep Variant Channery Silt Loam (RerB7, 0-6% slope). These are Land Use Capability Class III soils, and although they do not meet the criteria for Prime Farmland, it is identified as a SADC Soil of Statewide Importance. Class III soils have severe limitations that reduce the choice of plants or require special conservation practices, or both. These soils can economically produce high yields of crops when treated and managed according to acceptable farming methods.

Habitat

The property includes areas of mature deciduous forest and open field. The areas of deciduous forest (with greater than 50% crown cover), are identified as suitable habitat for the Indiana Bat (*Myotis sodalist*). This State and Federally-listed Endangered species, utilizes riparian corridors near and within the Great Swamp National Wildlife Refuge for foraging and warm season roosting. Indiana Bat populations have been impacted throughout their range due to White Nose Syndrome (WNS), a devastating fungal disease. This disease disrupts the bats' hibernation patterns, causing them to wake up more frequently and deplete their fat reserves, ultimately leading to starvation and death (Blehert et al., 2009). In New Jersey, WNS has had a profound impact on bat populations, including the endangered Indiana bat. The spread of WNS has led to significant declines in Indiana bat populations throughout the state, exacerbating existing conservation concerns (Frick et al., 2010). Efforts to mitigate the impacts of WNS on Indiana bats in New Jersey include habitat protection, monitoring, and research into potential treatments or management strategies to support their recovery.

The subject property has been characterized as active season sighting, potential maternity colonies and roost sites for the Indiana Bat by The New Jersey Natural Heritage Database (NJDEP). Primary roost sites may be found within a variety of forested habitats and primarily include snags with nearly dead trees with peeling or exfoliating bark. They are typically large trees, of a size greater than 22” diameter at breast height, in open areas with high exposure to sunlight. Alternative roost sites typically are found within the forest interior in trees of similar sizes. (Kitchell 2008). Maternal roosts are typically established in agricultural areas with fragmented forests. The subject property, with access to open fields, large mature trees and sun exposure provides suitable conditions for roost sites and foraging.

Foraging for the Indiana Bat can occur in and around upland and wetland mixed oak forested habitats (Butchkoski and Hassinger 2002; Gardner et al., 1991; Humphrey et al., 1977; Murray and Kurta 2004; Romme et al., 2002, Sparks et al., 2005). Pregnant or lactating bats primarily forage within wooded or riparian corridors, streams and floodplain forests, and impounded waterways, but they will also use hedgerows, upland forest, early successional field and along cropland. (Kitchell 2008).

The open field consists of a mix of cool season grasses, primarily orchardgrass, interspersed with clover, milkweed and other herbaceous species. The deciduous forest has dense crown cover and is composed of Red Oaks, Tree of Heaven, Pin Oaks, Green Ash, Hickory and Eastern

Cottonwood. The forested area has dense understory composed of Multiflora Rose, Asiatic Bittersweet, Red Chokecherry as well as American Beech and Green Ash saplings.

There is an area of dense shrub thicket between the forest and field in the NW corner of the property. This area is composed of a variety of shrubs, vines, young trees and herbaceous habitats. It can serve as important nesting and foraging habitat for the brown thrasher and other songbirds. In addition, these areas provide flowering plants for pollinators as well as food and cover for a variety of wildlife species.

The aforementioned property exhibits a presence of invasive plant species, including Tree of Heaven (Ailanthus altissima), Multiflora Rose (Rosa multiflora), Porcelain Berry (Ampelopsis brevipedunculata), Japanese Honeysuckle (Lonicera japonica), and Asiatic Bittersweet (Celastrus orbiculatus), primarily within the area of the bridle trail easement and areas adjacent to the forest edge.

Management Strategies

Active management of open space properties is needed to ensure that these resources will be available for the wildlife, equestrians, and members of the public to enjoy into the future. There are a number of Federal and State incentive programs that can provide technical assistance and financial resources to meet management goals. Management goals should be revisited periodically to evaluate previous priorities and identify and address new concerns as they arise.

Goal 1: Maintain and improve habitat for Indiana Bat and other wildlife. The open field and forested areas of the property should be maintained in a way that minimizes disturbance to wildlife and maintains the current mosaic of habitats available on the property.

> Strategy 1: Deer overpopulation pose a significant threat to native habitats in the mid-Atlantic and northeastern U.S. Overgrazing can result in the suppression or elimination of native plant species, allowing invasive species to proliferate unchecked. Consequently, there is a decline in plant diversity and changes in vegetation structure, which can negatively affect other wildlife species. A deer feeder was found on the property and should be removed as soon as possible. Deer feeders congregate deer into unnaturally high densities and residents should be encouraged not to provide supplemental feed to deer.
>
> Strategy 2: The field should continue to be managed with a mowing regime that encourages a combination of grasses, native flowering plants, and native shrub cover. Although a variety of human induced disturbances can be used to control ecological succession, the small size of the property and surrounding residential development would favor mowing as the most effective treatment. Annual mowing to a height of 6 – 8” is recommended between November and March to minimize disturbance to the Indiana Bat, nesting birds and other grass dwelling species.

