Natural Resources Survey

Taconic Tract Property
Todd Lane
Town of Mount Pleasant, New York

August 26, 2009

Prepared by:

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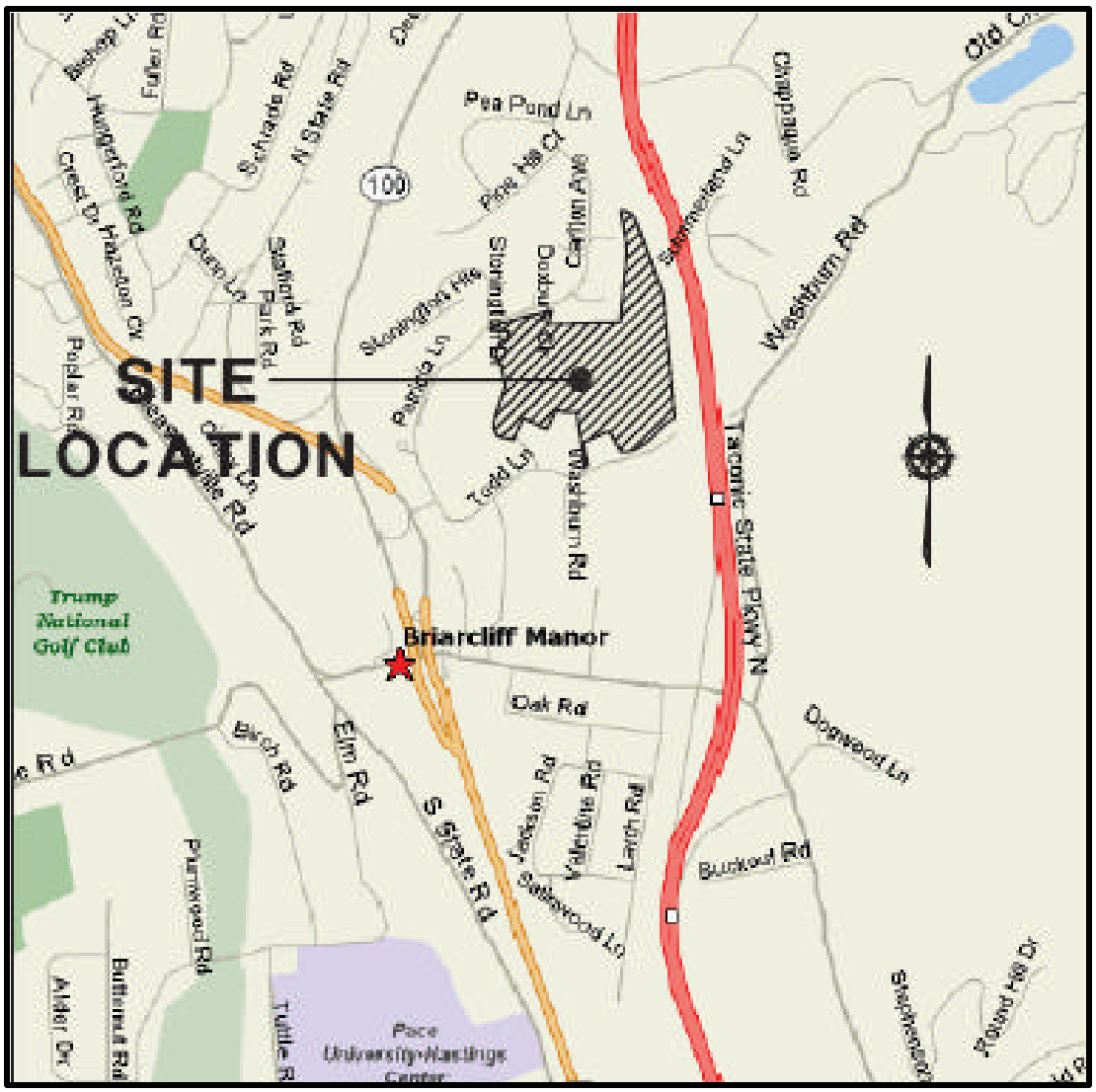
1.0 INTRODUCTION

Ecological Solutions, LLC ("ES") has completed a natural resources survey for the Taconic Tract Subdivision located in the Town of Mount Pleasant (*Figure 1.0-1 Location Map*). The Subdivision proposal involves the creation of 16 building lots, two of which already exist, out of three parcels totaling 30 acres. Two of the parcels front on Washburn Road and are essentially vacant except for minor roads or paved paths approximately 15 feet wide. The third parcel fronts on Todd Road and Carleton Avenue and is improved with a residence and several detached structures along with amenities including a pool, driving and putting area, tennis court, and extensive landscaped area with several acres of maintained lawn. The Subdivision is located between Washburn Road and Carleton Avenue with access from each of these roads. The majority of the lots are proposed on the undeveloped parcels bordering the Taconic State Parkway. Ambient noise levels are higher on the undeveloped lots that act as a buffer to the existing residence.

The collection of data contained in this report was gathered from March through mid August 2009. The fieldwork occurred generally from 9:30am–1:00pm on March 28, April 8, 20, 28, May 7, 18, June 3, and 23, 2009 and 5:00pm to 8:00pm on August 11 and 18, 2009. The fieldwork was conducted on multiple occasions in order to maximize the likelihood of encountering wildlife and plant species inhabiting or existing on the site. Plants, shrubs, and trees are readily identified by blooms/buds, leaves, and berries that appear from late March through June which makes that the most appropriate time to conduct a vegetation/habitat survey. The appropriate time for bird surveys is during breeding (mid-May through end of June) at peak song period. Amphibian and reptile surveys are completed from late March to late June concentrating on amphibians from March-April and reptiles from April-June. Mammals are readily observed during the April through August period as the growing season begins and breeding/foraging activity commences. These timeframes are generally accepted by biologists as the appropriate periods for conducting reliable natural resources surveys and are consistent with accepted guidance from the New York State Department of Environmental Conservation for threatened and endangered species.

The purpose of these surveys was to gather existing natural resource data such as species identification as well as descriptions of the ecological community/habitat cover type for presentation in this report. The data has been used to assess the proposed development's impact on the site's natural resources and to propose, where appropriate, measures to avoid, minimize and/or mitigate potential impacts.

