Natural Resources Review

CT-0114 / Glastonbury

Sequin Drive
Glastonbury, Hartford, CT 06033

EBI Project No. 6120010499

January 6, 2021

Prepared for:

Arx Wireless, LLC
100 Washington Avenue
North Haven, Connecticut 06473

Prepared by:

EBI Consulting
environmental | engineering | due diligence

EBI Consulting
environmental | engineering | due diligence

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January 6, 2021

Subject: **Natural Resources Review for a Proposed Wireless Communications Facility**
CT-0114 / Glastonbury
Sequin Drive, Glastonbury, Hartford County, CT 06033
41° 42' 51.27" / 73° 34' 54.32"
6120010499

OVERVIEW

EBI Consulting (EBI) has prepared this Natural Resource Review (*NR Review*) for the above-referenced proposed wireless communications facility (herein, the Facility). This *NR Review* supports a National Environmental Policy Act (NEPA) review of the proposed Facility, completed in accordance with Federal Communications Commission (FCC) NEPA implementing procedures set forth in 47 CFR 1.1301-1.1320.

The purpose of this *NR Review* is to determine whether further environmental review may be required in accordance with 47 CFR 1.1307(a)(1), (2), (3), (6), and (7) of FCC NEPA Rules. Specifically, this *NR Review* focuses on evaluating whether the proposed Facility will result in potential significant impacts to federally-protected lands, species, flood zones, or other significant changes to surface features.

EBI prepared this *NR Review* using readily-available online resources. This *NR Review* is designed to provide a baseline evaluation of the potential for the proposed Facility to significantly affect the above-referenced natural resources (including protected species) and to determine if additional review, specialized on-site surveys, or consultation is required.

PROJECT SUMMARY

As of the date of this *Review*, Arx Wireless proposes to construct a new communications facility on the Subject Property. The proposed facility will include a 115-foot (including appurtenance) monopole tower and associated support equipment located within fenced 50-foot by 50-foot lease area. Access and utilities will be gained via a joint easement emanating north/northwest from Sequin Drive for approximately 550 feet to the proposed facility. Please see the attached drawings for complete details.

PROPERTY AND VICINITY DESCRIPTION

The Subject Property is an irregular-shaped property primarily consisting of undeveloped land with a previously disturbed/cleared area utilized for miscellaneous storage and parking. The area of the proposed facility (herein the Project Site) currently consists of land previously disturbed/cleared (Circa 2016) and undeveloped wooded land.

Property use in the vicinity of the Subject Property primarily consists of commercial/industrial development and undeveloped land.

FEDERAL LANDS REVIEW

EBI reviewed available online mapping resources to determine if the proposed Facility location is inside the boundaries of, or within one-mile of certain classifications of federal land. Applicable data is depicted on EBI's 'Land Resources Map' (see attached). The following table summarizes EBI's review.

FEDERALLY-PROTECTED LAND Jurisdictional Agency / Resource	*Within Boundary*	*Within 1-mlle*	*Not Within 1-mlle*
Wilderness Area [47 CFR §1.1307(a)(1)] National Wilderness Preservation System (NWPS) National Park Service (NPS); U.S. Forest Service (USFS); U.S. Fish and Wildlife Service (USFWS); Bureau of Land Management (BLM) http://www.wilderness.net/index.cfm?fuse=NWPS	☐	☐	☒
Wildlife Preserve [47 CFR §1.1307(a)(2)] National Wildlife Refuge System (NWRS) NPS; USFS; USFWS; BLM http://www.fws.gov/refuges	☐	☐	☒
Wild & Scenic Rivers NPS; USFS; USFWS; BLM http://www.rivers.gov	☐	☐	☒
National Scenic Trails NPS and Managing Systems and Trails Organization (MSTO) https://www.nps.gov/subjects/nationaltrailssystem/national-scenic-trails.htm	☐	☐	☒

Based on a review of the above-referenced resources, the proposed facility is not located within the boundaries of, or within one-mile of any of the above-referenced federal lands.

PROTECTED SPECIES REVIEW

Federally Listed Species and Critical Habitats

EBI reviewed online resources maintained by the USFWS (http://ecos.fws.gov/ipac) to identify any species that are federally-listed under the Endangered Species Act (ESA) as either endangered or threatened, and that are known to occur within the project vicinity. Based on EBI's research of online files maintained by the USFWS, one such federally-listed (i.e. endangered or threatened) species is known to occur within the project vicinity.

Additionally, EBI utilized the USFWS online Critical Habitat Portal[1] online mapping tool, and determined that the proposed Facility location is not within a designated critical habitat.

State Protected Species

In addition, EBI also reviewed online resources including a map of Natural Diversity Database (NDDB) data displaying potential sensitive habitats and/or species, maintained by the Connecticut Department of Energy and Environmental Protection (DEEP, https://portal.ct.gov/DEEP/Endangered-Species/Endangered-Species-Listings/Endangered-Threatened-and-Special-Concern-Species-listed-by-County), within Hartford, CT. Based on EBI's review of these online resources, there are 255 state-protected (threatened, endangered, species of concern) species within Hartford, CT. Please note that the Project Site is located approximately 100 feet south of state and/or federally listed species.

A review of the identified species and their associated habitats with respect to the proposed Site is provided in the following table.

[1] USFWS Critical Habitat Portal URL: http://criticalhabitat.fws.gov

SPECIES LISTING Common Name (*Scientific Name*)	**FEDERAL / STATE STATUS**	**HABITAT DESCRIPTION**	**DETERMINATION OF EFFECT**
Northern long-eared bat (*Myotis septentrionalis*)	FT / SE	Winter habitat includes large caves or mines; Summer habitat includes roost under or in cavities of both live and dead trees. Foraging habitats include riparian areas, upland forests, ponds, and fields. Forested landscapes supporting suitable habitat (trees > 3-inches dbh) are the most important habitat.	**May Affect (4D Rule)** - Potentially suitable habitat exists at the proposed Site. However, information obtained from the USFWS did not identify any known hibernaculum within 0.25 miles of the proposed Site or maternity roosting trees within 150 feet of the proposed Site. Therefore, any resulting incidental take of the Northern long-eared bat is not prohibited by the final 4(d) rule.
FE = Federal Endangered; FT = Federal Threatened; SE = State Endangered; ST = State Threatened			

As noted in the table above, potentially suitable habitats (undeveloped wooded land with trees > 3-inches dbh) capable of supporting the Northern long-eared bat (*Myotis septentrionalis*) were noted within the vicinity and at the proposed Site. However, information obtained from the USFWS did not identify any known hibernaculum within 0.25 miles of the proposed Site or known maternity roosting trees within 150 feet of the proposed Site and as such, EBI is unaware of known hibernaculum within 0.25 miles or known maternity roosting trees within 150 feet of the proposed Site. As such, EBI submitted these findings to the USFWS with the online 4D Rule Key determination, and in a response dated December 17, 2020, the USFWS determined that any resulting incidental take of the Northern long-eared bat (*Myotis septentrionalis*) as a result of this project is not prohibited by the final 4(d) rule. Further, unless the USFWS determines within 30 days of December 17, 2020 that the IPaC determination was incorrect, this response satisfies and concludes EBI's responsibilities for the proposed facility construction with respect to the

Migratory Bird Treaty Act

Consideration should also be given to the potential impacts of the construction and ongoing operation of the proposed Facility, on species protected under the Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703-712). The USFWS issued "*Recommended Best Practices for Communications Tower Design, Siting, Construction, Operation, Maintenance and Decommissioning*"[2]to provide avoidance and minimization measures to reduce the risk of avian mortality as a result of communications towers.

The proposed tower will be a 115-foot monopole with no FAA required lighting. As such, it meets most of the USFWS's tower siting and design recommendations and is therefore not anticipated to adversely affect migratory birds.

Bald & Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA; 16 U.S.C. 668-668d) prohibits the "taking" of bald and golden eagles in the absence of a permit issued by the Secretary of the Interior. Based on EBI's on-site observations, assessment of habitat, and review of publicly-available occurrence data, the proposed installation is not anticipated to result in the "take" of any Bald or Golden Eagles. No further review is required.

FEMA FLOOD ZONE

Based on EBI's review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (www.fema.gov; Map #09003C0529F) the proposed facility lease area is located within an area identified as Zone X, and therefore is not located within a 100-year floodplain. As such, in accordance with §1.1307(a)(6) of FCC NEPA Rules, an Environmental Assessment is **not** required.

[2] https://www.fws.gov/migratorybirds/pdf/management/usfwscommtowerguidance.pdf

SIGNIFICANT CHANGES TO SURFACE FEATURES

Wetlands

EBI did not observe any readily-identifiable wetlands or wetland characteristics (e.g. standing water, hydrophytic vegetation, soil saturation and inundation, drainage patterns and sediment deposition, watermarks and drift lines on trees and vegetation, or water stained leaves) at the Project Site. A review of the NWI Wetlands did not identify any wetland within the vicinity (i.e. 300 feet) of the Project Site.

