ERS CONSULTANTS, INC.
11 Forester Avenue * Warwick, NY 10990
Tel # (845) 987-1775 * Fax # (845) 987-1788

October 25, 2017

David Getz, P.E.
Lehman & Getz, P.C.
17 River Street
Warwick, NY 10990

TOWN: Town of Chester
COUNTY: Orange STATE: New York
TAX LOT: Section 15, Block 3, Lot 23.1

RE: Bog Turtle Habitat Survey at 115 Beverly Road Subdivision

Dear Mr. Getz:

ERS Consultants, Inc. conducted a Phase 1 Bog Turtle Habitat Survey on October 6, 2017 within wetlands located at 115 Beverly Road in the Town of Chester, Orange County, New York. The purpose of the investigation was to determine the presence/absence of bog turtle habitat.

The subject property consists of approximately 3.06 +/- acres. The site is undeveloped, partially cleared, with woods in the eastern section of the property, in a residential neighborhood. A stream flows through the property, flowing south to north. This stream is classified by the New York State Department of Environmental Conservation (NYSDEC) as a Class C stream. Using the US Army Corps of Engineers (ACOE) criteria, one wetland area totaling approximately 0.25+/- acres was delineated on-site. This wetland is associated with the on-site stream and can be classified as a Palustrine Forested (PFO) wetland system.

The US Fish & Wildlife Services (USFWS) National Wetland Inventory Maps show forested/shrub wetlands along the stream on the subject site, consistent with field observations. The NYSDEC Freshwater Wetlands Maps show no State regulated wetlands on site or immediately adjacent to subject property.

Habitats occupied by bog turtles in the Hudson Valley are wet meadows, sedge meadows, and red maple swamps (New York Natural Heritage Program, NYSDEC Bog Turtle Fact Sheet, USFWS 2001). Bog turtles have specific habitat requirements that include spring-fed, open-canopy wetlands with shallow, slow-moving water, deep mucky soils, and tussock-forming herbaceous vegetation for example tussock sedge (*Carex stricta*) or moss (*Sphagnum* spp.) covered hummocks. A diversity of microhabitats within these wetlands provide areas that the turtles require for basking, foraging, nesting, and hibernation.