Figure 1.0-1 Location Map



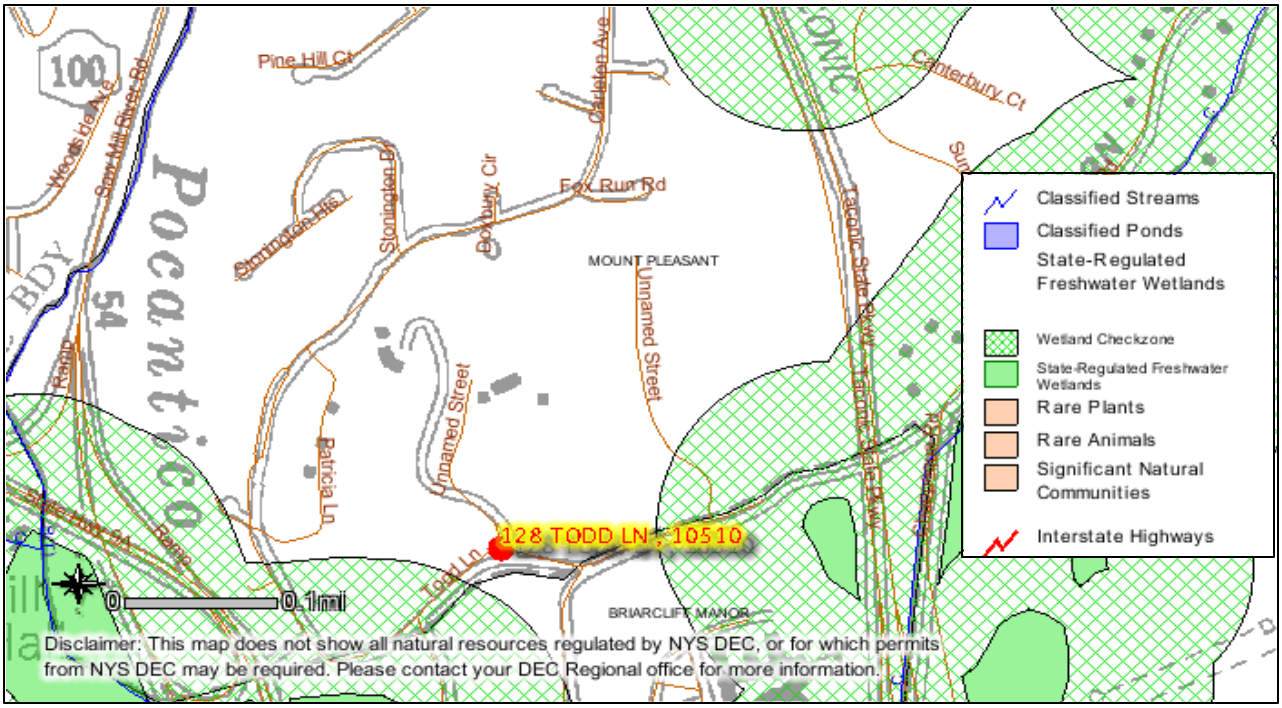
2.0 METHODS

2.1 Agency Inquiry

As part of the environmental review for the subject parcels, Ecological Solutions, LLC, reviewed the New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Map to identify rare, threatened, or endangered species on the parcels and sent an inquiry to the NYSDEC Natural Heritage Program. The response to this inquiry, which is attached, states there are no known occurrences of rare, threatened, or endangered species on or in the vicinity of the parcels. The US Fish and Wildlife Service (USFWS) list for threatened and endangered species in Westchester County is attached to the end of this report[1].

The specific methodology followed for each survey type is identified below. These methodologies are employed by biologists for natural resource investigations and are accepted by the NYSDEC and USFWS as reliable methods for identifying the presence of and / or potential for vegetation / habitat communities and wildlife on a site.

Figure 2.1-1 NYSDEC Environmental Resource Map



[1] *Bald Eagle and Indiana Bat habitat potential is reviewed in this report. No Bog Turtle, New England Cottontail, or Shortnose Sturgeon habitat is located on these parcels and these species were not reviewed.*

2.2 Ecological Community and Habitat Field Inventory

The vegetation inventory included identification of ecological communities or habitat cover types that would support wildlife of all types. Cover type surveys were conducted by first reviewing aerial photographs of the parcels and adjacent parcels and subsequently by investigating the habitats to identify and classify each. Within each cover type, visual searches for herbaceous and woody plant species or parts thereof, including leaves, bark, twigs, seeds, flowers, fruits, or other identifiable plant structures were conducted to identify and document vegetation on the parcels. Trees, shrubs, and flowering plants were identified to species levels where possible. The Plot Transect method was employed for the vegetation inventory. Plot sampling involves making observations within an area that is representative of the community as a whole. The methods used to search for species on the parcels are outlined in *Biodiversity Assessment Manual for the Hudson River Estuary Corridor.* [2]

2.3 Wildlife Field Inventory

Extensive field surveys were conducted for potential wildlife species including mammals, birds, and herpetiles (reptiles and amphibians). Special surveys were also conducted to identify and locate potential seasonally active species of special concern such as the marbled salamander (*Ambystoma maculatum*) and Jefferson salamander (*Ambystoma laterale*). Multiple methods were used in these surveys, as multiple methodologies increase the potential accuracy of surveys. Methods used are outlined below.

A. **Mammals.** The following survey methods that are outlined in detail in *Biodiversity Assessment Manual for the Hudson River Estuary Corridor* were utilized during the field survey:

1. Sign search, in which the observer records any recognizable signs (tracks, droppings, hair, bones, etc.) of mammal species.

2. Opportunistic mammal sightings, in which the observer identifies mammals encountered in the field at random.

Mammals were identified based on visual encounters, vocalizations, tracks, fur, bones, rubs, scrapes, droppings, and other recognizable signs in habitats throughout the parcels. Sampling routes were established throughout the parcels and wildlife was recorded as encountered.

[2] *Hudsonia Ltd., 2001*

B. **Birds.** Field methods used to survey for avian species were based on methods outlined in *Biodiversity Assessment Manual for the Hudson River Estuary Corridor* and included:

1. Walking transects where the observer records all species encountered (seen / heard) along a trail.

2. Opportunistic bird sighting, where the observer records birds encountered randomly.

3. Sign search, where the observer records signs (feathers, nests, droppings, tracks, etc.) of birds encountered in the field.

Birds were detected and identified by visual encounter with individuals, vocalizations, tracks, feathers, bones, droppings, castings, nests, drillings, or other recognizable signs.

C. **Herptiles (Reptiles and Amphibians)**. Field methods used to survey for herptile species were based on methods outlined in *Biodiversity Assessment Manual for the Hudson River Estuary Corridor* and included:

1. Log rolling (overturning logs, large stones, and other debris to reveal herpetiles underneath).

2. Aural surveys were conducted for vocal herpetiles. Herptiles were detected and identified by Visual Encounter Surveys (VES), vocalizations, spermatophores, egg masses, and remains. The VES survey technique is one of the most commonly used methods for identification of frogs and salamanders and can be used to measure species composition, relative abundance, habitat association, and activity.