EBI also reviewed the United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) Web Soil Survey (WSS) for the Site and immediate vicinity. According to EBI's review, soils at the Site consist of udorthents, smoothed with 0 to 35 percent slopes. This moderately well drained soil supports a depth to water table ranging from approximately 24 to 54 inches, and with a depth to restrictive layer at more than 80 inches. This substrate is not listed as hydric by the NRCS (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/).

Based on EBI's review as summarized above, the proposed communications facility installation is not anticipated to impact identified wetlands.

FINDINGS AND CONCLUSONS

Based on the results of EBI's review as summarized herein:

- **Any resulting incidental take of the Northern long-eared bat (*Myotis septentrionalis*) is not prohibited by the final 4(d) rule;** and the proposed communications facility is:
- Not within the boundaries of, or within one mile of federally-protected land (i.e. wildlife preserves, wilderness areas, etc.);
- Not within the boundaries of a FEMA-designated 100-year flood zone; and
- Not anticipated to result in a significant change to surface features.

EBI is an independent contractor, not an employee of either the property owner or the project proponent, and its compensation was not based on the findings or recommendations made in this *Review* or on the closing of any business transaction.

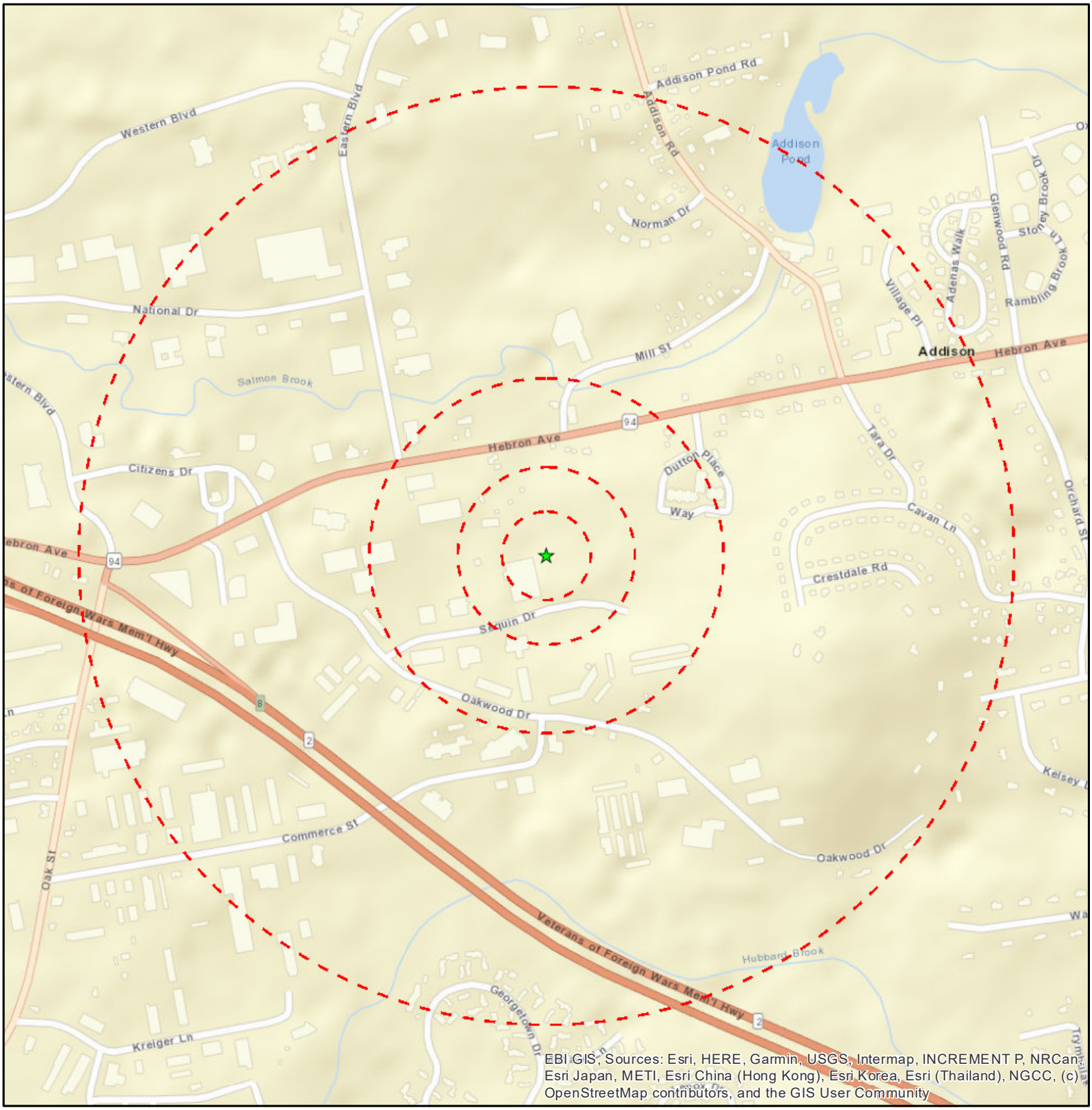
Sincerely,

Mr. Jason Stayer
Senior Biologist

Ms. Kim Narel
Biologist I
(949) 290-0535

Attachments: Figures & Drawings
Photographs
Species Review Documentation
Supporting Documentation
Qualifications

FIGURES & DRAWINGS



Legend

- Project Site
- Site Radius at 250', 500', 1000' and ½ mile

Date: 12/17/2020

Figure 1: Site Location Map

CT-0114 GLASTONBURY
SEQUIN DRIVE
GLASTONBURY, CT 06033

PN: 6120010499

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Legend

★ Project Site

Site Radius at 250', 500', 1000' and ½ mile

USGS 24K Quad: Glastonbury, CT 1985

Date: 12/17/2020

Figure 2 - Topographic Map

CT-0114 GLASTONBURY
SEQUIN DRIVE
GLASTONBURY, CT 06033

PN: 6120010499

N

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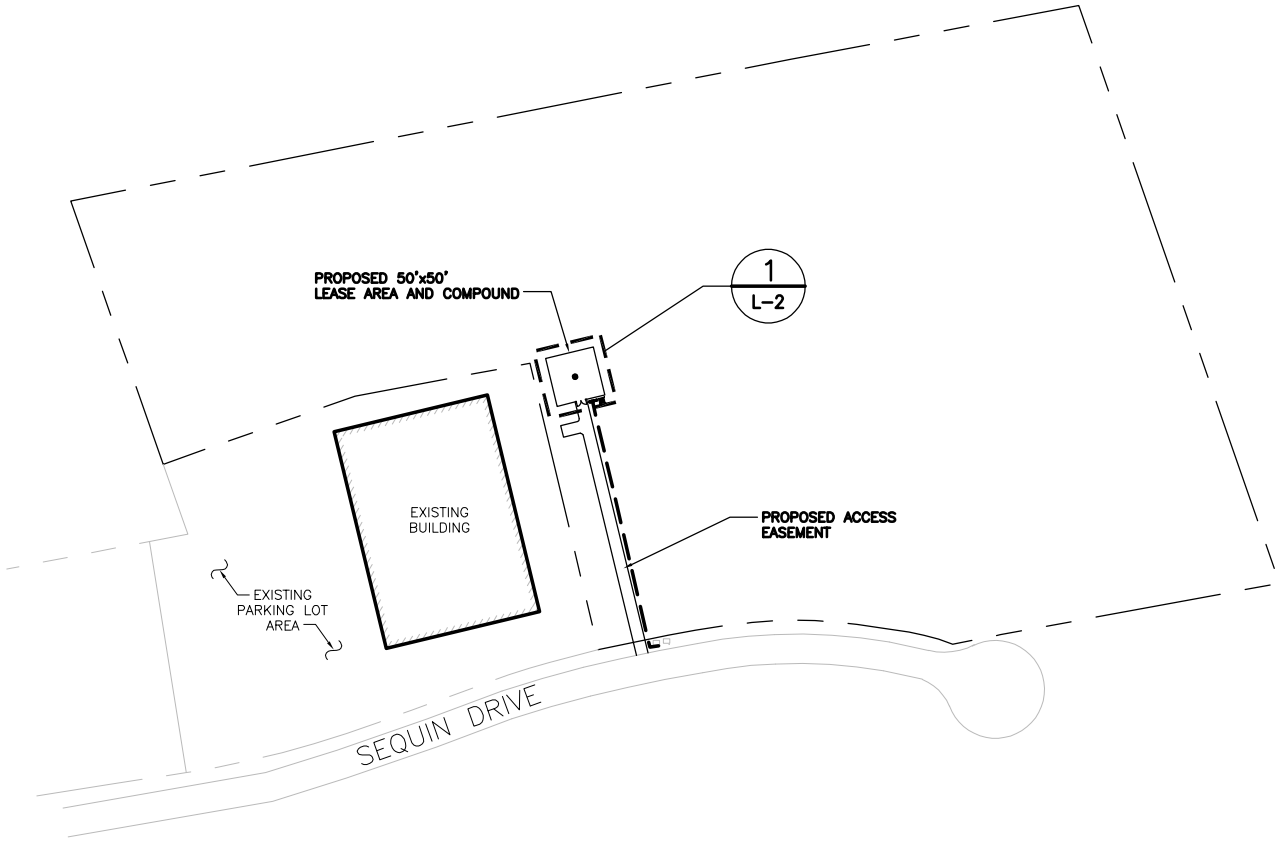
NOTE:
THIS LEASE EXHIBIT IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATIONS EQUIPMENT FACILITY.