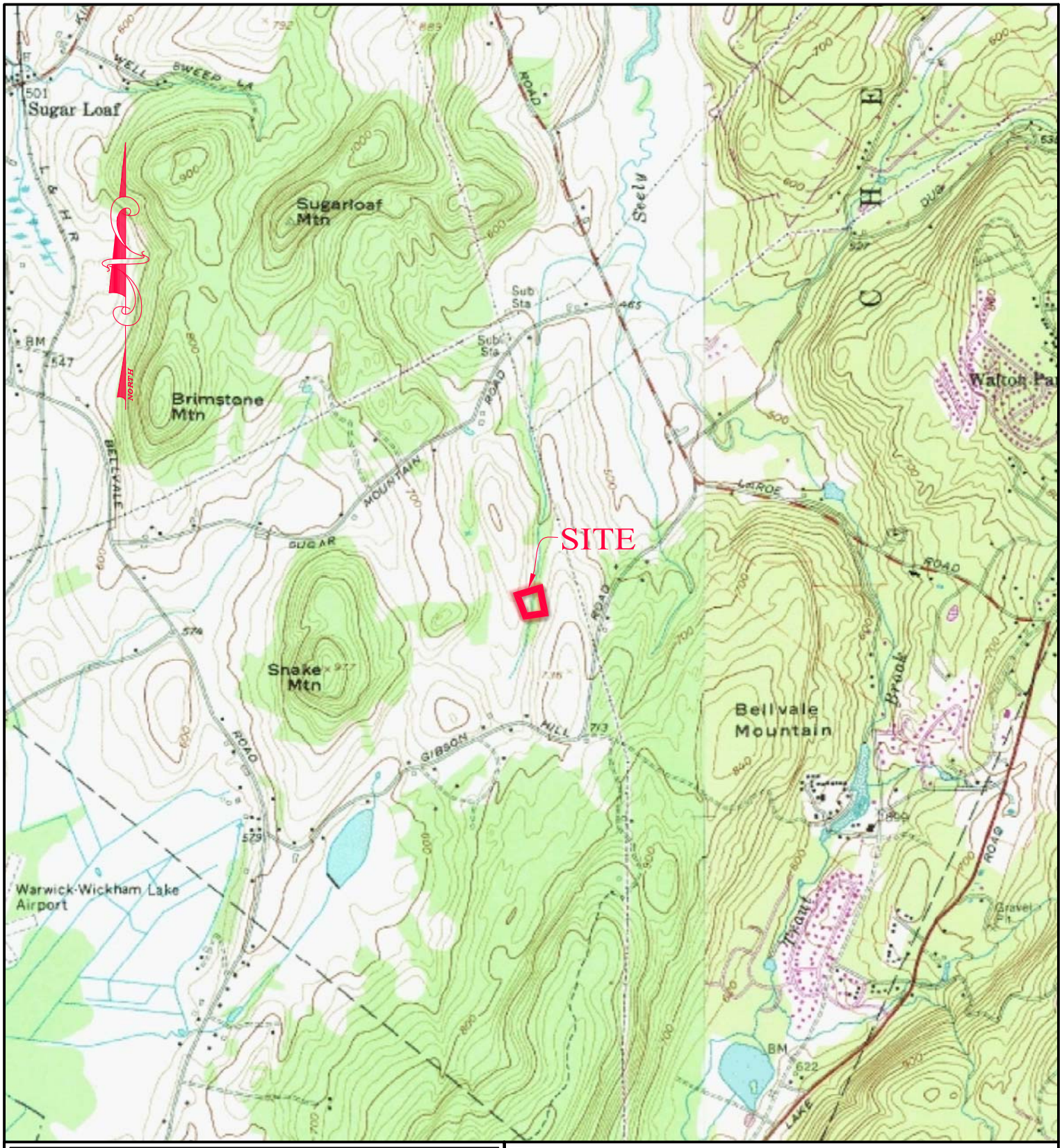
The methodology used to conduct this habitat evaluation follows the guidelines of the USFWS Bog Turtle Habitat (Phase 1) Survey Report. The USFWS developed this template (revised 4/13/06) to document sufficient data for agency review. The Phase 1 bog turtle survey consists of an evaluation of the wetlands for potential suitable bog turtle habitat. The survey is completed by assessing the presence and suitability of three key habitat criteria: hydrology, soils, and vegetation. Suitable hydrology is identified by the presence of springs or seeps, year-round saturated soils, and shallow surface water, particularly slow-moving rivulets; although, the wetland can be interspersed with both wet and dry pockets. Suitable soils are generically described as mucky. The term "mucky" does not refer to a technical soil type, rather mucky soils are described as soft and penetrable to a depth equal to or greater than 3 inches. Suitable vegetation includes shrub and herbaceous species, primarily sedges, grasses, and rushes.

Based upon observations of hydrology, soils, and vegetation, no suitable bog turtle habitat existed within the onsite wetland surveyed.

I have attached the USFWS Bog Turtle Habitat (Phase 1) Survey Report data sheets, USGS map, NWI map, NRCS map, and NYSDEC Freshwater Wetlands map. If you have any questions or need further information, please do not hesitate to contact us at (845) 987-1775.

Very truly yours,
ERS Consultants, Inc.