3.0 WETLAND REVIEW

3.1 Wetland Assessment

The parcels were assessed in the field for potential wetland areas in accordance with the Routine Delineation Method outlined in the *US Army Corps of Engineers* (USACE) *Wetlands Delineation Manual, Technical Report Y-87-1*[3], New York State Department of Environmental Conservation *Article 24 Freshwater Wetland regulations* of the Environmental Conservation Law, and *Chapter 111* of the Town of Mount Pleasant Code. This included a review of published data and field investigations and sampling. No wetlands were identified on the parcels. However a Federal, NYSDEC, and Town regulated wetland exists adjacent to the property to the south. A portion of the NYSDEC and Town wetland adjacent area (100 feet for the state and 50 feet for the Town) exists at the extreme southeastern portion of the property.

Field Investigation and Sampling. The assessment of the parcels for Federal, State and Local wetlands was based upon identification of: (i) the three mandatory criteria for wetland determination as outlined in the 1987 Federal Manual -- dominant hydrophytic vegetation, hydric soils, and evidence of wetland hydrology; and (ii) the two criteria for wetland determination set forth in the Town's Wetlands Law – soils and vegetation. The detailed field investigation included:

1. Identification of vegetation species to determine if there was a dominance of hydrophytic plants and areas containing transitional but primarily wetland-oriented species.
2. Determination if features of hydric (poorly and very poorly drained) natural soils, transitional wetland-oriented soils, or disturbed and filled soils that display an aquic (water-saturated) regime occur (*Figure 3.1-1 Soils Map*).
3. Observation of parcels features to determine if evidence of wetland hydrology such as the presence of inundated areas, apparent high seasonal water tables, and evidence of saturation within 12 inches of the surface (considered the root zone) during sufficient periods during the growing season to provide for anaerobic / hydric soil conditions.

No Federal, State, or Town regulated wetlands were identified on the parcels.

[3] *(U.S. Army Corps of Engineers Environmental Laboratory, 1987) (1987 Federal Manual)*

Figure 3.1-1 Soils Map

Map Unit Symbol	Map Unit Name
CrC	Charlton-Chatfield complex, rolling, very rocky
CsD	Chatfield-Charlton complex, hilly, very rocky
HrF	Hollis-Rock outcrop complex, very steep
PnC	Paxton fine sandy loam, 8 to 15 percent slope
PnD	Paxton fine sandy loam, 15 to 25 percent slope

4.0 FINDINGS

There is only one (1) distinct **natural** cover type identified on the parcels as classified in the publication "Ecological Communities of New York State" and as listed in Table 4.0-1. Approximate physical impacts to this habitat type are shown on Table 4.0-2. The other land type in the proposed development area is maintained lawn and landscaping.

Overall wildlife species diversity is low when compared to similar parcels of this size. This can be attributed to high noise levels from continuous traffic on the Taconic State Parkway as well as the lack of natural corridors or habitat connections to expansive natural areas offsite.

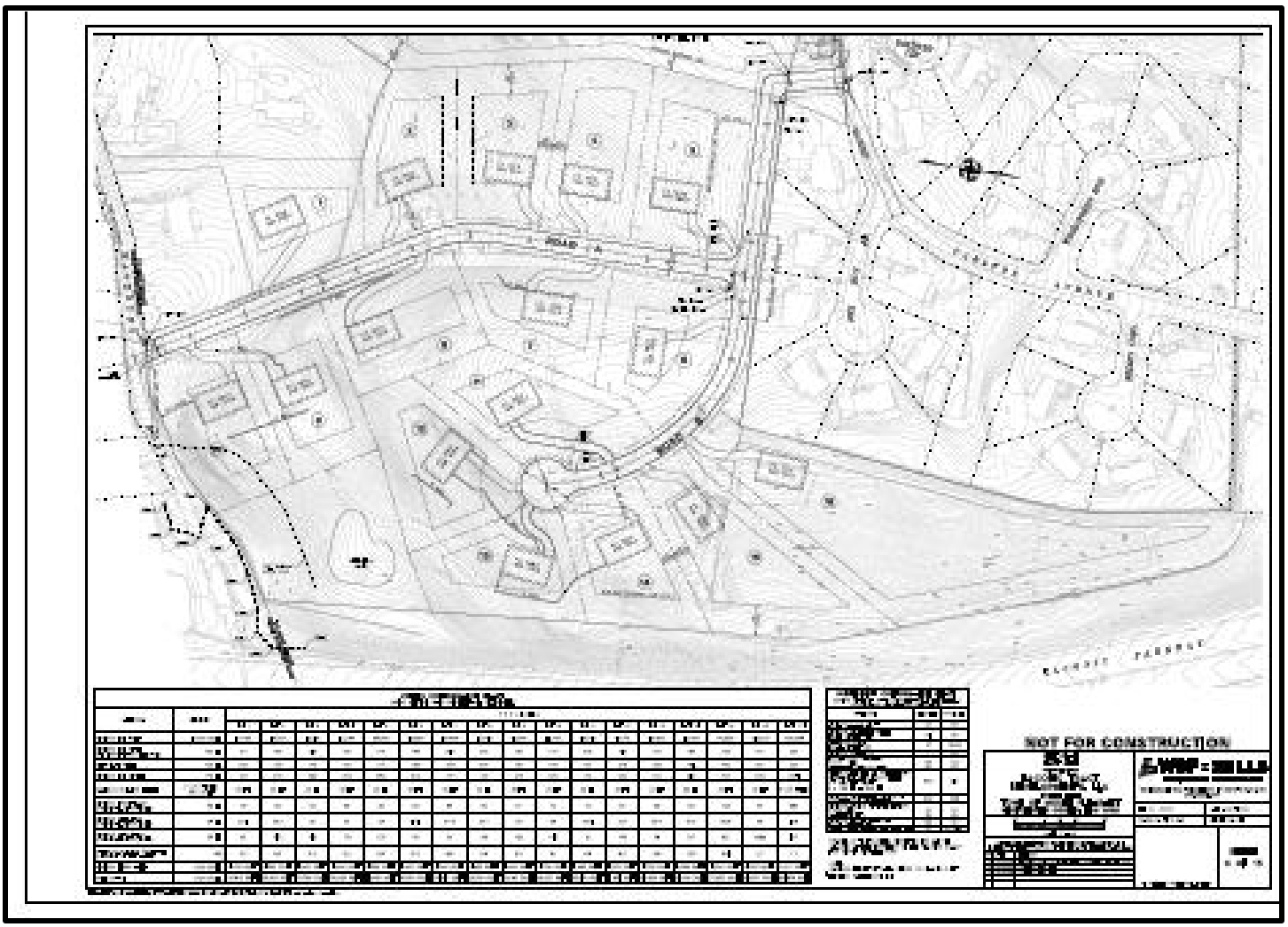
TABLE 4.0-1
HABITAT COVER TYPE IDENTIFIED ON THE
TACONIC TRACT PARCELS

NO.	Ecological Communities of New York State - EDINGER 2002
1	Appalachian Oak-Hickory Forest