1 / LE-1 SITE PLAN

SCALE: 1" = 200'-0"

0 50 100 150 200 400

APPROX. TRUE NORTH

Project No.:	
Designed by:	MJE
Drawn by:	KAP
Checked by:	MJE
Approved by:	MJE

AECOM
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
(860)-529-8882

ARX WIRELESS

SITE ADDRESS: CT0114A GLASTONBURY
LOT N-4 SEQUIN DRIVE
GLASTONBURY, CONNECTICUT

REV.	DATE:	DESCRIPTION
1	12-15-2020	REVISED

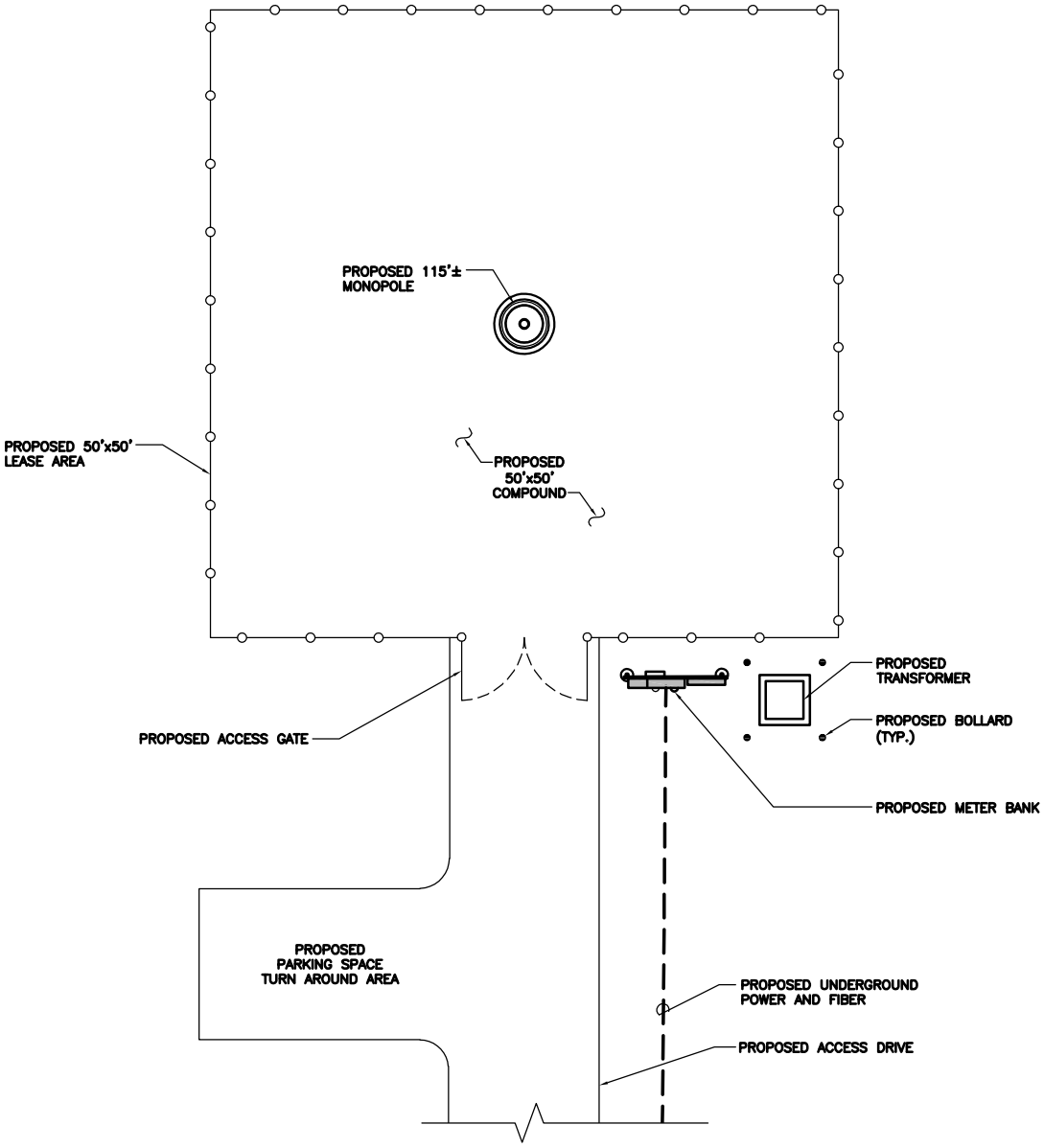
Scale: AS NOTED | Date: 10-20-2020

Job No. | File No.

Dwg. No. LE-1

Dwg. 1 of 3

NOTE:
THIS LEASE EXHIBIT IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATIONS EQUIPMENT FACILITY.



1 LE-2 COMPOUND PLAN

SCALE: 1" = 15'-0"

0 5 10 15 30

APPROX. TRUE NORTH

Project No.:		
Designed by: MJE		
Drawn by: KAP		
Checked by: MJE		
Approved by: MJE		

AECOM
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
(860)-529-8882

ARX WIRELESS

SITE ADDRESS: CT0114A GLASTONBURY
LOT N-4 SEQUIN DRIVE
GLASTONBURY, CONNECTICUT

REV.	DATE:	DESCRIPTION
1	12-15-2020	REVISED

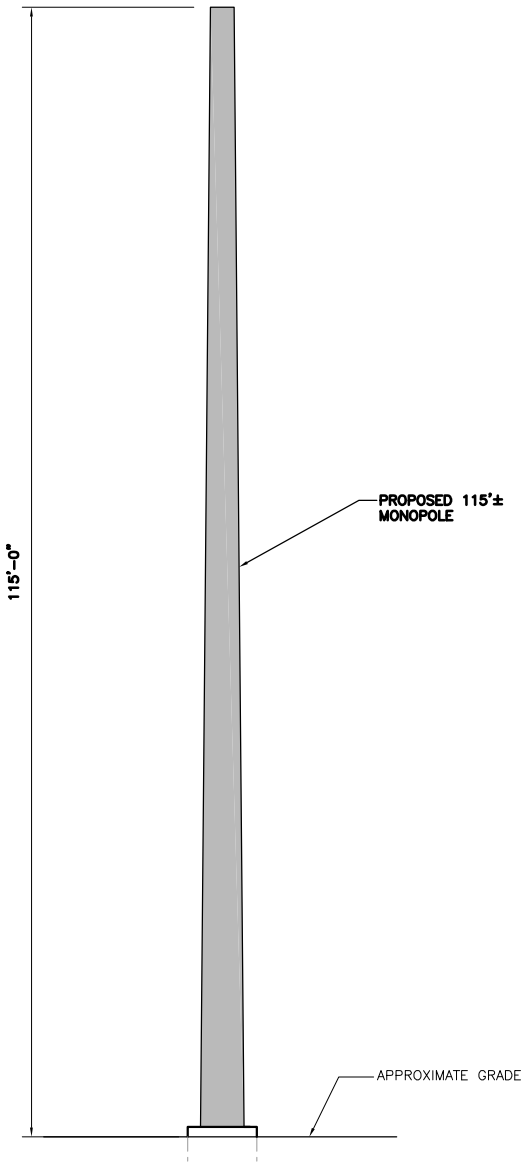
Scale: AS NOTED | Date: 10-20-2020

Job No. | File No.

Dwg. No. LE-2

Dwg. 2 of 3

NOTE:
THIS LEASE EXHIBIT IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATIONS EQUIPMENT FACILITY.