David Griggs
Senior Scientist

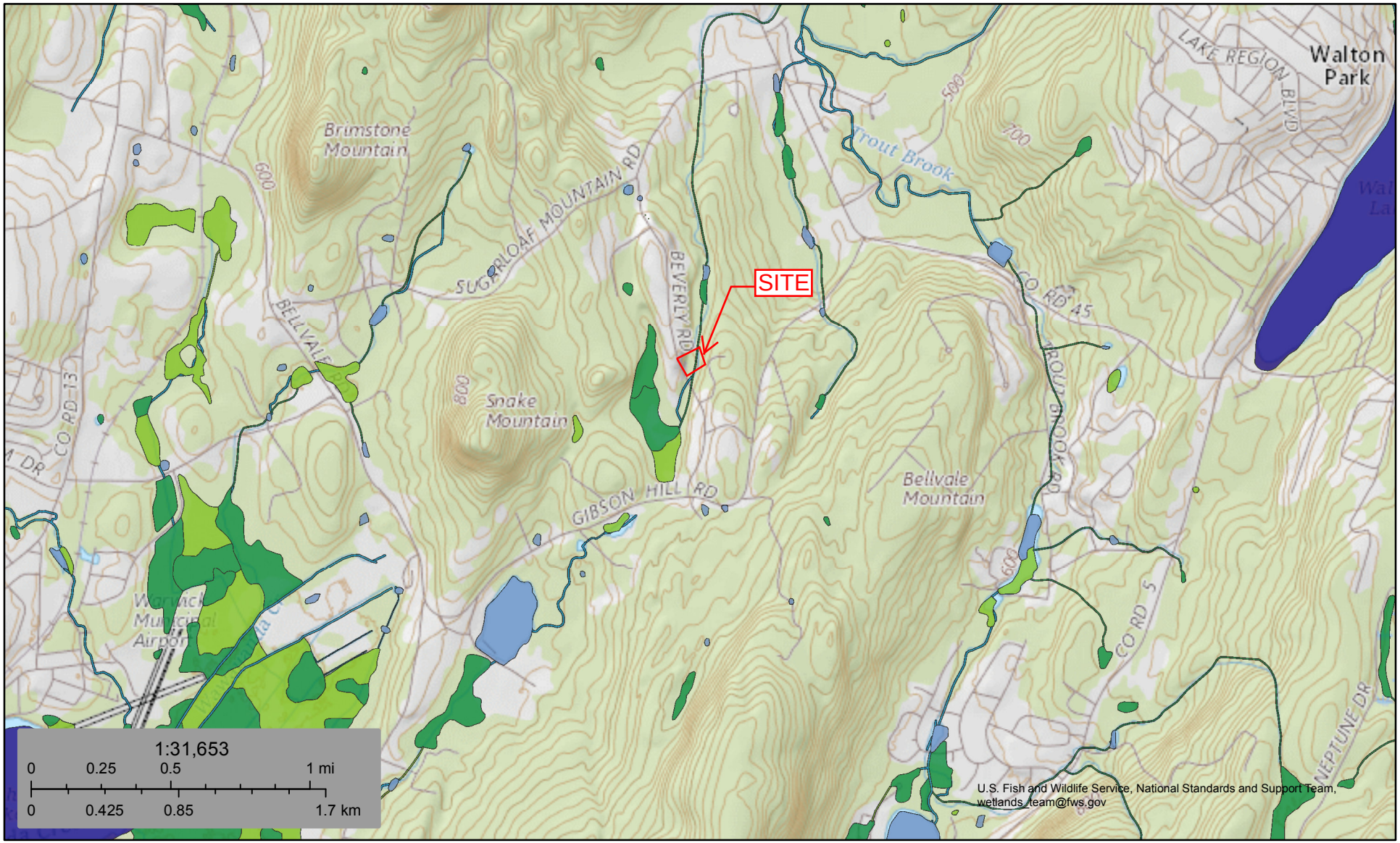


ERS CONSULTANTS, INC.
ENVIRONMENTAL RESOURCE SPECIALISTS
11 FORESTER AVENUE WARWICK, NEW YORK 10990
Phone: (845) 987-1775 Fax: (845) 987-1788

USGS 7.5 MIN. QUADRANGLES
WARWICK & MONROE
SECTION 15 BLOCK 3 LOT 23.1
TOWN OF CHESTER, COUNTY OF ORANGE, NEW YORK
SCALE: 1"=2,000'

U.S. Fish and Wildlife Service
National Wetlands Inventory

CHESTER-15-3-23.1



October 7, 2017

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Soil Map—Orange County, New York
(CHESTER-15-3-23-3)

Map Scale: 1:989 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 10 20 40 60

Feet
0 45 90 180 270

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Orange County, New York
Survey Area Data: Version 17, Sep 24, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