TABLE 4.0-2
COVER TYPE IMPACTS
TACONIC TRACT PARCELS

NO.	Ecological Communities of New York State	ACRES IDENTIFIED ON PARCELS	PROPOSED IMPACTS
1	Appalachian Oak-Hickory Forest	25.50	5.51
	Existing Developed Area (Includes Lawn)	4.50	4.50
Total		30.00	10.01

Figure 4.0-1 Taconic Tract Parcels Development Plan



4.0-1 Upland Habitat

A portion of the Subdivision parcels contains an existing residence and several detached structures along with amenities including a pool, driving and putting area, tennis court, and extensive landscaped area with several acres of maintained lawn. The balance of it contains some minor roads or paved paths approximately 15 feet wide traverse the wooded areas on the western section of the parcels.

Appalachian Oak-Hickory Forest Community

Undeveloped/Wooded Portion of Subdivision Parcels – The wooded forest on the parcels was categorized utilizing the publication "Ecological Communities of New York State". This hardwood forest occurs on well-drained portions of the parcels generally on upper slopes, or south and west facing slopes. The soils are loams or sandy loams. The dominant trees include one or more of the following oaks: red oak (*Quercus rubra*), white oak (*Quercus alba*), or black oak (*Quercus velutina*). Mixed with the oaks, usually at lower densities, are one or more of the following hickories: pignut (*Carya glabra*) and shagbark (*Carya ovata*). Common associates are white ash (*Fraxinus americana*), American elm (*Ulmus americana*), red maple (*Acer rubrum*), sugar maple (*Acer saccharum*), Norway maple (*Acer platanoides*), black locust (*Robinia pseudoacacia*), black cherry (*Prunus serotina*), northern hemlock (*Tsuga canadensis*), tulip tree (*Liriodendron tulipifera*), cherry birch (*Betula lenta*), eastern red cedar (*Juniperus virginiana*), and eastern hop hornbeam (*Ostrya virginiana*). The trees are generally in same age class within sections of the parcels with a large section of the Taconic Tract parcels containing small-young trees in the 10-20 inch dbh range with several individuals in the 40 + inch dbh range.

The subcanopy or understory stratum contains small trees and tall shrubs including flowering dogwood (*Cornus florida*), witch hazel (*Hamamelis virginiana*), shadbush (*Amelanchier arborea*), and choke cherry (*Prunus virginiana*). Common low shrubs include blueberries (*Vaccinium angustifolium*), red raspberry (*Rubus idaeus*), and gray dogwood (*Cornus racemosa*). The shrub layer and groundlayer flora are more diverse. Characteristic groundlayer herbs are false Solomon's seal (*Smilacina racemosa*), Pennsylvania sedge (*Carex pensylvanica*), tick-trefoil (*Desmodium paniculatum*), garlic mustard (*Allaria petiolata,)* star of bethlehem (*Ornithogalum umbellatum*), white goldenrod (*Solidago bicolor*), and trout lilly.

Species observed on the parcels during the surveys include red backed salamander (*Plethodon cinereus*), red-bellied woodpecker (*Melanerpes carolinus*), little brown bat (*Myotis lucifugus*), eastern wild turkey (*Meleagris gallopavo*), common flicker (*Colaptes auratus*), golden-crowned kinglet (*Regulus satrapa*), ovenbird (*Seiurus aurocapillus*),

scarlet tanager (*Piranga olivacea*), wood thrush (*Hylocichla mustelina*), and blackthroated green warbler (*Dendroica virens*). Other year round resident species also noted include common crow, bluejay, eastern robin, black capped chickadee, eastern phoebe, tufted titmouse, dark eyed junco, northern cardinal, nuthatches, gray squirrel, chipmunk, white footed mouse, raccoon, opposum, striped skunk, red fox (*Vulpes vulpes*), American mink (*Neovison vison*), woodchuck, shrew, and eastern mole.

5.0 POTENTIAL THREATENED/ENDANGERED SPECIES

5.1 Indiana Bats

Indiana bat hibernacula (i.e. winter homes / habitat) and hibernacula characteristics have been well documented by numerous observational studies reported in the literature. Indiana bats spend the winter months in secluded caves or mines. There are eight hibernacula currently known in Albany, Essex, Warren, Jefferson, Onondaga and Ulster Counties. To date there are three known hibernacula located in the immediate vicinity of Kingston, New York. The hibernacula are critical to the survival of this species because so few are known to exist. With the coming of spring, Indiana bats disperse from their winter homes, some going hundreds of miles. They feed solely on flying insects and presumably males spend the summer preparing for the breeding season and winter that follows. Females congregate in nursery colonies, only a handful of which have ever been discovered. These were located along the banks of streams or lakes in forested habitat, under the loose bark of mature shagbark hickory trees, and some dead trees that have open or hanging bark to provide shelter for the bats, and which can contain from 50-100 females. A single young is born to each female, typically late in June, and is capable of flight within a month.

Outside the hibernation period, Indiana bats are very mobile and use both live trees greater than 5 inches dbh especially containing dead wood and snags or dead trees in a variety of habitats for roosts during the summer months. Although roosts have been documented in a wide array of hardwood and pine species, trees and snags that have exfoliating bark or crevices, such as Shagbark Hickory and Black Locust, appear to be most important to this species because females and their young rest under the bark. Trees, equal to or greater than 9 inches dbh with exfoliating bark / crevices, southern or western exposure, and solar exposure appear to be the most important habitat for maternal colonies during the summer months.

In August or early September, Indiana bats swarm at the entrance of selected caves or mines. This is when mating takes place. Indiana bats spend the winter months in secluded caves or mines, which average 37 to 43 degrees F. Criteria for selecting hibernacula are not clearly understood; many apparently suitable parcels are not occupied. Where this species is found, however, it can be extremely abundant, congregating in densities of more than 300 / square foot. Year after year, bats often return to exactly the same spots within individual caves or mines. Hibernation can begin as early as September and extend nearly to June.

