

Ecological Considerations for Newtown Road Project

December 2022

Submitted by

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Background

This report considers the potential impacts to sensitive ecological features for the proposed condominium project along Newtown Road in eastern Biddeford on Tax Map 4, Lot 22-6—an approximately 7-acre parcel (Figure 1).



Figure 1. Approximate boundaries of the subject parcel illustrating past ditching in wetlands (left 2016 imagery) and showing the existing duplex on the parcel (right 2021 imagery).

This proposed project is located within the Biddeford-Kennebunkport Vernal Pool Complex—a Focus Area of Statewide Significance whose designation is largely driven by its importance as wildlife habitat for Rare, Threatened, and Endangered wildlife species. The focus area is known to provide habitat for two rare turtle species in Maine, the state-endangered Blanding's turtle and the state-threatened spotted turtle. Both species use a variety of wetland and upland habitats over the course of the year. They move between wetlands crossing through upland habitat to do so. Females of both species also seek out upland sites to lay eggs during the month of June. Adults of both species may spend considerable periods of time estivating (a type of summertime hibernation) in uplands during the hottest times of year in July and August. Both species therefore use a variety of different wetland and upland areas over the course of the year. A given individual of either species may not use the exact same set of wetlands (or upland habitat) from one year to the next. Taken together, these considerations make the protection of habitat for these species' especially challenging, which is why extant populations in Maine tend to be found only in relatively large unfragmented areas that contain both uplands and a variety of wetland types.

Wildlife Habitat and Wetlands

I have reviewed existing data available to the Biddeford Conservation Commission and the sketch plan submission for this site. The proposed project is located within the Moors Brook Habitat Block, a nearly 1000-acre block of unfragmented wildlife habitat, that provides known occurrences and habitat for the state-threatened spotted turtle (Figure 2). While the nearest documented occurrences of spotted turtles are several hundred meters away (Figure 2), the habitat block has not been exhaustively surveyed for this species.

According to the sketch plan, a wetland delineation and vernal pool study were performed on May 11, 2022 by Mark Hampton of Mark Hampton Associates, Inc. According to the sketch plan, no significant vernal pools were mapped on the parcel, but no data were provided on potential pools that were considered or egg mass counts that were conducted.

Based on the sketch plan submission, there are two different wetlands at this site (Figure 3): a small wetland close to Newtown Road and a much larger sprawling wetland complex on the western half of the parcel. The larger wetland complex, according to NWI maps, is dominated by deciduous forest (likely red maple) and air photos suggest this type of wetland as well. Large forested wetlands are among the wetland habitats that spotted turtles are known to use as overwintering sites. Aerial imagery of this site from 2016 (Figure 1) suggest that both wetlands have been at least partially modified by past human actions with evidence of linear ditches in them.



Figure 2. The subject parcel (yellow polygon) is located in the Moors Brook Habitat Block, a nearly 1000-acre block of unfragmented habitat, that includes documented habitat for spotted turtles (bright green polygons). White polygon is a conservation easement on UNE property.

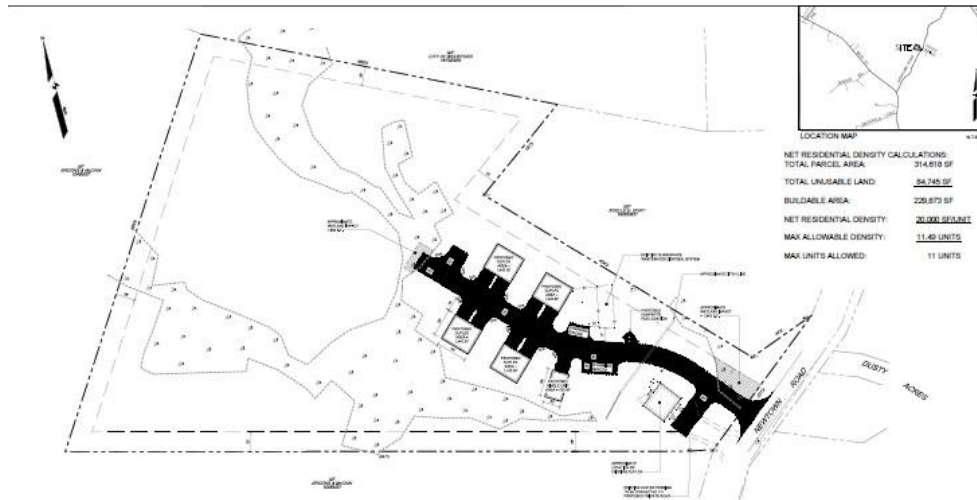


Figure 3. The site sketch plan for the proposed condominium project on Tax Map 4, Lot 22-6 off of Newtown Road in Biddeford.

According to the sketch plan, this project would have direct impacts to both wetlands: of 690 sq ft to the large wetland complex and of 1,942 sq ft to the smaller wetland that abuts Newtown Road. In addition to these direct impacts, however, the project would also have indirect impacts to these wetlands. The siting of the two proposed duplex areas and the proposed single unit on the south side of the paved driveway (Figure 3) offer almost no buffer to the larger wetland complex. All three units appear to be placed within about 10 ft of the wetland boundary as mapped by Mr. Hampton.