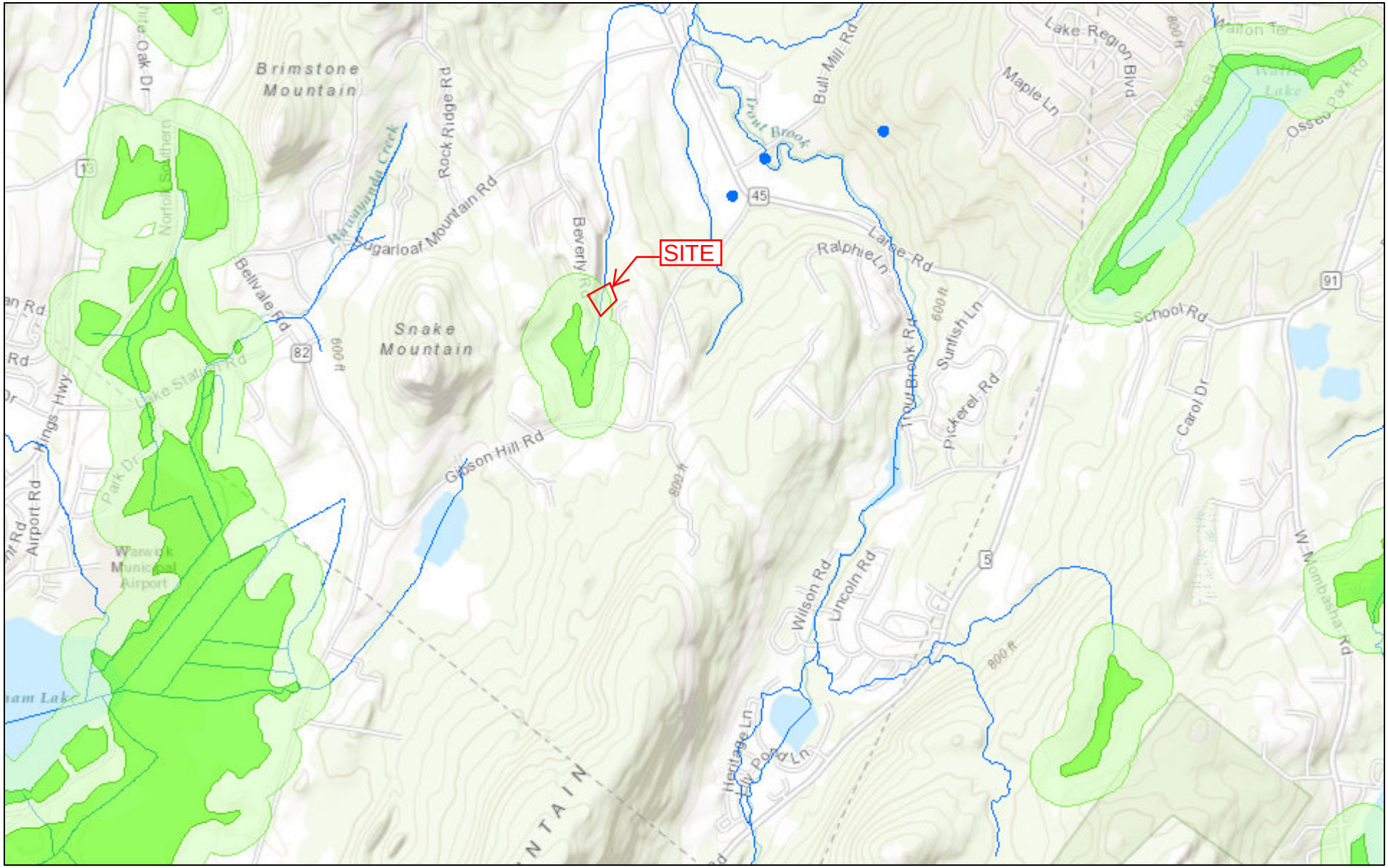
Date(s) aerial images were photographed: Oct 7, 2013—Feb 26, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SwB	Swartswood gravelly loam, 3 to 8 percent slopes	0.4	14.0%
SwC	Swartswood gravelly loam, 8 to 15 percent slopes	0.0	0.1%
SXD	Swartswood and Mardin soils, moderately steep, very stony	2.4	85.9%
Totals for Area of Interest		**2.8**	**100.0%**