According to the literature roost-tree density necessary to support Indiana bats is not understood and negative or positive biological thresholds linked to roost abundance are unknown. Similarly, there are no quantitative studies that adequately describe species composition of forest stands or stand structure surrounding occupied roosts. There is evidence however that Indiana bats return to the same summer foraging and roosting areas and sometime individual tree each year.

The property contains a distinct wooded habitat component, gentle to steep slopes, and several trees over 9 inches dbh that contain loose exfoliating bark, crevices, cavities or holes. However, no hibernacula exist on the property. The potential for Indiana Bats utilizing these parcels is extremely low due to the lack of appropriate habitat characteristics but cannot be completely ruled out since some individual trees do meet the minimum criteria. To avoid impacts to this species tree-clearing activities for those trees meeting the minimum criteria for roosting or maternal colony use should be limited to the timeframe of November 15 to March 31.

5.2 Bald Eagles

One of the largest birds of prey (raptors) found in North America, Bald Eagles stand about 30 inches high, sport a wingspan of 72-84 inches, and weigh between 8 and 14 pounds. This majestic bird is easily identified in adult plumage by its unmistakable brown body set off by a white head and tail and bright yellow bill (male and female eagles look identical, except that the female is usually about one third larger and heavier than the male, as is typical in birds of prey). Sexual maturity and the characteristic white head and tail are achieved at five years of age.

The bald eagle is a long-lived bird, with a life span in the wild of more than 30 years. Bald eagles mate for life, returning to nest in the general area (within 250 miles) from which they fledged. Once a pair selects a nesting territory, they use it for the rest of their lives. A bald eagle nest is a large structure, usually located high in a tall, live white pine tree near water. The nest is reused and added to (decorated) each year, often becoming eight or more feet deep, six feet across, and weighing hundreds of pounds. Eagles prefer undisturbed areas near large lakes and reservoirs, marshes and swamps, or stretches along rivers where they can find open water and their primary food, fish. No open water habitat sufficient to support the foraging habits of the Bald Eagle is present on the Subdivision parcels. No Bald Eagle nests were observed on the parcels; no Bald Eagles were observed on or flying over the parcels; there are no nesting activities for this species occurring on the parcels; and there is no foraging area on or in the immediate vicinity of the parcels. For all of these reasons, the Subdivision parcels are not suitable for use at any time by this species. Eagle nests in Westchester County are well documented by the NYSDEC and no record exists for the Subdivision parcels.

6.0 ANTICIPATED IMPACTS

The proposed development and its appurtenant features will necessarily require clearing of vegetation beyond the existing residential area. Earth moving (excavation, filling, and grading), operation of heavy machinery, construction, and alteration to existing drainage patterns, addition of impervious surfaces, changes in traffic patterns, and increased human activity will occur on the parcels. These activities have a potential to impact the existing environmental elements of the parcels. Anticipated impacts from these activities are outlined below.

6.1 Impacts to Vegetation and Cover Types

Habitat Loss. The proposed activities on the parcels will require the removal of approximately 5.51 acres of natural vegetation altering the amount of oak-hickory forest area on the parcels but not its distribution on the parcels.

The upland forest area will be replaced with cultural cover types, such as mowed lawn with trees and paved driveways, single-family dwellings, garages, walks, etc. characteristic of the existing neighborhood. While some of the new cover types will provide usable wildlife habitat, in general, the cultural habitat types are of lower value to wildlife than the natural cover types. Habitat values will be dependent on landscape planting schemes and maintenance regimes of the developed lots, and on availability of protective cover for wildlife. Overall, however, a decrease in natural wildlife habitat value will result, and the species richness of the local wildlife community may reflect those changes.

6.2 Impacts to Wildlife

A. **All Species.** Direct impacts to wildlife from the proposed development will primarily be displacement. Some species found on the parcels are typically found in suburban settings and have already adapted to proximal human habitation. These species will remain on the developed portion of the parcels, though likely in fewer numbers, as availability of basic habitat features (food, cover, and space) may be decreased in the developed area.

B. **Listed Species**. No state or federally listed threatened or endangered species were observed on the parcels.

7.0 MITIGATION MEASURES

The proposed development of the Taconic Tract property is anticipated to have the potential for environmental impacts that can be minimized through the implementation of mitigation measures. These are actions taken to prevent or lower the probability of adverse effects from the development. Mitigation measures for the potential impacts are outlined below.

7.1 Mitigation For Impacts to Vegetation and Cover Types

A tree survey completed for the parcels by WSP-Sells indicates that there are no rare native trees located within the proposed development area on the parcels. Some large trees 24 inches dbh and over will have to be removed for development but most of the larger trees will remain after development occurs.

To minimize loss of habitat, the property owner will minimize removal of natural vegetation as much as possible to preserve natural cover on the parcels. Vegetation clearing will be minimized and demarcated by orange construction fencing.

In addition, contiguous forested area will remain on the northern portion of the parcels to continue to provide mature trees in the landscape of the proposed development. This will not only have ecological benefits, but will also provide mature trees in the development being built, giving the appearance of long-term establishment and stability.

Other habitat aspects of the parcels should be preserved where they do not interfere with the functioning of the development. Such elements may include existing rock outcrops and standing dead trees (snags). The rock outcrops at the southern boundary provide microhabitats for small mammals, herpetiles, and invertebrates. Snags provide perching, nesting, and feeding areas for a variety of resident wildlife. These elements or parts thereof should be protected from removal during construction activities where possible.

7.2 Mitigation for Wildlife Impacts

Temporary wildlife displacement during construction is a short-term impact. The development plan minimizes forest cover removal and orange construction fencing between the areas to be graded and the areas that will be left undisturbed on the parcels before grading begins will be used by wildlife.

8.0 RECOMMENDATIONS

Consideration of anticipated environmental impacts and concepts for their mitigation led to the development of the following list of recommendations that have been included within the overall development planning scheme for the property. These recommendations included:

1. Protect areas of naturally vegetated open space.
2. Minimize impacts on lots to a specified building envelope.
3. To avoid impacts to potential Indiana Bats tree-clearing activities for those trees meeting the minimum criteria for roosting or maternal colony use should be limited to the timeframe of November 15 to March 31.

Finally, the USFWS typically requests that a note will be placed on the plans ensuring that no artificial dyes, coloring, insecticide, or algaecide such as copper sulfate will be placed in stormwater control structures on the parcels.

9.0 REFERENCES

Habitat Cover Types:

Edinger, G.J. et,al. 2002. Ecological Communities of New York State Second edition. New York Natural Heritage Program.

Kiviat, E. and G. Stevens. 2001. Biodiversity Assessment Manual for the Hudson River Estuary Corridor. New York State Department of Environmental Conservation.