1 / LE-3 TOWER ELEVATION
SCALE: 1" = 20'-0"

0 10 20 40

Project No.:	
Designed by:	MJE
Drawn by:	KAP
Checked by:	MJE
Approved by:	MJE

AECOM
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
(860)-529-8882

ARX WIRELESS

SITE ADDRESS: CT0114A GLASTONBURY
LOT N-4 SEQUIN DRIVE
GLASTONBURY, CONNECTICUT

REV.	DATE:	DESCRIPTION
1	12-15-2020	REVISED

Scale: AS NOTED | Date: 10-20-2020
Job No. | File No. | Dwg. 3 of 3

Dwg. No. LE-3

U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov, EBI GIS, Source: U.S. Census Bureau

Legend

★ Project Site

Site Radius at 250', 500', 1000', ½, ¾ & 1 mile

* See associated map legend for additional source information.

Date: 12/17/2020

Land Resources Map

CT-0114 GLASTONBURY
SEQUIN DRIVE
GLASTONBURY, CONNECTICUT 06033

PN: 6120010499

N

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Land Resources Legend

Scenic Parkways, Rivers & Trails

- National Scenic Parkway
- National Park Service Trail / Appalachian Trail
- AZ - BLM Historic Trail
- CT - DEP Trail
- MT- Lewis & Clark Trail
- NY - Trails
- NY - Scenic Landmark Area
- NY - Statewide Area of Scenic Significance
- National Wild, Scenic River
- CA, MT, PA - Wild or Scenic River

Sources: National Park Service http://www.nps.gov/gis/data_info/ ; Bureau of land management http://www.blm.gov/wo/st/en.html ; CT DEP http://www.ct.gov/deep/cwp/view.asp?a=2698&q=323342&deepNav_GID=1707%20 ; NY GIS Clearinghouse http://gis.ny.gov/ ; National W & S Rivers http://www.rivers.gov/rivers/mapping-gis.php ; Montana GIS http://nris.mt.gov/gis ; California Atlas http://atlas.ca.gov/

State Conservation, Lands & Wildlife Areas

- CT - DEP Property
- CO - Public Access Wildlife Area
- FL - Wildlife Management Area
- MT - National Wildlife Refuge
- NH - WMNF Management Area
- ME - Conservation Land
- TN - Wildlife Resource Land
- TX - State Park or Wildlife Mgt Area
- TX - Audubon Sanctuary
- CT - DEP Municipal and Open Space
- NH - Conservation Land
- NY - DEC State Lands
- NY - Agricultural District

Sources: CT DEP http://www.ct.gov/deep/cwp/view.asp?a=2698&q=323342&deepNav_GID=1707%20 CO Wildlife Space http://ndis.nrel.colostate.edu/ftp/ftp_response.asp ; Florida Fish and Wildlife www.MyFWC.com ; Montana GIS http://nris.mt.gov/gis ; NH GRANIT ttp://www.granit.unh.edu/data/downloadfreedata ; ME GIS http://megis.maine.gov/catalog ; TN GIS http://www.state.tn.us/environment/parks/gis/data/ ; TX GIS http://www.glo.state.tx.us/nri/data/index.html ; NY GIS Clearinghouse http://gis.ny.gov/

US FWS NWI Wetland Type

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

State Endangered Threatened & Protected Species

- AZ - Areas of Environmental Concern
- CA - Spotted Owl Territory
- CA - NDDB T & E Species
- CT - NDDB Area Feature
- CT - DEP Critical Habitat
- MA - NHESP Estimated Habitats of Rare Wildlife
- TX - Protected Species
- MA - NHESP Priority Habitats of Rare Species
- FL - Conservation Species
- MA - NHESP Certified Vernal Pool
- ME - Candidate Vernal Pool
- NY - Important Bird Area
- TX - Ecologically Unique Rivers Streams

Sources: AZ BLM Page http://www.blm.gov/az/st/en/prog/maps/gis_files.html ; CNDDB http://www.dfg.ca.gov/biogeodata/cnddb/ ; CT DEP http://www.ct.gov/deep/cwp/view.asp?a=2698&q=323342&deepNav_GID=1707%20 ; MAGIS http://www.mass.gov/mgis/laylist.htm ; TX GIS http://www.glo.state.tx.us/nri/data/index.html ; Florida Fish and Wildlife www.MyFWC.com; NY GIS Clearinghouse http://gis.ny.gov/

Federal & National Coverage Data Layers

- USFWS Critical Habitat
- USFWS Critical Habitat Area
- National Park Service
- National Wildlife Area or Refuge
- Federally Owned Land
- National Wilderness Areas
- National Park Service Site

FEMA Q3 Flood Zone 2006

- 500-year inundation area.
- 100-year inundation area.
- 100-year inundation area with velocity hazard.
- Undetermined but possible flood hazard area.
- Floodway area, including watercourse extent.

No Flood Data No Flood Data Available

Sources: National Park Service http://www.nps.gov/gis/data_info/ ; USFWS http://crithab.fws.gov/ ; National Park Service http://science.nature.nps.gov/nrdata/index.cfm ; The National Map http://nationalmap.gov/ ; Wilderness.net http://www.wilderness.net/ ; FEMA - Q3 Flood Data https://msc.fema.gov

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PHOTOGRAPHS

1. View north at the Project Site.

2. View east at the Project Site.

	**3.** View south at the Project Site.
	**4.** View west at the Project Site.

	**5.** View of the proposed access and utility route facing towards Sequin Drive.
	**6.** View of the proposed access and utility route facing towards the Project Site.

	**7.** View of the proposed access and utility route from Sequin Drive towards the Project Site.

SPECIES REVIEW DOCUMENTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To: December 17, 2020
Consultation Code: 05E1NE00-2021-SLI-0757
Event Code: 05E1NE00-2021-E-02282
Project Name: Glastonbury

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2021-SLI-0757

Event Code: 05E1NE00-2021-E-02282

Project Name: Glastonbury

Project Type: COMMUNICATIONS TOWER

Project Description: Construction of a 115-foot (including appurtenance) monopole tower and associated support equipment located within fenced 50-foot by 50-foot lease area.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/41.714032463316975N72.58164156295327W

Counties: Hartford, CT

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Critical Habitat for Threatened & Endangered Species [USFWS]