CHESTER-15-3-23.1



October 7, 2017

1:36,112

0 0.3 0.6 1.2 mi

0 0.5 1 2 km

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey,

NYS Department of Environmental Conservation
Not a legal document

BOG TURTLE HABITAT (PHASE 1) SURVEY REPORT

(template revised by USFWS on 4/13/2006)

The U.S. Fish and Wildlife Service (Pennsylvania Field Office) developed the following report template to ensure that a sufficient amount of detailed information is consistently submitted for agency review. Phase 1 surveyors are encouraged to use this template to format their reports, to ensure that all necessary information is provided. Revisions to this template are likely, as we continue to receive feedback on its content, structure, and ease of use. Example and explanatory language within this template is italicized. Use the current Bog Turtle Survey Guidelines (revised April 2006) in conjunction with this template.

PROJECT and SITE INFORMATION

This Phase 1 survey was conducted on behalf of:

Name: SUGAR LOAF TRAILS, INC.

(landowner) developer state agency local government

other (_____)

Address: 152 Gibson Hill Road
Chester, NY 10918

City/State/Zip: _____

Telephone: _____

Project / Property Name: GIBSON HILL ESTATES

Project / Property Location:

Address: 115 BEVERLY ROAD

City/State/Zip: CHESTER NY 10918

Township/Municipality: CHESTER

County: ORANGE

Watershed (minor): SEELY BROOK

Watershed (major): MOODNA → HUDSON

The project location is shown on Figure 1 (WARWICK NY USGS 7.5-minute topographic map).

[Include USGS topographic map showing project area location. Identify county, township, and quadrangle name on map, as well as project name.]

Project Area / Property – Size and Extent

[Identify the size/extent of the project area. For example, the project area for a proposed residential development would include all areas that would be affected (directly or indirectly) by all parts of the development, including buildings, roads, driveways, lots in their entirety, utility lines, water and sewer lines, stormwater detention/retention basins, staging and access areas, recreational fields or trails, etc. Often, this includes the entire land parcel, all of which will be either directly or indirectly affected by the project. In some cases, a land parcel is being surveyed, prior to developing project plans. In that case, identify the land parcel (e.g., "the 20-acre David Jones property") as the project area, and explain that project plans have not yet been developed.]

Current Land Use and Setting

[Describe current land use and the overall setting. Also, describe what habitat type(s) are currently in the project area (e.g., "Eighty acres of the 100-acre parcel is in row crops, while the remainder is a woodlot dominated by red maple and green ash that are approximately 40 years old. A stream, approximately 6 inches deep and 2 feet wide crosses through the woodlot. A farmhouse and barn also occur on the property."]

Figure 2 represents a detailed map of the project area or property, showing existing features (including property boundaries, structures, power lines, roads, wetlands, ponds, streams, and major cover types).

[Include a project area map, showing 1) property/parcel boundaries; 2) existing features and general cover types (e.g., roads, power lines, agricultural fields, forest, streams, ponds, houses, spring houses); and 3) all wetlands (numbered consistent with this report). Include photo point references for each wetland.]

Project Description

[Describe the project. Include the project description, including the project purpose, timing, size, duration, etc. If the project is part of a larger undertaking, describe the relationship between the parts. For example, "This project involves the construction of sewer and water lines to connect a proposed 250-unit residential development (located on a 100-acre parcel of land) to the City of Mudville's existing wastewater treatment plant." If the project is more vague, at least describe what is proposed for the property, e.g., "The landowner intends to develop a residential subdivision on the property, but plans have not yet been drawn up."]

Permit Area (for wetland/stream encroachments):

[If it is known at the time of the phase 1 survey that one or more permits will be necessary for wetland and/or stream encroachments, disclose this information. For example, "Although plans have not been finalized, it appears that at least three wetland and two stream crossings will be necessary for road and utility crossings." If no wetland or stream encroachments will be necessary, indicate that as well – if you are sure none will be needed.]