Plants:

Gleason, H.A. and A. Cronquist. 1991. Manual of vascular plants of northeastern United States and adjacent Canada. Second edition. The New York Botanical Garden, Bronx, NY. 910 p.

Mitchell, R.S. 1986. A Checklist of New York State Plants. Bulletin no. 458, New York State Museum, Albany, NY.

Vertebrates:

Banks, R.C., R.W. McDiarmid, and A.L. Gardner. 1987. Checklist of Vertebrates of the United States, the U.S. Territories, and Canada. United States Department of the Interior, Fish and Wildlife Service, Washington, D.C.

Birds:

American Ornithologists' Union. 1983. Checklist of North American Birds, 6th edition. Allen Press, Lawrence, KS.

Amphibians and Reptiles:

Collins, J.T. 1990. Standard Common and Current Scientific Names for North American Amphibians and Reptiles. Third edition. Society for the Study of Amphibians and Reptiles. Herpetological circular no. 19. Lawrence, KS.

Insects:

Borror, D.J. and R.E. White. 1970. A Field Guide to Insects, America North of Mexico. Peterson Field Guide Series, Houghton Mifflin Company, Boston, MA.

Butterflies:

Cech, R. 1993. A Distributional Checklist of the Butterflies and Skippers of the New York City Area (50-mile radius) and Long Island. New York City Butterfly Club, Brooklyn, NY

10.0 PHOTOGRAPHS

APPENDIX 1 – USFWS LIST

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES IN NEW YORK (By County)

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

COUNTY Common Name	Scientific Name	Status
ULSTER		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys muhlenbergii*	T
Indiana bat (W/S)	*Myotis sodalis*	E
Northern monkshood	*Aconitum noveboracense*	T
Shortnose sturgeon[1]	*Acipenser brevirostrum*	E
Small whorled pogonia *(Historic)*	*Isotria medeoloides*	T
WARREN		
Bog turtle *(Historic)*	*Clemmys muhlenbergii*	T
Karner blue butterfly	*Lycaeides melissa samuelis*	E
Indiana bat (W/S)	*Myotis sodalis*	E
WASHINGTON		
Indiana bat (S)	*Myotis sodalis*	E
Small whorled pogonia *(Historic)*	*Isotria medeoloides*	T
WAYNE		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys muhlenbergii*	T
Eastern prairie fringed orchid *(Historic)*	*Platanthera leucophea*	T
Indiana bat (S)	*Myotis sodalis*	E
WESTCHESTER		
Atlantic sturgeon[1]	*Acipenser oxyrinchus oxyrinchus*	C
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys muhlenbergii*	T
Indiana bat (S)	*Myotis sodalis*	E
New England cottontail	*Sylvilagus transitionalis*	C
Shortnose sturgeon[1]	*Acipenser brevirostrum*	E
WYOMING		
Bald eagle	*Haliaeetus leucocephalus*	D
YATES		
Bald eagle	*Haliaeetus leucocephalus*	D
Leedy's roseroot	*Sedum integrifolium* ssp. *Leedyi*	T

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APPENDIX 2 – NYSDEC CORRESPONDENCE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, Albany, New York 12233-4757
Phone: (518) 402-8935 • **FAX:** (518) 402-8925

Alexander B. Grannis
Commissioner

April 27, 2009

Michael Nowicki
Ecological Solutions
1248 Southford Road
Southbury, CT 06488

Dear Mr. Nowicki:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Residential Subdivision - 30 acres into 17 Lots - Saunders Parcel, site as indicated on the map you provided, located at 136 Todd Lane, Town of Mount Pleasant, Westchester County.

We have no records of known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain any information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. For these reasons, we cannot provide a definitive statement on the presence or absence of rare or state-listed species, or of significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

Sincerely,

Tara Salerno

Tara Salerno, Information Services
NY Natural Heritage Program

Enc.
cc:

APPENDIX 3 – RESUME

Ecological Solutions, LLC

Michael Nowicki, B.S.

ECOLOGICAL SOLUTIONS

Ecological Solutions was started to provide a wide range of natural resource management services to private clients, non-profit organizations, and municipalities. The professional staff of *Ecological Solutions* has over 20 years of experience in wetland and natural resource investigations, permitting, monitoring, and environmental planning. We are dedicated to helping our clients achieve their development goals while conserving and enhancing the existing on-site natural resources. Services include guiding our clients through the changing Federal, State, and Local permitting processes.

EDUCATION

State University of New York-College of Environmental Science and Forestry:
B.S. Environmental and Forest Biology, May 1988.

Rutgers University: Hydric Soils 1993, Endangered and Threatened Species 1999.

PROFESSIONAL EXPERIENCE

WETLANDS/NATURAL RESOURCES: Mr. Nowicki has over 20 years of experience in natural resources management and providing the following services. Wetland Services: wetland delineations, functional evaluations, Federal, State, and Local Permitting, mitigation, and mitigation monitoring.