Final Linear Features

Final Polygon Features

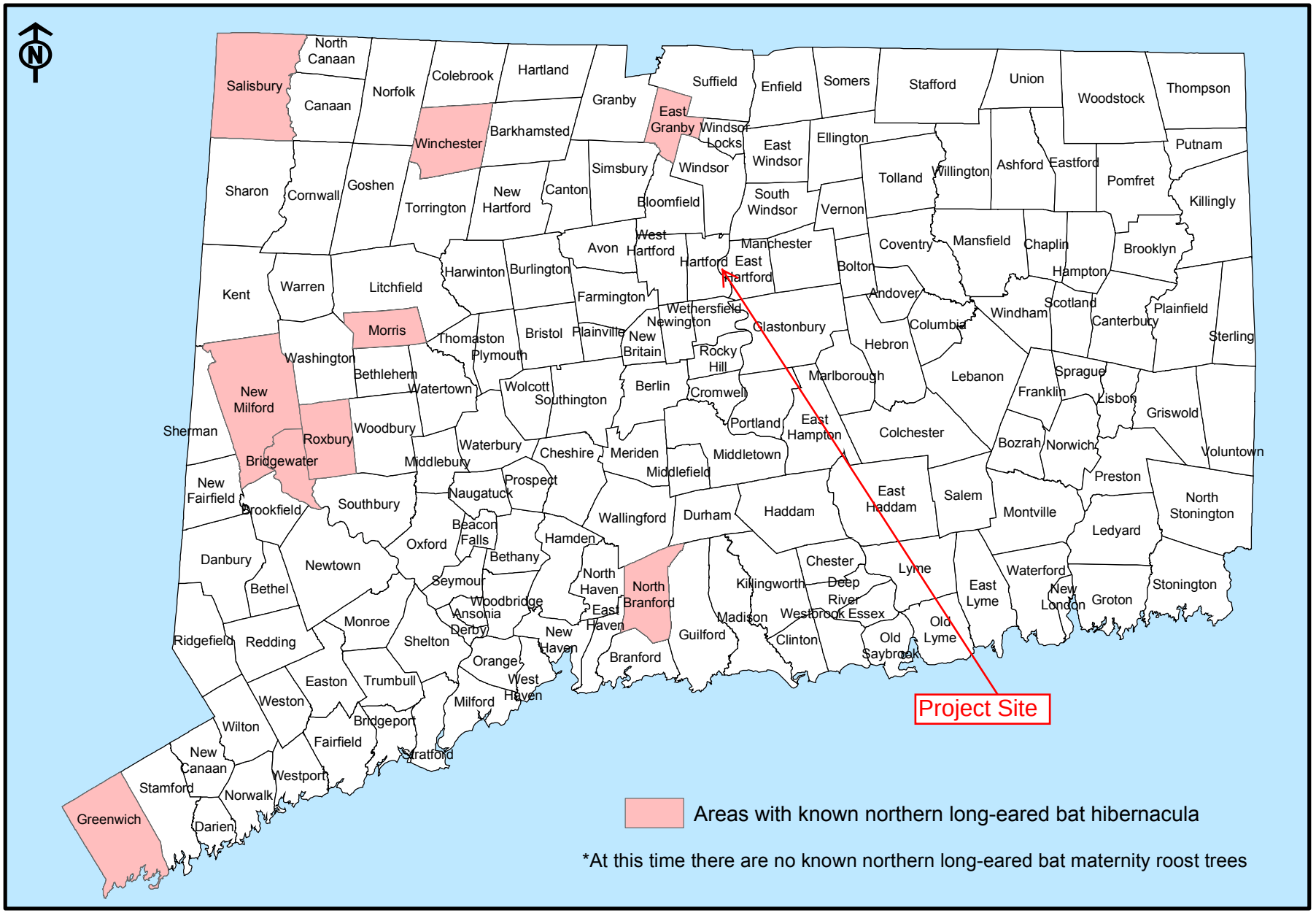
Proposed Linear Features

Proposed Polygon Features

A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

U.S. Fish and Wildlife Service | The data found in this file were developed by the U.S. Fish & Wildlife Service field offices. For more information please refer to the species level metadata found with the individual shapefiles. The ECOS Joint Development Team is responsible for creating and serving this conglomerate file. No data alterations are made by ECOS. | Maxar, Microsoft

Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance



February 1, 2016

For information on federal requirements visit http://www.fws.gov/midwest/endangered/mammals/nleb/

A County Report of Connecticut's Endangered, Threatened and Special Concern Species

Hartford County

Amphibians

Scientific Name	Common Name	Protection Status
Ambystoma jeffersonianum	Jefferson salamander "complex"	SC
Ambystoma laterale	Blue-spotted salamander	E/SC
Gyrinophilus porphyriticus	Northern spring salamander	T
Necturus maculosus	Mudpuppy	SC
Rana pipiens	Northern leopard frog	SC

Birds

Scientific Name	Common Name	Protection Status
Accipiter striatus	Sharp-shinned hawk	E
Aegolius acadicus	Northern saw-whet owl	SC
Ammodramus henslowii	Henslow's sparrow	SC*
Ammodramus savannarum	Grasshopper sparrow	E
Asio flammeus	Short-eared owl	T
Asio otus	Long-eared owl	E
Bartramia longicauda	Upland sandpiper	E
Botaurus lentiginosus	American bittern	E
Buteo platypterus	Broad-winged hawk	SC
Caprimulgus vociferus	Whip-poor-will	SC
Circus hudsonius	Northern harrier (Circus cyaneus)	E
Cistothorus platensis	Sedge wren	E
Dolichonyx oryzivorus	Bobolink	SC
Empidonax alnorum	Alder flycatcher	SC
Eremophila alpestris	Horned lark	E
Falco peregrinus	Peregrine falcon	T

Hartford County

Birds

Scientific Name	Common Name	Protection Status
Falco sparverius	American kestrel	SC
Gallinula galeata	Common moorhen (Gallinula chloropus)	E
Gavia immer	Common loon	SC
Haliaeetus leucocephalus	Bald eagle	T
Ixobrychus exilis	Least bittern	T
Melanerpes erythrocephalus	Red-headed woodpecker	E
Passerculus sandwichensis	Savannah sparrow	SC
Podilymbus podiceps	Pied-billed grebe	E
Pooecetes gramineus	Vesper sparrow	E
Progne subis	Purple martin	SC
Setophaga cerulea	Cerulean warbler	SC
Sturnella magna	Eastern meadowlark	T
Toxostoma rufum	Brown thrasher	SC
Tyto alba	Barn owl	E

Fish

Scientific Name	Common Name	Protection Status
Acipenser brevirostrum	Shortnose sturgeon	E
Alosa aestivalis	Blueback herring	SC
Cottus cognatus	Slimy sculpin	SC
Enneacanthus obesus	Banded sunfish	SC
Lethenteron appendix	American brook lamprey	E
Lota lota	Burbot	E
Notropis bifrenatus	Bridle shiner	SC

Invertebrates

Scientific Name	Common Name	Protection Status
Agonum darlingtoni	Ground beetle	SC
Agonum mutatum	Ground beetle	SC

Hartford County

Invertebrates

Scientific Name	Common Name	Protection Status
Alasmidonta heterodon	Dwarf wedgemussel	E
Alasmidonta varicosa	Brook floater	E
Amara chalcea	Ground beetle	SC
Apodrepanulatrix liberaria	New Jersey tea inchworm	E
Bembidion carinula	Ground beetle	SC
Bombus terricola	Yellow-banded bumble bee	T
Brachinus cyanipennis	Bombardier beetle	SC
Brachinus medius	Bombardier beetle	SC
Callophrys irus	Frosted elfin	T
Cambarus bartonii	Common crayfish	SC
Chytonix sensilis	Barrens Chytonix	E
Cicindela formosa generosa	Big sand tiger beetle	SC
Cicindela lepida	Dune ghost tiger beetle	E
Cicindela puritana	Puritan tiger beetle	E
Cicindela purpurea	Purple tiger beetle	SC*
Cicindela tranquebarica	Dark-bellied tiger beetle	T
Cordulegaster erronea	Tiger spiketail	T
Erynnis horatius	Horace's duskywing	SC
Erynnis lucilius	Columbine duskywing	E
Euchlaena madusaria	Scrub euchlaena	T
Eumacaria latiferrugata	Brown-bordered geometer	T
Euxoa pleuritica	Fawn brown dart moth	SC
Euxoa violaris	Violet dart moth	SC
Exyra fax	Pitcher plant moth	T
Geopinus incrassatus	Ground beetle	SC
Gomphus descriptus	Harpoon clubtail	T
Gomphus fraternus	Midland clubtail	T
Gomphus quadricolor	Rapids clubtail	T

Hartford County

Invertebrates

Scientific Name	Common Name	Protection Status
Gomphus vastus	Cobra clubtail	SC
Gomphus ventricosus	Skillet clubtail	SC
Grammia phyllira	Phyllira tiger moth	E
Gyraulus circumstriatus	Disc gyro	SC
Harpalus erraticus	Ground beetle	SC
Hemileuca maia maia	Barrens buck moth	E
Hetaerina americana	American rubyspot	T
Hybomitra typhus	Horse fly	T
Lampsilis cariosa	Yellow lampmussel	E
Lapara coniferarum	Southern pine sphinx	T
Leptodea ochracea	Tidewater mucket	SC
Lethe eurydice	Eyed brown	SC
Leucorrhinia glacialis	Crimson-ringed whiteface	T
Ligumia nasuta	Eastern pondmussel	SC
Lycaena epixanthe	Bog copper	SC
Margaritifera margaritifera	Eastern pearlshell	SC
Scaphinotus viduus	Ground beetle	SC
Schinia spinosae	Spinose flower moth	SC
Speranza exonerata	Barrens itame	T
Speyeria atlantis	Atlantis fritillary butterfly	E
Stylurus amnicola	Riverine clubtail	T
Sympistis perscripta	Scribbled sallow moth	SC
Zale curema	Black-eyed zale	E
Zale obliqua	Oblique zale	SC
Zanclognatha martha	Pine barrens zanclognatha	T

Mammals

Scientific Name	Common Name	Protection Status

Hartford County

Mammals

Scientific Name	Common Name	Protection Status
Lasionycteris noctivagans	Silver-haired bat	SC
Lasiurus borealis	Red bat	SC
Lasiurus cinereus	Hoary bat	SC
Myotis lucifugus	Little brown bat	E
Myotis septentrionalis	Northern long-eared bat	E
Perimyotis subflavus	Tri-colored bat	E

Plants

Scientific Name	Common Name	Protection Status
Acalypha virginica	Virginia copperleaf	SC
Agalinis acuta	Sandplain agalinis	E
Agastache nepetoides	Yellow giant hyssop	E
Agastache scrophulariifolia	Purple giant hyssop	E
Alopecurus aequalis	Short-awned meadow foxtail	T
Andromeda polifolia var. glaucophylla	Bog rosemary	T
Angelica venenosa	Hairy angelica	SC*
Aplectrum hyemale	Puttyroot	SC*
Arethusa bulbosa	Dragon's-mouth	SC*
Aristida longespica var. geniculata	Needlegrass	SC
Aristida purpurascens	Arrowfeather	E
Asclepias purpurascens	Purple milkweed	SC
Asplenium ruta-muraria	Wallrue spleenwort	T
Bidens beckii	Beck's water-marigold	SC
Blephilia ciliata	Downy wood-mint	SC*
Blephilia hirsuta	Hairy wood-mint	SC*
Calystegia silvatica	Short-stalked false bindweed	SC*
Calystegia spithamaea	Low bindweed	SC*
Carex aestivalis	Summer sedge	SC