WETLAND INFORMATION

[Include information about all wetlands on the property or in the project area, regardless of whether or not they are "jurisdictional" wetlands, pursuant to Section 404 of the Clean Water Act.]

A wetland investigation was conducted 3.06 +/- Acres *[identify the extent of the wetland investigation, e.g., "on the entire 220-acre parcel" or "in the 50-foot right-of-way on either side of S.R. 123]. [If some areas were not investigated, explain why. If these areas occur in a location that will be subject to future phases of development, they should be surveyed now. If the entire property/parcel was not investigated, describe exactly what area(s) were investigated, and why.]*

Wetlands were (identified) (delineated) on 8-22-17 [date(s)] by:

Name: DAVID GRIGGS

Affiliation: ERS CONSULTANTS

Address: 11 FORESTER AVE

City/State/Zip: WARWICK NY 10990

Telephone: 845-987-1775

Email: david@ersconsultants.com

Wetlands were delineated in accordance with ACOE *[describe delineation method.] [If a wetland delineation has not been conducted, explain why.]*

All wetlands 0.25 Acres *[e.g., "in the project area" or "on the 220-acre property" or "in the 50 foot right-of-way"]* were identified and delineated. *[If this is not the case, explain why.]* Wetland information is summarized in Table 1.

Table 1. Wetland Size and Location

Wetland ID	Wetland Size (acres)	Designated Survey Area (acres)[1]	Lat/Long[2]	Is the entire wetland on site?[3]
A	0.25	0.25	41° 17' 59.93" / 74° 15' 52.33"	NO

1 "Designated survey areas" are those areas of the wetland that meet the soils, hydrology and vegetation criteria for potential bog turtle habitat. These areas may occur within the emergent, scrub-shrub or forested parts of the wetland.

2 For smaller wetlands (*e.g.*, up to 3 acres) lat/long should be approximate center of wetland); for larger wetlands, either indicate approximate center or GPS the outer ends of the wetland. Lat/long should be submitted in degrees-minutes-seconds or degree-decimal format. Be sure to indicate the GPS datum (i.e., NAD 27, NAD 83, or WGS 84).

3 Answer "yes" if the entire wetland is located within the property/parcel boundaries or right-of-way. If any part of the wetland extends off-site, or if the entire wetland is off-site (e.g., but close to the parcel boundaries) answer "no" and provide a further explanation in the wetland narrative section.

PHASE 1 SURVEY

[During the Phase 1 Survey, examine all wetlands on the land parcel, or all wetlands that may be directly or indirectly affected by any aspect of the project. Generally, indirect effects should be assumed to extend about 300 feet beyond the project footprint (e.g., sedimentation from earth disturbance, fertilizer and pesticide transport beyond lot boundaries or agricultural fields). However, the hydrological effects of development or construction (e.g., due to roads, wells, stormwater management) may extend well beyond 300 feet from the area of direct impact. See "Bog Turtle Conservation Zones" for further guidance.]

The Phase 1 survey was conducted on 10-6-17 [date(s)] by:

Name(s): DAVID GRIGGS

Affiliation: ERS CONSULTANTS

Address: 11 FORESTER AVE

WARWICK NY 10990

City/State/Zip: _____

Telephone: 845-987-1775

Email: david@ersconsultants.com

A Phase 1 survey of all wetlands located 3.06+- Acre Site [*identify the extent of the Phase 1 investigation, e.g., "on the entire 220-acre parcel" or "in the 50-foot right-of-way on either side of S.R. 123]* was conducted. *[If some wetlands were not surveyed, explain why. If these wetlands occur in an area(s) that will be subject to future phases of development, they should be surveyed now.]*

A summary of the Phase 1 survey results is included in Table 2. Detailed information about each wetland follows the table. Completed field forms for each wetland are included in Appendix A.

