

*Bog Turtle Report*

Proposed Buildings  
1251 Kings Highway  
Town of Chester  
Orange County, New York

August 8, 2019

Prepared by:

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## INTRODUCTION

Ecological Solutions, LLC was retained in April 2019 to complete an evaluation of the wetlands on the 38.89 acres site located at 1251 Kings Highway in the Town of Chester (*Figure 1*) for the presence of bog turtle (*Glyptemys muhlenbergii*) habitat and conduct follow-up site visits to detect bog turtle presence. The Town of Chester Planning Board indicated that there may be potential habitat on the site and the New York State Department of Environmental Conservation (NYSDEC) records indicate that there are known bog turtle occurrences within a mile of the site prompting this evaluation.

The site was previously a farm and an old farm pond, pasture, and structures remain. Aerial mapping from 1994 through 2018 is provided that shows the site and surrounding land uses (*Appendix A*). Habitats on the site include a wetland complex with forested, scrub/shrub and emergent sections as well as upland forest and dry open upland meadow/old pasture. The wetland area is fenced off by old barbed wire fence and posts from the remaining lands.

## METHODS

A Phase 1 habitat evaluation was completed on April 8, 2019 and identified approximately 4 acres (Area 1 - A1) of suitable habitat within the delineated wetland complex (*Figure 2*). Suitable bog turtle habitat is defined by the presence of the following habitat criteria consistent with the federal bog turtle survey guidelines contained in the Bog Turtle Recovery Plan (USFWS 2001):

- Substrate of saturated organic and/or mineral soil
- Groundwater derived hydrologic regime
- Herbaceous and scrub/shrub vegetation including sedges and hummock forming vegetation

Additional bog turtle surveys were performed by Michael Nowicki on April 24, May 8, May 16, May 22, May 30, June 6, and July 30, 2019 under partly cloudy and sunny conditions between 9am and 3pm by slowly walking through Area A1 and adjoining wetland habitat and probing with a stick and scanning mucky soil and vegetation for concealed and basking turtles. Area A1 was surveyed at a rate of 6 hours per visit during the April and May field work and only 2 hours during the June field visit since Area A1 which was previously saturated only contained dry surface soils. A July follow up visit was completed to confirm the habitat conditions with the site wetland complex.

## FIELD OBSERVATION

On the initial site visit on April 8 Area A1 contained hydrology supported by groundwater seepage from a steep wooded slope and adjacent farm field located on the west side of the site combined with flow from two excavated farm ponds located at the northern tip of the wetland complex. Areas of shallow standing water were present and dominated by sweet flag, purple loosestrife, reed canary grass, jewelweed, and tussock sedge.

Habitat evaluations in June and July 2019 however revealed that suitable conditions for bog turtles no longer existed since the soil in the entire wetland complex dried significantly to the point that there was no

mucky soil component and no evident groundwater flow from seeps to the wetland from associated upland slopes.

The July visit confirmed that groundwater seepage from the steep slope and flow from the man made ponds ceased and the wetland no longer contained a mucky surface component but rather was dry and no longer suitable for bog turtle. A data sheet is provided (*Appendix B*).

## **SUMMARY**

There were no bog turtles or signs of their presence observed over the course of the evaluation in 2019. This evaluation indicated that there is seasonally suitable bog turtle habitat in the site wetland complex which became dry at the end of the survey period in June and which was confirmed to be very dry during the July visit rendering this site as unsuitable for a bog turtle population.

## REFERENCES

Ernst, C.H., R.W. Barbour and J.E. Lovich. 1994. Turtles of the United States and Canada. Smithsonian Institution Press, Washington DC. 578 p.

USFWS. 2001. Bog turtle (*Clemmys muhlenbergii*), northern population recovery plan. U.S. Fish and Wildlife Service, Hadley, MA. 103 p.