Hartford County

Plants

Scientific Name	Common Name	Protection Status
Carex alata	Broadwing sedge	E
Carex barrattii	Barratt's sedge	E
Carex bushii	Bush's sedge	SC
Carex buxbaumii	Brown bog sedge	E
Carex collinsii	Collins' sedge	SC*
Carex cumulata	Clustered sedge	T
Carex davisii	Davis' sedge	T
Carex foenea	Bronze sedge	SC
Carex hitchcockiana	Hitchcock's sedge	SC
Carex limosa	Mud sedge	T
Carex oligocarpa	Eastern few-fruit sedge	SC
Carex oligosperma	Few-seeded sedge	SC*
Carex polymorpha	Variable sedge	E
Carex pseudocyperus	Cyperus-like sedge	E
Carex tuckermanii	Tuckerman's sedge	SC
Carex typhina	Cattail sedge	SC
Carex willdenowii	Willdenow's sedge	E
Celastrus scandens	American bittersweet	SC
Chamaelirium luteum	Devil's-bit	E
Coeloglossum viride	Long-bracted green orchid	E
Corallorhiza trifida	Early coral root	SC
Corydalis flavula	Yellow corydalis	T
Crocanthemum propinquum	Low frostweed	SC
Cuphea viscosissima	Blue waxweed	SC*
Cypripedium parviflorum	Yellow lady's-slipper	SC
Deschampsia cespitosa	Tufted hairgrass	SC
Desmodium glabellum	Dillenius' tick-trefoil	SC
Dicentra canadensis	Squirrel corn	SC

Hartford County

Plants

Scientific Name	Common Name	Protection Status
Dichanthelium ovale ssp. pseudopubescens	Stiff-leaved rosette-panicgrass	SC*
Dichanthelium scabriusculum	Tall swamp rosette-panicgrass	E
Dichanthelium xanthophysum	Pale-leaved rosette-panicgrass	SC*
Diplazium pycnocarpon	Narrow-leaved glade fern	E
Drymocallis arguta	Tall cinquefoil	SC
Dryopteris goldiana	Goldie's fern	SC
Echinodorus tenellus	Bur-head	E
Elymus wiegandii	Wiegand's wild rye	SC
Equisetum palustre	Marsh horsetail	SC*
Equisetum pratense	Meadow horsetail	E
Eriophorum vaginatum var. spissum	Hare's tail	T
Eurybia radula	Rough aster	E
Gaultheria hispidula	Creeping snowberry	SC
Gaylussacia bigeloviana	Dwarf huckleberry	T
Gentianella quinquefolia	Stiff gentian	E
Geranium bicknellii	Bicknell's northern crane's-bill	SC*
Goodyera repens var. ophioides	Dwarf rattlesnake plantain	SC*
Hottonia inflata	Featherfoil	SC
Houstonia longifolia	Longleaf bluet	T
Hydrastis canadensis	Goldenseal	E
Hydrophyllum virginianum	Virginia waterleaf	SC
Hypericum ascyron	Great St. John's-wort	SC
Isotria medeoloides	Small whorled pogonia	E
Liatris novae-angliae	New England blazing-star	SC
Linnaea borealis ssp. americana	Twinflower	E
Linum intercursum	Sandplain flax	SC*
Linum sulcatum	Yellow flax	E

Hartford County

Plants

Scientific Name	Common Name	Protection Status
Liparis liliifolia	Lily-leaved twayblade	E
Lipocarpha micrantha	Dwarf bulrush	T
Lygodium palmatum	Climbing fern	SC
Maianthemum trifolium	Three-leaved false Solomon's-seal	T
Malaxis unifolia	Green adder's-mouth	E
Milium effusum	Tall millet-grass	E
Moneses uniflora	One-flower wintergreen	E
Onosmodium virginianum	Gravel-weed	E
Opuntia humifusa	Eastern prickly pear	SC
Orontium aquaticum	Golden club	SC
Orthilia secunda	One-sided pyrola	SC*
Oxalis violacea	Violet wood-sorrel	SC
Packera anonyma	Small's ragwort	E
Packera paupercula	Balsam groundsel	E
Panax quinquefolius	American ginseng	SC
Paronychia fastigiata	Hairy forked chickweed	SC*
Pedicularis lanceolata	Swamp lousewort	T
Pinus resinosa	Red pine	E
Piptatherum pungens	Slender mountain ricegrass	E
Plantago virginica	Hoary plantain	SC
Platanthera blephariglottis	White-fringed orchid	E
Platanthera ciliaris	Yellow-fringed orchid	E
Platanthera dilatata	Tall white bog orchid	SC*
Platanthera hookeri	Hooker's orchid	SC*
Platanthera orbiculata	Large round-leaved orchid	SC*
Polygala nuttallii	Nuttall's milkwort	T
Populus heterophylla	Swamp cottonwood	T
Prunus alleghaniensis	Alleghany plum	SC*

Hartford County

Plants

Scientific Name	Common Name	Protection Status
Ranunculus ambigens	Water-plantain spearwort	E
Ranunculus pensylvanicus	Bristly buttercup	SC
Rhododendron groenlandicum	Labrador tea	T
Rhynchospora scirpoides	Long-beaked beaksedge	E
Ribes glandulosum	Skunk currant	SC
Ribes triste	Swamp red currant	E
Rotala ramosior	Toothcup	T
Sagittaria cuneata	Northern arrowhead	E
Salix exigua	Sandbar willow	E
Salix pedicellaris	Bog willow	E
Salix petiolaris	Slender willow	SC
Scheuchzeria palustris ssp. americana	Pod grass	E
Schoenoplectus torreyi	Torrey bulrush	T
Scirpus longii	Long's bulrush	SC*
Scleria pauciflora var. caroliniana	Few-flowered nutrush	E
Scleria triglomerata	Whip nutrush	E
Scutellaria integrifolia	Hyssop skullcap	E
Senna hebecarpa	Wild senna	T
Silene stellata	Starry campion	T
Solidago latissimifolia	Elliott's goldenrod	SC*
Stachys hispida	Hispid hedge-nettle	T
Stachys hyssopifolia	Hyssop-leaf hedge-nettle	E
Stellaria borealis	Northern stitchwort	SC
Streptopus amplexifolius	White mandarin	T
Thuja occidentalis	Northern white cedar	T
Trichomanes intricatum	Appalachian gametophyte	SC
Trichostema brachiatum	False pennyroyal	E

Hartford County

Plants

Scientific Name	Common Name	Protection Status
Triosteum angustifolium	Narrow-leaved horse gentian	E
Triphora trianthophora	Nodding pogonia	E
Trisetum spicatum	Narrow false oats	E
Uvularia grandiflora	Large-flowered bellwort	E
Vaccinium vitis-idaea ssp. minus	Mountain cranberry	SC*
Valerianella radiata	Beaked corn-salad	SC*
Verbena simplex	Narrow-leaved vervain	SC*
Viola canadensis	Canada violet	SC
Viola selkirkii	Great-spurred violet	SC
Waldsteinia fragarioides	Barren strawberry	E
Xyris montana	Northern yellow-eyed grass	T

Reptiles

Scientific Name	Common Name	Protection Status
Clemmys guttata	Spotted turtle	SC
Crotalus horridus	Timber rattlesnake	E
Glyptemys insculpta	Wood turtle	SC
Heterodon platirhinos	Eastern hognose snake	SC
Opheodrys vernalis	Smooth green snake	SC
Plestiodon fasciatus	Five-lined skink	T
Terrapene carolina carolina	Eastern box turtle	SC
Thamnophis sauritus	Eastern ribbon snake	SC

E = Endangered, T = Threatened, SC = Special Concern, * Believed Extirpated

State of Connecticut
Department of Energy and Environmental Protection
Bureau of Natural Resources, Wildlife Division
79 Elm St., Hartford, CT 06106

Natural Diversity Data Base Areas

GLASTONBURY, CT

June 2020

State and Federal Listed Species

Critical Habitat

Town Boundary

NOTE: This map shows general locations of State and Federal Listed Species and Critical Habitats. Information on listed species is collected and compiled by the Natural Diversity Data Base (NDDB) from a variety of data sources . Exact locations of species have been buffered to produce the generalized locations.