Table 2. Summary of Phase 1 Survey Results

Wetland ID	Wetland Size	Wetland Type & Amount (% or acres)	Extent of "Mucky" Soils[1] (by wetland type)	Survey Effort *(in person-hrs)*	Bog Turtle Habitat?
1	*1.5*	*PEM – 50%* *PSS -- 50%*	*PEM – 80%* *PSS – 50%*	*2*	*YES*
A	0.25A	PEM1E PFO1-80	0	2hrs	NO

1 "Mucky" is used to describe soils that can be easily penetrated with a probe. For Phase 1 surveys, a 1-inch diameter blunt-ended wooden pole (e.g., broom or tool handle) is used. "Mucky" is NOT used to refer to a specific soil type or soil classification.

Wetland 1

[Include narrative description of wetland. Describe dominant vegetation, degree and distribution of "muckiness", and hydrology. Also describe any disturbance noted (e.g., ditches, fill, grazing).

[Include a map of the wetland, showing the extent of the "designated survey area(s)". Also, a sketch of the distribution of wetland types (e.g., PEM, PSS, PFO, etc.) within the wetland is helpful.]

[List any herps found (or previously found by others).]

[Include photo(s) of wetland. Be sure photos are representative of the wetland type(s) found.]

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: GIBSON HILL ESTATES

Project type: RESIDENTIAL SUBDIVISION

Applicant/Landowner Name: SUGAR LOAF TRAILS INC

County: ORANGE Quad: WARWICK NY Township/Municipality: CHESTER

PNDI # _____ Potential conflict with USFWS species? ☐ Y ☒ N

ACTION AREA[2]

Action area size: 3.06 ACRES **Does the Phase 1 survey include all wetlands in the action area?** ☒ Y ☐ N[3]

WETLAND ID: A **PHOTOS TAKEN:** ☒ Yes ☐ No **WETLAND SIZE:** 0.25 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 ☐ 10+ acres

WETLAND LOCATION: Lat 41° 17' 57.93" Long 74° 15' 32.33"

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ☐ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: 10-6-17 Time In: 10:15 AM Time Out: 12:30 PM

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 property boundaries or right-of-way)?

☐ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☒ some of it – 2 acres or 7 % of the wetland appears to be located off-site STREAM

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)? 300' ☒ from site

☐ 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.):

Residential + forest

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ☒ PEM 20 ☐ PSS _____ ☒ PFO 60 ☒ POW 20

☒ Y ☐ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe

HISTORIC - STREAM MOVED

☐ Y ☒ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe

Project Name _____ *Wetland* _____ *(con't)*

Hydrology

☐ Y ☒ N Springs or seeps ☐ visible or ☐ likely ? Watercress present? ☐ Yes ☐ No
☐ Y ☒ N Spring houses in or adjacent to wetland?
☐ 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) STREAM
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
☐ Y ☒ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): SWARTSWOOD + MARDIN
Field observations confirm mapped type? ☒ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]? ☐ YES ☒ NO	How much of it (PEM) is **mucky**? ☐ <10% ☐ 10-29% ☐ 30-49% ☐ 50-70% ☐ >70%	**Mucky** soils range in depth from: ____ to ____"	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐ 3-5" ☐ 6-8" ☐ 9-11" ☐ ≥12"
Non-mucky[6]? ☒ YES ☐ NO	How much of it (PEM) is **non-mucky**? ☐ <10% ☐ 10-29% ☐ 30-49% ☐ 50-70% ☒ >70%		

Soils – PSS and PFO Portions of Wetland			
Mucky[4]? ☐ YES ☒ NO	How much of it is **mucky**? ☐ <10% ☐ 10-29% ☐ 30-49% ☐ 50-70% ☐ >70%	**Mucky** soils range in depth from: ____ to ____"	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐ 3-5" ☐ 6-8" ☐ 9-11" ☐ ≥12"

Wetland Vegetation (characterize the wetland as a whole)
Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).

☐ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ☒ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☒ purple loosestrife
☐ alder ☒ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ☐_____
Additional dominant species: _____

Herptiles
Were any bog turtles observed? ☐ YES[7] ☒ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

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

_____
_____

INVESTIGATOR'S OPINION

☐ YES ☒ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐ YES ☒ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☐ YES ☒ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐ YES ☒ NO ☐ UNSURE This wetland is potential bog turtle habitat.

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

DAVID GRIGGS — Investigator's Name (print)
[signature] — Investigator's Signature
10/6/17 — Date