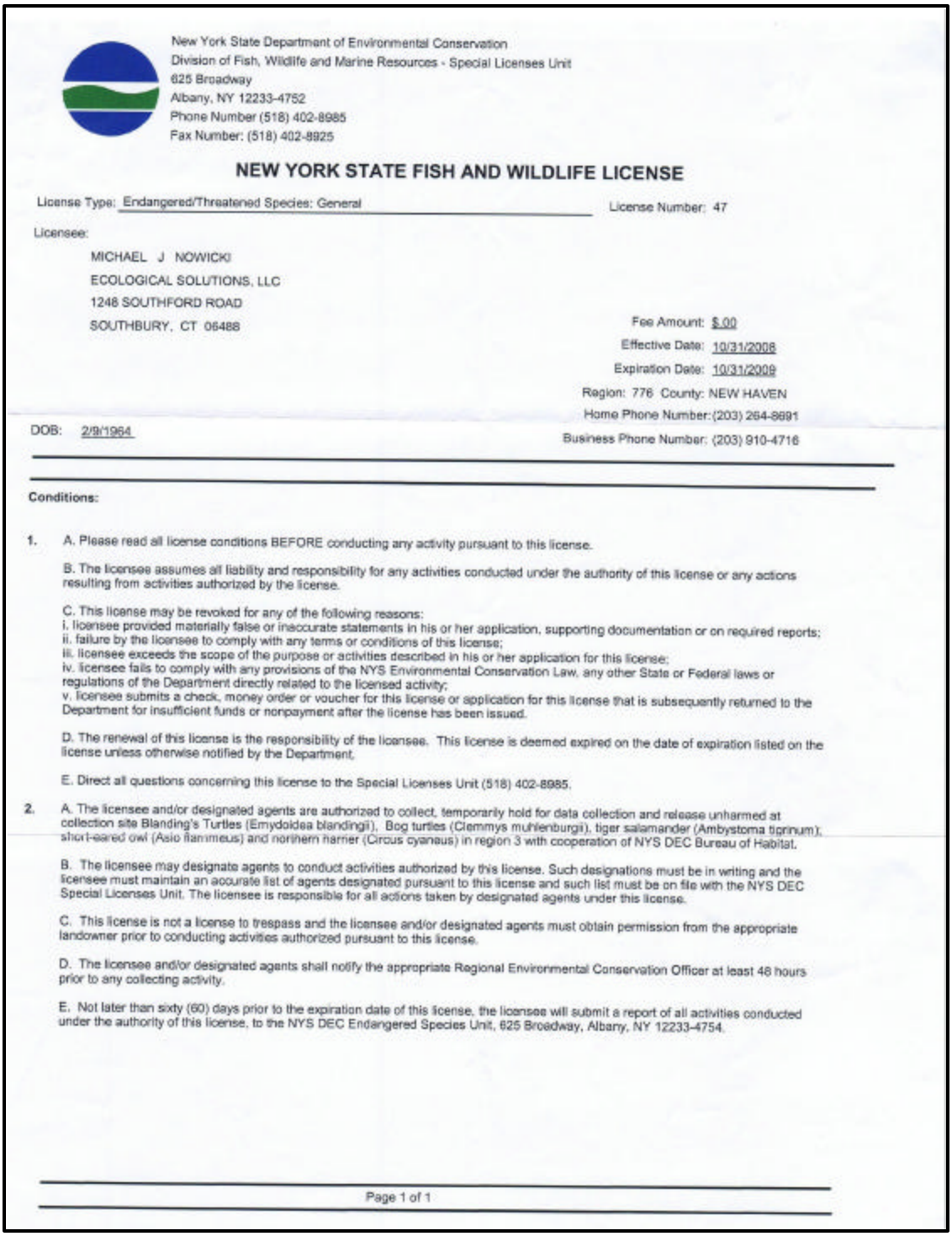
Natural Resource Management Services: floral, faunal, and threatened/endangered species surveys including: New York State endangered and threatened plants, Blanding's Turtle, Bog Turtle, Karner Blue Butterfly, Timber Rattlesnake, Indiana Bat, Northern Cricket Frog, and Eastern Tiger Salamander; vegetative cover type description and mapping; pre-development site review; pond and habitat restoration and creation.

Forest and Woodland Management Services: forest tree survey and inventory; forest management plans for economic returns, aesthetic, and safety considerations, and habitat for specific wildlife species;

WILDLIFE ECOLOGY: Mr. Nowicki has 20 years of experience with wildlife ecology field research. He has worked on large mammal projects that include wolf, grizzly bear, and white-tailed deer studies, and raptor surveys.

PLANNING: Mr. Nowicki serves as a project manager and drafts Environmental Impact Statements; implements SEQRA; drafts zoning ordinances, including aquifer and ridgeline protection; makes presentations to Village and Town planning and zoning boards, and reviews projects on behalf of private clients and municipalities.

APPENDIX 4 - LICENSE



New York State Department of Environmental Conservation
Division of Fish, Wildlife and Marine Resources - Special Licenses Unit
625 Broadway
Albany, NY 12233-4752
Phone Number (518) 402-8985
Fax Number: (518) 402-8925

NEW YORK STATE FISH AND WILDLIFE LICENSE

License Type: Endangered/Threatened Species: General License Number: 47

Licensee:

MICHAEL J NOWICKI
ECOLOGICAL SOLUTIONS, LLC
1248 SOUTHFORD ROAD
SOUTHBURY, CT 06488

Fee Amount: $.00
Effective Date: 10/31/2008
Expiration Date: 10/31/2009
Region: 776 County: NEW HAVEN
Home Phone Number: (203) 264-8691
Business Phone Number: (203) 910-4716

DOB: 2/9/1964

Conditions:

1. A. Please read all license conditions BEFORE conducting any activity pursuant to this license.

   B. The licensee assumes all liability and responsibility for any activities conducted under the authority of this license or any actions resulting from activities authorized by the license.

   C. This license may be revoked for any of the following reasons:
   i. licensee provided materially false or inaccurate statements in his or her application, supporting documentation or on required reports;
   ii. failure by the licensee to comply with any terms or conditions of this license;
   iii. licensee exceeds the scope of the purpose or activities described in his or her application for this license;
   iv. licensee fails to comply with any provisions of the NYS Environmental Conservation Law, any other State or Federal laws or regulations of the Department directly related to the licensed activity;
   v. licensee submits a check, money order or voucher for this license or application for this license that is subsequently returned to the Department for insufficient funds or nonpayment after the license has been issued.

   D. The renewal of this license is the responsibility of the licensee. This license is deemed expired on the date of expiration listed on the license unless otherwise notified by the Department.

   E. Direct all questions concerning this license to the Special Licenses Unit (518) 402-8985.

2. A. The licensee and/or designated agents are authorized to collect, temporarily hold for data collection and release unharmed at collection site Blanding's Turtles (Emydoidea blandingii), Bog turtles (Clemmys muhlenburgii), tiger salamander (Ambystoma tigrinum); short-eared owl (Asio flammeus) and northern harrier (Circus cyaneus) in region 3 with cooperation of NYS DEC Bureau of Habitat.

   B. The licensee may designate agents to conduct activities authorized by this license. Such designations must be in writing and the licensee must maintain an accurate list of agents designated pursuant to this license and such list must be on file with the NYS DEC Special Licenses Unit. The licensee is responsible for all actions taken by designated agents under this license.

   C. This license is not a license to trespass and the licensee and/or designated agents must obtain permission from the appropriate landowner prior to conducting activities authorized pursuant to this license.

   D. The licensee and/or designated agents shall notify the appropriate Regional Environmental Conservation Officer at least 48 hours prior to any collecting activity.

   E. Not later than sixty (60) days prior to the expiration date of this license, the licensee will submit a report of all activities conducted under the authority of this license, to the NYS DEC Endangered Species Unit, 625 Broadway, Albany, NY 12233-4754.