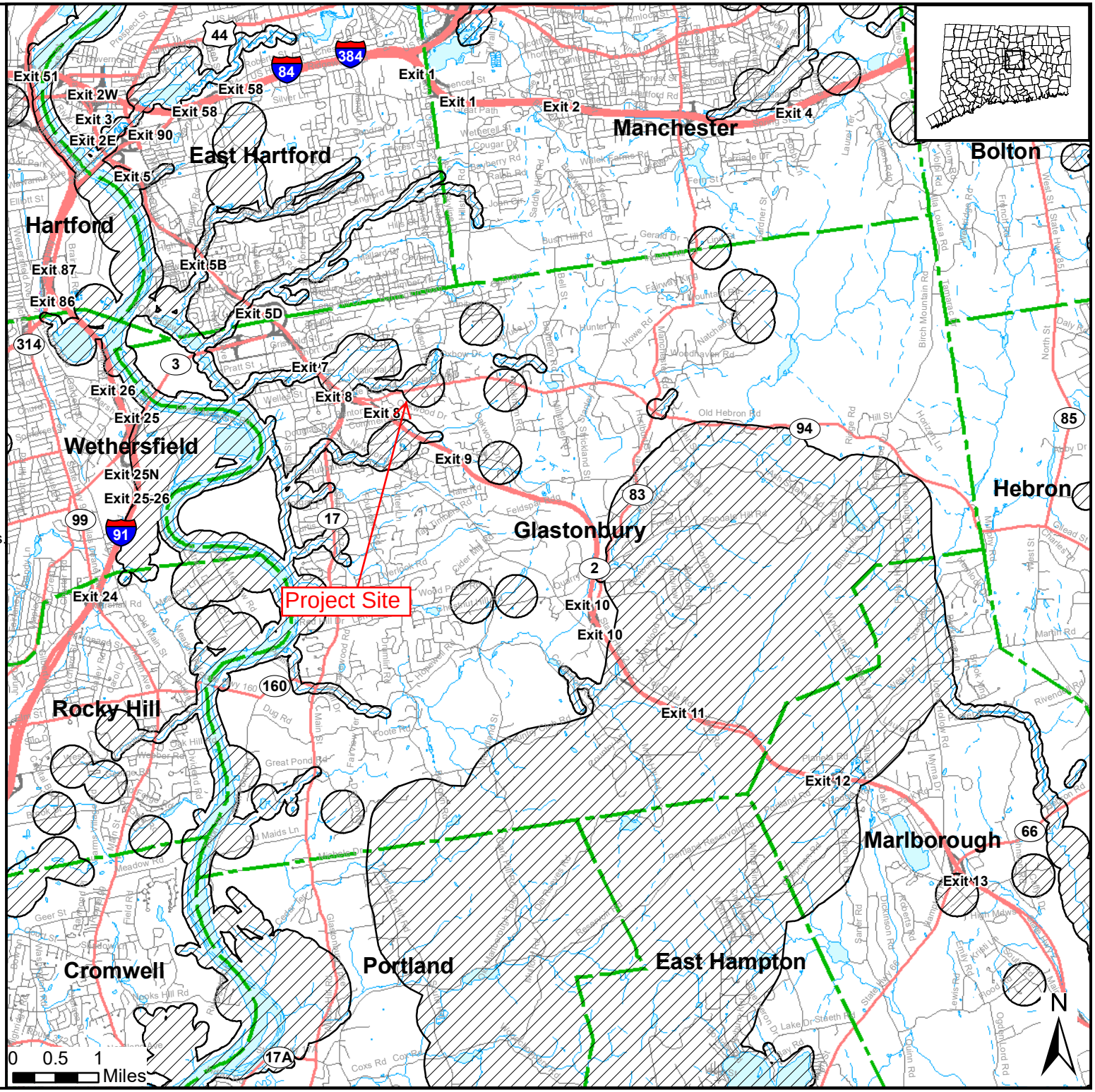
This map is intended for use as a preliminary screening tool for conducting a Natural Diversity Data Base Review Request. To use the map, locate the project boundaries and any additional affected areas. If the project is within a hatched area there may be a potential conflict with a listed species. For more information, complete a Request for Natural Diversity Data Base State Listed Species Review form (DEP-APP-007), and submit it to the NDDB along with the required maps and information. More detailed instructions are provided with the request form on our website.

www.ct.gov/deep/nddbrequest

Use the CTECO Interactive Map Viewers at http://cteco.uconn.edu to more precisely search for and locate a site and to view aerial imagery with NDDB Areas.

QUESTIONS: Department of Energy and Environmental Protection (DEEP)
79 Elm St, Hartford, CT 06106
email: deep.nddbrequest@ct.gov
Phone: (860) 424-3011

Connecticut Department of Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To: December 17, 2020
Consultation Code: 05E1NE00-2021-TA-0757
Event Code: 05E1NE00-2021-E-02283
Project Name: Glastonbury

Subject: Verification letter for the 'Glastonbury' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Jason Stayer:

The U.S. Fish and Wildlife Service (Service) received on December 17, 2020 your effects determination for the 'Glastonbury' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Glastonbury

2. Description

The following description was provided for the project 'Glastonbury':

> Construction of a 115-foot (including appurtenance) monopole tower and associated support equipment located within fenced 50-foot by 50-foot lease area.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/41.714032463316975N72.58164156295327W

Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

   No

3. Will your activity purposefully **Take** northern long-eared bats?

   No

4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

7. Will the action involve Tree Removal?

   Yes

8. Will the action only remove hazardous trees for the protection of human life or property?

   No

9. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

   No

10. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

    No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0.5

2. If known, estimated acres of forest conversion from April 1 to October 31

0.5

3. If known, estimated acres of forest conversion from June 1 to July 31

0.5

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

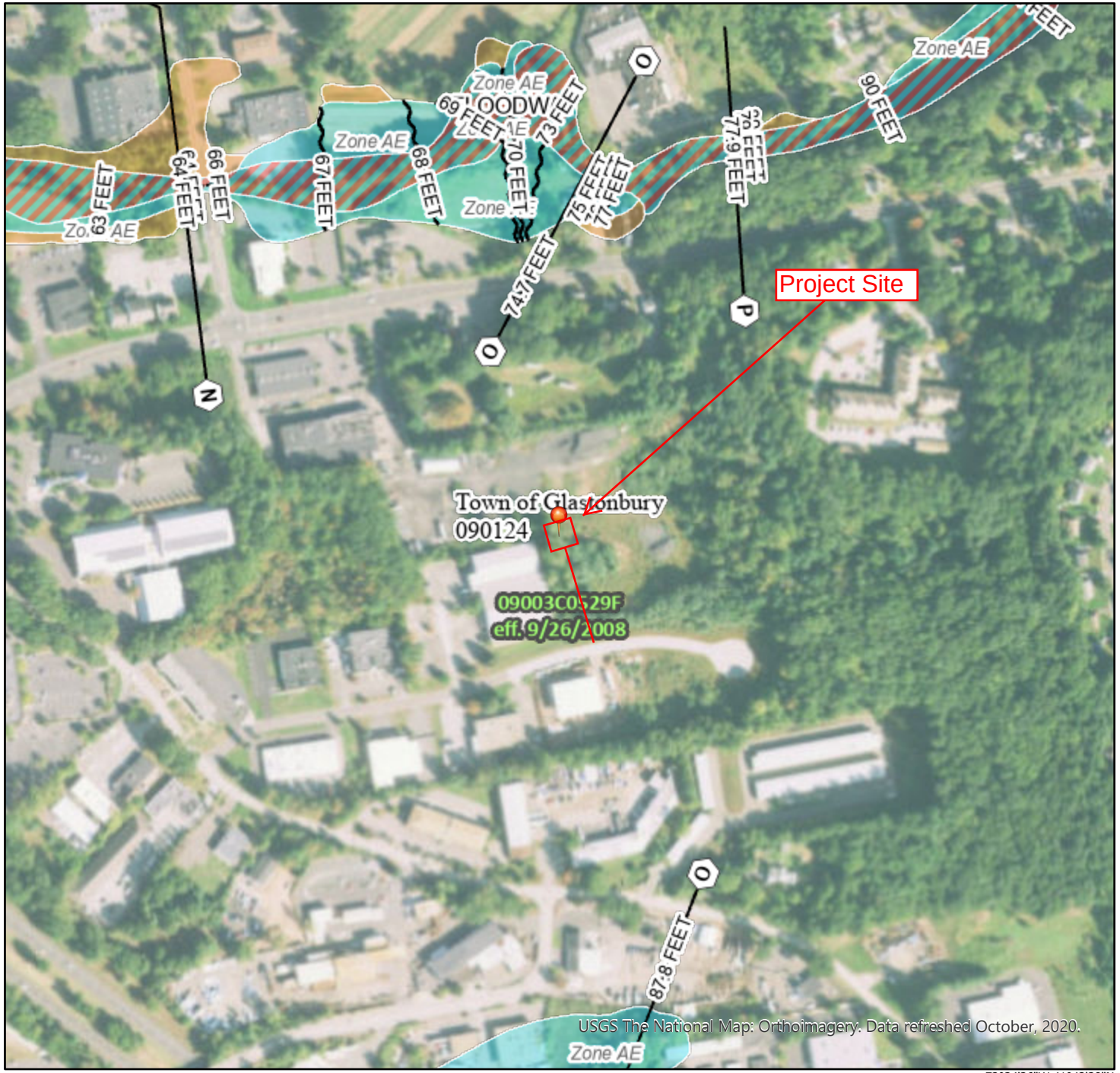
10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?
0

SUPPORTING DOCUMENTATION

National Flood Hazard Layer FIRMette

FEMA

72°35'13"W 41°43'5"N



72°34'36"W 41°42'38"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/17/2020 at 12:41 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

U.S. Fish and Wildlife Service

National Wetlands Inventory

Glastonbury

December 17, 2020

Wetlands

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

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for State of Connecticut

Glastonbury

December 17, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:843 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 10 20 40 60

Feet
0 40 80 160 240

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 1:12,000.