Figure 1

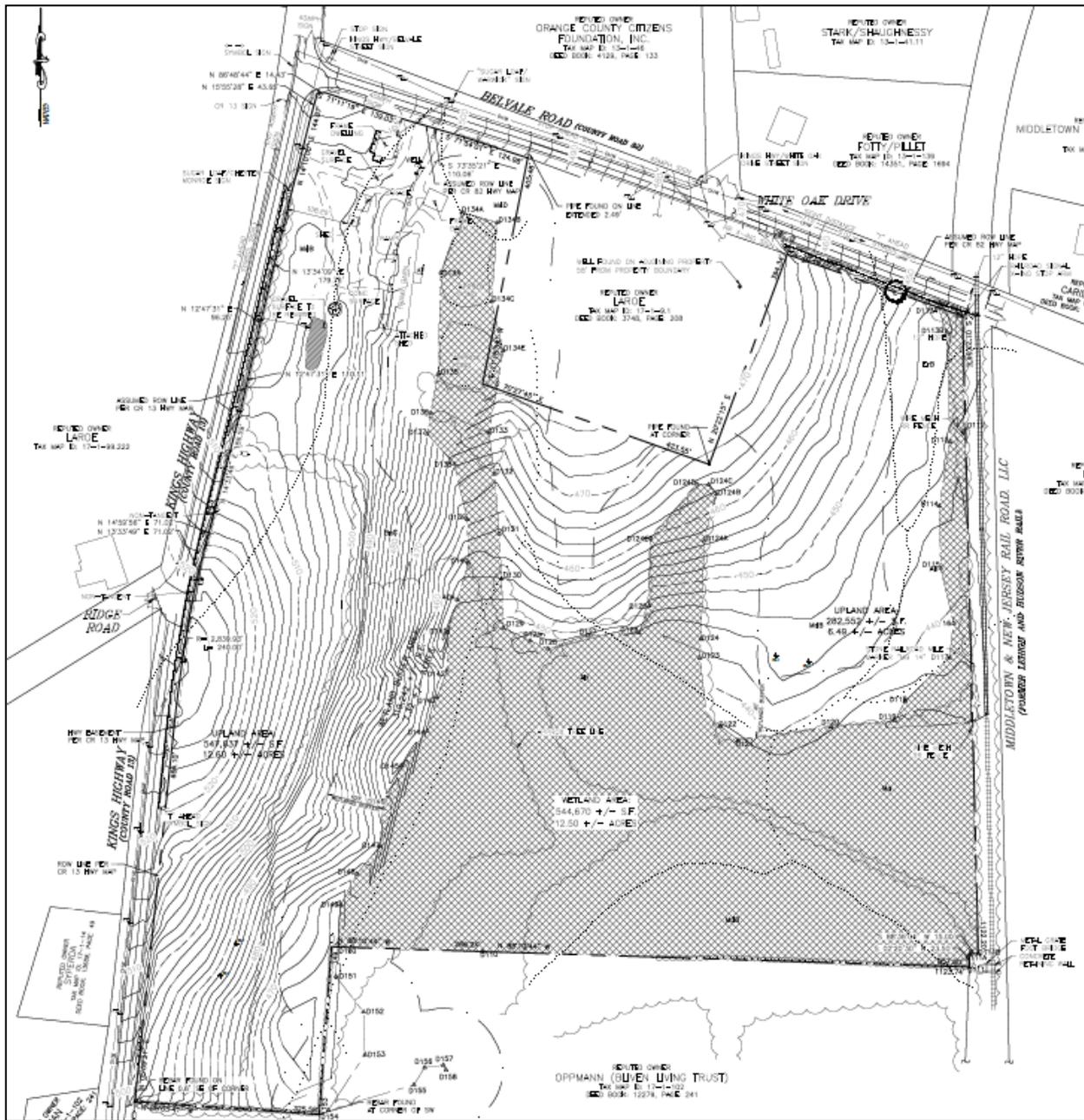


Figure 2



## PHOTOGRAPHS

Wetland complex - Area A1 April 8, 2019 - View is wetland from center of A1



Wetland complex - Area A1 April 8, 2019 - View is northwest from center of A1



Wetland Area A1 center looking southwest - April 8, 2019



Wetland Area A1 center looking west - July 30, 2019



Wetland Area A1 center looking west - July 30, 2019



Wetland Area A1 center looking northwest - July 30, 2019



Wetland Area A1 center looking northwest - July 30, 2019



### Appendix A – Aerial Maps













### Appendix B – Data Sheet

**USFWS Hudson-Housatonic Recovery Unit Bog Turtle  
Habitat Evaluation Field Form<sup>1</sup> (Revised 12/2013)\***

Project/Property Name: 1251 Kings Highway - Chester, NJ  
 Project Name/Type: 1251 Kings Highway - Commercial Development  
 Applicant/Landowner Name: Simon Obstreich  
 County: Orange Quad: \_\_\_\_\_ Township/Municipality: Chester  
 NYNHP Species Hit  Y  N Map attached  Y  N Aerial attached  Y  N  
*not on site*

**ACTION AREA<sup>2</sup>**

Action area size: 38 acres Does the Phase 1 survey include all wetlands in the action area?  Y  N<sup>3</sup>  
 If no, give wetland ID #s and reasons for no survey: \_\_\_\_\_  
 If yes, give wetland ID #s for each: 1 Submit one survey form per wetland.

WETLAND ID: 1 PHOTOS TAKEN:  Yes  No WETLAND SIZE: 12+ acres  
 Wetland size estimation – If actual acreage is not known at time of investigation, check one:  
 < 0.1 acre  0.1-0.5 acre  >0.5 to <1 acre  1-2 acres  2-4 acres  5+ acres  12+ acres

WETLAND LOCATION: Lat. 41° 18' 21.57" N Long. 74° 17' 13.94" W  
 (approximate center of wetland) GPS Datum (check one):  NAD 27  NAD 83  WGS 84

**SURVEY CONDITIONS & LIMITATIONS**

Date of survey: April 8 + June 6, 2011 Time In: 0:00 Time Out: 15:00  
 Last precipitation:  < 24 hours  1-7 days  > 1 week  unknown Drought conditions?  Y  N  
 Unknown

How much of this wetland is located *off-site* (i.e., outside the project boundaries or right-of-way)?  