Soils

According to Natural Resource Conservation Service soil maps (Figure 4), the dominant soil type on this parcel is Lyman Rock Outcrop Complex (LyB) with a small amount of Scantic soils (Sc) present as well. Neither of these soil types are considered agriculturally important. I did not have access to recent field soil surveys for this site, such as test pits or bores, to evaluate the field soil types at this site for their agricultural significance.

The results from two soil pit test sites in the approved subsurface wastewater application by Biddeford Housing Authority for the now constructed duplex in 2019 suggested soil depth limitations at this site. Soil pit#1 was limited by subsurface water at 12" and soil pit #2 was limited by bedrock at 15". If such limitations persist throughout the site, it could severely limit the ability for subsurface waste disposal on this parcel associated with additional housing units.

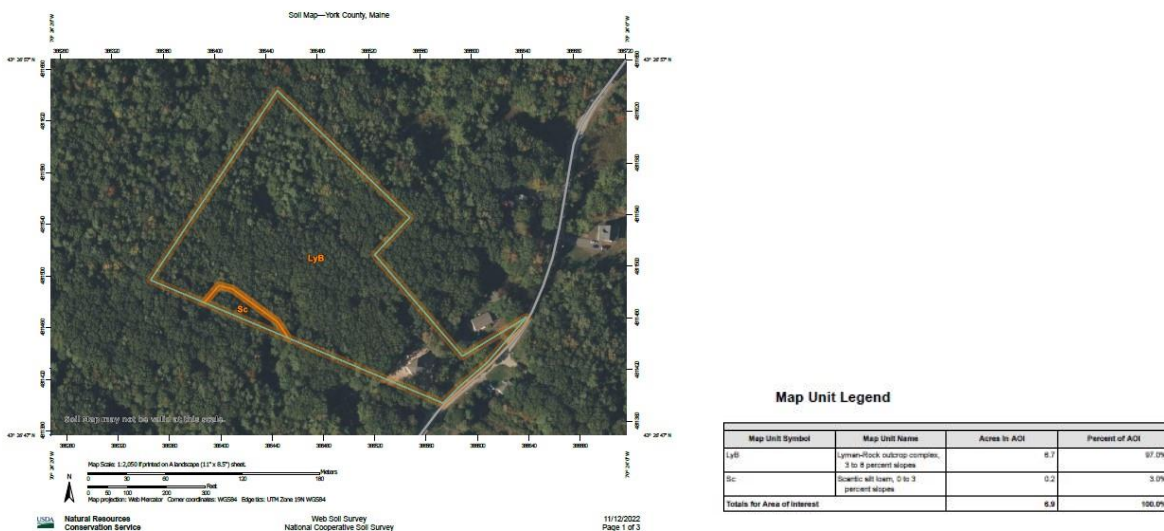


Figure 4. Approximate parcel boundaries with NRCS mapped soil types.

Based on the review of the materials available, we make the following recommendations:

Recommendations

- Conduct springtime visual or trap-based surveys for spotted turtles in the large wetland complex at this site to evaluate its potential as habitat for this state-threatened species. To be meaningful, these surveys would need to be conducted by a qualified individual when spotted turtles are active and mostly likely to be observed (ideally April-May)

- Minimize the impact to the large wetland complex in this parcel by: reconfiguring the turn around to eliminate direct wetland impact and reducing the indirect impact by eliminating or decreasing the number of units on the south side of the paved driveway to provide an undisturbed wetland buffer of at least 50 ft
- Review recent field soil tests to determine whether they suggest that any soils on the subject parcel might be considered Prime Farmland Soils or Farmland Soils of Statewide Importance (Appendix I) and to determine whether test pits suggest depth limitations for subsurface waste disposal throughout the site

Appendix I. Prime Farmland Soils and Soils of Statewide Significance in York County

YORK COUNTY, MAINE - IMPORTANT FARMLANDS

PRIME FARMLAND SOILS

- Alb Allagash very fine sandy loam, 3 to 8 percent slopes
- BcB Becket fine sandy loam, 3 to 8 percent slopes
- MaB Madawaska fine sandy loam, 0 to 8 percent slopes
- MrB Marlow fine sandy loam, 3 to 8 percent slopes
- On Ondawa fine sandy loam
- PeB Peru fine sandy loam, 0 to 8 percent slopes
- SkB Skerry fine sandy loam, 0 to 8 percent slopes

ADDITIONAL FARMLAND SOILS OF STATEWIDE IMPORTANCE

- AdB Adams loamy sand, 0 to 8 percent slopes
- AlC Allagash very fine sandy loam, 8 to 15 percent slopes
- BcC Becket fine sandy loam, 8 to 15 percent slopes
- BuB Buxton silt loam, 3 to 8 percent slopes
- BuC Buxton silt loam, 8 to 15 percent slopes
- CoB Colton gravelly loamy coarse sand, 0 to 8 percent slopes
- CrB Croghan loamy sand, 0 to 8 percent slopes
- EmB Elmwood fine sandy loam, 0 to 8 percent slopes
- EmC Elmwood fine sandy loam, 8 to 15 percent slopes
- HeB Hermon fine sandy loam, 3 to 8 percent slopes
- HeC Hermon fine sandy loam, 8 to 15 percent slopes
- LnB Lyman fine sandy loam, 3 to 8 percent slopes
- Po Podunk and Winooski soils
- SeB Scio silt loam, 3 to 8 percent slopes
- SeC Scio silt loam, 8 to 15 percent slopes
- SkC Skerry fine sandy loam, 8 to 15 percent slopes