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APPENDIX 5 - FIRM QUALIFICATIONS

Wetland and Natural Resource Services and Qualifications

Ecological Solutions, LLC

Prepared by:

Ecological Solutions, LLC
1248 Southford Road
Southbury, CT 06488
(203) 910-4716
fax (203)- 264-8976

INTRODUCTION

Michael Nowicki is a Biologist and the Principal in charge of all projects from the proposal stage to initiation of work through permitting. Ecological Solutions, LLC (ES) is an environmental consulting firm providing premium professional services in support of the development of land and water resources throughout the region for more than a decade. The success of Ecological Solutions is attributed to my focus on providing client satisfaction through effective project management, timeliness, and attention to detail within a cost efficient budget and working relationship with Federal, State, and Local Regulatory Agencies throughout the region.

The goal is to continue to create solid business relationships through our reputation for dependable, thorough work. We are continually striving to foster a working environment in which our client's specific project needs are addressed and successfully resolved. This Statement of Qualifications is a summary of the services Ecological Solutions offers to clients.

PROFESSIONAL ENVIRONMENTAL CONSULTING SERVICES

LAND RESOURCE/WETLAND ANALYSIS

- Identify and delineate Federal, State, and Locally regulated wetlands through field investigations, composite mapping, and aerial photo interpretation techniques;
- Locate and map the extent of wetlands and coordinate verification with the appropriate government agencies;
- Analyze wetland functions, classifications, and values (for example: stormwater retention, erosion control, wildlife habitat, and recreation); Conduct wetland functional evaluations as required by regulatory agencies;
- Obtain tidal and freshwater wetland permits (Federal, State, and Local);
- Develop wetland restoration, enhancement, and mitigation plans;
- Conduct wetland mitigation monitoring programs.

NATURAL RESOURCE INVENTORIES

Inventory the natural resources of a community including:

- Wetlands;
- Forest resources, soil, and geology;
- Floodplains, aquifers and recharge areas - Surface waters and drainage basins;
- Scenic resources, visual assessments;
- Open space, agricultural districts, and agricultural potential;
- Land use and ownership.

VEGETATION AND WILDLIFE SURVEYS (THREATENED AND ENDANGERED SPECIES

- Determine the density, frequency and dominance of plant communities through aerial photography and on-site field reconnaissance;
- Conduct surveys of endangered, threatened, and rare wildlife populations;
- Determine the presence of specific fish and wildlife species on individual sites or areas. Design and supervise on-going monitoring programs to assess status and / or impacts to ecological communities.

WETLAND AND NATURAL RESOURCE SERVICES

Over the past decade, Ecological Solutions has provided a broad range of wetland and natural resource consulting services to public and private clients throughout the region. In addition to providing environmental consulting services, Ecological Solutions performs threatened and endangered species evaluations as well as general wildlife, soil, and vegetation studies.

Ecological Solutions is experienced in the preparation and review of Federal, State and Local wetland delineations, wetland functional evaluations, wetland mitigation plans and monitoring reports, wildlife surveys and reports, Environmental Assessment Forms, and Environmental Impact Statements. Our professionals maintain a thorough working knowledge and complete library of Federal, State, and Local environmental regulations. Staff is completely familiar with the requirements of the New York State Department of environmental Conservation (NYSDEC) Article 24 Freshwater Wetland Regulations, New York State Environmental Quality Review Act, Section 404 of the Federal Clean Water Act - US Army Corps of Engineers (USACE) regulations and permit requirements and the periodic updates to these regulations. In addition, Ecological Solutions has worked with State Environmental Conservation regulations throughout the Northeast, and finally, Local municipal wetland regulations.

Wetland Delineation

Ecological Solutions complete Routine and Comprehensive Federal wetland delineation according to the 1987 USACE wetland delineation manual and NYSDEC Freshwater wetland regulations. Review of office resources occurs prior to the field investigation and includes analysis of the following: USGS Quadrangle maps, National Wetland Inventory maps, State Freshwater Wetlands and Stream Maps, and County Soil Surveys. All wetlands are delineated according to the criteria and standards dictated by the permitting agency, whether Federal, State, or Local and typically involve determination of soil, vegetation, and hydrological conditions.

Wetland Permitting

Ecological Solutions develops permit applications that clearly describe your project to the regulators. Ecological Solutions will stand by you and the permit application during processing and will work diligently to assure that your project is permitted in a manner that meets your development objectives. Ecological Solutions is intimately familiar with the wetland permit procedures and requirements of the Federal, State, and Local Agencies entrusted with determining the best use of these resources. One of the most important, yet most difficult aspects of the permitting process is the "Alternatives Analysis." This analysis must demonstrate why the project must be constructed at a particular site with a particular layout. Ecological Solutions understands logistical, operational and site design issues relating to alternatives analyses, and can effectively convey your requirements to the regulatory agencies. Ecological Solutions has secured NYSDEC Article 24 Freshwater Wetland Permit and Individual and Nationwide Permits from the Army Corps of Engineers for tidal and freshwater wetland projects and consistently obtain Freshwater wetland permits and Section 401 Water Quality Certifications for projects throughout the region.

Wetland Functional Evaluation

Wetland functional evaluations are often required by permitting agencies to justify permit issuance. Ecological Solutions professionals complete wetland functional assessments in a cost-effective manner by utilizing comparative models that are tailored for site-specific evaluations. Ecological Solutions is well versed in several established and cutting edge methodologies to further serve the needs of our clients.

Wetland Mitigation

Ecological Solutions routinely plans and completes compensatory wetland mitigation for a wide variety of projects. The objective of wetland mitigation for unavoidable impacts is to offset environmental losses, and our scientists are well versed in the ecological principles governing the implementation of wetland mitigation plans. Wetland mitigation must provide at a minimum, one-for-one functional replacement (i.e., no net loss of values), with an adequate margin of safety to reflect the expected degree of success associated with the mitigation plan. Ecological Solutions works closely with the client and the permitting agency to ensure that wetland mitigation plans meet all permitting criteria and are completed in a cost effective and timely manner. Wetland mitigation efforts include grading, planting, erosion control, and monitoring plans.

Wetland Monitoring

Compensatory wetland mitigation plans are typically implemented during the spring growing season or the autumn dormant season. In most cases, the permitting agency will specify a period of time in which all wetland plantings are to remain viable. The monitoring phase of any wetland mitigation effort calculates the loss of plant material and suggests replacement plants for the mitigation area. Ecological Solutions works closely with contractors to ensure the proper implementation of wetland mitigation efforts to minimize plant loss and cost to the client.

Natural Resource Inventory

Ecological Solutions staff has well over 18 years experience completing natural resource inventories. Staff has analyzed the life history requirements of several endangered plant and animal species including Blanding's Turtle, Bog Turtle, Bald Eagle, Indiana Bat, and Karner Blue Butterfly and determine the extent of rare, threatened, or endangered species and the potential impacts presented to a project.