 none of it – the entire wetland is within the project boundaries (skip next 2 questions)  
 some of it – \_\_\_\_\_ acres or 50 % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?<sup>4</sup>  
 none of it  all of it  part of it ( \_\_\_\_\_ % or \_\_\_\_\_ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (e.g., from the subject property or from a public road)?  all of it  part of it (at least \_\_\_\_\_ acres)  none of it

Are there any wetlands located off-site and close enough to be affected by this project?  Y  N  
 Unknown If yes, could they be potential bog turtle habitat?  Y  N  Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):  
old farm with existing farmhouse, barn, farm ponds, forest, pastures, and cornfield

**WETLAND CHARACTERISTICS**

Wetland type(s) present and % cover:  PEM 15  PSS 30  PFO 50  POW 5  
 NYSDEC Mapped Wetland  Y  N Name WR-36 NWI Mapped Wetland  Y  N  
 Edinger et al. (2002)<sup>5</sup> Community Types: red maple swamp, successional wet meadow  
rich mesophytic forest

Project Name 1251 Kings Highway Wetland ID 1

Y  N Are there any signs of disturbance to hydrology (ditching, filling, ponds, roads, etc.)? If yes, describe cattle ponds, ditch through wetland  
 Y  N Are there any signs of disturbance to vegetation (mowing, pasturing, burning, etc.)? If yes, describe pasture

**Hydrology**

Y  N Springs or seeps  visible or  likely? Muskgrass (*Chapa spp.*) present?  Yes  No seasonal/dry in summer  
 Y  N Saturated soils present? If yes, year-round?  Likely  Unlikely  Unknown  
 Y  N Water visible on surface? Check all that apply:  small puddles/depressions (\_\_\_" deep)  
 rivulets (\_\_\_" deep)  larger pools/ponds (\_\_\_" deep)  
 Y  N Evidence of flooding? If yes, describe indicators

Hydrological Regime (Cowardin 1979):  Semi-permanently flooded  Seasonally flooded  other

Notes: wet in spring - very dry in June and summer, no muck could support walking through without sinking into soil substrate.