Goal 2 Manage public access on the property for multiple users and activities including: bridle trail users, hikers/walkers, birdwatching and other passive recreational activities.

Strategy 1: Coordinate with Harding Land Trust and the local bridle trail organization to ensure that the bridle trail connections to adjacent properties are intact and well maintained. Continue periodic monitoring of the bridle path in the area and remove obstructions when they occur.

Strategy 2:
Install conservation signage along the trail easement with the aim of safeguarding the integrity of the bridle trail within the designated trail easement boundary, thereby mitigating the risk of its encroachment onto contiguous open space lands.

Citations

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Figure 1
Property Location
Township of Harding, Block 8 Lot 5.01

Figure 2
Bridle Trails
Township of Harding, Block 8 Lot 5.01

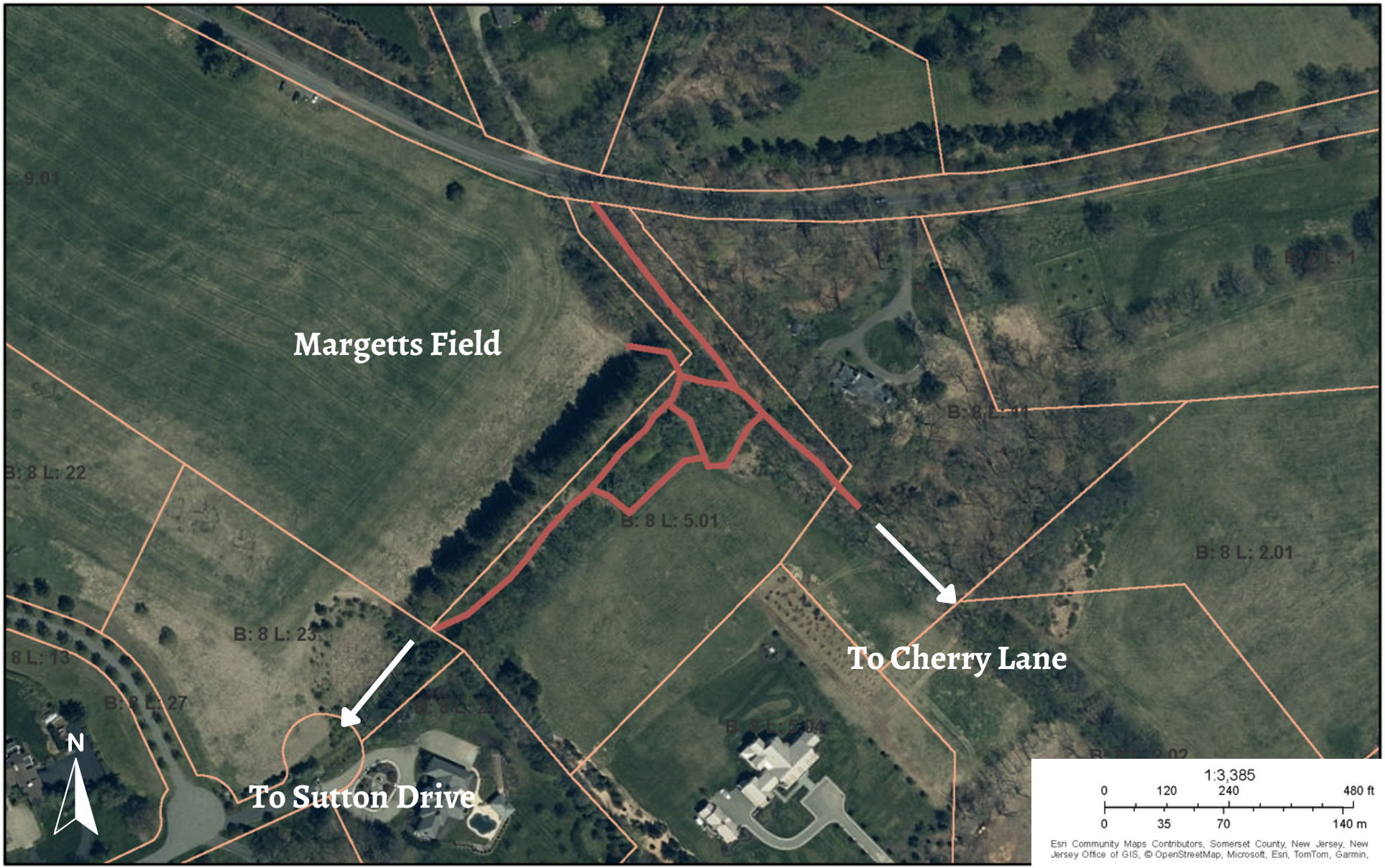
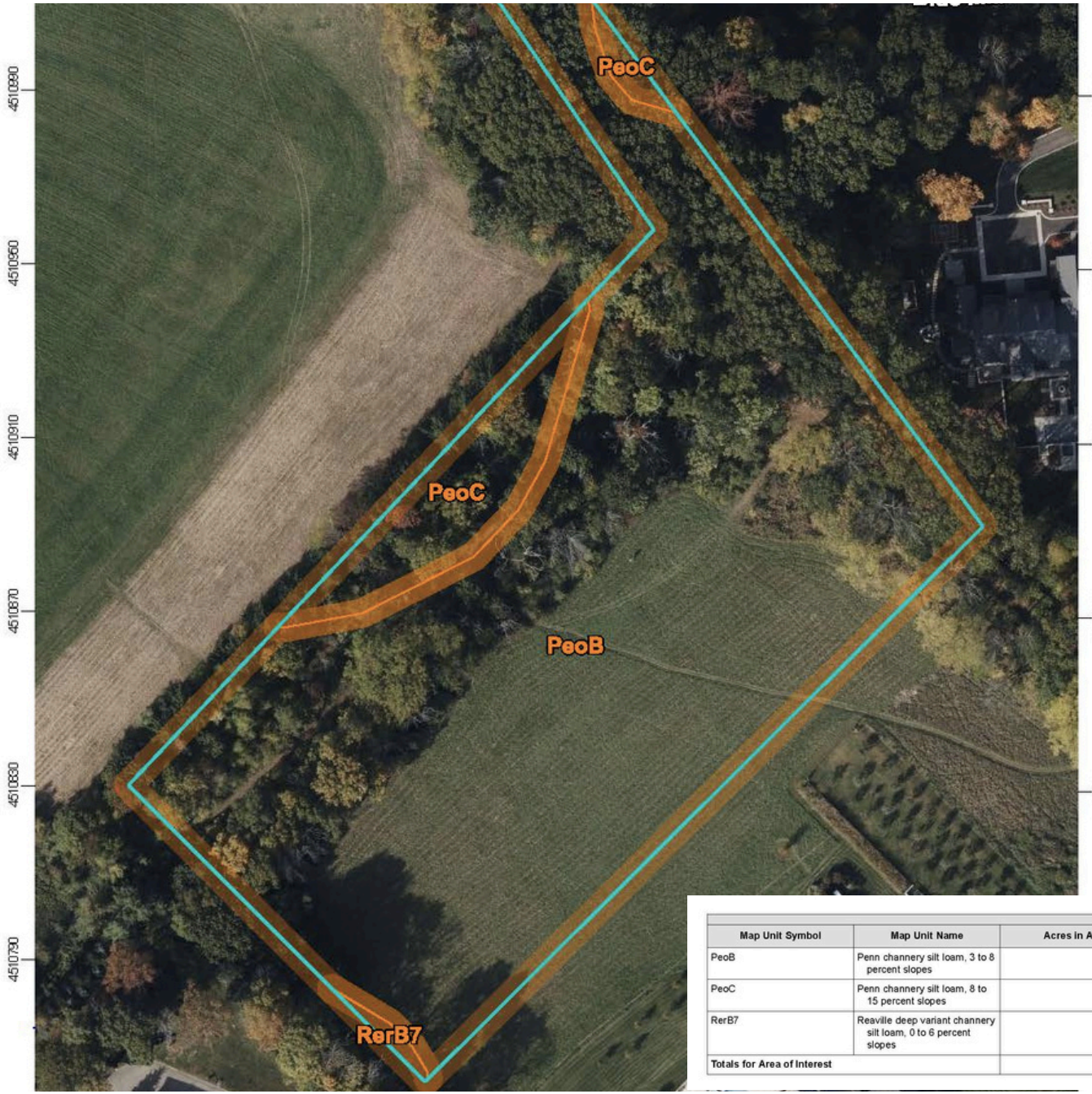


Figure 3: Web Soil Survey
Township of Harding, Block 8 Lot 5.01



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PeoB	Penn channery silt loam, 3 to 8 percent slopes	4.6	91.7%
PeoC	Penn channery silt loam, 8 to 15 percent slopes	0.4	8.0%
RerB7	Reaville deep variant channery silt loam, 0 to 6 percent slopes	0.0	0.4%
Totals for Area of Interest		5.0	100.0%