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: State of Connecticut
Survey Area Data: Version 20, Jun 9, 2020

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

Date(s) aerial images were photographed: Jul 15, 2019—Aug 29, 2019

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
33B	Hartford sandy loam, 3 to 8 percent slopes	0.1	3.8%
306	Udorthents-Urban land complex	0.4	16.7%
307	Urban land	0.1	2.8%
308	Udorthents, smoothed	1.7	76.7%
Totals for Area of Interest		**2.2**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

State of Connecticut

33B—Hartford sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9lmw
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hartford and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hartford

Setting

Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits derived from sandstone and/or basalt

Typical profile

Ap - 0 to 8 inches: sandy loam
Bw1 - 8 to 20 inches: sandy loam
Bw2 - 20 to 26 inches: loamy sand
2C - 26 to 65 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Ecological site: F145XY008MA - Dry Outwash
Hydric soil rating: No

Minor Components

Penwood

Percent of map unit: 5 percent
Landform: Terraces, outwash plains
Down-slope shape: Convex

Across-slope shape: Linear
Hydric soil rating: No

Ellington

Percent of map unit: 5 percent
Landform: Terraces, outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Manchester

Percent of map unit: 5 percent
Landform: Kames, outwash plains, terraces, eskers
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Branford

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

306—Udorthents-Urban land complex

Map Unit Setting

National map unit symbol: 9lmg
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 50 percent
Urban land: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Drift

Typical profile

A - 0 to 5 inches: loam
C1 - 5 to 21 inches: gravelly loam
C2 - 21 to 80 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 54 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Urban Land

Typical profile

H - 0 to 6 inches: material

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Unnamed, undisturbed soils

Percent of map unit: 8 percent
Hydric soil rating: No

Udorthents, wet substratum

Percent of map unit: 5 percent
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent
Hydric soil rating: No

307—Urban land

Map Unit Setting

National map unit symbol: 9lmh
Elevation: 0 to 2,000 feet

Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition
Urban land: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Typical profile
H - 0 to 6 inches: material

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Unnamed, undisturbed soils
Percent of map unit: 10 percent
Hydric soil rating: No

Udorthents, wet substratum
Percent of map unit: 10 percent
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

308—Udorthents, smoothed

Map Unit Setting
National map unit symbol: 9lmj
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition
Udorthents and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Down-slope shape: Convex
Across-slope shape: Linear

Typical profile

A - 0 to 5 inches: loam
C1 - 5 to 21 inches: gravelly loam
C2 - 21 to 80 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 24 to 54 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Unnamed, undisturbed soils

Percent of map unit: 7 percent
Hydric soil rating: No

Udorthents, wet substratum

Percent of map unit: 7 percent
Hydric soil rating: No

Urban land

Percent of map unit: 5 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent
Hydric soil rating: No

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QUALIFICATIONS

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SUMMARY OF EXPERIENCE

Mr. Stayer received his BS in the Management of Information Systems from the University of Texas at Arlington with an emphasis in database managment. Mr. Stayer also received a MS in Wildlife Ecology from Texas State University with an emphasis on avian species, specifically a Master's Thesis on raptor species. He has spent 5 years working for the U.S. Fish and Wildlife Service (USFWS) responsible for conducting numerous wildlife and habitat assessments, understanding and implementing all sections of the Endangered Species Act (ESA), responsible for reviewing National Environmental Policy Act (NEPA) documents, writing and reviewing grant proposals, writing and reviewing biological reports, and publication of numerous documents related to the Endangered Species Act.

RELEVANT PROJECT EXPERIENCE

Mr. Stayer has worked with EBI Consulting as a Biologist II since January of 2014. Prior to working with EBI, Mr. Stayer worked as a wildlife biologist for the USFWS Carlsbad Field Office. Mr. Stayer worked closely with the U.S. Navy and National Park Service to establish a habitat monitoring program for the Federally threatened island night lizard. He has also worked with numerous water districts to assess project impacts, develop project alternatives, and propose mitigation for numerous Federally listed threatened and endangered species in complice with the ESA and NEPA. As a USFWS fish and wildlife biologist Jason has conducted numerous species and habitat assessments and developed ESA Section 4 documents for the Cocachella Valley Fringe-toed Lizard, Island Night Lizard, Coastal California Gnatcatcher, Santa Ana Sucker, and Southwestern Willow Flycatcher. Jason has also drafted Section 7 Consultation documents for 30 different state and federally listed species.

EDUCATION

Bachelor of Science, Management of Information Systems, December 2002
University of Texas at Arlington, Arlington, TX

Master of Science, Wildlife Ecology, August 2008
Texas State University, San Marcos, TX

PROFESSIONAL REGISTRATIONS

Seabird Assessment Oil Spill Response, March 2009
Carlsbad Fish and Wildlife Office, Carlsbad, CA

Listing and Candidate Assessment (Section 4 - ESA), March 2010
Lakewood Fish and Wildlife Office, Lakewood, CO

Habitat Conservation Plan Development (Section 10 - ESA), March 2011
Carlsbad Fish and Wildlife Office, Carlsbad, CA

Recovery Planning Implementation (Section 4 - ESA), April 2011
National Convention Training Center, Shepherdstown, WV

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Interagency Consultation (Section 7 - ESA), April 2012
Carlsbad Fish and Wildlife Office, Carlsbad, CA

Critical Writing and Critical Thinking, June 2012
National Convention Training Center, Shepherdstown, WV

24 hour HAZWOPER Certification, March 2013
Carlsbad Fish and Wildlife Office, Carlsbad, CA

PUBLICATIONS

USFWS Publication	5-year review on the Coachella Valley fringe-toed lizard (August 10, 2010)
Federal Register	Proposed revised critical habitat for the southwestern willow flycatcher – assist Arizona Fish and Wildlife Office (Carlsbad Field Office lead) (August 15, 2011)
Federal Register	90-day finding on the coastal California gnatcatcher (October 26, 2011)
USFWS Publication	5-year review on the island night lizard (October 10, 2012)
Federal Register	Final revised critical habitat for the southwestern willow flycatcher – assist Arizona Fish and Wildlife Office (Carlsbad Field Office lead) (January 03, 2013)
Federal Register	Island night lizard proposed delisting rule (February 04, 2013)
Federal Register	Draft post-delisting monitoring plan for the night lizard (February 04, 2013)
Federal Register	Island night lizard final delisting rule (April, 01 2014)
Federal Register	Final post-delisting monitoring plan for the night lizard (April, 01 2014)

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Summary of Experience

Kimberly Narel, Biologist I, has experience in environmental consulting since 2016 specializing in both natural resources/marine science and environmental health and safety.

At EBI Consulting, Ms. Narel serves as a Biologist I within the West Telecom Environmental practice. Her primary responsibilities in this role include conducting Biological and Natural Resource Assessments for FCC National Environmental Policy Act (NEPA) Compliance Reviews.

Relevant Project Experience

Ms. Narel prepares Biological and Natural Resource Assessments for a wide range of properties and clients. Natural Resource Assessments focus on evaluating site conditions for potential endangered species and habitats, wetlands, and floodplains, as well as other areas of critical importance to the natural environment. Additionally, Ms. Narel conducts various Biological Assessments, ranging from Avian Nest Surveys to habitat- and/or species-specific surveys and monitoring.

In addition to the above-referenced assessments, Ms. Narel has experience in preparing Environmental Assessments, Marine Biological Resource Assessments, Environmental Impact Reports, and technical reports related to coastal construction projects throughout California.

Education

B.S. Biology: Ecology, Behavior, and Evolution, University of California at San Diego

Professional Affiliations

Member, Society of Environmental Toxicology and Chemistry, Southern California Chapter