Soils Mapping Unit (optional): Alden silt loam

Field observations confirm mapped type?  YES  NO  Unknown

Soils - PEM Portions of Wetland			
Mucky? <input checked="" type="checkbox"/> YES <input checked="" type="checkbox"/> NO <u>April June start</u>	How much of it (PEM) is mucky? <input checked="" type="checkbox"/> <10% <input type="checkbox"/> 10-29% <input type="checkbox"/> 30-49% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70%	Mucky soils range in depth from: <u>2 to 3</u> "	Most of the mucky part(s) of the wetland can be probed: <input checked="" type="checkbox"/> 3-5" <input type="checkbox"/> 6-8" <input type="checkbox"/> 9-11" <input type="checkbox"/> ≥12"
Non-mucky? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	How much of it (PEM) is non-mucky? <input type="checkbox"/> <10% <input checked="" type="checkbox"/> 10-29% <input type="checkbox"/> 30-49% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70%		

Soils - PSS and PFO Portions of Wetland			
Mucky? <input checked="" type="checkbox"/> YES <input checked="" type="checkbox"/> NO <u>April/June</u>	How much of it is mucky? <input type="checkbox"/> <10% <input checked="" type="checkbox"/> 10-29% <input type="checkbox"/> 30-49% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70%	Mucky soils range in depth from: <u>2 to 3</u> "	Most of the mucky part(s) of the wetland can be probed: <input checked="" type="checkbox"/> 3-5" <input type="checkbox"/> 6-8" <input type="checkbox"/> 9-11" <input type="checkbox"/> ≥12"

Notes: \_\_\_\_\_

**Wetland Vegetation** (characterize the wetland as a whole)

Dominant Vegetation: purple loosestrife, seed canary grass, sweet flag, juncus, tussock sedge, red maple, American elm

Calciphiles\*\* (See list for examples)  tussock sedge  grass-of-Parnassus  poison sumac  shrubby cinquefoil  other: \_\_\_\_\_

Project Name 1251 Kings Highway Wetland ID 1

**Reptiles and Amphibians**

Were any bog turtles observed?  YES  NO<sup>10</sup> If yes, how many? \_\_\_\_\_  
If you are permitted to handle bog turtles, please fill out a data form (Appendix A) and submit to state contacts<sup>10</sup>.

If you are not permitted, please take a photo(s) of bog turtle (without handling) and submit to state contacts<sup>10</sup>.

Other reptiles or amphibians  observed  previously observed: \_\_\_\_\_  
Green frog, tree frog, milk snake

**Additional Comments/Observations:** (use additional sheets if necessary)

\_\_\_\_\_  
\_\_\_\_\_

**INVESTIGATOR'S OPINION**

YES  NO  UNSURE The hydrology criterion<sup>11</sup> for bog turtle habitat is met.

Notes: Seasonally saturated, very dry beginning of June - seeps were dry and flow from frozen ponds ceased.

YES  NO  UNSURE The soils criterion<sup>11</sup> for bog turtle habitat is met.

Notes: seasonally mocky soil - again by early June soil was very dry and could support walking through area without much difficulty

YES  NO  UNSURE The vegetation criterion<sup>11</sup> for bog turtle habitat is met.

Notes: Some patchy generic open areas

YES  NO  UNSURE This wetland is potential bog turtle habitat.

Notes: Given that the substrate was very dry the hydrology is seasonal and unlikely to support bog turtles. Aerial mapping indicates that a ditch exists in wetland probably installed by farmer decades or even years ago

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Michael Nowicki [Signature] 8/9/15  
Investigator's Name (print) Investigator's Signature Date

Contact info: ecolsolead.com 203 910-4716

Project Name 1251 Kings Highway Wetland ID 1